Carlon® Master Catalog

Boreable Multi-Gard® Trenchless Raceway Bore-Gard® Trenchless Raceway Carflex® Liquidtight Fittings Carflex® Liquidtight Flexible Nonmetallic Tubing Carflex® Omni Connectors Carflex® Pre-Wired Liquidtight Whips Carflex® X-Flex™ Flexible Nonmetallic Tubing Cement Chimes Circuit Safe® JIC Enclosures Circuit Safe® NEMA Enclosures Cord Grips Curved Lid J-Box **ENT Boxes and Fittings** Flex-Plus® Blue™ ENT Floor Box Systems Hal-Free Riser-Gard® High Density Polyethylene (HDPE) Himeline® Enclosures Intra-Gard® Multi-Cell Raceway In-Use Weatherproof Covers Junction Boxes Multi-Gard® Multi-Cell Raceway P&C Duct® - Types EB and DB P&C Duct® Fittings and Sweeps P&C Flex® Corrugated Flexible Conduit Plenum-Gard® Flexible Raceway PV-Mold Pole Riser System Riser-Gard® Flexible Raceway Schedule 40 & 80 Conduit Schedule 40 & 80 Fittings Schedule 40 & 80 Special/Standard Elbows Slack and Splice Enclosures



Slip Meter Risers
Snap-Loc® Spacers
Split Duct
Structured Cable Management Systems
Telephone Duct – Types B, C and D
Telephone Duct Fittings and Sweeps

Utility Conduit, Fittings, and Elbows Weatherproof Covers and Lighting Systems Wire-Safe® Wireway and Wiring Trough Zip Box® Blue™ Switch/Outlet Boxes

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Carlon® Carflex® Liquidtight Flexible Nonmetallic Tubing

Carflex®

Carflex® X-Flex™

Fittings

Cord Grips

Pre-Wired Whips













Carflex® Liquidtight Flexible Nonmetallic Conduit



Carflex Liquidtight Flexible Nonmetallic Conduit provides superior wire protection in harsh, damp environments. Carflex Conduit is nonconductive, noncorrosive, and resistant to oil acid, ozone, and alkaline. Carflex Conduit is strong and lightweight, and because it weighs 50% less than metallic systems, it's easy to handle, transport and install. Carflex is ideal for industrial, air conditioning, heating, and outdoor lighting applications.

Features

- Nonconductive and noncorrosive
- Lightweight for easy handling, transportation, and installation
- Crush, abrasion, and strain resistant
- Provides superior wire protection
- Smooth interior ideal for pulling cable
- No jagged edges
- Maintains internal I.D. even in tight radius bends
- Type LFNC-B
- Resistant to oil, acid, ozone, and alkaline
- UL Listed for use as indicated in Article 356 of the 2002 NEC; and Section 12-1300 of the 2002 Canadian Electrical Code, Part 1.
- UL Listed for outdoor use
- UL Listed for sunlight resistant
- Trade sizes 1/2", 3/4", and 1" are UL Listed for direct bury

 Suitable for use at conduit temperatures of 80°C dry, 60°C wet and 60°C oil resistant as required by section 15-6 of ANSI/NFPA 79-1985 and UL 1660.

Note: Liquidtight flexible conduits, metallic and nonmetallic, in contrast to rigid PVC conduit and electrical nonmetallic tubing, does not have wire temperature limitations. Any temperature rated wire (for example, 90° wire) can be used as long as the temperature conditions marked on the conduit are not exceeded. UL Listed conduits that are not marked are limited to a maximum temperature of 60°C wet or dry.

Applications

- · Control and motor
- Air conditioning and heating
- Computer power distribution
- Machine tools
- Console wiring
- Transformer connections
- · Outdoor lighting

Custom Orders

- Available in black and gray. Consult factory for custom colors.
- Custom cut lengths available; consult factory for details.

Coils

Part No.	Nom. Size (in.)	Length (ft.)	Wt. per 100 ft. (lbs.)
15004-100	3/8"	100	12.8
*15005-100	1/2"	100	13.3
*15005BK-100	1/2"	100	13.0
*15007-100	3/4"	100	16.3
*15008-100	1"	100	25.9
15009-100	1-1/4"	100	33.9
15010-100	1-1/2"	100	44.6
15011-050	2"	50	61.7

Standard color Grey

Reels

Part No.	Nom. Size (in.)	Length (ft.)	Wt. per 100 ft. (lbs.)	
15004-001	3/8"	1000	12.8	
15005-001	1/2"	1000	13.3	
15005BK-001	1/2"	1000	13.0	
15007-001	3/4"	1000	16.3	
15008-500	1"	500	25.9	
15009-200	1-1/4"	200	33.9	
15010-150	1-1/2"	150	44.6	
15011-100	2"	100	61.7	

Standard color Grey



*Joint listed UL/CSA Approved product available

Carflex® X-Flex™ Flexible Nonmetallic Conduit



Carflex X-Flex Extra Flexible Nonmetallic Conduit is ideal for applications requiring extra strength and flexibility such as robotics, and repetitive flexing arms. Carflex X-Flex is nonconductive, noncorrosive, and resistant to oil acid, ozone, and alkaline. It's designed for use with standard Carflex fittings providing a complete nonmetallic system. Carflex X-Flex is lightweight for easier handling, transportation, and installation.

Features

- Extra strong and flexible to withstand repetitive motions
- Nonconductive and noncorrosive
- Resistant to oil acid, ozone, and alkaline
- Lightweight for easy handling, transportation, and installation
- Crush, abrasion, and strain resistant
- Provides superior wire protection
- Smooth interior ideal for pulling cable
- No jagged edges
- Rated for continuous use at 60°C (140°F) ambient

Applications

- Repetitive Flexing Arms
- Robotics
- Machine Tools
- Automatic/Moving Machinery
- · Control and motor

Specifications

Coils (Available in Black only)

Part No.	Nom. Size (in.)	Length (ft.)	Wt. per 100 ft. (lbs.)
*15104-100	3/8"	100	7.4
◆ *15105-100	1/2"	100	10.7
◆ *15107-100	3/4"	100	12.4
◆ *15108-100	1"	100	20.5
*15109-100	1-1/4"	100	31.0
*15110-100	1-1/2"	100	38.0
*15111-050	2"	50	32.0



Where noted by *



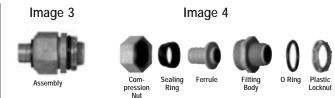
Where noted by ◆

Carflex® Liquidtight Nonmetallic Fittings

Straight Fittings

For use with Carflex[®] conduit and Carflex[®] X-Flex[™] conduit

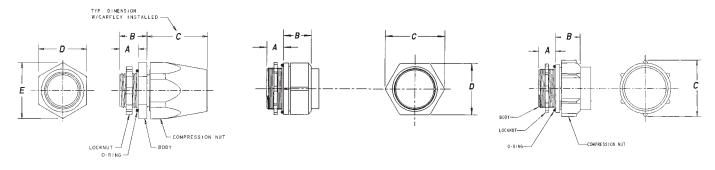




Features

- Nonconductive and Noncorrosive
- · Resistant to oil, acid, ozone, and alkaline
- · Easy to install

- Nitrile rubber "O" ring for a liquidtight termination
- Temperatures up to 225°F (107°C)
- Meets UL Standard 514B



LT43C-CAR, LT43D-NEW, LT43E-NEW, LT43F

LT43G, LT43H

LT43J

Specifications

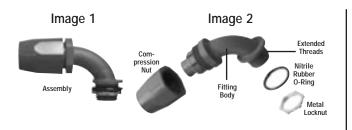


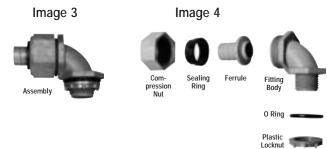
Part No.	Size (in.)	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)	A (inches)	B (inches)	C (inches)	D (inches)	E (inches)	Refer to Image
LT43C-CAR	3/8	15	1.2	.55	.75	1.60	1.30	1.40	1, 2
LT43D-NEW	1/2	50	4.2	.56	.91	1.62	1.30	1.40	1, 2
LT43E-NEW	3/4	50	6.6	.56	.91	1.88	1.61	1.71	1, 2
LT43F	1	25	3.8	.70	1.00	2.20	1.90	2.04	1, 2
LT43G	1-1/4	5	1.5	.71	1.16	2.50	2.17		3, 4
LT43H	1-1/2	5	1.8	.75	1.36	2.78	2.43		3, 4
LT43J	2	5	2.5	1.00	1.45	3.33			3, 4

Carflex® Liquidtight Nonmetallic Fittings

90° Fittings

• For use with Carflex® conduit and Carflex® X-Flex™ conduit

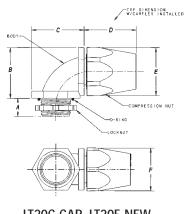




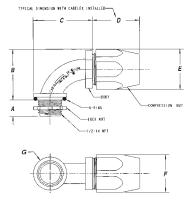
Features

- Nonconductive and Noncorrosive
- · Resistant to oil, acid, ozone, and alkaline
- Easy to install

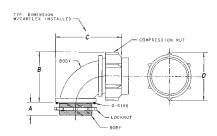
- Nitrile rubber "O" ring for a liquidtight termination
- Temperatures up to 225°F (107°C)
- Meets UL Standard 514B







LT20D-NEW, LT20E-NEW



LT20G, LT20H, LT20J

Specifications



Part No.	Size (in.)	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)	A (inches)	B (inches)	C (inches)	D (inches)	E (inches)	F (inches)	G (inches)	Refer to Image
LT20C-CAR	3/8	15	1.6	.56	1.44	1.44	1.56	1.39	1.26		3, 4
LT20D-NEW	1/2	50	4.9	.56	1.76	2.05	1.62	1.40	1.30	1.15	1, 2
LT20E-NEW	3/4	50	8.8	.56	2.04	2.35	1.88	1.71	1.61	1.50	1, 2
LT20F	1	25	6.0	.70	2.01	2.01	2.26	2.04	1.90		3, 4
LT20G	1-1/4	5	1.9	.75	2.50	3.55	2.48				3, 4
LT20H	1-1/2	5	2.2	.75	2.80	3.98	2.77				3, 4
LT20J	2	5	3.0	.94	3.48	4.56	3.33				3, 4

Carflex® One-Piece Liquidtight Nonmetallic Fittings



Unique Design

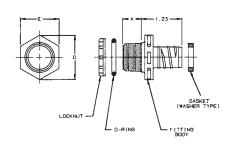
The simple, one piece body design of the Carflex One Piece Liquidtight Nonmetallic Fitting requires no disassembly of components for installation. The system is so strong that there is no need for a compression nut.

PVC Construction

PVC construction of the fitting and locknut provides unparalleled protection from water, oil and dust. Totally nonmetallic, the system is nonconductive and will not corrode or rust. Temperatures up to 140°F (60°C)

Straight Fittings





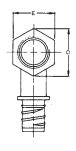
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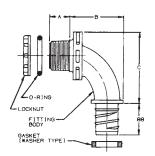


Part No.	Trade Size (in.)	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)	A (inches)	D (inches)	E (inches)
LN43DA	¹ /2 - 14 NPT	100	2.0	0.56	1.34	1.19
LN43EA	3/4 - 14 NPT	50	3.2	0.56	1.63	1.44
LN43FA	1 - 11 ¹ /2 NPT	25	4.8	0.69	1.99	1.75

90° Fittings











Part No.	Trade Size (in.)	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)	Thread Size	A (inches)	B (inches)	C (inches)	D (inches)	E (inches)
LN20DA	1/2 - 14 NPT	100	4.3	¹ /2-14 NPT	0.56	1.50	1.99	1.34	1.19
LN20EA	3/4 - 14 NPT	50	6.6	3/4-14 NPT	0.56	1.73	2.25	1.63	1.44
LN20FA	1 - 11 ¹ /2 NPT	25	9.5	1-11 ¹ / ₂ NPT	0.69	1.86	2.58	1.99	1.75

Straight



Features

- Available in sizes 3/8" through 1" conduit and tubing.
- All nylon construction resists salt water, weak acids, gasoline, alcohol, oil, grease and common solvents.
- No disassembly required.
- No threading of the conduit or tubing required to install.
- Complete Conduit/connector system is reusable.
- Suitable for indoor/outdoor use.
- Lower installed cost.
- Black connectors provided with nylon locknut.

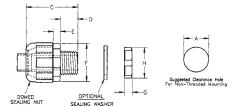
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E32447

E32447

- Gray connectors provided with assembled O-ring and metal locknuts.
- Protection class IP 68 per DIN 40050 up to 70 psi (5 bar) water pressure.
- Molded of type 6/6 nylon. ASTM D-4066-PA 111; flammability classification 94V-2.



Specifications

					Body & Sealing Unit					Locking Nut			
				Α	С	D	E	F	G	Н			
Size	Part No. Black	Part No. Gray*	Description	Clearance Hole in. (mm)	Max O.A. Length in. (mm)	Thread Length in. (mm)	Wrenching Nut Thickness in. (mm)	Wrenching Flats in. (mm)	Thickness in. (mm)	Wrenching Flats in. (mm)	Std. Ctn. Qty.		
3/8"	LT38	LT38G	Straight L/T Fitting	.875 (22.2)	2.000 (50.8)	.625 (15.9)	.250 (6.3)	1.328 (33.7)	.266 (6.7)	1.062 (26.9)	50		
1/2"	LT50	LT50G	Straight L/T Fitting	.875 (22.2)	2.000 (50.8)	.625 (15.9)	.250 (6.3)	1.328 (33.7)	.266 (6.7)	1.062 (26.9)	50		
3/4"	LT75	LT75G	Straight L/T Fitting	1.109 (28.2)	2.031 (51.6)	.625 (15.9)	.250 (6.3)	1.562 (39.7)	.266 (6.7)	1.312 (33.3)	25		
1"	LT100	LT100G	Straight L/T Fitting	1.375 (34.9)	2.250 (57.1)	.781 (19.8)	.250 (6.3)	1.875 (47.6)	.266 (6.7)	1.625 (41.3)	20		

^{*}Gray connectors provided with assembled o-ring and metal locknuts. Black connectors provided with nylon locknuts only.

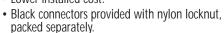
90°

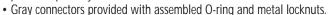


Features

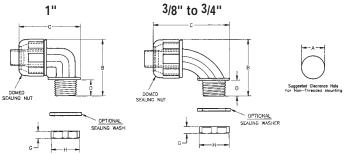
- Available in sizes 3/8" through 1" conduit and tubing.
- Smooth internal surfaces for easier wire installation around corner angles.
- All nylon construction resists salt water, weak acids, gasoline, alcohol, oil, grease and common solvents.
- No disassembly required.
- No threading of the conduit or tubing required to install.
- Complete conduit/connector system is reusable.
- Use of a sealing washer may be required for wet locations.
- Suitable for indoor/outdoor use.

• Lower installed cost.





- Protection class IP 68 per DIN 40050 up to 70 psi (5 bar) water pressure.
- Molded of type 6/6 nylon. ASTM D-4066-PA 111; flammability classification 94V-2.



Specifications

					Body & Seal		Lockin			
				Α	В	С	D	G	Н	
Size	Part No. Black	Part No. Gray	Description	Clearance Hole in. (mm)	Max O.A. Height in. (mm)	Max O.A. Length in. (mm)	Thread Length in. (mm)	Thickness in. (mm)	Wrenching Flats in. (mm)	Std. Carton Qty.
3/8"	LT938	LT938G	90 degree L/T Fitting	.875 (22.2)	1.98 (50.3)	2.91 (73.9)	.52 (13.2)	.27 (6.8)	1.06 (26.9)	25
1/2"	LT950	LT950G	90 degree L/T Fitting	.875 (22.2)	1.98 (50.3)	2.91 (73.9)	.52 (13.2)	.27 (6.8)	1.06 (26.9)	25
3/4"	LT975	LT975G	90 degree L/T Fitting	1.109 (28.2)	2.29 (58.2)	3.17 (80.5)	.52 (13.2)	.27 (6.8)	1.31 (33.3)	20
1"	LT9100	LT9100G	90 degree L/T Fitting	1.375 (34.9)	2.84 (72.1)	3.18 (80.8)	.78 (19.8)	.27 (6.8)	1.61 (40.9)	10

Carflex Fittings Installation Instructions

LT43C-CAR, LT43F thru J, LT20C-CAR, LT20F thru J.

- Cut the end of the Carflex conduit or Carflex® X-Flex™ tubing square.
- 2. Install compression nut and sealing gland ring over the end of the conduit or tubing.
- 3. Insert the ferrule end of the fitting into the conduit using a clockwise twisting action.
- 4. Screw fitting body into compression nut.
- 5. When installation is completed, use a wrench, tighten compression nut one-quarter (1/4) turn past hand-tight. Do not over tighten fitting.
- *To prevent damage to conductors, conduit and fittings, do not twist Carflex during installation.

LT43D-New, LT43E-New, LT20D-New, LT20E-New.

- Cut the end of the Carflex conduit or Carflex® X-Flex™ tubing square.
- 2. Install compression nut over the end of the conduit or tubing.
- 3. Insert the ferrule end of the fitting into the conduit using a clockwise twisting action. (Be sure conduit is fully inserted to the bottom of the fitting shoulder).
- 4. Screw compression nut onto fitting body.
- 5. Use a wrench, and tighten compression nut one (1) full turn past hand-tight. Do not over tighten fitting.
- *To prevent damage to conductors, conduit and fittings, do not twist Carflex during installation.

Carflex Liquidtight Conduit Technical Information

- 1. There shall be no more than the equivalent of four (4) quarter (90°) bends (360° total) between pull points, conduit bodies, and boxes.
- 2. The radius of the curve of the center of the conduit or tubing shall not be less than that shown in the table below:

	F CONDUIT TUBING	RADIUS TO CENTER OF CONDUIT OR TUBING			
Inches	Metric Desgr.	Inches	(mm)		
3/8	(14)	4	(101.6)		
1/2	(16)	4	(101.6)		
3/4	(21)	4 1/2	(114.3)		
1	(27)	5 3/4	(146.0)		
1 1/4	(35)	7 1/4	(184.1)		
1 ¹ /2	(41)	8 1/4	(209.5)		
2	(53)	9 1/2	(241.3)		

UL Listed for use as indicated in Article 356 of the National Electrical Code

- Cellular Metal Floor Raceways, Connections to Cabinets & Wall Outlets
- · Class I, Div. 2, Hazardous Location
- Class II, Div. 1, Hazardous Location
- · Class III, Div. 1, Hazardous Location
- Computer Room Raised Floor
- Concealed Locations
- Intrinsically Safe Systems
- Lighting Fixtures, Connection to Electric Discharge Fixture
- Nonmetallic Boxes
- RV Engine Generator
- Swimming Pool Pump Motor

- Tap Conductors (Fixture Whips)
- Underfloor Raceway, Connection to Cabinets & Wall Outlets
- Wireway, Extensions from Wireways, Wiring Methods
 - Agricultural Buildings, Flexible Connections
 - Electric Signs, 600 Volts, Nominal, or Less
 - Electric Signs, Over 600 Volts
 - Floating Buildings
 - Marinas and Boatyards
- Service Entrance Conductors
- Wiring on Buildings, Outside Branch Circuits & Feeders
- Direct Burial Applications

Carflex® Pre-Wired Liquidtight Whips





Carflex[®] **Liquidtight Whip** assemblies save the customer time and hassle of having to hunt for the needed components. Our moisture tight, nonmetallic, flexible conduit system is ideal for installing swimming pool motors, hot tub spas, air conditioners, pumps, outdoor lighting and more.

Unlike plastic coated metal conduit, the Carlon® Carflex system has no metal core to fatigue, rust, or corrode. The Carflex system has no sharp edges or burrs to cut into the wire insulation. Metal conduit is subject to fatigue and penetration of moisture.

The Carflex Liquidtight Whip assembly is complete with Carflex moisture tight conduit, wire, one straight fitting, and one 90° fitting.

All this makes for quick and trouble free installation.



Features

- Designed for easy installation
- · Will not rust or corrode
- Can be used for many commercial and residential applications.
- Many applications such as; swimming pool filters, hot tub spas, air conditioners, pumps, etc.
- Available in 1/2" and 3/4" diameters
- Available in 4' and 6' lengths
- Each kit contains (1) straight and (1) 90° fitting
- Complete with (3) 8, 10 or 12 gauge wires

Custom Orders

Also available in special configurations including different fitting combinations, wire types and sizes, and metal fitting variations. Consult factory for details.

Specifications

Part Number	Description	Wire Size (Gauge)	Standard Carton Quantity	Standard Carton Weight (lbs.)
WCD4	1/2" Carflex Whip - 4 foot	10	6 (poly bag)	10.6
WCD6	1/2" Carflex Whip - 6 foot	10	6 (poly bag)	15.8
WCE4	3/4" Carflex Whip - 4 foot	8	6 (poly bag)	12.4
WCE6	3/4" Carflex Whip - 6 foot	8	6 (poly bag)	15.8

Part Number	Description Wire Si (Gauge		Standard Carton Quantity	Standard Carton Weight (lbs.)
WCD3124	1/2" Carflex Whip - 4 foot	12	20 (bulk pack)	32.4
WCD3126	1/2" Carflex Whip - 6 foot	12	20 (bulk pack)	47.9
WCD3104	1/2" Carflex Whip - 4 foot	10	20 (bulk pack)	35.2
WCD3106	1/2" Carflex Whip - 6 foot	10	20 (bulk pack)	52.8
WCE3084	3/4" Carflex Whip - 4 foot	8	15 (bulk pack)	30.9
WCE3086	3/4" Carflex Whip - 6 foot	8	15 (bulk pack)	39.6

Carlon® Cord Grips – Straight PG Hubs

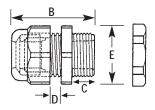
Straight PG Hubs



Features

- New threads on body prevent skipping, speed installation.
- PG hub threads are steel conduit per DIN 40430.
- Six sizes for cable, tubing, etc.: PG07, PG09, PG11, PG13.5, PG16, and PG21.
- All nylon construction with TPE gland resists salt water, weak acids, gasoline, alcohol, oil, grease and common solvents.
- Suitable for NEMA type 4 and 6 enclosures.
- · Locknuts are included.
- Working temperatures: -22°F (-30°C) to 212°F (100°C). For short periods to 302°F (150°C).
- Protection Class IP68 per DIN 40050 up to 70 psi (5 Bar) water pressure.

Specifications





Suggested Clearance Hole For Nonthreaded Mounting







Patented 4,900,068

				5 1	Α	В	С	D	E
Size (PG)	Straight Part No. Black	Std. Ctn. Qty.	Std. Ctn. Wt.	Diameter of Cable or Wire Accommodated in. (mm)	Clearance Hole in. (mm)	Max O.A. Length in. (mm)	Thread Length in. (mm)	Wrenching Nut Thickness in. (mm)	Wrenching Flats in. (mm)
PG07	LH07	100	1.3	.114250 (2.9-6.4)	.492 (12.5)	1.17 (29.7)	.33 (8.4)	.22 (5.6)	.59 (15.0)
PG09	LH09	100	2.0	.181312 (4.6-7.9)	.599 (15.2)	1.30 (33.0)	.34 (8.6)	.20 (5.1)	.75 (19.1)
PG11	LH11	100	2.6	.230395 (5.8-10.0)	.733 (18.6)	1.46 (37.1)	.39 (9.9)	.20 (5.1)	.86 (21.8)
PG13.5	LH13	100	3.1	.170470 (4.3-11.9)	.804 (20.4)	1.53 (38.9)	.41 (10.4)	.20 (5.1)	.95 (24.1)
PG16	LH16	50	2.1	.230546 (5.8-13.9)	.886 (22.5)	1.66 (42.2)	.45 (11.4)	.23 (5.8)	1.05 (26.7)
PG21	LH21	50	3.2	.450709 (11.4-18.0)	1.115 (28.3)	1.87 (47.5)	.52 (13.2)	.23 (5.8)	1.30 (33.0)

Carlon® recommends using the smallest maximum diameter fitting that will suit your application.

www.carlon.com

Carlon® Cord Grips – Straight NPT Hubs

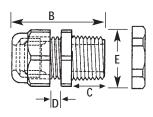
Straight NPT Hubs



Features

- New threads on body prevent skipping, speed installation.
- Four sizes for cable, tubing, etc. with diameters of 3/8", 1/2", 3/4" and 1".
- All nylon construction with TPE gland resists salt water, weak acids, gasoline, alcohol, oil, grease and common solvents.
- Suitable for NEMA type 4 and 6 enclosures.
- · Locknuts are included.
- Working temperatures: -22°F (-30°C) to 212°F (100°C). For short periods to 302°F (150°C).
- Protection Class IP68 per DIN 40050 up to 70 psi (5 Bar) water pressure.

Specifications











Patented 4,900,068

					51	А	В	С	D	Е
Size (NPT)	Straight Part No. Black	Straight Part No. Gray	Std. Ctn. Oty.	Std. Ctn. Wt.	Diameter of Cable or Wire Accommodated in. (mm)	Clearance Hole in. (mm)	Max O.A. Length in. (mm)	Thread Length in. (mm)	Wrenching Nut Thickness in. (mm)	Wrenching Flats in. (mm)
3/8"	LH38	LH38	100	1.9	.181312 (4.6-7.9)	.670 (17.0)	1.49 (37.8)	.53 (13.5)	.20 (5.1)	.75 (19.1)
1/2"	LH50	LH50G	100	2.9	.170470 (4.3-11.9)	.875 (22.2)	1.72 (43.7)	.62 (15.7)	.20 (5.1)	.95 (24.1)
3/4"	LH75	LH75G	50	2.7	.450709 (11.4-18.0)	1.068 (27.1)	1.97 (50.0)	.63 (16.0)	.23 (5.8)	1.30 (33.0)
1"	LH100	LH100G	25	2.6	.590-1.000 (15.0-25.4)	1.375 (35.0)	2.42 (61.5)	.78 (19.8)	.28 (7.1)	1.66 (42.2)

Carlon® recommends using the smallest maximum diameter fitting that will suit your application.

Carlon® Chimes

Contractor Kits
Plug-In Chime
Extend-A-Chime
Accessories



Contractor Kits Door Chimes & Buttons



CK225

Chime Kit with 2 Buttons

- Includes one contemporary white chime, two push buttons and one transformer
- Medium volume level
- · Easy to install

- Two-note tone designates front entrance, one-note designates second entrance
- 120V AC input
- 16V AC 10VA output
- 3-year limited warranty



CK221RP

Chime Kit with 2 Lighted Buttons

- Includes one contemporary white chime, two lighted push buttons and one transformer
- Medium volume level
- · Easy to install

- Two-note tone designates front entrance, one-note designates second entrance
- 120V AC input
- 16V AC 10VA output
- 3-year limited warranty

Wireless Plug-In Door Chimes



RC3250

Plug-In Door Chime

- Six different selectable sounds
- Different sounds for front, back & other doors
- Adjustable volume control
- 32 changeable codes reduce interference
- Range: 150 ft.
- 5-year warranty



RC3252

Plug-In Door Chime

- Six different selectable sounds
- Includes two buttons
- Different sounds for front, back & other doors
- Adjustable volume control
- 32 changeable codes reduce interference
- Range: 150 ft.
- 5-year warranty



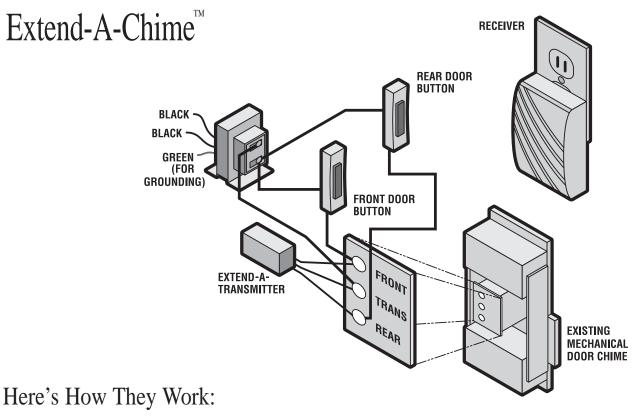
RC3253

Plug-In Add-On Door Chime

- Use with existing Dimango doorbells
- Six different selectable sounds for front, back & other doors
- Adjustable volume control
- 32 changeable codes reduce interference
- Works with Dimango products: RC3200, RC3250, RC3252, RC3260, RC3304, RC3306, RC3410, RC3610, & RC3720
- Range: 150 ft.
- 5-year warranty

Plug-In Chimes Sound Options Available:

- Ding Dong Dong Westminster Chime 12 Days of Christmas
- Hail, Hail, The Gang's All Here
 My Country 'Tis of Thee



- 1. Connect Extend-A-Chime[™] transmitter to existing mechanical door chime.
- 2. Press existing doorbell button.
- 3. Existing doorbell rings and sends signal to Extend-A-Chime™.
- 4. Extend-A-Chime[™] rings.
- 5. Extend-A-Chime™ may be placed anywhere user wants to hear doorbell ring:
 Laundry Room
 Garage
 Work Shop
 Deck



RC3200

Plug-In Extend-A-Chime™

- Use with existing doorbell
- Six different selectable sounds
- 32 changeable codes reduce interference
- Safe & easy to install
- 21/4" speaker provides excellent sound quality
- Range: 150 ft.
- 5-year warranty



RC3260

Plug-In Entrance Alert Chime

- Chime sounds when door is opened
- Six different sound options
- Ideal for small shops and businesses, or homes with small children
- 32 changeable codes reduce interference
- Sound set at button
- Range: 150 ft.
- 5-year warranty

Transmitters



RC3301 White Door Chime Button

- Works with all 3200, 3300, 3400 & 3600 series and 3720
- Long-life button battery included
- Weatherproof use indoors or out
- Button works from -30° to + 130°F
- Range: 150 ft.
- 5-year warranty



RC3321 Brass

Brass Door Chime Button

- Works with all 3200, 3300, 3400 & 3600 series and 3720
- Long-life button battery included
- Weatherproof use indoors or out
- Button works from -30° to + 130°F
- Range: 150 ft.
- 5-year warranty

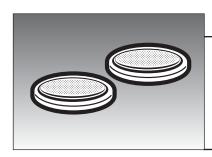


RC3311

Black Door Chime Button

- Works with all 3200, 3300, 3400 & 3600 series and 3720
- Long-life button battery included
- Weatherproof use indoors or out
- Button works from -30° to + 130°F
- Range: 150 ft.
- 5-year warranty

Batteries



RC3395

3-Volt Button Cell Batteries

- Use in buttons RC3301, RC3311 and RC3321
- Two batteries per card
- Size CR2032 lithium battery
- Range: N/A

Carlon® Electrical Nonmetallic Tubing (ENT)

ENT Tubing

Adapters
& Couplings

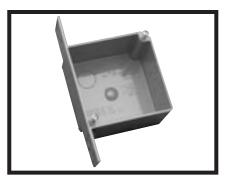
Mud Boxes
w/ Covers





Box Extenders
Octagon
Ceiling Boxes









Flex-Plus® Blue™ ENT





Flex-Plus Blue ENT is a nonmetallic flexible raceway for use in walls, floors, and non-plenum ceilings. It's lightweight, hand bendable, and free from sharp edges, which reduces installation time and saves money.

See pages 28-29 for technical information.

Options:

- Sizes 1/2" through 2"
- · Colors:
 - Yellow color for communication circuits and signaling cable
 - ◆ Red color for fire alarm circuits
 - ◆ Blue color for power circuits
- Packaging: Coils or Reels

Standard Stock - Reels

	Color	Part No.	Nom. I.D.	Nom. O.D.	Pull Tape	Min. Bend Radius	Reel Size (F x W)	Reel Type (W=Wood)	Reel Length	Reel Wt. (lbs.)	Wt. per 100 ft. (lbs.)
	Blue	12005AK-001	.56	.84	Empty	6"	36" x 24"	W	1500	40	10
1/2"	Yellow	1205AKY-001	.56	.84	Empty	6"	36" x 24"	W	1500	40	10
	Red	1205AKR-001	.56	.84	Empty	6"	36" x 24"	W	1500	40	10
	Blue	12007AA-001	.76	1.05	Empty	6"	36" x 24"	W	1000	40	14
3/4"	Yellow	1207AAY-001	.76	1.05	Empty.	6"	36" x 24"	W	1000	40	14
	Red	1207AAR-001	.76	1.05	Empty	6"	36" x 24"	W	1000	40	14
	Blue	12008-750	1.00	1.315	Empty	6"	36" x 24"	W	750	40	20
1"	Yellow	12008Y-750	1.00	1.315	Empty	6"	36" x 24"	W	750	40	20
	Red	12008R-750	1.00	1.315	Empty	6"	36" x 24"	W	750	40	20
1 ¹ / ₄ ''	Blue	12009-750	1.402	1.66	Empty	7"	48" x 32"	W	750	90	19
11/2"	Blue	12010-750	1.554	1.90	Empty	81/4"	48" x 32"	W	750	90	39
2"	Blue	12011-500	2.030	2.375	Empty	91/2"	48" x 32"	W	500	90	32
2	Red	12011R-500	2.030	2.375	Empty	91/2''	48" x 32"	W	500	90	32

^{*1-1/4&}quot; - 2" available in yellow & red, made to order; consult factory.

Standard Stock - Coils

	Color	Part No.	Nom. I.D.	Nom. O.D.	Pull Tape	Min. Bend Radius	Coil Length (ft.)	Wt. per 100 ft. (lbs.)
17 11	Blue	12005-200	.56	.84	Empty	6"	200	10
1/2"	Yellow	12005Y-200	.56	.84	Empty	6"	200	10
	Red	12005R-200	.56	.84	Empty	6"	200	10
	Blue	12007-100	.76	1.05	Empty	6"	100	14
3/4"	Yellow	12007Y-100	.76	1.05	Empty	6"	100	14
	Red	12007R-100	.76	1.05	Empty	6"	100	14
	Blue	12008-100	1.00	1.315	Empty	6"	100	22
1"	Yellow	12008Y-100	1.00	1.315	Empty	6"	100	22
	Red	12008R-100	1.00	1.315	Empty	6"	100	22

NOTE: The solid blue color of ENT conduit is a registered trademark of Carlon.

ENT may show color deterioration in direct sunlight over an extended period of time. It is suggested that all ENT products not be stored outside. Since this product is not intended for use outdoors, it should not be exposed to extended periods of direct sunlight.

Quick Connect Adapters & Couplings





- For use with Flex-Plus® Blue™ ENT
- Carlon one piece ENT Quick Connect Couplings, Threaded Adapters and Snap-In Terminator Adapters are suitable for damp locations. Quick Connect Couplings and Threaded Adapters are concrete-tight when used with Carlon ENT.
- All Schedule 40 fittings are compatible with ENT when using ENT cement.
- \bullet Schedule 40 fittings are recommended for use with Carlon 11/4" 2" Flex-Plus Blue ENT.
- Use of ENT Blue Quick-Set Cement is required. See page 27 for details.
- When One Piece Quick Connect Snap-In Terminator Adapters are installed in a concrete application, Carlon's flat sealing washers must be used on the box connection ends.

Couplings



Part. No.	Size	Standard Carton Quantity	Standard Carton Weight (lbs.)
A240D	1/2"	150	2.90
A240E	3/4"	100	3.00
A240F	1"	50	2.30

Threaded Adapters



Part. No.	Size	Standard Carton Quantity	Standard Carton Weight (lbs.)
A243D	1/2"	150	2.55
A243E	3/4"	100	2.30
A243F	1"	50	2.00

Snap-In Adapters



Part. No.	Size	Standard Carton Quantity	Standard Carton Weight (lbs.)
A253D	1/2"	150	2.70
A253E	3/4"	100	2.90
A253F	1"	50	2.30

Schedule 40 Adapters and Couplings

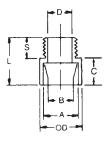




Male Terminal Adapters



For adapting nonmetallic conduits to boxes, threaded fittings, metallic systems. Male threads on one end, socket end on other.



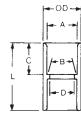
Part No.	Size	Std. Ctn. Qty.	A Typ	B ical	Min. D	Max. OD	С	S Typica	L	Std. Ctn. Wt. (lbs.)
E943D	1/2	150	.852	.836	.597	11/8	5/8	9/16	1 ⁵ / ₁₆	2.8
E943E	3/4	125	1.064	1.046	.800	111/32	3/4	9/16	13/8	3.5
E943F	1	50	1.330	1.310	1.018	15/8	1	11/16	125/32	3
E943G	11/4	50	1.677	1.655	1.332	21/32	1	3/4	1 ¹⁵ / ₁₆	4
E943H	11/2	25	1.918	1.894	1.566	25/32	13/16	3/4	2 ¹ / ₁₆	2.5
E943J	2	50	2.393	2.369	2.000	2 21/32	13/16	3/4	21/8	7

Standard Couplings

All socket fittings should be attached Using Carlon solvent cement. Using Carlon fittings with Carlon nonmetallic conduit insures system integrity.



Socket type for joining nonmetallic conduit.



Part No.	Size	Std. Ctn. Oty.	А Тур	B ical	Min. D	Max. OD	C Typ	L oical	Std. Ctn. Wt. (lbs.)
E940D	1/2	150	.852	.836	.728	17/64	11/16	11/2	4.1
E940E	3/4	100	1.064	1.046	.840	15/16	3/4	15/8	4.4
E940F	1	50	1.330	1.310	1.210	15/8	15/16	2	3.5
E940G	11/4	30	1.677	1.655	1.535	163/64	1	21/8	3.5
E940H	11/2	25	1.918	1.894	1.755	215/64	11/8	23/8	3.9
E940J	2	30	2.393	2.369	2.190	247/64	13/16	21/2	5.25

Coming Fall 2003

Transition Adapters

• For use with Flex-Plus® Blue™ ENT



Male ENT to Schedule 40

Part. No.	Size	Std. Ctn. Qty.
A263D	¹ /2" ENT to ¹ /2" Sch. 40	100
A263E	³ /4" ENT to ³ /4" Sch. 40	100
A263F	1" ENT to 1" Sch. 401	100



ENT to EMT

Part. No.	Size	Std. Ctn. Qty.
A245D	¹ /2" ENT to ¹ /2" EMT	100
A245E	3/4" ENT to 3/4" EMT	100
A245F	1" ENT to 1" EMT	100



Reducers

Part. No.	Size	Std. Ctn. Qty.
A273DE	³ /4" to ¹ /2"	100
A273EF	1" to ³ /4"	100

Coming Fall 2003

Stub Downs

• For use with Flex-Plus® Blue™ ENT

Dixie Cup



Part. No.	Size	Std. Ctn. Qty.
A210D	1/2"	50
A210E	3/4"	50
A210F	1"	50



Stub Down Transition Adapter – Vertical

<u>*</u>		
Part. No.	Size	Std. Ctn. Qty.
A200D	1/2" Female ENT to NPSC (Female)	50
A200E	3/4" Female ENT to NPSC (Female)	50
A200F	1" Female ENT to NPSC (Female)	50





Part. No.	Size	Std. Ctn. Qty.
A220D	1/2"	25
A220E	3/4"	25
A220F	1"	25



90° Stub Down Transition Adapter

Part. No.	Size	Std. Ctn. Qty.
A230D	1/2" Female ENT to NPSC (Female)	25
A230E	3/4" Female ENT to NPSC (Female)	25
A230F	1" Female ENT to NPSC (Female)	25

21/2" & 4" Mud Boxes and Covers





• For use with Flex-Plus® Blue™ ENT

Base Rings



Listed for use with ceiling fans up to 35 lbs. and for fixture support up to 50 lbs.

Part. No.	Description	Standard Carton Quantity	Standard Carton Weight (lbs.)
A861	Without ground lug	10	2.5
CA861G	With ground lug	10	2.0

Covers



Part. No.	Description	Standard Carton Quantity	Standard Carton Weight (lbs.)
A862D	2 ¹ /2" Deep (¹ /2" KO's)	10	2.5
A862E	2 ¹ /2" Deep (³ /4" KO's)	10	2.1
A864D	4" Deep (1/2" KO's)	10	2.9
A864E	4" Deep (3/4" KO's)	10	2.9
A864F	4" Deep (1" KO's)	10	3.0

Fall 2003

Mud Box Assemblies

For use with Flex-Plus® Blue™ ENT



Mud Box Base with Blank Cover

Part. No.	Size	Std. Ctn. Qty.
A863BC	Mud Box w/ Blank Cover	24



Mud Box with Ceiling Ring

Part. No.	Size	Std. Ctn. Qty.
A863CF	Mud Box w/ Ceiling Ring	24
A863CFG	Mud Box w/ Ceiling Ring & Ground Lug	24



Mud Box with One-Gang Ring

Part. No.	Size	Std. Ctn. Qty.
A863S	Mud Box w/ One-Gang Ring	24
A863SG	Mud Box w/ One-Gang Ring & Ground Lug	24



Mud Box with Two-Gang Ring

Part. No.	Size	Std. Ctn. Qty.
A863D	Mud Box w/ Two-Gang Ring	24
A863DG	Mud Box w/ Two-Gang Ring & Ground Lug	24



Mud Box with 4 Square Ring

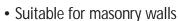
Part. No.	Size	Std. Ctn. Qty.
A863-4SQ	Mud Box w/ 4 Inch Square Ring	24

Quick Connect Outlet and Switch Boxes



• Meets NEMA OS-2







Single Gang – 16 cu. in.

Part. No.	Description	Standard Carton Quantity	Standard Carton Weight (lbs.)
A58381D	3 x 2 ¹ /4 x 3 (¹ /2" KO's)	25	4.6
A58381E	3 x 2 ¹ /4 x 3 (³ /4" KO's)	25	4.6



4 Inch Square – 20 cu. in.

Part. No.	Description	Standard Carton Quantity	Standard Carton Weight (lbs.)
A52151D	4 x 4 x 1 ¹ / ₂ (¹ / ₂ " KO's)	100	22.6
A52151E	4 x 4 x 1 ¹ / ₂ (³ / ₄ " KO's)	100	22.6
A521DE	4 x 4 x 1 ¹ / ₂ (¹ / ₂ " & ³ / ₄ " KO's)	100	22.6



4 Inch Square – 30.3 cu. in.

Part. No.	Description	Standard Carton Quantity	Standard Carton Weight (lbs.)
A52171D	4 x 4 x 2 ³ /8 (¹ /2" KO's)	25	7.6
A52171E	4 x 4 x 2 ³ /8 (³ /4" KO's)	25	7.6
A5217DE	4 x 4 x 2 ³ / ₈ (¹ / ₂ " & ³ / ₄ " KO's)	25	7.6



Outlet and Switch Boxes – Eccentric Knockouts

For use with Flex-Plus[®] Blue[™] ENT



Single Gang – 22 cu. in.

Part No. Size		Capacity (cu. in.)	Std. Ctn. Qty.
A122	Single-Gang	22	25



Combination Two Gang/Four Square Box – 38 cu. in.

Part No. Size		Capacity (cu. in.)	Std. Ctn. Qty.
A238	Two-Gang	38	25

ENT Box with Adapters

• For use with Flex-Plus® Blue™ ENT



E42728 Except where noted by ►



4 Inch Square – 24.75 cu. in. ENT Box with Adapters

Part. No.	Description	Standard Carton Quantity	Standard Carton Weight (lbs.)
A5329DE	4 x 4 x 1 ³ / ₄ (¹ / ₂ " & ³ / ₄ " KO's)	50	14.8

Box Back Wall Support



Part. No.	Description	Standard Carton Quantity	Standard Carton Weight (lbs.)
► A540DS	For use with 1/2" Knockout	100	2.1

ENT Box Extenders

For use with Flex-Plus[®] Blue[™] ENT Boxes





Single Gang

Part. No.	Rise	Cu. in.	Standard Carton Quantity	Standard Carton Weight (lbs.)
A410	1/2''	3.5	100	7.7
A411	5/8''	4.2	50	4.6
A412	3/4"	5.0	50	5.1
A413	1"	6.6	40	5
A414	11/4"	8.1	30	4.4



Two Gang



Part. No.	Rise	Cu. in.	Standard Carton Quantity	Standard Carton Weight (lbs.)
A400	Blank	-	100	7.7
A420	1/2"	6.1	75	5.0
A421	5/8"	7.4	50	4.2
A422	3/4"	8.8	50	4.8

Round Covers for Octagon Ceiling Boxes



Round Plaster Rings

Suitable for fixture support



Part. No.	Rise	Cu. in.	Standard Carton Quantity	Standard Carton Weight (lbs.)
A471	1/2''	3.2	100	3.3
A472	3/4"	4.0	100	3.7



Round Blank Covers

Part. No.	Rise	Cu. in.	Standard Carton Quantity	Standard Carton Weight (lbs.)
E460R-CAR	Blank	-	35	2.2
A470D	Blank with 1/2" KO	-	100	6.2

Quick Connect 4" Octagon Ceiling Boxes

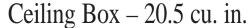


E42728

- For use with Flex-Plus® Blue™ ENT
- Carlon ceiling boxes and round plaster rings are produced from a special high heat resistant engineered plastic material developed specifically for fixture support.

• Listed for fixture support up to 50 lbs.

Except where noted by





Part. No.	Description	Standard Carton Quantity	Standard Carton Weight (lbs.)
A615D	4 - 2 ¹ /8" Deep (¹ /2" KO's)	50	6.4
A615E	4 - 2 ¹ /8" Deep (³ /4" KO's)	50	6.4
A615DE	4 - 2 ¹ /8" Deep (¹ / ₂ " & ³ / ₄ " KO's)	50	6.4



Ceiling Box with J Mount – 20.5 cu. in.

Part. No. Description		Standard Carton Quantity	Standard Carton Weight (lbs.)
A615DJ	4 - 2 ¹ /8" Deep (¹ / ₂ " KO's)	50	18.7



Ceiling Box with L Bracket – 20.5 cu. in.

Part. No.	Description	Standard Carton Quantity	Standard Carton Weight (lbs.)
A615DL	4 - 2 ¹ /8" Deep (¹ / ₂ " KO's)	50	6.4



Ceiling Box with Adjustable Hanger Bar -20.5 cu. in. Adjust from 141/4" to 231/4"

Part. No.	Description	Standard Carton Quantity	Standard Carton Weight (lbs.)
A615DH	4 - 2 ¹ /8" Deep (¹ /2" KO's)	25	13.6

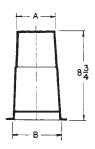
HOLFORM™ Concrete Sleeves

HOLFORM nonmetallic concrete sleeve forms are the easy way to form holes in concrete. They install in seconds with nails, screws or staples and are easily removed. Concrete will not adhere to them. HOLFORMS are adjustable to any slab thickness.





Part No.	Min. O.D. A	В	Std. Ctn. Oty.	Std. Ctn. Wt. (lbs.)
►E92CSH	11/2	13/4	20	3
► E92CSJ	2	213/32	25	6
►E92CSL	3	313/32	25	8
►E92CSN	4	413/32	18	8
►E92CSP	5	513/32	15	8
►E92CSR	6	613/32	12	8



PVC Conduit Cutters

Kwikcut Cutter



For fast, smooth field cuts of 1/2" through 1" Schedule 40 and 80 rigid conduit, Flex-Plus® Blue™ ENT, and Carflex® liquidtight flexible nonmetallic conduit.

Part No.	Size	Std. Ctn. Qty.
► CC120B	8"	10

Medium Cutter



Hand held cutter makes fast square, smooth field cuts on Schedule 40 and 80 conduit from 1/2" through 11/4". Produces burr-free cut with no shavings. Fits into pocket or pouch.

Part No.	Size	Std. Ctn. Qty.
► CC125	9"	12

Large Cutter



For clean cuts of conduit 1/2" through 2".

Part No.	Size	Std. Ctn. Qty.
▶ CC122	17 1/2"	1

Tape Prelubricated, woven polyester tape made from low friction, high abrasion resistant yarns providing a low coefficient of friction. Tape is printed with sequential footage markings for accurate measurements.



Part. No.	Size	Tensile Strength	Reel Lengths
TL14505	1/2"	1250 lbs.	5,000 ft.
TL14510	1/2''	1250 lbs.	10,000 ft.
TL38203	5/8''	1800 lbs.	3,000 ft.
TL38265	5/8''	1800 lbs.	6,500 ft.
TL38210	5/8"	1800 lbs.	10,000 ft.

Other tapes are available. Consult your sales service location for additional information.

Carlon® Cement

(MSDS sheets available at www.carlon.com)
*Meets ASTM D2564

All-Weather ENT Blue "Quick-Set" Solvent Cement with brush*



Part No.	Size	Std. Ctn. Qty.
VC9992	Quart	12
VC9993	Pint	24

ENT cement required for use with ENT

Recommended pipe application and sizes

Recommended for use with Flex-Plus® Blue™ ENT (Electrical Nonmetallic Tubing), Riser-Gard® & PVC Optic-Gard®, P&C Flex®, and Carlon PVC fittings.

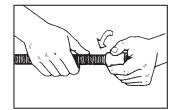
Up through 4" diameter.

Set-up time (Evaporation Rate)	installation temperature	Lap Shear @ 73°F	Viscosity at 75° as manufactured
10'-30'F 4-5 minutes 30'-50'F 3-4 minutes 50'-70'F 1-2 minutes 70'-90'F 1/2-11/2 minutes	4' to 100'F	2 hrs. 350 psi 16 hrs. 800 psi 72 hrs. 1,500 psi	400-700 cps

Concrete Encasement Guidelines

- 1. Cut ENT square and cleanly.
- 2. Insert end into fitting, making sure two (2) full corrugations are snapped into fitting beyond flexible tabs (2 clicks).
- 3. ENT should be tied to rebar at 2-3 foot intervals to prevent flotation. Keep ENT straight. Small deflections over a long run may accumulate significant degrees of bend which will affect conductor installation. Suitable materials include wire, tie wraps, and tape.
- 4. When using UL solvent weld fittings for concrete tight performance:

- E. Promptly insert ENT into fitting while cement is wet, until the stop is reached, and give a quarter turn.
- F. Do not disturb until joint is set.





- A. Do not use chemical primer or cleaner.
- B. Apply a light, uniform coat of cement labeled for use with ENT on the coupling and ENT.
- C. Do not use a dauber.
- D. Brush excess cement out of ENT grooves.

Specifications

- 1.1 Electrical Nonmetallic Tubing (ENT), is designed to replace EMT, flexible metal conduit or other raceway or cable systems, for installation in accordance with Article 362 of the National Electrical Code, other applicable sections of the Code, and local codes.
- 1.2 Any ENT used shall meet the requirements of UL Standard UL 1653 and shall be listed by Underwriters Laboratories, Inc., as suitable for its intended purpose.
- 1.3 ENT shall be recognized by a National Evaluation Report for use in 1-hour and 2-hour rated construction.
- 1.4 Penetration of fire rated walls, floors or ceilings shall use classified Through-Penetration Firestop Systems described in the current Underwriters Laboratories Fire Resistance Directory.
- 1.5 Fittings and outlet boxes shall be designed for use with ENT and listed by Underwriters Laboratories. All fittings, boxes and accessories shall be from one manufacturer.
- 1.6 Only Carlon ENT Blue cement recommended specifically for use with ENT shall be used.
- 1.7 Unless indicated differently on drawings, ENT systems shall be color coded: BLUE for branch and feeder circuit wiring, YELLOW for communications, and RED for fire alarm and emergency systems.
- 1.8 ENT, fittings, and accessories shall be manufactured by Carlon.

www.carlon.com

FEATURES:

- UL recognizes the use of PVC Schedule 40 cement type fittings with all sizes of ENT
- ENT rated for 90 deg C conductors
- One piece ENT Coupling, Threaded Terminator and Schedule 40 Transition Fitting are rated concrete tight without tape by UL
- Recognized for use in 2-hour fire resistive nonload bearing and load bearing wall assemblies per NER-290
- Recognized for use in 1-hour fire resistive nonload bearing wall assemblies per NER-290
- Recognized for use in a fire resistive ceiling assembly (up to 3 hours) per NER-290
- Recognized for Through-Penetration Firestop systems as classified by UL to meet BOCA, SBCCI and ICBO codes.
- Conductors easily push through the raceway (up to approximately 50 feet)*
- For use in buildings in accordance with NEC Article 362
- Recognized by ICC, BOCA, SBCCI, and ICBO for having a one and two hour fire rated wall assembly and up to a three hour rated floor/ceiling assembly
- Outside Diameters meet IPS Dimensions
- Storage -4°F 158°F
- Handling -4°F 104°F

APPROVED USES:

- Concrete slab NEC Article 362
- Walls wood stud, masonry and metal stud NEC Article 362.
- Ceilings permanent or dropped (free air only) NEC Article 362.
- Exposed NEC Article 362
- Public Assembly NEC Section 518.4, in nonfire rated and certain five rated structures
- Prewired NEC Article 362
- Classified by UL 1479 for Through Penetration Firestop Systems in UL Guide Category XHEZ and current UL Fire Resistance Directory
- Three hour rated floor/ceiling assemble
- Raised Floors NEC Section 645.5(D)(2)
- Exposed or concealed in building above three floors when a fire sprinkler system is installed in accordance with NFPA 13 – NEC Section 362.10(2)

TYPICAL APPLICATIONS:

- Residential: Low or high rise multi or single family
- Commercial: Low or high rise office, retail, hotel/motel, restaurant, etc.
- · Nursing Homes/Hospitals in nonpatient care areas only
- Schools, classrooms, dormitories, offices
- Fire Alarm Systems
- Recreational vehicles and parks
- Solar Photovoltaic systems
- Marinas and boatyards
- Other uses per the current NEC

Carlon® Nonmetallic Floor Boxes and Covers

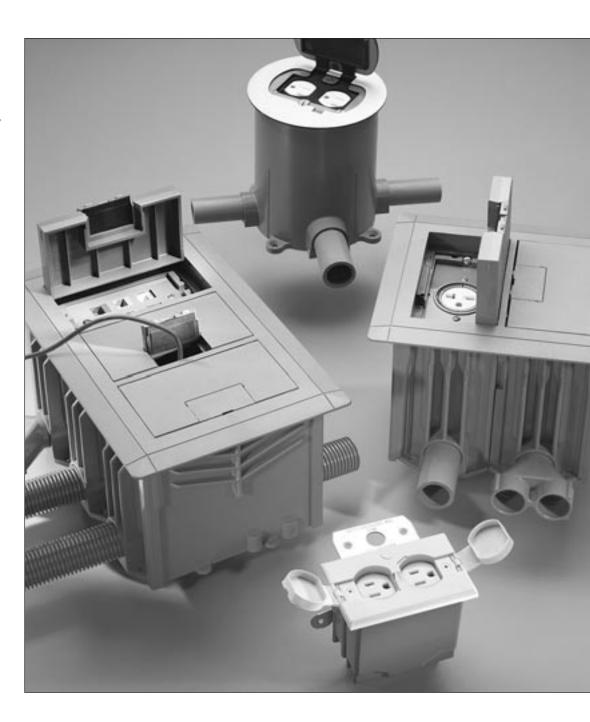
Round Floor Boxes

1-, 2-, and 3-Gang Rectangular Floor Boxes

Residential Floor Boxes

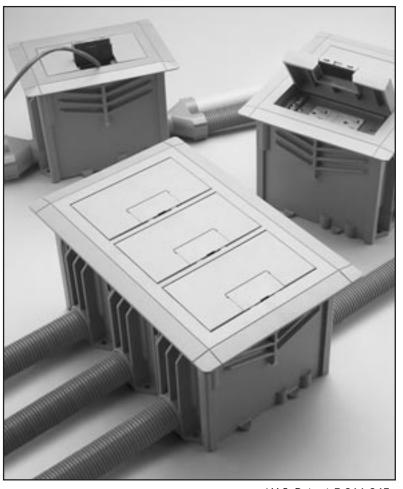
Brass Covers

Nonmetallic Covers



Nonmetallic Rectangular Floor Boxes

1-, 2-, and 3-Gang



*U.S. Patent 5,866,845

Carlon® Rectangular Floor Box Systems – three-way power, data, and communications plus easy double or triple ganging, too.

Compared to metal boxes, Carlon rectangular floor boxes cost less and install faster to save you money on every job. Three-in-one power, data, and communications capability cuts installation time and cost even more, while simple two- and three-gang modularity gives you the flexibility, installation ease, and cost-savings no other nonmetallic boxes can match. The covers attach without the use of fasteners, providing a professional, clean installation as well as preserving the aesthetic life of the product. Take a closer look at all our rectangular floor box systems offer you.

Features

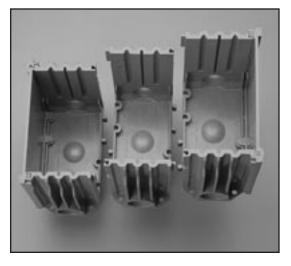
- Covers require no adjusting collar. Two screws assure a flush, secure installation.
- Nonmetallic PVC construction, watertight gasket, and corrosion-resistant hardware assure long life and reliable performance even in harsh and/or corrosive environments.
- One consistent box depth simplifies ordering time and reduces inventory.
- Saves time and money on installations with simple saw cut to floor level.
- Concrete tight and suitable for any on grade/ below grade application; concrete or wood sub-floor construction approved.

- Convenient cubic inch capacity markings on inside allow for easy inspection.
- PVC molded ports and reducer plugs included.
- Accepts 1/2", 3/4", and 1" conduit, tubing or raceway.
- Rectangular sides are drillable.
- For tile and carpet applications.
- Cover options include solid brass or thermoplastic (brown, slate, and caramel).
- UL scrub water tested.

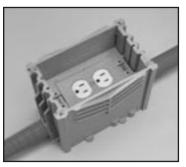
www.carlon.com

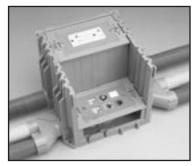
Installation





With our rectangular boxes, one SKU is all you ever need. Simply remove appropriate sides and slide boxes together to create two- or three-gang boxes for on-the-job flexibility no competitor offers.

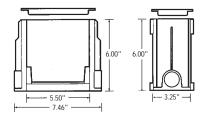






Specifications

Rectangular Floor Box



Part No.	Material	Size	Internal Volume (cu. in.)	Min. Concrete Depth	Hubs	Reducer Plugs	Std. Ctn. Qty.	Std. Ctn. Wt. lbs.
E976RFB	PVC	1-Gang	97.4 (16.8 per inch of Depth)	3 1/2"	(2) 1"	(2) 1" x ³ /4" (2) ³ /4" x ¹ /2"	3	6.92

Activation Kit



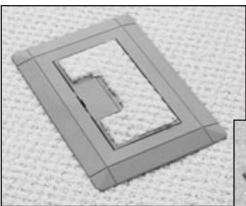
Activation kit provides components to accommodate all standard power, data, and communications devices plus a divider to separate power from data and communications – all in a single SKU. Device yokes can be adjusted to store excess cord in the box.

Part		Material	Std.	Std.	
No.			Ctn. Qty.	Ctn. Wt. (lbs.)	
	E97AK2	PVC	3	2.47	

Rectangular Floor Box Covers – Nonmetallic

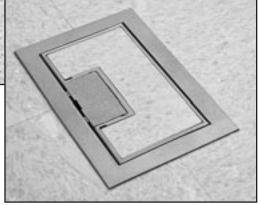
1-, 2-, and 3-Gang Nonmetallic





*U.S. Patent 5,866,845

On-the-job flexibility extends to our rectangular box covers. Each one-, two-, or three-gang cover is suitable for any wiring application and can be used with any floor surface. Nonmetallic covers are even field reversible for tile or carpet. Double door feature allows easy access to the device and helps keep stray cords organized.



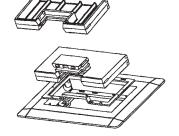
Carlon Rectangular Floor box covers do not require a separate carpet flange. The carpet flange is part of the cover and may be removed for tile application.

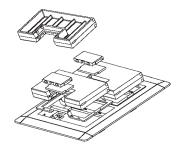
Features

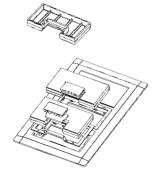
- High impact resistant thermoplastic
- Field reversible for tile or carpet
- Gasketed for a watertight seal
- Double door design
- For tile and carpet applications
- UL scrub water tested

Specifications

Rectangular Floor Box Covers - Nonmetallic



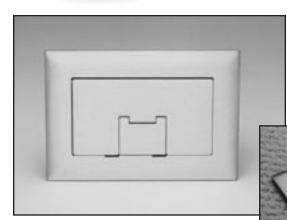




Part No.	Description	Dimensions (W x L)	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
E9761B	Brown Single-Gang Cover/Carpet Flange	7.13" x 5.00"	3	1.7
E9762B	Brown Double-Gang Cover/Carpet Flange	7.13" x 8.25"	9	8.5
E9763B	Brown Triple-Gang Cover/Carpet Flange	7.13" x 11.50"	6	7.5
E9761C	Caramel Single-Gang Cover/Carpet Flange	7.13" x 5.00"	3	1.7
E9762C	Caramel Double-Gang Cover/Carpet Flange	7.13" x 8.25"	9	8.5
E9763C	Caramel Triple-Gang Cover/Carpet Flange	7.13" x 11.50"	6	7.5
E9761S	Slate Single-Gang Cover/Carpet Flange	7.13" x 5.00"	3	1.7
E9762S	Slate Double-Gang Cover/Carpet Flange	7.13" x 8.25"	9	8.5
E9763S	Slate Triple-Gang Cover/Carpet Flange	7.13" x 11.50"	6	7.5

1-, 2-, and 3-Gang Solid Brass





*U.S. Patent 6,265,662

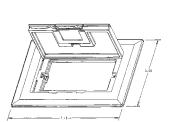
Carlon® Brass rectangular Floor Box Covers add a classic touch to all floor box installations and are particularly suited for use in high-traffic areas because of the resistance to wear. The gasket gives a watertight seal, and the light lacquer finish provides extra protection.

Features

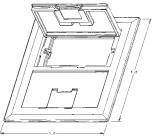
- Rugged solid brass construction.
- Brushed finish coated with a light lacquer for protection.
- Rectangular brass covers include a cord door.
- Gasketed for watertight applications.
- Rectangular brass covers allow for single, duplex, GFCI receptacles, and low voltage.
- For tile and carpet applications.
- UL scrub water tested.

Specifications

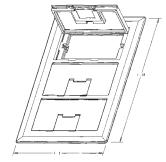
Rectangular Floor Box Covers - Brass



E9761BR



E9762BR



E9763BR

Part No.	Description	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
E9761BR	Brass Single-Gang Cover	3	6.8
E9762BR	Brass Double-Gang Cover	3	9.9
E9763BR	Brass Triple-Gang Cover	3	12.1
E976AK2	Rectangular Floor Box Activation Kit	3	1.3

Nonmetallic Round Floor Boxes



Carlon® Round Floor Box Systems – three-way versatility for power, data, and communications.

Carlon round floor boxes give you the same cost-saving advantages over metal boxes as our rectangular boxes. By letting you combine power, data, and communications in the same box, you can dramatically reduce your installation time and cost compared to other nonmetallic boxes. In addition, multi-use covers mean fewer SKUs to deal with and greater jobsite flexibility to increase your savings further. Take a closer look at all their advantages for yourself.

Features

- Nonmetallic PVC construction, watertight gasket, and corrosion-resistant hardware assure long life and reliable performance even in harsh and/or corrosive environments.
- Brass and an assortment of nonmetallic covers are available for a variety of applications.
- The same box depth simplifies ordering and reduces inventory.
- For tile and carpet applications.

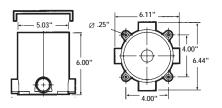
- Concrete tight and suitable for any on grade/below grade application; concrete or wood floor construction approved.
- Y-connector (E972Y) allows you to feed parallel runs of ³/4" conduit or to feed in/out from the same side for increased wiring flexibility and faster installation.
- PVC molded ports and reducer plugs included.
- Accepts 1/2", 3/4", and 1" conduit, tubing or raceway.
- UL scrub water tested.





Specifications

Round Floor Box



Carlon Round Floor Boxes allow for various thickness of concrete pours. Trim out is easy – just use a handsaw to cut off box at desired height to accommodate carpet, tile, or other flooring. Carlon leveling ring guarantees a level top every time, even if the box is tipped slightly during the pouring process.

Part No.	Internal Volume (cu. in.)	Min. Concrete Depth	Hubs	Reducer Plugs	Std. Ctn. Qty.	Std. Ctn. Wt. lbs.
►E971FB	90.0 (15.5 per inch of Depth)	3 1/2"	(2) 1" and (2) ³ / ₄ "	(2) 1" x ³ / ₄ " and (2) ³ / ₄ " x ¹ / ₂ "	10	15.6

Accessories

Multi-Service Divider Kit



Multi-service divider kit for separate power, data, and communications compartments provides unbeatable flexibility and money-saving installation speed. For use with nonmetallic boxes only.

Part	Std.	Std.
No.	Ctn. Qty.	Ctn. Wt. (lbs.)
►E973K	10	3

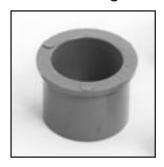
3/4" Y Fitting



The 3/4" Y Fitting provides for in and out service from a single 1" port, and allows for two 3/4" parallel conduit runs to adapt into a single conduit body port.

Part	Std.	Std.
No.	Ctn. Qty.	Ctn. Wt. (lbs.)
E972Y	10	2.1

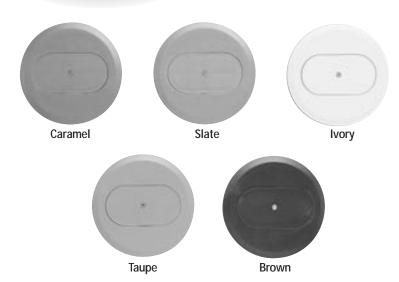
Reducer Plugs



Part No.	Size	Std. Ctn. Qty.	Std. Ctn. Wt. (Ibs.)
E971C	3/4" x 1/2"	100	2.1
E971D	1" x ³ /4"	100	3.2

Round Floor Box Covers – Nonmetallic

Nonmetallic Covers



U.S. Patent 6,450,353

Features



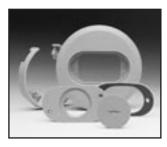
- High impact resistant thermoplastic
- Compatible with standard NEMA Single, Duplex, GFCI, and 1 1/4" NPS receptacles
- Drill points (3/8") provided for low voltage cable pass throughs
- 1 1/4" NPS plugs may be modified to accept smaller fittings (3/8", 1/2", and 3/4")
- For tile and carpet applications
- UL scrub water tested

Duplex Covers



Part No.	Color	Description	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
E97DSI	lvory	Duplex Cover	10	5.2
E97DSC	Caramel	Duplex Cover	10	5.7
E97DST	Taupe	Duplex Cover	10	5.7
E97DSS	Slate	Duplex Cover	10	5.6
E97DSB	Brown	Duplex Cover	10	5.8

1 1/4" NPS Covers



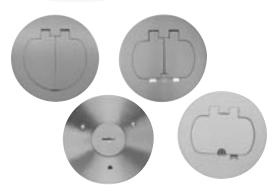
Part No.	Color	Description	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
E97SSRB	Brown	NPS Cover	10	3.8
E97SSRC	Caramel	NPS Cover	10	3.8
E97SSRS	Slate	NPS Cover	10	3.8

Metal Cover Adapter Ring



Part	Devices	Std.	Std.
No.		Ctn. Qty.	Ctn. Wt. (lbs.)
E97ABR2	One-Piece Metal Cover Adapter	10	3.3

Brass Covers



U.S. Patent 6,179,634

Features



- Screws concealed under doors
- Rugged solid brass construction
- Brushed finish coated with a light lacquer for protection
- Resistance to wear suited for high traffic areas
- Gasketed for watertight applications
- Available in four styles Single Door, Two Door, NPS Opening, and Two Door Dual Service
- For tile and carpet applications
- UL scrub water tested

Two Door Dual Service (Divider Kit included)













Part	Devices	Std.	Std.
No.		Ctn. Qty.	Ctn. Wt. (lbs.)
E97BR2D	Duplex and Two Data Ports	5	9.2

Two Door

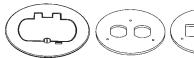




Part	Devices	Std.	Std.
No.		Ctn. Qty.	Ctn. Wt. (lbs.)
E97BR2	Duplex	5	7

Single Door





Part No.	Devices	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
E97BR	GFCI and Duplex	5	7

NPS Opening







Part	Devices	Std.	Std.
No.		Ctn. Qty.	Ctn. Wt. (lbs.)
E97BRG	1 1/4" Outlet and Single Receptacle	5	7.5

Carlon Adjustable Residential Floor Boxes

Adjustable Residential Floor Box



Nonmetallic (White)



Nonmetallic (Ivory)



*U.S. Patent 5,289,934

The Carlon Adjustable Residential Floor Box provides a clean, aesthetically pleasing duplex floor outlet, ideal for residential and home office applications. It's designed to adjust to most finished floor heights by simply turning the adjustment screw clockwise or counterclockwise and adjusting the box flush to the floor.

The durable Nonmetallic and Brass Covers feature unique dual hinged duplex covers to keep dust and scrub water out, and because they're attached, they won't get lost while in use. The Adjustable Floor Box has a full 20 cubic inch capacity, and comes complete with a cover, duplex receptacle, molded cable clamps, mounting bracket and mounting hardware.

The Carlon Residential Floor Box is ideal for retrofit and new construction and is a great alternative to the commercial-style covers available on the market today.

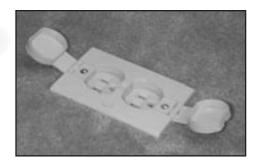
Features

- Adjusts to most finished floor heights (From 0" to $1^{3}/4$ ")
- 20 cubic in. capacity
- Available with nonmetallic or brass cover
- Complete assembly includes box, duplex receptacle, cover, molded cable clamps, mounting bracket and mounting hardware
- · Ideal for home offices and entertainment rooms
- UL listed Floor Box
- UL scrub water tested
- 2 hour floor fire classification

www.carlon.com

Carlon Adjustable Residential Floor Boxes

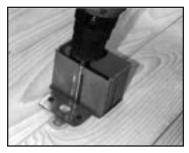
Application



Installation



Install clip over subfloor.



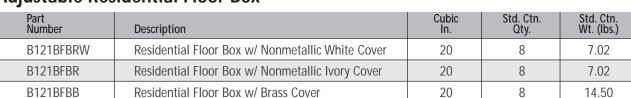
Screw in to adjust to height of flooring or carpet



Beautiful flush fit every time!

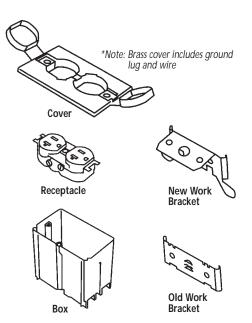
Specifications





Kit includes:





Mounting Hardware:

Ivory/White Cover:

- Two (2) 6-32x1 flat head machine screws
- Four (4) #6 1-1/4 self-tapping flat head screws
- Two (2) #6 1-5/8 drywall screws
- One (1) cover plug

Brass Cover:

- Two (2) 6-32x1 brass plated flat head machine screws
- Four (4) #6 1-1/4 self-tapping flat head screws
- Two (2) #6 1-5/8 drywall screws

Carlon® Nonmetallic Curved Lid J-Box

New High/Low Voltage Dividers

To give you a better way to install parking lot lights, we started at the bottom.



Carlon® Nonmetallic Curved Lid J-Box



Features

- NEMA 1, 2, 3, 3R, 3S, 4, 4X, 12, 13
- UL Listed and CSA Certified
- Paintable lid
- Dividers available to separate high and low voltage, and can be retrofitted into existing applications
- Lids provide locations to mount weatherproof covers:
 - ▲ 8" x 8" One location
 - ▲ 12" x 12" Three locations
- · Nonconductive and noncorrosive
- Designed for a 24" radius concrete pier

NOTE: The J-Box can also be installed in concrete piers from 18" to 36" in diameter. Contact your Carlon Sales Rep for installation details.

Anyone who's worked with parking lot light poles knows the problem. Those tiny integral hand holes for electrical wiring can really slow a project down. But now there's a better answer for shopping centers, car dealerships, sports arenas, office complexes, or anywhere you need pole lighting for large parking lot areas – the Carlon nonmetallic curved lid J-Boxes.

Carlon curved lid J-Boxes are listed in accordance with UL 50 specifications for Electrical Enclosures as well as NEMA 1, 2, 3, 3R, 3S, 4, 4X, 12, 13 ratings. They are available in sizes 8"x8" or 12"x12". Both the base and lid are made from PVC to eliminate rust and corrosion and are supplied with tamper-resistant screws.

Designed specifically for use with 24" diameter concrete piers, J-Boxes are installed, along with all necessary conduit and fittings, when piers are poured. This gives installers a giant junction box at the base of every pole to ease wiring, facilitate circuit management, and provide easy post-installation maintenance. Just take a closer look, and you'll see why our nonmetallic J-Boxes are a better choice for you.

Install Carlon® Weatherproof Covers



Faster, easier wiring for greater productivity.

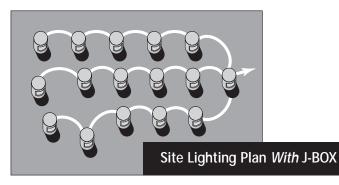
Once your J-Boxes are installed, you can speed projects along by pre-wiring before poles arrive. Or you can install poles first and use them to mount cable pulling equipment – a particular advantage for long, difficult wire pulls. Of course, all the extra hand

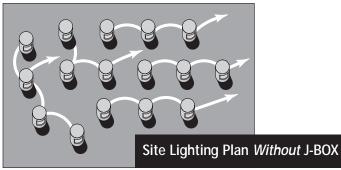


room our J-Boxes offer makes splicing much easier and faster than working through cramped pole access holes.

More flexibility, fewer home runs, and easier maintenance, too.

Extra room also gives you splicing space for options like zone lighting or to reduce the number of home runs, which can lower trenching and associated materials costs by up to 30%. In addition, the box lids provide locations to mount receptacles and weatherproof covers for even more flexibility. For easy maintenance, fixture protection can be placed at the base, and if need be, poles can even be removed and replaced in the middle of the circuit without affecting overall lighting.





Easy to Install



 J-Box, with all conduit and fittings placed as desired, is temporarily attached to the concrete form – base and lid inside.



Remove form after concrete has been poured and allowed to cure.



3. Pop off the J-Box lid, leaving an 8" x 8" x 4" or 12" x 12" x 4" access area, depending on the J-Box selected.



4. After wiring is completed, the lid is replaced to complete the installation.

Specifications & Accessories

Specifications

J-Box Assemblies

Part No.	Size	Std. Ctn. Qty.	Std. Ctn Wt. (lbs.)
E88C24	8"x 8"x 4"	6	28.3
E1212C24	12"x 12"x 4"	2	9.7





Except where noted by ▶



Accessories

Replacement Lids

Part No.	Size	Std. Ctn. Qty.	Std. Ctn Wt. (lbs.)
E88L24	8"x 8"	1	2.1
E1212L24	12"x 12"	1	2.3





Dividers

The 2002 **National Electrical Code (NEC)**, per section 800-52 (a)(1)(c) Exception No. 1, allows electrical conductors to share an outlet box when the conductors and communication cables are separated by a barrier within the box.

Part No.	Std. Ctn. Qty.	Std. Ctn Wt. (lbs.)
► E88DIV (For use with Part No. E88C24)	6	2.1
► E1212DIV (For use with Part No. E1212C24)	2	2.3



J-Box Dividers are used to separate high and low voltage devices, and solvent cement into place

Carlon® Weatherproof Covers and Light Systems

Innovative
Solutions for
Outdoor
Lighting
and Electrical
Applications

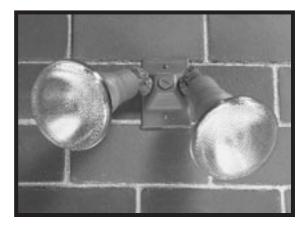












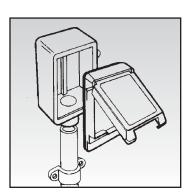




Carlon® weatherproof covers are rain-tight and drip-proof when the cover is closed. They are intended for wet environments and offer protection to outdoor electrical devices. They may be mounted to Type FS boxes or a smooth, flat nonporous surface. Lids snap-off for easy access to top screw holes.

Features

- Nonconductive
- Nonmetallic
- Noncorrosive
- Durable
- Paintable
- Easy to install



Installation Instructions

- Turn off power when installing electrical devices.
- Place gasket on top of outlet box.
- Fasten cover to outlet box with enclosed screws.

This cover must be installed in accordance with the

National Electrical Code (NEC) and local codes.

These covers can be mounted to Type FS boxes boxes, or a smooth, flat nonporous mounting surface. (Use 1/4"bead RTV type, silicone, neoprene, urethane, or polyurethane caulking between gasket and mounting surface on non-box mountings.)

Single Gang Covers

15 AMP Receptacle Cover

For 15 amp or other single receptacles under 1.375" diameter.



Part No.	Color	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
E98SRCN-CAR	Grey	10	2.1

20 AMP Receptacle Cover

For 20 amp or other single receptacles under 1.625" diameter.



Part No.	Color	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
E98G20N	Grey	20	4.1

30 AMP Receptacle Cover

For 30 amp or other single receptacles under 1.750" diameter.



Part No.	Color	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
E98G30N-CAR	Grey	10	2.1

50 AMP Receptacle Cover

For 50 amp or other single receptacles under 2.250" diameter.



Part No.	Color	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
E98G5FN-CAR	Grey	10	2

Duplex Receptacle Cover

For single gang duplex receptacle applications.



Part No.	Color	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
E98GDRN-CAR	Grey	10	2

GFI Receptacle Cover

For GFI receptacle applications. Device opening dimensions: 2.63" H x 1.31" W.



Part No.	Color	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
E98GFCN-CAR	Grey	10	2

Single Gang Covers

Duplex Receptacle Cover – Horizontal Mount

For single gang duplex receptacle applications.



Part No.	Color	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
E98DHGN-CAR	Grey	10	3.9

GFI Horizontal Cover

For GFI receptacle applications. Device opening dimensions: 2.63" W x 1.31" H.



Part No.	Color	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
E98GHGN-CAR	Grey	10	1.9

Circuit Breaker Cover

For circuit breaker applications up to 4 single poles. Device opening dimensions: 2.845" H x 2.265" W.



Part No.	Color	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
E98GCBN	Grey	20	3.9

Single Switch Cover

For single switches.



Part No.	Color	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
E98SSCN-CAR	Grey	10	2.1

Toggle Switch Cover

For single weatherproof toggle switch applications.



Part No.	Color	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
E98TSCN-CAR	Grey	5	1.1

Two Gang Covers

Double Duplex

For two gang duplex receptacle applications.



Part No.	Color	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
E9G2DDN-CAR	Grey	10	2.3

Double Toggle Cover

For two gang weatherproof toggle switch applications.



 Part No.	Color	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
E9G2SSN	Grey	6	3.2

Combination Toggle/GFI Cover

For two gang GFI and weatherproof toggle switch applications.



Part No.	Color	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
E9G2GTN-CAR	Grey	5	1.3

Combination Toggle/Duplex Receptacle Cover

For two gang duplex receptacles, and weatherproof toggle switch applications.



Part No.	Color	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
E9G2DSN-CAR	Grey	10	1.3

Blank Covers

Single Gang Cover

Fits Carlon® single gang FS boxes. Supplied with stainless steel mounting screws and gasket.



Part No.	Color	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
E980CN-CAR	Grey	12	1.5

Two Gang Cover

Fits Carlon® two gang FS boxes and other nonmetallic and metallic FS boxes. Supplied with stainless steel mounting screws and gasket.



Part No.	Color	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
E980CN-CAR	Grey	10	1.8

In-Use Weatherproof Covers





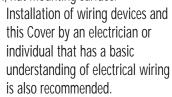
Carlon® In-Use Weatherproof covers are intended for wet locations that require protection for electrical devices while in-use. And because of their strength and durability they can be used year round without rusting or fading.

Features

- NEMA Type 3R Rated
- Meets NEC article 406.8 (B) while in use
- Tamper resistant
- Paintable
- Nonmetallic
- Nonconductive
- Noncorrosive

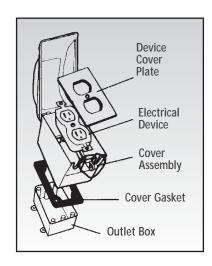
Installation Instructions

This Cover can be mounted to an FS type box intended for wet locations, or a smooth, flat mounting surface.



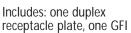
This cover must be installed in accordance with the National Electrical Code (NEC) and local codes.

The Cover complies with NEC article 406.8(B) for outdoors, and subrule 26-706 of the Canadian Electrical Code.



In-Use Weatherproof Covers – NEMA Type 3R Rated

Single Gang Horizontal



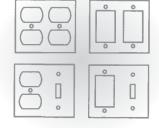
receptacle plate, one cover, one base with gasket and screws.



Part No.	Color	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
E9UHGRN	Grey	4	2.1
E9UHWRN	White	4	2.2
E9UHCRN	Clear	4	2.0

Double Gang

Includes: double duplex receptacle plate, double GFI receptacle plate, combination duplex and toggle plate, combination GFI and



toggle plate, one cover, one base with gasket and screws.



Part No.	Color	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
E9U2GRN	Grey	6	4.2
E9U2WRN	White	6	4.3
E9U2CRN	Clear	6	4.1

Single Gang Vertical

Includes: one switch plate, one duplex receptacle plate, one GFI receptacle plate, one cover, one base with gasket and screws.



Part No.	Color	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
E9UVGRN	Grey	12	5.2
E9UVWRN	White	12	5.3
E9UVCRN	Clear	12	5.0

Single Gang Vertical Deep

Includes: one switch plate, one duplex receptacle plate, one GFI receptacle plate,* one single receptacle plate, one cover, one base with gasket and screws.



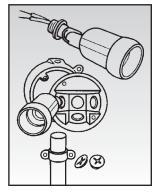
Part No.	Color	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
E9UDVGRN	Grey	8	5.8
E9UDVWRN	White	8	5.8
E9UDVCRN	Clear	8	8.6

^{*1.60&}quot; diameter – fits 20 amp twistlock or standard 30 amp receptacle.

Carlon® Nonmetallic Flood Lights and Par Lamp Holders are ideal for outdoor residential or commercial applications. Our lighting systems are nonconductive and safe for wet or damp locations. Available in grey or white, they will compliment any exterior.

Features

- Nonmetallic
- Nonconductive
- · Easy to install
- Paintable
- Durable
- Rust proof



Installation Instructions



- **1.** Turn off electricity before starting.
- **2.** Bring power leads into the outlet box and connect using proper wire nuts or insulation materials.
- 3. Use drill or nail to knock out holes on lampholder cover that align with outlet box. When completed, be sure visual perimeter of weatherproof gasket is even to assure proper seal.
- 4. Floodlight lampholders can be positioned using two different adjustments. Loosen locknut to turn lampholder assembly to desired position. Tighten locknut. Then depress pushbutton to adjust lampholder to final position.

Lampholders

Rectangular Lampholder Cover



Part No.	Color	Std. Wt. (lbs.)	Std. Ctn. Ctn. Qty.
P7901W-CAR	White	.9	12

No-Tool-Lampholder with Gasket



Part No.	Color	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
P8001W-CAR	White	24	5.5

Round Lampholder Cover



Part No.	Color	Std. Wt. (lbs.)	Std. Ctn. Ctn. Qty.
P7801W-CAR	White	1.6	16

No-Tool-Lampholder with Round Cover Kit



Part No.	Color	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
P8060W-CAR	White	6	5.8

No-Tool-Two Lampholders with Rectangular Cover



Part No.	Color	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
P8005W-CAR	White	6	3.8

No-Tool-Lampholder with Rectangular Cover Kit



Part No.	Color	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
P8055W-CAR	White	6	5.8

No-Tool-Two Lampholders with Round Cover



Part No.	Color	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
P8010W-CAR	White	6	3.9

Closure Plugs



Part No.	Color	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
► P7701W-CAR	White	30	1.3

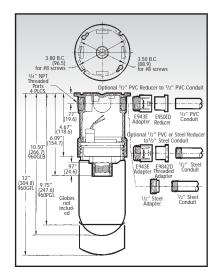
Weatherproof Fixture and "T" Boxes

Carlon® Nonmetallic Weatherproof Fixture is designed for indoor or outdoor use and is suitable for damp, wet or corrosive environments. The one-piece design offers a 20.25 cu. in. wiring capacity and is approved for 60° AWG wire with the use of a 150 watt lamp. It will accommodate 8 no. 12 AWG through branch circuit conductors and is approved for through branch wiring.

Features

- Nonmetallic corrosive resistant
- Ceramic socket long life
- · Silicone gasket
- Drill point located on back
- Approved for dwellings
- Junction box approved









Fixture Base



Part No.	Hub	Std. Ctn.	Std. Ctn.
	Size	Oty	Wt. (lbs.)
E962E	3/4"	6	4.5

Weatherproof Lighting Globes Clear Glass Globe



Part No.	Ctn. Qty.	Wt. (lbs.)
E960GLB (Clear Glass)	6	6.6

Clear Polycarbonate Globe



Part No.	Std. Ctn. Qty.	Wt. (lbs.)
E960PGL(Clear Plastic)	6	6.6

Rippled Polycarbonate Globe



Part No.	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
E960GFL	6	4.9

Weatherproof "T" Boxes

Carlon® Weatherproof "T" Boxes are for use with nonmetallic wiring systems only. Can be used with Carlon Par Lamp Holders.

Single Gang "T" Box

With three 1/2" threaded holes. Mounting feet included.



Part No.	Color	Size	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
►*E381D-CAR	Grey	1/2"	10	2.3
►*E381DW-CAR	White	1/2"	10	1.8

Double Gang "T" Box

With three 1/2" and four 3/4" threaded holes. Mounting feet included.



Part No.	Color	Size	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
►*E382DE	Grey	1/2"	6	3.6
►*E382DEW	White	1/2"	6	3.6

Round "T" Box

With five 1/2" threaded holes. Mounting feet included.



Part No.	Color	Size	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
►*E365D-CAR	Grey	1/2"	10	1.2
►*E365DW-CAR	White	1/2"	10	1.2

^{*}E381D-CAR, E365D-CAR and E382DE are for use with nonmetallic wiring systems only.

Carlon® Wire Safe® Wireway And Wiring Trough

Tough on the job, easy on you.



No wires to pull, no hard-to-work-with metal components.

Carlon® leads the way with the world's broadest line of nonmetallic wiring management products designed for easier installation, greater performance, and lower installed cost. That includes our Carlon® Wire Safe® wireway, wiring trough, and fittings. It's the perfect solution for containing electrical, electronic, and communication wire and cable. That's because it's easy to install, provides durable protection, and eliminates the need to pull conductors, too. Just compare it point for point against the competition, and you'll see why it's the best alternative for you.



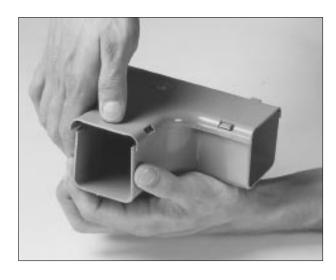
Rugged Yet Lightweight.

UV stabilized, high-impact resistant PVC provides a strong, durable, non-corrosive, non-conductive housing for wire and cable. At the same time, components are so light and easy to handle that installation can be done by one person.



Easy To Cut And Assemble.

Wireway and trough can be cut easily and cleanly with either a hacksaw or fine tooth saw to make field fabrication a snap. And it's equally easy to couple components either with Carlon primer and PVC cement or nonmetallic push rivets.







No Wires To Pull.

Once your wireway or trough is installed, just lay your wire and cable in, pop the cover on, and you're done. It's as easy as that, and that's a lot easier than pulling wire or cable.

Easy To Rewire.

"Clip-on" cover design allows easy access for adding or removing wire and cable after initial installation.

Application Flexibility.

Wireway and trough are suitable for a wide range of applications from the most demanding commercial and industrial uses including food service companies and chemical plants to communication and computer facilities. Both wireway and trough can be used on walls, ceilings, or across supports.

A Complete Nonmetallic System.

Both wireway and trough are available in 2" x 2", 3" x 3", 4" x 4" and 6" x 6" dimensions. Wireway comes cut in easy-to-use 10' lengths for larger jobs, and for tighter spaces, we offer specific lengths of wiring trough to fit distances of 1' to 10'. Both can be used with our nonmetallic enclosures, conduit, and fittings to create a total nonmetallic wire and cable management system far superior to metal counterparts.

Improved NEMA 12 Wireway End Caps.

Our new wireway end caps are now made with pre-installed adhesive backed gaskets. This new design makes them easier to use and also qualifies them for a NEMA 12 rating.

Carlon® Wiresafe® Wireway



Part No.	Outside Nominal Dimensions	Length	Std. Ctn. Oty.	Wt. (lbs.) per 10'
17011	2 x 2	10'	1	4.7
17013	3 x 3	10'	1	11.2
17015	4 x 4	10'	1	11.2
17017	6 x 6	10'	1	21.4



Carlon® Wiresafe® Wiring Trough

Part Number	Outside Nominal Dimensions	Standard Carton Qty.	Wt./Lbs. Each	
	12"	Trough		Contract to
18111	2 x 2	1	0.6	
18113	3 x 3	1	1.0	
18115	4 x 4	1	1.4	
18117	6 x 6	1	3.1	
		Trough		
18211	2 x 2	1	1.1	
18213	3 x 3	1	1.8	
18215	4 x 4	1	2.6	
18217	6 x 6	1	5.3	-
		Trough		THE RESERVE TO SERVE THE PARTY OF THE PARTY
18311	2 x 2	1	1.5	
18313	3 x 3	1	2.6	
18315	4 x 4	1	3.7	
18317	6 x 6	1	7.4	
		Trough		
18411	2 x 2	1	2.0	
18413	3 x 3	1	3.3	
18415	4 x 4	1	4.8	
18417	6 x 6	1	9.6	
		Trough		
18511	2 x 2	1	2.5	
18513	3 x 3	1	4.1	
18515	4 x 4	1	5.9	
18517	6 x 6	1	11.7	
		Trough		
18611	2 x 2	11	2.9	
18613	3 x 3	1	4.9	
18615	4 x 4	1	7.1	
18617	6 x 6	1	13.8	
		Trough		
18011	2 x 2	1	4.8	
18013	3 x 3	1	8.1	
18015	4 x 4	1	11.6	
18017	6 x 6	1	22.4	A STATE OF THE PARTY OF THE PAR

All wiring trough is made to order and is supplied with a pair of end caps.

Carlon® Wiresafe® Fittings

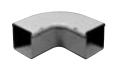
Flat Cross (Clip-on Cover)

Part No.	Size	Std. Ctn. Qty.	Wt. (lbs.) ea.
* EGFCJ	2 x 2	1	0.5
* EGFCL	3 x 3	1	1.3
† EGFCN	4 x 4	1	1.7
† EGFCR	6 x 6	1	4.8



90° Bend Flat Cover (Clip-on Cover)

Part No.	Size	Std. Ctn. Qty.	Wt. (lbs.) ea.
* EGLFJ	2 x 2	1	0.3
* EGLFL	3 x 3	1	0.6
† EGLFN	4 x 4	1	1.1
† EGLFR	6 x 6	1	3.3



90° Bend External Cover (Clip-on Cover)

Part No.	Size	Std. Ctn. Qty.	Wt. (lbs.) ea.
* EGLEJ	2 x 2	1	0.3
† EGLEL	3 x 3	1	8.0
† EGLEN	4 x 4	1	1.2
† EGLER	6 x 6	1	3.3



Flange

Part No.	Size	Std. Ctn. Qty.	Wt. (lbs.) ea.
▶EGFJ	2 x 2	10	1.1
▶EGFL	3 x 3	10	1.4
▶EGFN	4 x 4	10	2.2
▶EGFR	6 x 6	10	3.0



End Cap (UL NEMA 12 Rated)

Part No.	Size	Std. Ctn. Qty.	Wt. (lbs.) ea.
* EGSEJ	2 x 2	10 Pair	0.6
* EGSEL	3 x 3	10 Pair	0.9
* EGSEN	4 x 4	10 Pair	1.6
†† EGSER	6 x 6	10 Pair	5.0



External Coupling

Part No.	Size	Std. Ctn. Qty.	Wt. (lbs.) ea.
EGCEJ	2 x 2	10	1.3
EGCEL	3 x 3	10	2.2
EGCEN	4 x 4	10	2.5
EGCER	6 x 6	10	7.8



* Molded fitting-couplings not needed

90° Bend Internal Cover (Clip-on Cover)

	Part No.	Size	Std. Ctn. Qty.	Wt. (lbs.) ea.
	* EGLIJ	2 x 2	1	0.3
	† EGLIL	3 x 3	1	0.7
Γ	† EGLIN	4 x 4	1	1.1
	† EGLIR	6 x 6	1	3.0



Tee Flat Cover (Clip-on Cover)

Part No.	Size	Std. Ctn. Qty.	Wt. (lbs.) ea.
* EGTFJ	2 x 2	1	0.4
* EGTFL	3 x 3	1	0.9
† EGTFN	4 x 4	1	1.4
† EGTFR	6 x 6	1	3.8



Tee External Cover (Clip-on Cover)

Part No.	Size	Std. Ctn. Qty.	Wt. (lbs.) ea.
† EGTEJ	2 x 2	1	0.4
† EGTEL	3 x 3	1	0.9
† EGTEN	4 x 4	1	1.4
† EGTER	6 x 6	1	3.8



Internal Coupling

Part No.	Size	Std. Ctn. Qty.	Wt. (lbs.) ea.
► EGCIJ	2 x 2	10	1.3
▶ EGCIL	3 x 3	10	2.2
► EGCIN	4 x 4	10	2.5
_	6 x 6	N/A	N/A



Push Rivets

Part No.	Size	Std. Ctn. Qty.	Wt. (lbs.) ea.
► EGPR	N/A	200	0.4



Hangers

_			
Part No.	Size	Std. Ctn. Qty.	Wt. (lbs.) ea.
▶EGSBJ	2 x 2	10	0.9
▶EGSBL	3 x 3	10	1.3
►EGSBN	4 x 4	10	1.9
▶GSBR	6 x 6	10	2.8



[†] Fabricated fitting-order couplings separately

^{††} No coupling is required for 6" fabricated end cap

Installation Instructions

Description. Carlon Wire Safe wireway and wiring troughs are manufactured from extruded PVC. The standard color is gray. The wireway consists of a base channel that is formed to receive a "clip-on" cover. Wiring troughs include a pair of ready-to-install end caps.

Cover Installation and Removal. The cover can be installed by exerting hand pressure along its front face in such a manner as to engage and clip projections on the side walls of the base channel. The cover can be removed by inserting a tool (i.e., a screwdriver shaft) into one end of the wireway enclosure and exerting pressure against the underside of the cover, which is then "peeled off" from the base.

Wireway Fittings. Fittings enable the wireway to be positioned around corners and enable tees and crosses to be created without detracting from the protective characteristics. Interconnecting pieces can be assembled using couplings and rivets or cement as necessary.

Molded fittings do not require couplings since they fit on the exterior of the wireway. However, primer and solvent cement are needed. See cementing instructions.

Fabricated fittings do require internal or external couplings, and these must be ordered separately. To install fittings, a 9/32" diameter hole should be drilled in the wireway to match the external coupling hole. A push rivet should be used to connect the two pieces. To connect an internal coupling to the inside of a fitting, use Carlon Quick-Set Clear Cement.

Applications. These systems are designed for use in commercial and industrial areas. They may be used for the containment of electrical wiring/cables for power and lighting circuits and also communication and computer facilities. They are suitable for mounting on the surface of walls or ceilings or suspended across suitably positioned supports. Ambient temperatures should not exceed 140° F.

Installation.

- 1. Mark the surface upon which the wireway is to be mounted.
- 2. Measure, run, and identify position of fittings.
- 3. Remove cover from wireway, starting at one end, with a peeling action (use of a screwdriver or similar lever is recommended).
- 4. Drill mounting holes through base at 60" centers maximum. Two rows of mounting holes should be drilled, adjacent to each wall of the wireway in order to evenly distribute the load.
- 5. The holes in the wireway should be drilled oversize to allow for expansion. Washers should be mounted under the head of the mounting device, which should not be tightened to its full extent.
- 6. Mount the wireway using screws or bolts.
- 7. Affix the wireway cover by aligning it to the wireway base and then pressing it into its engaged position, starting at one end.
- 8. The cover should be made to overlap the base joint in order to improve rigidity of the joint.

Engineering Specifications

Code Approvals. Carlon's Wire Safe Wireway and Wiring Trough is recognized by the current National Electrical Code, Article 378, for nonmetallic wireways. It is UL Listed for electrical wiring up to 600 volts. UL File Numbers: UL E151021.

Specification for Carlon Wire Safe Wireway and Wiring Trough.

The wireway and wiring troughs shall be Carlon Wire Safe Wireway and Wiring Trough.

The Carlon Wire Safe Wireway and Wiring Trough shall provide protection for electrical, low voltage, data and communication wiring or cables.

The Carlon Wire Safe Wireway and Wiring Trough shall be listed and installed per the NEC Article 378 for nonmetallic wireways.

The Carlon Wire Safe Wireway and Wiring Trough shall be manufactured from gray precision extruded Polyvinyl Chloride (PVC) meeting UL 94 V-O requirements and shall be suitable for field painting.

The Carlon Wire Safe Wireway and Wiring Trough shall include base, cover, fittings, etc.

The Carlon Wire Safe Wireway and Wiring Trough shall provide all fittings required to form a complete, integrated surface raceway system. End caps shall be gasketed and shall have a NEMA Type 12 rating.

The Carlon Wire Safe Wireway and Wiring Trough shall provide raceway with the following cross sectional areas:

```
1. 2 x 2 - 3.165 in.<sup>2</sup> (20.4 cm<sup>2</sup>)
2. 3 x 3 - 7.378 in.<sup>2</sup> (47 cm<sup>2</sup>)
3. 4 x 4 - 13.694 in.<sup>2</sup> (88 cm<sup>2</sup>)
4. 6 x 6 - 31.871 in.<sup>2</sup> (205 cm<sup>2</sup>)
```

Fittings. Internal and external elbow shall be a fitting cover that snaps onto the main base. Flat elbows and flat tees shall be a fitting cover that snaps on to the main base. End caps shall be gasketed and NEMA Type 12 rated.

Installation. Install in accordance with the manufacturer's instructions, NFPA 70 and NECA standard.

Install base, cover, fittings, accessories, etc., as necessary for a complete system.

www.carlon.com

Cementing Instructions

- 1. Make a square cut using a miter box or precisely marked line on the wireway to provide a smooth connection.
- 2. Make certain surfaces to be bonded are free of dirt, dust, etc., by wiping them clean with a rag, and by removing sawcut burrs with a knife or rasp.
- 3. With a dauber, place a coating of Carlon Clear Primer on the wireway and its mating parts. Thoroughly coat the surfaces to be mated.

Clear Primer

Part Number	Standard Size	Standard Carton Wt.				
VC9903	Pint Dauber Top	24	25.0 lbs.			
VC9902	Quart Dauber Top	12	24.0 lbs.			

Cement and primer not needed for end caps.

Expansion And Contraction

Wireway will expand or contract with variations in temperatures. To compensate for this expansion and contraction, during installation leave 0.25" gap at joint, glue only one side of internal coupling, or use external coupling with push rivets. All mounting holes should be drilled oversize, and fasteners should not be tightened fully to allow for expansion and contraction.

Materials

PVC Homopolymer (ASTM F1784)	minimum cell class 12354B
Specific Gravity (ASTM D792)	1.46
Thermal Conductivity (ASTM C177)	1.3 Btu/hr./ft.²/°F/in.
Heat Deflection Temperature @264 psi (ASTM D648)	70°C
Tensile Strength (ASTM D638)	6000 psi
Flammability (LIL 94)	V-O

Physical Properties

Size	Crush Strength ¹ (lbs.)	Impact Strength ² (ftlbs.)
2 x 2	650	40
3 x 3	500	30
4 x 4	500	40
6 x 6	600	50

- 1. Load on 6" long sample just prior to wall buckling; fully recoverable.
- 2. Five lb. weight with 1-1/4" dia. face at 73° F.

Dimensions

Outside Nominal Size (in.)	Outside Actual Size (in.)	Inside Height (in.)	Inside Width (in.)	Inside Area (in.²)	Wireway Thickness (in.)	Cover Thickness (in.)	Wt./Ft. (lb./ft.)
2 x 2	1.97 x 1.97	1.8	1.79	3.31	0.09	.08	0.6
3 x 3	2.96 x 2.96	2.8	2.76	7.94	0.10	.08	0.85
4 x 4	3.94 x 3.94	3.75	3.72	14.39	0.11	.08	1.48
6 x 6	5.91 x 5.91	5.67	5.67	13.48	0.12	.12	2.29

All information represents typical values and does not represent a minimum performance specification.

- 4. Allow the Carlon Clear Primer a few seconds to soften the PVC surface (the time may need to be adjusted, depending upon the temperature).
- 5. Apply a complete coating of Carlon Quick-Set Clear Cement to matching ends that will be joined.
- 6. Hold the parts in position by exerting pressure on the surfaces with clamps.
- 7. Allow 15 minutes or more before removing clamps.

All Weather Quick-Set Clear Cement

Part Number	Standard Size	Standard Carton Qty.	Standard Carton Wt.
VC9984	1/2 Pint Dauber Top	10	6.0 lbs.
VC9983	Pint Dauber Top	24	30.0 lbs.
VC9982	Quart Dauber Top	12	29.0 lbs.
VC9981P	Gallon Pour Top	6	53.0 lbs.



Wirefill Chart

Conductor Size	Area of A RFH-2, RH, RHH, ***RHW,	f Conducto B TF, THW,	or (sq. in.) C TFN, THHN,) D Xhhw,		2v2 (e Safe eas sho		e 20%		full int		ross se		area o		virewa	y.) 6.4 in.²	١
AWG-MCM	***SF-2	†TW	THWN	††ZW	Α	2,72 (B	.0.0 III. C	D	Α	В	(1.5 III. C	D	Α	В	2.7 III.	, D	A	В	C C	D
18	.0167	.0088	.0062	-	36	68	96		89	170	241	_	161	306	435	_	383		1032	
6	.0196	.0109	.0079	_	31	55	76		76	137	189	_	137	247	341	_	326	587	810	
14	.0230	.0135	.0087	_	26	44	69	_	65	111	172	_	117	200	310	_	278	474	735	
14	*.0327	_	_	_	18	_	_	_	45	_	_	_	82	_	_	_	195	_	_	
14	-	†.0206	_	.0131	_	29	_	46	_	72	_	114	_	131	_	206	_	310	_	488
12	.0278	.0172	.0117	_	21	35	51	_	53	87	128	_	97	156	230	_	230	372	547	_
12	*.0384	_	_	_	16	_	_	_	39	_	_	_	70	_	_	_	166	_	_	_
12	_	†.0252	_	.0167	_	24	_	36	_	59	_	89	_	107	_	161	_	253	_	383
10	.0460	.0222	.0184	_	13	27	33	_	32	67	81	_	58	121	146	_	139	288	347	
10	_	.0311	-	.0216	_	19	_	28	_	48	_	69	_	86	_	125	_	205	_	296
8	.0845	.0471	.0373	_	7	13	16	_	17	31	40	_	31	57	72	_	75	135	171	_
8	_	1.0598	-	.0456	_	10	_	13	_	25	_	32	_	45	_	59	_	107	_	140
6	.1238	.0819	.0519	.0625	4	7	11	10	12	18	28	24	21	32	52	43	51	78	123	102
4	.1605	.1087	.0845	.0845	4	6	7	7	9	13	17	17	16	24	31	31	39	58	75	75
3	.1817	.1263	.0995	.0995	3	5	6	6	8	11	15	15	14	21	27	27	35	50	64	64
2	.2067	.1473	.1182	.1182	3	4	5	5	7	10	12	12	13	18	22	22	30	43	54	54
1	.2715	.2027	.1590	.1590	2	3	4	4	5	7	9	9	9	13	16	16	23	31	40	40
1/0	.3107	.2367	.1893	.1893	2	2	3	3	4	6	7	7	8	11	14	14	20	27	33	33
2/0	.3578	.2781	.2265	.2265	1	2	2	2	4	5	6	6	7	9	11	11	17	23	28	28
3/0	.4151	.3288	.2715	.2715	1	1	2	2	3	4	5	5	6	8	9	9	15	19	23	23
4/0	.4840	.3904	.3278	.3278	1	1	1	1	3	4	4	4	5	6	8	8	13	16	19	19
250	.5917	.4877	.4026	.4026	1	1	1	1	2	3	3	3	4	5	6	6	10	13	15	15
300	.6837	.5581	.4669	.4669	_	1	1	1	2	2	3	3	3	4	5	5	9	11	13	13
350	.7620	.6291	.5307	.5307	_	_	1	1	1	2	2	2	3	4	5	5	8	10	12	12
400	.8365	.6969	.5931	.5931	_	_	1	1	1	2	2	2	3	3	4	4	7	9	10	10
500	.9834	.8316	.7163	.7163	_	_	_	_	1	1	2	2	2	3	3	3	6	7	8	88
600	1.1940	1.0261	.8791	.9043	_	_			1	1	1	1	2	2	3	3	5	6	7	7
700	1.3355	1.1575		1.0297	_	_	_		1	1	1	1	2	2	2	2	4	5	6	6
750	1.4082	1.2252		1.0936	_	_			1	1	1	1	1	2	2	2	4	5	6	5
800	1.4784	1.2908		1.1499	_	_	_		1	1	1	1	1	2	2	2	4	4	5	5
900	1.6173	1.4208		1.2668	_	_	_	_	_	1	1	1	1	1	2	2	3	4	5	5
1000	1.7530	1.5482	1.3623	1.3893	_	_	_	_	_	_	1	1	1	1	1	1	3	4	4	4
1250	2.2062	1.9532	_	1.7671	_	_			_				1	1	_	1	2	3		3
1500	2.5475	2.2751	_	2.0612	_	_	_		<u> </u>	_		_	1	1	_	1	2	2		3
1750	2.8832	2.5930	_	2.3779	_	_	_			_		_	_	1		1	2	2		2
2000	3.2079	2.9013	_	2.6590	–	-	-	_	_	-	-	_	_	_	-	1	1	2	-	2

the table at right.

2) Refer to the National Electrical Code for ambient temperature correction factors.

	•		'
Number of Conductors	Column A – Percent of Values In Tables as Adjusted for Ambient Temperature if Necessary		Column B** – Percent of Values In Tables as Adjusted for Ambient Temperature if Necessary
4 through 6 7 through 9 10 through 2 ⁴ 25 through 4 ² 43 and above	1* 70 2* 60	4 through 6 7 through 9 10 through 20 21 through 30 31 through 40 41 through 60	45 40

^{*} These factors include the effects of a load diversity of 50 percent.

^{*} Dimensions of RHH and RHW.

*** Dimensions of RHH and RHW without outer covering are the same as THW No. 18 through No. 10, solid as well as No. 8 and larger, stranded.

† Dimensions of THW in sizes No. 14 through No. 8. No. 6 THW and larger are same dimension as TW.

†† No. 14 through No. 2.

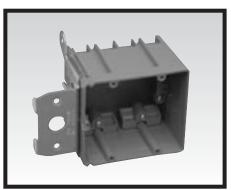
NOTES: 1) The ampacities of the conductors shall be reduced as shown in

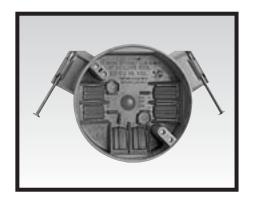
^{**} No diversity.

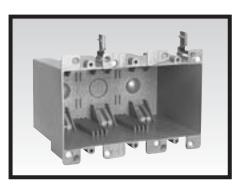
Carlon® Zip Box® Blue™ Nonmetallic Outlet and Switch Boxes

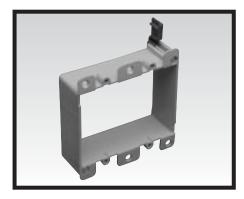
Adjustable
Single Gang
2, 3, 4 Gang
Old Work
Ceiling Boxes
SuperBlue™
Covers













Carlon® Zip Box® Blue™

Carlon® Zip Box® Blue™ nonmetallic switch and outlet boxes – the contractor's choice for easy installation. Carlon has long been the leader with the world's broadest line of nonmetallic, nonconductive wiring management products designed for easier installation, greater performance, and lower installation cost. And that includes our full line of Zip Box® Blue™ nonmetallic switch and outlet boxes. Designed for use with nonmetallic sheath cable in accordance with Article 314 of the National Electrical Code®, they make fast work of any residential or light commercial application. Take a closer look, and you'll see more reasons why they're the right choice for you.

Features

- UL Listed, File No. E42728, for use as indicated in Article 314 of the NEC.
- UL Classified for fire resistance, File No. R8326.
 Reference UL Electrical Construction Equipment
 Directory, in product category QBWY or the UL
 Fire Resistance Directory, for two-hours or less classification period.
- UL Classified for fire resistance Category CEYY, in a twohour fire resistive wall within the same partition cavity on opposite sides of the wall. Requires the use of mineral wool batt insulation.
- National Evaluation Service Report NER-140 covers use in two-hour or less fire resistive wall and floor-ceiling assembly.

Understanding Zip Box® Blue™ Part Numbers

First Position B-Zip Box BH-SuperBlue	Second Position Gang Size 1,2,3, or 4	and/or e cubic ind in the bo	Fourth or Fifth Position Securing Method A = Nail On B = 3/8" - 5/8" (9.5mm - 15 Wallboard Br Wood or Steel H = 14 1/4" - 23 (362mm - 5' Adjustable B K = 18 1/4" - 26 (463.6mm - Adjustable B L = Metal "L" Bra N = Old Work Re P = Standard Nai w/ Grounding	.9mm) racket for el Studs 1/2" 96.9mm) ar Hanger 679.5mm) ar Hanger acket for Ceilings tainer Clamps I On Box	Sixth Position Grounding Features G = Grounding Lug included P = Grounding Lug included
For Exa	ample:		R = Old Work Bos Integral Clam S = Screw On	x, includes	

B 1 18 A

(B = Zip Box Blue, 1 = single gang, 18 = cubic inch (295 ml) capacity, A = Nail On.)

Adjust-A-Box[™]Adjustable Zip Boxes and Brackets



The Carlon Adjust-A-Box features a patented design that allows the box to be adjusted to most wall thicknesses with the turn of a screw. To install, simply clip the bracket onto the stud, secure with two screws to ensure the box won't move, then turn the adjustment screw clockwise or counterclockwise, and adjust the box flush with the wall covering.

The Adjust-A-Box is available in one- and two-gang versions, and by removing the box from the bracket the one-gang can easily be upgraded to a two-gang, an ideal feature for old work applications.

The Carlon Adjust-A-Box achieves professional results every time.

Features

- Adjusts to any wall thickness
- Ideal for new work or retrofit applications
- Available in backed box or backless bracket designer
- One- and two-gang versions

- · Upgrades made easy
- · Nonmetallic and durable
- UL Listed
- Meets NEMA OS-2

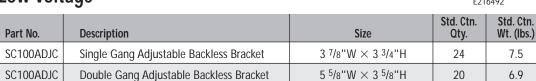


High Voltage

Part No.	Volume (cu. in.)	Description	Size	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
B121ADJ	21	Single Gang Adjustable Wall Box	$3^{7/8}$ "W $\times 3^{3/4}$ "H $\times 3^{3/8}$ "D	24	10
B234ADJC	34	Double Gang Adjustable Wall Box w/ Range Knockout	5 ⁵ /8"W × 3 ⁵ /8"H × 3"D	16	8.5
B234ADJ	34	Double Gang Adjustable Wall Box	5 ⁵ /8"W × 3 ⁵ /8"H × 3"D	16	8.5

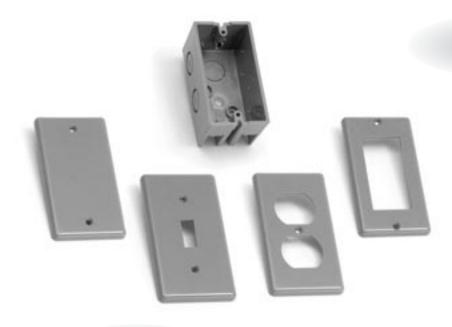
B121ADJ





SC100ADJC

Handy Box and Covers



Features

- · Flexible, can be used for many applications
- Thermoplastic construction that will not rust or conduct electricity
- · Built in cable clamps to hold wire firmly in place
- · Six knockouts for easier wiring
- Four cover styles blank, toggle switch, duplex receptacle, and GFCI
- UL Listed (E42728) and two hour fire classified for walls and ceilings

The Carlon Handy Box is a nonmetallic switch and outlet box specifically designed for use with nonmetallic conduit systems and nonmetallic sheath cabling.

Unlike metal boxes, the Carlon Handy Box has two integral cable clamps. These clamps hold nonmetallic cable firmly in place without the need for separate clamps... simply push the wire into the clamp-opening, and the cable is held securely in place. The Carlon Handy Box also comes with six 1/2" knockouts on the sides and back for easier wiring and a variety of mounting options.

The Carlon Handy Box is constructed out of a thermoplastic material, which resists rust and corrosion. The Carlon Handy Box can be used with most wiring devices including ground fault circuit interrupters (GFCI). The Handy Box is designed to accept standard metal covers or the NEW Carlon nonmetallic Handy Box covers.

The Carlon Handy Box covers are made from a durable polycarbonate material for extra strength and durability. They're available in four styles including a duplex receptacle, toggle switch, ground fault circuit interrupter (GFCI), and a blank cover (the blank cover has a molded-in 1/2" knockout in the center). Corrosion resistant stainless screws are provided with each cover.



Box

Part No.	Description	Size	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
B112HB	Handy Box – Single Gang	1 ⁷ /8" × 4" × 2 ¹ /8"	50	10.96





Part No.	Description	Size	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
HB1BL	Single Gang Nonmetallic Cover – Blank	.25" × 4.30" × 2.38"	25	1.0
HB1SW	Single Gang Nonmetallic Cover – Toggle Switch	.25" × 4.30" × 2.38"	25	1.0
HB1DP	Single Gang Nonmetallic Cover – Duplex Receptacle	.25" × 4.30" × 2.38"	25	1.0
HB1GF	Single Gang Nonmetallic Cover – GFCI Cover	.25" × 4.30" × 2.38"	25	1.0

Switch/Outlet Boxes



Meets NEMA OS-2







B120A-UPC





Single Gang

Part No.	Volume (cu. in.)	Description	Size	Knockouts	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
B108B-UPC	8	Single Gang Bracketed Shallow Box	1 $^{1/4}$ "D $ imes$ 2 $^{3/8}$ "W $ imes$ 3 $^{5/8}$ "L	-	25	3
•B118A	18	Single Gang with captive nails	$2^{7/8}$ "D \times 2 $^{1/4}$ "W \times 3 $^{3/4}$ "L	4 (2 each end)	100	22
•B120A-UPC	20	Single Gang with captive nails	$3^{1/4}$ "D $\times 2^{1/4}$ "W $\times 3^{7/8}$ "L	4 (2 each end)	100	24
•B118B-UPC	18	Single Gang with bracket for 3/8" to 5/8" wallboard – steel & wood stud mounting	2 ¹⁵ / ₁₆ "D × 2 ¹ / ₄ "W × 3 ³ / ₄ "L	4 (2 each end)	50	10
•B122A-UPC	22	Single Gang with captive nails	$3^{1/2}$ "D \times 2 $^{1/4}$ "W \times 3 $^{3/4}$ "L	4 (2 each end)	100	25

[·] Suitable for masonry walls

Low Voltage Backless Bracket



Open-backed to easily accommodate the bend radiuses required for low voltage cabling and deep devices such as volume controls, and is designed to fit a standard one-gang faceplate. It also features an easy nail-on mounting or screw-in bracket, while the hard shell provides increased durability and no racking. Accepts ³/4" Resi-Gard only.



Part No.Vol.
cu. in.DescriptionSizeKnockoutsStd. Ctn.
Qty.Std. Ctn.
Wt. (lbs.)SC100A-Single Gang Backless Bracket2.32" W × 3.73"L-247.5

Low Voltage Add-On Bracket



This low voltage bracket provides a low voltage outlet next to a previously installed high voltage outlet. Great for both new construction and rework, it attaches easily to most electrical boxes, and is designed to fit a standard two-gang faceplate. Resi-Rings accept 3/4" Resi-Gard only

LISTED
E216492

Part No.	Vol. cu. in.	Description	Size	Knockouts	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
SC100SC	ı	Single Gang Add-On Bracket	1.80" W × 3.68"L	_	24	2.3

2-, 3-, 4-Gang and 4" Square

Switch/Outlet Boxes

• Meets NEMA OS-2









B455A-UPC

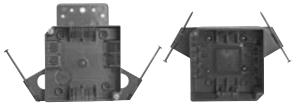
Two-Gang

Three-Gang

Four-Gang

	9					
Part No.	Volume (cu. in.)	Description	Size	Integral Clamps	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
•B232A-UPC	32	Two Gang with captive nails	3 "D $ imes$ 4"W $ imes$ 3 3 /4"L	8 (4 each side)	50	16
B232B-UPC	32	Two Gang with bracket for 3/8" to 5/8" wallboard – steel or wood stud mounting	3"D × 4"W × 3 ³ /4"L	8 (4 each side)	50	20
•B344A-UPC	44	Three Gang with captive nails	$2^{11/16}$ "D \times 3 $^{3/4}$ "W \times 5 $^{5/8}$ "L	12 (6 each side)	50	21
•B455A-UPC	60	Four Gang with captive nails and bracket support	$2^{1/2}$ "D \times 3 $^{7/10}$ "W \times 7 $^{3/5}$ "L	16 (8 each side)	25	14

[·] Suitable for masonry walls





4" Square

B418A-UPC

B432A-UPC

Part No.	Volume (cu. in.)	Description	Size	Integral Clamps	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
•B418A-UPC	18	Four Square with captive nails	1 5/8"D × 4"W × 4"L	10 (3 top, 3 bottom, 2 each side)	75	19
•B432A-UPC	32	Four Square with captive nails	2 ⁵ /8"D × 4"W × 4"L	10 (3 top, 3 bottom, 2 each side)	50	16

[·] Suitable for masonry walls

Low Voltage Backless Bracket





Open-backed to easily accommodate the bend radiuses required for low voltage cabling and deep devices such as volume controls, and is designed to fit a standard two-gang faceplate. It also features an easy nail-on mounting or screw-in bracket, while more hard shell provides increased durability and no racking. Accepts 3/4" Resi-Gard only.

Part No.	Vol. cu. in.	Description	Size	Knockouts		Std. Ctn. Wt. (lbs.)
SC200A	_	Two Gang Backless Bracket	5.35" W × 3.81"L	_	24	7.7

Old Work Boxes

One-Gang

• Meets NEMA OS-2



B108R-UPC



B114R-UPC



B120R

Part No.	Volume (cu. in.)	Description	Size	Integral Clamps	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
†B108R-UPC	8	Single Gang Flanged Shallow Box	$1^{1/4}$ "D \times 2 $^{3/8}$ "W \times 3 $^{5/8}$ "L	_	25	3
•†B114R-UPC	14	Single Gang Old Work Wall Case 2 Zip-Mount™ retainers and mounting ears	$2^{3/4}$ "D \times $2^{1/4}$ "W \times $4^{1/8}$ "L	4 (2 each end)	50	10
• †B120R	20	Single Gang with captive nails 2 Zip-Mount™ retainers and mounting ears	3 ⁵ /8"D × 2 ⁵ /16"W × 4 ¹ /8"L	4 (2 each end)	50	12

Suitable for masonry walls



Two-Gang



Part No.	Volume (cu. in.)	Description	Size	Integral Clamps	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
•†B225R-UPC	25	Two-Gang Old Work Case 2 Zip-Mount™ retainers and mounting flanges		6 (3 each side)	30	8



Three-Gang



Suitable for masonry walls



Four-Gang

Part No.	Volume (cu. in.)	Description	Size	Integral Clamps		Std. Ctn. Wt. (lbs.)
•†B468R	68	Four Gang Old Work Box with mounting ears	3.56"D × 2.89"W × 7.57"L	8	6	4.03



Ceilina

Part No.	Volume (cu. in.)	Description	Size	Integral Clamps	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
†B618R-UPC	18	Round Old Work Case 3 Zip-Mount [™] retainers	2 ³ /4"D	4	100	24

[†] Not UL Classified for Fire Resistance



[†] Not UL Classified for Fire Resistance

Suitable for masonry walls
 Not UL Classified for Fire Resistance

[†] Not UL Classified for Fire Resistance

Suitable for masonry walls
 Not UL Classified for Fire Resistance

Old Work Backless Brackets







Box Extender

Part No.	Volume (cu. in.)	Description	Size	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
B1EXTB	N/A	Single Gang Box Extender	2 1/4" × 3 1/4"	25	3

Low Voltage Old Work Brackets



Single Gang

3	-				
Part No.	Volume (cu. in.)	Description	Size	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
†SC100R	N/A	Single Gang Backless Old Work Bracket	2 ¹ /4" × 3 ¹ /4"	12	1.4

[†] Not UL Classified for Fire Resistance



Two-Gang

	3				
Part No.	Volume (cu. in.)	Description	Size	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
†SC200R	N/A	Two-Gang Backless Old Work Bracket	3.92" × 4.00"	6	.9

[†] Not UL Classified for Fire Resistance

Ceiling Boxes All ceiling boxes are produced from a high heat-resistant material developed specifically for fixture support applications.

• Meets NEMA OS-2



B518A-UPC

3/0

Part No.	Volume (cu. in.)	Description	Diameter	Depth	Integral Clamps	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
♦B518A-UPC	18	Ceiling Box with captive nails	3"	2 3/4"	4	75	19
♦B518P-UPC	18	Ceiling Box with captive nails Ground lug and screw attached	3"	2 3/4"	4	75	20

[♦] Listed for fixture support up to 50 lbs.





B520P-UPC



B620L-UPC



B720-SHK 35 lbs. maximum fan weight



3/0 - 4/0 Combination

Part No.	Volume (cu. in.)	Description	Diameter	Depth	Integral Clamps	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
♦B520A-UPC	20	Ceiling Box with captive nails Fixture spacing for 2 ³ /4" and 3"	4"	2 1/4"	6	75	18
♦ B520P-UPC	20	Ceiling Box with captive nails Ground lug and screw attached Fixture spacing for 2 3/4" and 3 1/2"	4"	2 1/4"	6	75	18
♦B620L-UPC	20	Ceiling Box with metal L bracket Fixture spacing for 2 3/4" and 3 1/2"	4"	2 1/4"	6	100	31
♦ B720-SHK	20	Ceiling Box Outlet Box with mounting screws	4"	2 1/4"	6	18	5

 $[\]Diamond$ Listed for fixture support up to 50 lbs.



35 lbs. maximum fan weight



4/0

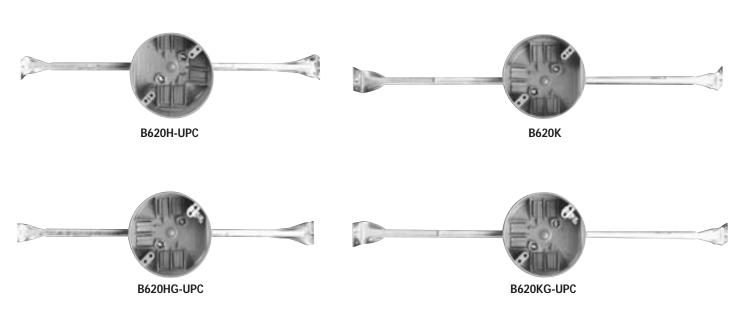
Part No.	Volume (cu. in.)	Description	Diameter	Depth	Integral Clamps	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
♦B708-SHK	8	Shallow Ceiling Fan Outlet Box with mounting screws	4''	5/8''	1	18	3

[♦] Listed for fixture support up to 50 lbs.

Ceiling Boxes with Bar Hanger

• Meets NEMA OS-2





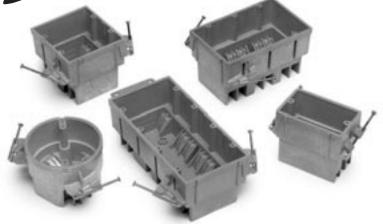
3/0 - 4/0 Combination

Part No.	Volume (cu. in.)	Description	Diameter	Depth	Integral Clamps	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
♦ B620H-UPC	20	Ceiling Box with 14 1/4" - 23 1/2" adjustable bar hanger Fixture spacing for 2 3/4" and 3 1/2"	4"	2 1/4"	6	75	43
♦B620K	20	Ceiling Box with 18 ¹ / ₄ " - 26 ³ / ₄ " adjustable bar hanger Fixture spacing for 2 ³ / ₄ " and 3 ¹ / ₂ "	4"	2 1/4"	6	75	46
♦ B620HG-UPC	20	Ceiling Box with 14 ¹ / ₄ " - 23 ¹ / ₂ " adjustable bar hanger Ground lug and screw attached Fixture spacing for 2 ³ / ₄ " and 3 ¹ / ₂ "	4"	2 1/4"	6	75	44
♦ B620KG-UPC	20	Ceiling Box with 18 ¹ / ₄ " - 26 ³ / ₄ " adjustable bar hanger Ground lug and screw attached Fixture spacing for 2 ³ / ₄ " and 3 ¹ / ₂ "	4"	2 1/4"	6	75	46
♦B620DC	20	Ceiling Box with 24" grid bar hanger Fixture spacing for 23/4" and 31/2"	4"	2 1/4"	6	16	10

 $[\]diamondsuit$ Listed for fixture support up to 50 lbs.

Carlon® SuperBlue™ Hard Shell Boxes





Features

- Largest wirefill capacity in their class
- Won't crack or break in extreme environments
- Resist flexing
- Hold their shape
- Molded-in flanges and clamps
- Faster installation

- Lightweight
- Noncorrosive and nonconductive
- · Nest inside one another
- UL Listed
- UL Classified for two hour fire wall assemblies
- Meets NEMA OS-2

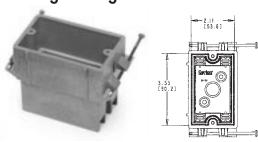
The Carlon® SuperBlue™ Hard Shell Boxes combine the features of the hard shell thermoset box and the thermoplastic PVC style box to create a "new" rigid nonmetallic wiring box. Molded out of specially formulated thermoplastic material, Carlon SuperBlue boxes are so strong they won't crack or break, even in extreme environments. So rigid, they resist flexing and hold their shape even under the worst conditions.

They provide the largest wirefill capacity in their class, and come with molded-in nailing flanges as well as molded-in clamps to make installation faster. Carlon SuperBlue boxes are lightweight, noncorrosive and nonconductive. They are designed to nest inside one another so they take up less shelf space and are easier to transport to job sites.

Wall Boxes



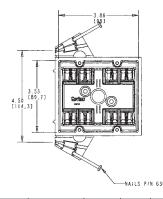
Single Gang



Part No.	Description	Capacity	Depth	Std. Ctn. Qty.	Std. Ctn. Wt.
BH122A	Single Gang	22 cu. in.	3.63	100	31.3
BH122S	Single Gang with Screws	22 cu. in.	3.63	100	31.3

Two Gang



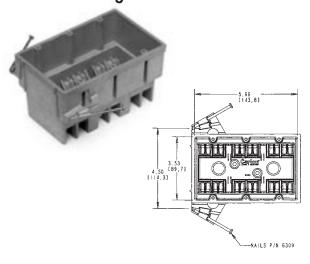


Part No.	Description	Capacity	Depth	Std. Ctn. Qty.	Std. Ctn. Wt.
BH235A	Two Gang	35 cu. in.	3.50	48	21.3
BH235S	Two Gang with Screws	35 cu. in.	3.50	48	21.3

Carlon® SuperBlue™ Hard Shell Boxes

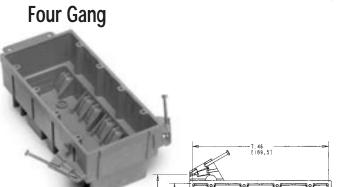
Wall Boxes





Part No.	Description	Capacity	Depth	Std. Ctn. Qty.	Std. Ctn. Wt.
BH353A	Three Gang	53 cu. in.	3.50	24	14.0
BH353S	BH353S Three Gang with Screws		3.50	24	14.0

UL LISTED

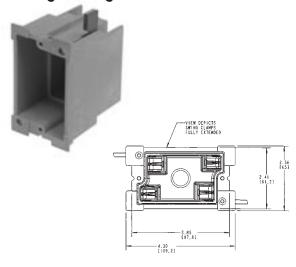


Part No.	Description	Capacity	Depth	Std. Ctn. Qty.	Std. Ctn. Wt.
BH464A	BH464A Four Gang		3.18	24	17.4
BH464S	BH464S Four Gang with Screws		3.18	24	17.4

-NAILS P/N G309

Old Work Boxes

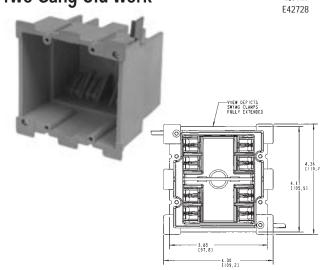
Single Gang Old Work



Part No. Description		Capacity	Depth	Std. Ctn. Qty.	Std. Ctn. Wt.
†BH118R	Single Gang Old Work	18 cu. in.	3.64	36	10.9

† Not UL Classified for Fire Resistance

Two Gang Old Work



Part No. Description		Capacity	Depth	Std. Ctn. Qty.	Std. Ctn. Wt.
†BH234R	Two Gang Old Work	34 cu. in.	3.59	18	7.71

[†] Not UL Classified for Fire Resistance

Carlon® SuperBlue™ Low Voltage Divider Plate

Carlon Low Voltage Divider Plate





Carlon SuperBlue boxes are easily divided into both high and low voltage use. Just insert the Low Voltage Divider Plate, and you're ready to go!

The 2002 National Electrical Code allows electrical conductors to share an outlet box when the conductors and signaling or communication cables are separated by a barrier within the box.

Features

- Transforms a high voltage box into an accepted high and low voltage box
- Orange color signifies low voltage installations
- Designed to be used with Carlon's 2-, 3-, and 4- gang SuperBlue Boxes
- UL Listed
- · Noncorrosive and nonconductive
- Great for situations requiring a high/low voltage fire-classified box



Part No.	Description		Std. Ctn. Qty.	Std. Ctn. Wt.
SCDIV	Low Voltage Divider Plate	-	50	2.2



Installation



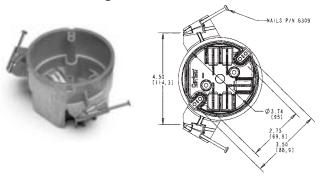


Carlon® SuperBlue™ Ceiling Boxes

Ceiling Boxes



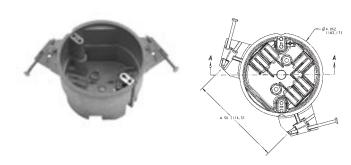
Ceiling Box



Part No.	Description	Capacity	Depth	Std. Ctn. Qty.	Std. Ctn. Wt.
♦ BH525A	Ceiling Box	25 cu. in.	3.00	48	16.3
♦ BH525S Ceiling Box with Screws		25 cu. in.	3.00	48	16.3

[♦] Listed for fixture support up to 50 lbs.

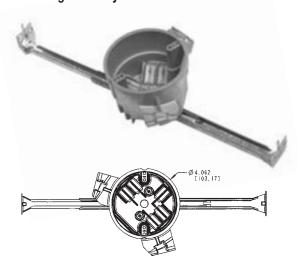
Ceiling Box with Grounding Lug



Part No.	Description	Capacity	Depth	Std. Ctn. Oty.	Ctn.
♦ BH525P	Ceiling Box with Grounding Lug	25 cu. in.	3.00	24	9.4
♦BH525SP	Ceiling Box w/Grounding Lug w/Screws	25 cu. in.	3.00	24	9.4

[♦] Listed for fixture support up to 50 lbs.

Ceiling Box with Hanger Bar *Hanger Bar adjusts from 11 1/2" to 18 1/2"

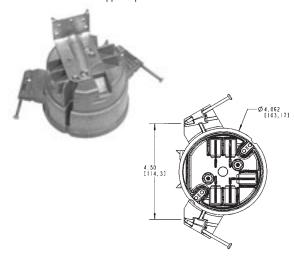


Part No.	Description	Capacity	Depth	Std. Ctn. Qty.	Std. Ctn. Wt.
♦ BH525H	Ceiling Box with Hanger Bar	25 cu. in.	2.95	20	13.2
♦ BH525HP Ceiling Box with Hanger Bar with Grounding Lug		25 cu. in.	2.95	20	13.2

 $[\]diamondsuit\,$ Listed for fixture support up to 50 lbs.

Ceiling Fan Box

Listed for fan support up to 35 lbs.



Part No.	Description	Capacity	Depth	Std. Ctn. Qty.	Std. Ctn. Wt.
▲BH525L	Ceiling Fan Box with Nails	25 cu. in.	3.06	24	12.2
▲BH525SL	Ceiling Fan Box with Screws	25 cu. in.	3.06	24	12.2
▲BH525LP	SLP Ceiling Fan Box with Grounding Lug with Nails		3.06	24	12.2

[▲] Listed for fan support up to 35 lbs. and fixture support up to 50 lbs.

Nonmetallic Covers

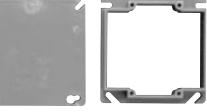




Single-Gang - Covers

Part No.	Size	Cu. in.	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
A410	1/2''	3.5	100	8.0
A411	5/8''	4.2	50	6.0
A412	3/4"	5.0	50	6.0
A413	1"	6.6	40	5.0
A414	1 1/2"	8.1	30	5.0





Two-Gang - Covers

Part No.	Size	Cu. in.	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
A400	Blank	_	100	9.0
A420	1/2''	6.1	75	6.0
A421	5/8''	7.4	50	4.2
A422	3/4"	8.8	50	4.8



Round Plaster Ring Listed for fixture support up to 50 lbs.

Part No.	Rise	Vol. (cu. in.)	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
A471	1/2"	3.2	100	3.3
A472	5/8''	4.0	100	3.8



Round Blank Cover

Part No. Rise		Vol. (cu. in.)	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
A470D	Blank with 1/2" KO	-	100	4.7

Ceiling Box Cover - White

Part No. Rise		Vol. (cu. in.)	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
CPC4WH	White Ceiling Box Cover	_	12	1.3

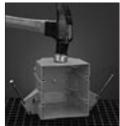
General Features



Electric Blue Color



Ceiling boxes with special engineered high heat resistant material for fixture support



High Impact PVC Wall Boxes



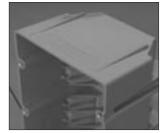
Nonconductive...no need to ground box



Lightweight



Engraved NEC Wire Fill



Leveling Guides



Clean Easy Knockout

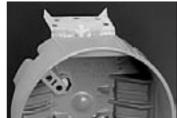


Pre-installed Angled Nails

Special Nail-on and Bracket Boxes



Type B



Type L



Туре Н



Type K

Zip Clamp[™] Easy to wire, simply...







Push Through



Secure Clamp



Pre-installed Lugs



Make Grounding Connection

Old Work Boxes Easy to rework, simply...



Trace Template



Cut Out Template



Insert Wires



Place Box in Wall



Secure Box in Wall

Carlon® Flexible Raceway Systems

Plenum-Gard®
Riser-Gard®
Hal-Free
Riser-Gard®









Plenum-Gard is a UL Listed nonmetallic corrugated flexible conduit for use in Plenum, Riser and General Purpose applications.

Plenum-Gard is manufactured from KYNAR Flex® PVDF Resin*, a fluoropolymer compound, which exceeds the requirements of UL Standard Test Method No. 2024 for plenum optical fiber/communication raceways.

Plenum-Gard is supplied with a factory installed 1/4" wide, 900 lb. tensile prelubricated pull tape.

Plenum-Gard is listed to the National Electrical Code for Plenum, Riser, and General Purpose optical fiber/telecommunication applications as defined in Article 770 and 800 (cables installed must be of suitable rating for the application.)

UL Standard 2024	Value
Maximum Flame Propagation	1.50 ft.
Peak Optical Smoke Density	0.03
Average Optical Smoke Density	0.01

- Max. flame rating: UL 2024
- Storage -4°F 158°F
- Handling -4°F 104°F

*Kynar Flex® is a registered trademark of Atofina Chemicals, Inc.

Standard Stock - Reels

	Color	Part No.	Nom. I.D.	Nom. O.D.	Pull Tape	Min. Bend Radius	Reel Size (F x W)	Reel Type	Reel Length	Reel Wt. (Ibs.)	Wt. per 100 ft. (lbs.)
3/4"	Orange	CE4X1-1000	.83	1.04	Empty	2"	36" x 24"	W	1000	35	8
14	Orange	CE4X1-1000S	.83	1.04	Empty	2"	36" x 24"	W	1000	35	8
	Orange	CF4X1C-500	1.05	1.31	900 lb.	3"	36" x 24"	W	500	35	10
	Orange	CF4X1C-1000	1.05	1.31	900 lb.	3"	48" x 30"	W	1000	90	10
1"	Orange	CF4X1C-1500	1.05	1.31	900 lb.	3"	48" x 30"	W	1500	90	10
	Orange	CF4X1C-5200	1.05	1.31	900 lb.	3"	65" x 48"	W	5200	385	10
	Orange	CF4X1-1500S	1.05	1.31	Empty	3"	48" x 30"	W	1500	90	10
	Orange	CG4X1C-500	1.38	1.65	900 lb.	3"	36" x 24"	W	500	35	16
	Orange	CG4X1C-900	1.38	1.65	900 lb.	3"	48" x 30"	W	900	90	16
11/4"	Orange	CG4X1C-1600	1.38	1.65	900 lb.	3"	48" x 48"	W	1600	105	16
	Orange	CG4X1C-3200	1.38	1.65	900 lb.	3"	65" x 48"	W	3200	385	16
	Orange	CG4X1-900S	1.38	1.65	Empty	3''	48" x 30"	W	900	90	16
1 ¹ / ₂ "	Orange	CH4X1C-350	1.55	1.88	900 lb.	4''	36" x 24"	W	350	35	20
1 /2	Orange	CH4X1C-1200	1.55	1.88	900 lb.	4''	48" x 48"	W	1200	105	20
2"	Orange	CJ4X1C-225	2.04	2.35	900 lb.	4''	36" x 24"	W	225	35	23
	Orange	CJ4X1C-700	2.04	2.35	900 lb.	4''	48" x 48"	W	700	105	23

W = Wood

Features:

- For use in Plenum areas per Articles 770 and 800.
- 3/4" through 2"
- Pull tape pre-installed in 1" through 2"
- Outside Diameters meet IPS Dimensions
- UL Listed raceway meeting UL 2024
- · Footage sequentially marked

Custom Orders:

- Custom Orders are not returnable
- Custom lengths are available in minimum order quantities of 1000 ft.
- Custom <u>color</u> runs are available in minimum order quantities of 10,000 ft.

Options:

- Color: Black, Blue, Grey, Green, Red, White and Yellow
- Two, three, or four way parallel
- Split Duct
- Custom print line

Standard Stock - Coils

	Color	Part No.	Nom. I.D.	Nom. O.D.	Pull Tape	Min. Bend Radius	Coil Length (ft.)	Wt. per 100 ft. (lbs.)
3/4"	Orange	CE4X1-350*	.83	1.04	Empty	2"	350	8
14	Orange	CE4X1-350S*	.83	1.04	Empty	2"	350	8
	Orange	CF4X1C-100	1.05	1.31	900 lb.	3"	100	10
1"	Orange	CF4X1C-250*	1.05	1.31	900 lb.	3"	250	10
	Orange	CF4X1-250S*	1.05	1.31	Empty	3"	250	10
11/4"	Orange	CG4X1C-200*	1.38	1.65	900 lb.	3"	200	16
1.74	Orange	CG4X1-200S*	1.38	1.65	Empty	3"	200	16
1 ¹ / ₂ "	Orange	CH4X1C-150*	1.55	1.88	900 lb.	4"	150	20
1.12	Orange	CH4X1-150S*	1.55	1.88	Empty	4"	150	20
2"	Orange	CJ4X1C-100*	2.04	2.35	900 lb.	4"	100	23
	Orange	CJ4X1-100S*	2.04	2.35	Empty	4''	100	23

^{*} Overnight Shippable

Custom Orders

How to Build a Part Number											
Position 1 Product	Position 2 Size	Position 3 Configuration	Position 4 Wall	Position 5 Color	Position 6 Pull Line	Position 7 Length					
C = Plenum-Gard	E = ³ /4" F = 1" G = 1 ¹ /4" H = 1 ¹ /2" J = 2"	4 = Corrugated	X = Standard	1 = Orange 2 = Black 3 = Gray 4 = White 5 = Blue 6 = Green 7 = Yellow 8 = Red	C = 900 lb. Tape	Example -1000 = Feet -1000S = 1000 Feet Split					

Riser-Gard®





Riser-Gard is a nonmetallic flexible raceway for use in Riser and General Purpose applications. Riser-Gard is UL Listed and is available with tape pre-installed. Riser-Gard complies with the UL 2024 Standard for Riser Applications for optical fiber/communications raceways.

Riser-Gard is listed to the National Electrical Code per Articles 770 and 800 for Riser and General Purpose optical fiber/telecommunication applications. Riser-Gard is suitable for use in vertical runs in a shaft or between floors, as well as areas other than the plenum (cables installed must be of suitable rating for the application.)

UL Listed to 2024	Test Method	Maximum Value		
Maximum Flame Propagation	UL 2024	6.0 ft.		
Maximum Air Temperature at 12 ft.	UL 2024	372°F		

• Storage -4°F - 158°F

• Handling -4°F - 104°F

Standard Stock - Reels

	Color	Part No.	Nom. I.D.	Nom. O.D.	Pull Tape	Min. Bend Radius	Reel Size (F x W)	Reel Type	Reel Length	Reel Wt. (lbs.)	Wt. per 100 ft. (lbs.)
2/ 11	Orange	DE4X1-1000	.83	1.05	Empty	6"	36" x 24"	W	1000	35	9
3/4"	Orange	DE4X1-1000S	.83	1.05	Empty	6"	36" x 24"	W	1000	35	9
	Orange	DF4X1C-500R	1.03	1.315	900 lb.	6"	48" x 32"	W	500	70	14
	Orange	DF4X1C-1000	1.03	1.315	900 lb.	6"	48" x 32"	W	1000	35	14
	Orange	DF4X1-1500	1.03	1.315	Empty	6"	48" x 32"	W	1500	90	14
	Orange	DF4X1C-1500	1.03	1.315	900 lb.	6"	48" x 32"	W	1500	90	14
1"	Orange	DF4X1C-2700	1.03	1.315	900 lb.	6"	48" x 48"	W	2700	105	14
•	Orange	DF4X1C-5200	1.03	1.315	900 lb.	6"	65" x 46"	W	5200	385	14
	Orange	DF4X1C-7000	1.03	1.315	900 lb.	6"	72" x 44"	S	7000	98	14
	Orange	DF4X1C-9400	1.03	1.315	900 lb.	6"	84" x 44"	S	9400	134	14
	Orange	DF4X1-1500S	1.03	1.315	Empty	6"	48" x 30"	W	1500	90	14
	Orange	DG4X1-900	1.38	1.66	900 lb.	7"	48" x 30"	W	900	90	17
	Orange	DG4X1C-900	1.38	1.66	900 lb.	7"	48" x 30"	W	900	90	17
411 11	Orange	DG4X1-900S	1.38	1.66	Empty	7"	48" x 30"	W	900	90	17
11/4"	Orange	DG4X1C-500R	1.38	1.66	900 lb.	7"	48" x 32"	W	500	70	17
	Orange	DG4X1C-1600	1.38	1.66	900 lb.	7"	48" x 48"	W	1600	105	17
	Orange	DG4X1C-3200	1.38	1.66	900 lb.	7"	65" x 48"	W	3200	385	17
	Orange	DG4X1C-4500	1.38	1.66	900 lb.	7"	72" x 44"	S	4500	98	17
	Orange	DH4X1C-1200	1.57	1.90	900 lb.	8 1/4"	48" x 48"	W	1200	105	22
11/2"	Orange	DH4X1C-4500	1.57	1.90	900 lb.	8 1/4"	84" x 44"	S	4500	134	22
	Orange	DH4X1-750S	1.57	1.90	Empty	8 1/4"	48" x 30"	W	750	90	22
	Orange	DJ4X1C-700	2.02	2.375	900 lb.	9 1/2"	48" x 48"	W	700	105	26
2"	Orange	DJ4X1C-2800	2.02	2.375	900 lb.	9 1/2"	96" x 44"	S	2800	146	26
	Orange	DJ4X1-500S	2.02	2.375	Empty	9 1/2"	48" x 30"	W	500	90	26

W = Wood

S = Steel

Features:

- For use in Riser and General Purpose areas per Articles 770 and 800 of the NEC.
- Riser-Gard is also suitable for direct burial. Not approved for exposed applications.

NOTE: UL has <u>not</u> evaluated Riser-Gard for this application.

• UL Listed Raceway meeting UL 2024

- Available in sizes 3/4" through 2"
- Pull tape can be factory pre-installed in 1" through 2"
- Outside Diameters meet IPS Dimensions
- Footage sequentially marked
- Sizes ³/4" 1" are acceptable for FT4 applications.

Custom Orders:

- Custom Orders are not returnable
- Custom lengths are available in minimum order quantities of 1000 ft.
- Custom <u>color</u> runs are available in minimum order quantities of 10,000 ft.

Options:

- Color: Black, Blue, Grey, Green, Red, White and Yellow
- Two, three, or four way parallel
- Split Duct
- Custom print line

Standard Stock - Coils

	Color	Part No.	Nom. I.D.	Nom. O.D.	Pull Tape	Min. Bend Radius	Coil Length (ft.)	Wt. per 100 ft. (lbs.)
3/4"	Orange	DE4X1-350*	.83	1.04	Empty	6"	350	9
74	Orange	DE4X1-350S*	.83	1.04	Empty	6"	350	9
	Orange	DF4X1-250*	1.05	1.31	Empty	6''	250	14
1"	Orange	DF4X1C-250*	1.05	1.31	900 lb.	6"	250	14
	Orange	DF4X1C-500	1.05	1.31	900 lb.	6"	500	14
	Orange	DF4X1-250S*	1.05	1.31	Empty	6"	250	14
	Orange	DG4X1-200	1.38	1.65	Empty	7"	200	17
11/4"	Orange	DG4X1C-200*	1.38	1.65	900 lb.	7"	200	17
1 /4	Orange	DG4X1C-500	1.38	1.65	900 lb.	7"	500	17
	Orange	DG4X1-200S*	1.38	1.65	Empty	7"	200	17
41/.U	Orange	DH4X1C-150*	1.55	1.88	900 lb.	81/4"	150	22
1 ¹ / ₂ "	Orange	DH4X1-150S*	1.55	1.88	Empty	8 ¹ /4"	150	22
2"	Orange	DJ4X1C-100*	2.04	2.35	900 lb.	91/2"	100	26
	Orange	DJ4X1-100S*	2.04	2.35	Empty	91/2"	100	26

^{*} Overnight Shippable

Custom Orders

	How to Build a Part Number										
Position 1 Product	Position 2 Size	Position 3 Configuration	Position 4 Wall	Position 5 Color	Position 6 Pull Line	Position 7 Length					
D = Riser-Gard	E = 3/4" F = 1" G = 11/4" H = 11/2" J = 2"	4 = Corrugated	X = Standard	1 = Orange 2 = Black 3 = Gray 4 = White 5 = Blue 6 = Green 7 = Yellow 8 = Red	C = 900 lb. Tape	Example -1000 = Feet -1000S = 1000 Feet Split					

Hal-Free Riser-Gard®





Hal-Free Riser-Gard is a halogen free nonmetallic flexible raceway for use in riser and general purpose applications. In the event of a fire, this product will not release halogen elements into the air, which makes it ideal for applications in tunnels, laboratories and high-tech environments.

Hal-Free Riser-Gard is in compliance with NEC Articles 770 and 800, and

meets all the requirements of UL 2024.

Custom lengths and split ducts are available upon request. Hal-Free Riser-Gard is available in white only.

Features:

- Free from halogen elements
- For use in riser and general purpose applications
- Compliant with NEC Articles 770 and 800
- Meets all requirements of UL 2024
- Custom lengths available in minimum order quantities of 2000 ft.
- Available in white only

UL Listed	Test Method	Maximum Value		
Maximum Flame Propagation	UL 2024	3'6"		
Maximum Air Temperature	UL 2024	387°F		

Specifications

	Nom. I.D.	Nom. O.D.	Wt. per 100 ft. (lbs.)	Standard Reel Length	Reel Size
1"	1.049	1.365	7.3	5000	72"
11/4"	1.250	1.550	9.2	4000	72"
11/2"	1.500	1.850	12.0	2000	66"
2"	2.000	2.425	20.8	2000	82"

Custom Orders

	How to Build a Part Number								
Position 1 Product	Position 2 Size	Position 3 Configuration	Position 4 Wall	Position 5 Color	Position 6 Pull Line	Position 7 Length			
H = Hal-Free Riser-Gard	F = 1" G = 1 ¹ / ₄ " H = 1 ¹ / ₂ " J = 2"	4 = Corrugated	X = Standard	4 = White	C = 900 lb. Tape	Example -1000 = Feet -1000S = 1000 Feet Split			

www.carlon.com

Nonmetallic Adapters & Couplings





• For use with Riser-Gard®

Couplings



Part. No.	Size	Standard Carton Quantity	Standard Carton Weight (lbs.)
A240D	1/2''	150	2.90
A240E	3/4"	100	3.00
A240F	1"	50	2.30

Threaded Adapters



Part. No.	Size	Standard Carton Quantity	Standard Carton Weight (lbs.)
A243D	1/2"	150	2.55
A243E	3/4"	100	2.30
A243F	1"	50	2.00

Snap-In Adapters



Part. No.	Size	Standard Carton Quantity	Standard Carton Weight (lbs.)
A253D	1/2"	150	2.70
A253E	3/4"	100	2.90
A253F	1"	50	2.30

Nonmetallic Adapters & Couplings





• For use with Plenum-Gard®

Couplings



Part. No.		Size	Standard Carton Quantity	Standard Carton Weight (lbs.)
	► A340F	1"	50	2.50



Threaded Adapters

	_		
Part. No.	Size	Standard Carton Quantity	Standard Carton Weight (lbs.)
► A343F	1"	50	1.55



Snap-In Adapters

Part. No. Size		Standard Carton Quantity	Standard Carton Weight (lbs.)	
► A353F	1"	50	3.00	

Nonmetallic Adapters and Couplings



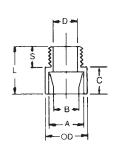
• For use with Riser-Gard®

Except where noted by

Male Terminal Adapters



For adapting nonmetallic conduits to boxes, threaded fittings, metallic systems. Male threads on one end, socket end on other.



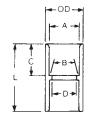
Part No.	Size	Std. Ctn. Qty.	А Тур	B ical	Min. D	Max. OD	С	T Typica	L	Std. Ctn. Wt. (lbs.)
E943E	3/4	125	1.064	1.046	.800	111/32	3/4	9/16	13/8	3.5
E943F	1	50	1.330	1.310	1.018	15/8	1	11/16	1 25/32	3
E943G	11/4	50	1.677	1.655	1.332	21/32	1	3/4	1 ¹⁵ / ₁₆	4
E943H	11/2	25	1.918	1.894	1.566	25/32	13/16	3/4	21/16	2.5
E943J	2	50	2.393	2.369	2.000	2 21/32	13/16	3/4	21/8	7

Standard Couplings

All socket fittings should be attached Using Carlon solvent cement. Using Carlon fittings with Carlon nonmetallic conduit insures system integrity.



Socket type for joining nonmetallic conduit.



Part No.	Size	Std. Ctn. Oty.	А Тур	B ical	Min. D	Max. OD	C Typ	L ical	Std. Ctn. Wt. (lbs.)
E940E	3/4	100	1.064	1.046	.840	1 ⁵ / ₁₆	3/4	1 ⁵ /8	4.4
E940F	1	50	1.330	1.310	1.210	15/8	15/16	2	3.5
E940G	11/4	30	1.677	1.655	1.535	163/64	1	21/8	3.5
E940H	11/2	25	1.918	1.894	1.755	2 ¹⁵ / ₆₄	11/8	23/8	3.9
E940J	2	30	2.393	2.369	2.190	247/64	13/16	21/2	5.25

Metallic Adapters and Couplings

$Universal\ Aluminum\ Couplings\ \bullet \ \text{For use with\ Plenum-Gard}\ ^{\texttt{@}}\ \text{and\ Riser-Gard}\ ^{\texttt{@}}$

Self-threading, which draws each end of the conduit into the center of the coupler.



Part. No.	Size	Duct O.D. Range	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
▶ P75	3/4"	.91 – 1.08	10	12
▶P100	1"	1.21 – 1.41	100	25
▶ P125	1 1/4"	1.44 – 1.68	100	28
► P150CPLR	1 1/2"	1.80 – 2.02	100	35
▶ P200	2"	2.31 – 2.48	50	19

Terminating Connector



For use with Plenum-Gard[®]

Part No.	Size	Nom. O.D. Range	Std. Ctn. Qty.	Std. Ctn. Wt.
TC100	1"	.91 – 1.08	12	50
TC125	11/4"	1.495 – 1.70	12	52
TC150	1 ¹ /2"	1.80 – 2.00	12	56
TC200	2"	2.31 – 2.52	12	58

Washers Flat Sealing Washer

Where a waterproof termination is required into any enclosure (metallic or nonmetallic), install the neoprene washer over the threads of a terminal adapter before inserting into the enclosure. Use a standard locknut or threaded bushing to secure the assembly.



Part No.	Size	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
► E943EW	3/4"	125	.45
► E943FW	1"	100	.46
► E943GW	11/4"	50	.44
► E943HW	11/2"	50	.45
► E943JW	2"	25	.42

21/2" & 4" Mud Boxes with Covers

• For use with Riser-Gard®







Listed for use with ceiling fans up to 35 lbs. and for fixture support up to 50 lbs.



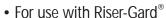
Part. No.	Description	Standard Carton Quantity	Standard Carton Weight (lbs.)
A861	Without ground lug	10	2.5
CA861G	With ground lug	10	2.0

Covers



Part. No.	Description	Standard Carton Quantity	Standard Carton Weight (lbs.)
A862D	2 ¹ /2" Deep (¹ /2" KO's)	10	2.5
A862E	2 ¹ /2" Deep (³ /4" KO's)	10	2.1
A864D	4" Deep (1/2" KO's)	10	2.9
A864E	4" Deep (3/4" KO's)	10	2.9
A864F	4" Deep (1" KO's)	10	3.0

Quick Connect Outlet and Switch Boxes



• Suitable for masonry walls



Single Gang – 16 cu. in.



Part. No.	Description	Standard Carton Quantity	Standard Carton Weight (lbs.)
A58381D	3 x 2 ¹ /4 x 3 (¹ /2" KO's)	25	4.6
A58381E	3 x 2 ¹ /4 x 3 (³ /4" KO's)	25	4.6

Two Gang – 20 cu. in.



Part. No.	Description	Standard Carton Quantity	Standard Carton Weight (lbs.)
A52151D	4 x 4 x 1 ¹ / ₂ (¹ / ₂ " KO's)	100	22.6
A52151E	4 x 4 x 1 ¹ / ₂ (³ / ₄ " KO's)	100	22.6
A521DE	4 x 4 x 1 ¹ / ₂ (¹ / ₂ " & ³ / ₄ " KO's)	100	22.6

Two Gang – 30.3 cu. in.



Part. No.	Description	Standard Carton Quantity	Standard Carton Weight (lbs.)
A52171D	4 x 4 x 2 ³ /8 (¹ /2" KO's)	25	7.6
A52171E	4 x 4 x 2 ³ /8 (³ /4" KO's)	25	7.6
A5217DE	4 x 4 x 2 ³ /8 (¹ / ₂ " & ³ / ₄ " KO's)	25	7.6

ENT Box with Adapters

For use with Riser-Gard[®]



E42728 Except where noted by



Two Gang – 24.75 cu. in. ENT Box with Adapters

Part. No. Description		Standard Carton Quantity	Standard Carton Weight (lbs.)
A5329DE	4 x 4 x 1 ³ / ₄ (¹ / ₂ " & ³ / ₄ " KO's)	50	14.8

Box Back Wall Support

200	ηŒ	33
9		

Part. No.	Description	Standard Carton Quantity	Standard Carton Weight (lbs.)
► A540DS	For use with 1/2" Knockout	100	2.1

ENT Box Extenders

For use with Riser-Gard[®]





Single Gang

Part. No.	Rise	Cu. in.	Standard Carton Quantity	Standard Carton Weight (lbs.)
A410	1/2"	3.5	100	7.7
A411	5/8"	4.2	50	4.6
A412	3/4"	5.0	50	5.1
A413	1"	6.6	40	5
A414	11/4"	8.1	30	4.4



Two Gang



Part. No.	Rise	Cu. in.	Standard Carton Quantity	Standard Carton Weight (lbs.)
A400	Blank	-	100	7.7
A420	1/2''	6.1	75	5.0
A421	5/8''	7.4	50	4.2
A422	3/4"	8.8	50	4.8

Round Covers for Octagon Ceiling Boxes

For use with Riser-Gard[®]



Round Plaster Rings • Suitable for fixture support



Part. No.	Rise	Cu. in.	Standard Carton Quantity	Standard Carton Weight (lbs.)
A471	1/2"	3.2	100	3.3
A472	3/4"	4.0	100	3.7



Round Blank Covers

Part. No.	Rise	Cu. in.	Standard Carton Quantity	Standard Carton Weight (lbs.)
E460R-CAR	Blank	-	35	2.2
A470D	Blank with 1/2" KO	-	100	6.2

Quick Connect 4" Octagon Ceiling Boxes



E42728

- For use with Riser-Gard[®]
- Carlon ceiling boxes and round plaster rings are produced from a special high heat resistant engineered plastic material developed specifically for fixture support.
- Listed for fixture support up to 50 lbs.

Except where noted by

Ceiling Box -20.5 cu. in.



Part. No.	Description	Standard Carton Quantity	Standard Carton Weight (lbs.)
A615D	4 - 2 ¹ /8" Deep (¹ /2" KO's)	50	6.4
A615E	4 - 2 ¹ /8" Deep (³ /4" KO's)	50	6.4
A615DE	4 - 2 ¹ /8" Deep (¹ / ₂ " & ³ / ₄ " KO's)	50	6.4



Ceiling Box with J Mount – 20.5 cu. in.

Part. No.	Description	Standard Carton Quantity	Standard Carton Weight (lbs.)
A615DJ	4 - 2 ¹ /8" Deep (¹ /2" KO's)	50	18.7



Ceiling Box with L Bracket – 20.5 cu. in.

Part. No.	Description	Standard Carton Quantity	Standard Carton Weight (lbs.)
A615DL	4 - 2 ¹ /8" Deep (¹ /2" KO's)	50	6.4



Ceiling Box with Adjustable Hanger Bar – 20.5 cu. in. Adjust from 141/4" to 231/4"

Part. No. Description		Standard Carton Quantity	Standard Carton Weight (lbs.)
A615DH	4 - 2 ¹ /8" Deep (¹ /2" KO's)	25	13.6

PVC Conduit Cutters

Kwikcut Cutter



For fast, smooth field cuts of 1/2" through 1" Riser-Gard® and Plenum-Gard.

Part No.	Size	Std. Ctn. Qty.
► CC120B	8"	10

Medium Cutter



Hand held cutter makes fast square, smooth field cuts on conduit from 1/2" through 11/4". Produces burr-free cut with no shavings. Fits into pocket or pouch.

Part No.	Size	Std. Ctn. Qty.
► CC125	9"	12

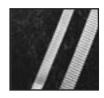
Large Cutter



For clean cuts of conduit 1/2" through 2".

Part No.	Size	Std. Ctn. Qty.
▶ CC122	171/2"	1

Tape Prelubricated, woven polyester tape made from low friction, high abrasion resistant yarns providing a low coefficient of friction. Tape is printed with sequential footage markings for accurate measurements.



Part. No.	Size	Tensile Strength	Reel Lengths
TL14505	1/2"	1250 lbs.	5,000 ft.
TL14510	1/2''	1250 lbs.	10,000 ft.
TL38203	5/8"	1800 lbs.	3,000 ft.
TL38265	5/8"	1800 lbs.	6,500 ft.
TL38210	5/8"	1800 lbs.	10,000 ft.

Other ropes and tapes are available. Consult your sales service location for additional information.

Carlon® Cement

*Meets ASTM D2564

Standard Grade Clear Solvent Cement with dauber*



Part No.	Size	Std. Ctn. Qty.
VC9964	1/2 Pint	10
VC9963	Pint	24
VC9962	Quart	12
VC9961P	Gallon	6

Recommended pipe application and sizes
Recommended for all grade and types of Carlon PVC conduit, duct, wireway and fittings, except Flex-Plus® Blue™ ENT (Electrical

application and sizes	(Evaporation Rati
Recommended for all grades and types of Carlon PVC conduit, duct, wireway and fittings, except Flex-Plus® Blue™ ENT (Electrical Nonmetallic Tubing.) Up through 6" diameter.	10'-30'F Not recomme 30'-50'F 5-6 minutes 50'-70'F 3-4 minutes 70'-90'F 1-2 minutes

Recommended Set-up time installation (Evaporation Rate) temperature 0°-30°F Not recommended 40° to 100°F 0°-50°F 5-6 minutes

-5° to 100°F

Lap Shear 75° as @ 73°F manufactured 2 hrs. 350 psi

16 hrs. 800 psi

72 hrs. 1,500 psi

500-900 cps

Viscosity at

All-Weather "Quick-Set" Clear Solvent Cement with dauber*



Part No.	Size	Std. Ctn. Qty.
VC9984	1/2 Pint	10
VC9983	Pint	24
VC9982	Quart	12
VC9981P	Gallon	6

Recommended for all grades and types of Carlon PVC conduit, duct, wireway and fittings, except Flex-Plus® Blue™ ENT (Electrical Nonmetallic Tubing.)
Up through 6" diameter.

10°-30°F	4-5 minutes
30°-50°F	3-4 minutes
50°-70°F	1-2 minutes
70°-90°F	1/2-11/2 minutes

2 hrs. 350 psi 16 hrs. 800 psi

400-700 cps 72 hrs. 1,500 psi

Low VOC Solvent Cement with dauber*



Part No.	Size	Std. Ctn. Qty.
VC9LV4	¹ / ₂ Pint	10
VC9LV3	Pint	24
VC9LV2	Quart	12

Recommended for all grades and types of Carlon
PVC conduit, duct, wireway
and fittings, except Flex-
Plus® Blue™ ENT (Electrical
Nonmetallic Tubing.)
Up through 6" diameter.
VOC emission of 490

grams/liter per the Bay and South Coast test method.

10°-30°F Not recommended 40° to 100°F **30°-50°F** 5-6 minutes 50°-70°F 3-4 minutes 70°-90°F 1-2 minutes

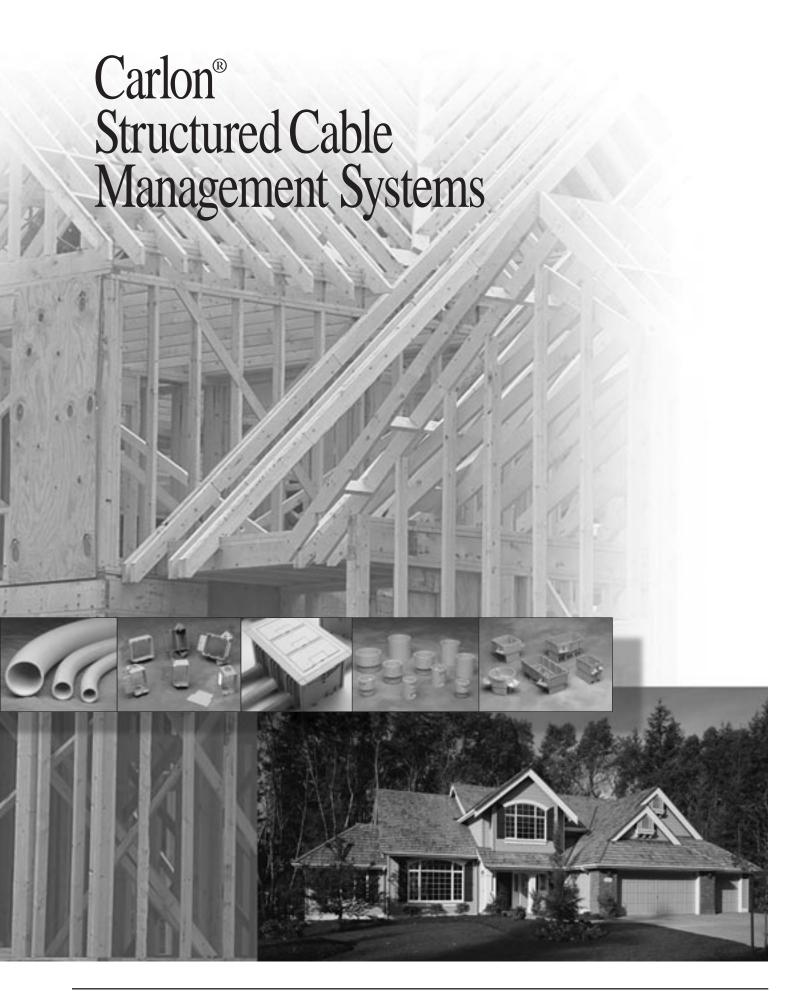
2 hrs. 350 psi 500-900 cps **16 hrs**. 800 psi 72 hrs. 1,500 psi

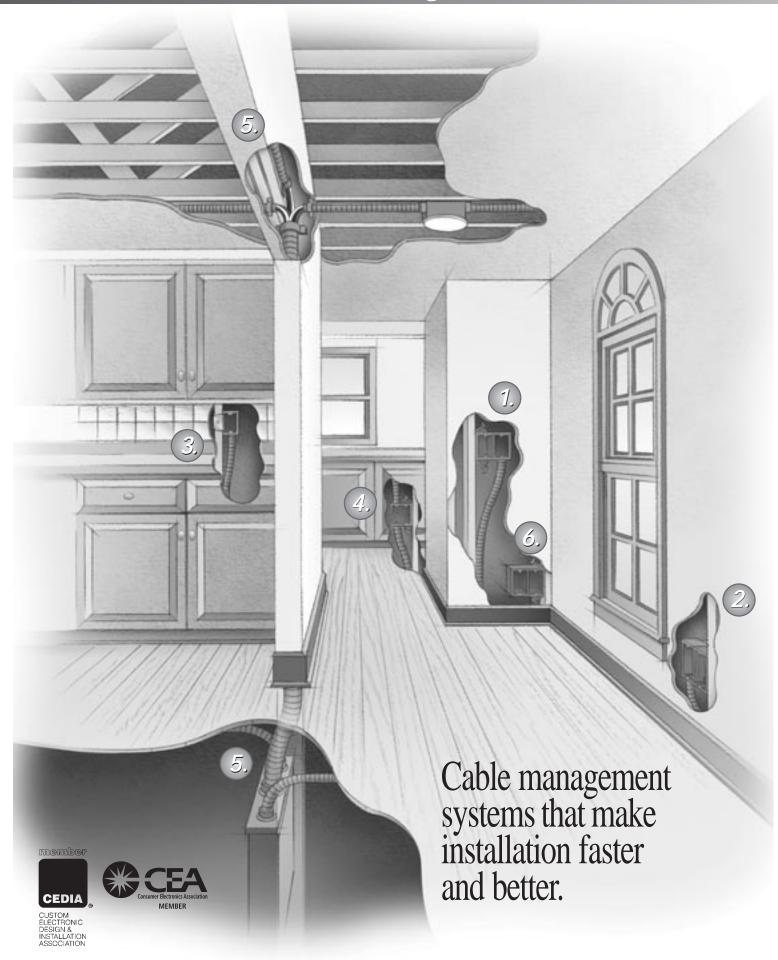
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Carlon[®] Innerduct Guide

Where is Innerduct being used? OUTSIDE THE **I**NSIDE THE Building Building Plowed or **Pulled** General into a **Trenched** Purpose & Conduit HDPE SDR sized **Plenum** Riser duct recommended HDPE True (11/4" or larger) Must be UL Must be sized duct **UL Listed** Listed recommended HDPE SDR 13 wall 1.00" ID or thickness for non- Plenum cable Riser rated 1.25" ID rocky soil conditions must be cable must be used in riser installed Corrugated HDPE SDR 11 wall applications (Riser-Gard and thickness for rocky Color: Industry HDPE) duct for conditions standard=orange • Color: Industry newer conduit standard = orange Riser-Gard Pull tape runs & shorter approved for direct HDPE innerduct pre-installed distance pulls bury applications in 1" through 2" will not meet HDPE Solidwall but NOT exposed code Plenum-Gard® for older conduit applications product Riser-Gard® runs & longer NOTE: numbers: product distance pulls Aerial HDPE for numbers: 3/4" CE4X1C exposed applications 3/4" DE4X1C 1" CF4X1C DF4X1C 11/4" CG4X1C 11/4" DG4X1C 11/2" CH4X1C **Options** 11/4" DH4X1C 2" CJ4X1C Color DJ4X1C Striping Factory installed pull lines Segmented or paralleled reels Pre-lubricated duct

Specifying and installing UL Listed innerducts with the anticipation of future upgrades provides the building owner with a low cost solution for the removal of abandoned cables.







Dual Voltage Box/Bracket

Here's a smart alternative where you would normally use separate high and low voltage boxes. Designed to fit a standard two-gang faceplate, this component combines an electrical box and low voltage bracket into a single unit for fast, easy installation.

No alignment tools are required, and easy nail-on mounting provides precise placement and a professional finished appearance. Resi-Rings accept 3/4" Resi-Gard only SC200DV







Why waste time mounting, then trying to line up separate high voltage and low voltage boxes, and still end up with something not quite right? Our Dual Voltage Box/Bracket lets you do it all in one fast, easy step with perfect alignment every time.

Low Voltage Add-On Bracket











Attaching the Add-On Bracket is a "snap." You just remove the back of the double-sided tape (1), clip the bracket in place (2), and press on the bracket to secure it against the box (3). Allows for the installation of most decora style yoke plates



Low Voltage Adjustable Brackets

Our Low Voltage Adjustable Brackets are the perfect solution for tile, paneling, or stucco. A bracket allows for quick, easy stud mounting, and a turn of the screw adjusts to any wall thickness. It's great for retrofit/ installation

upgrades. Replace the single-gang bracket with a two-gang bracket, or switch services to a high-voltage Adjust-A-Box $^{\text{\tiny M}}$. . . SC100ADJC (shown) and SC200ADJC









Our Low Voltage Adjustable Brackets simplify installation with tile, paneling, or stucco to save you time and effort. Just use the quick-mount bracket to clip it to the stud (1), add a screw for extra support if you want it (2), then use the adjustment screw to accommodate wall thickness (3). Also available in a two-gang version.

Low Voltage Brackets

Here's the fast installation choice where only low voltage is required. Designed to fit a standard one- or two-gang faceplate, these low voltage brackets feature an easy nail-on mounting or screw-in bracket, while a hard shell provides increased durability and no racking. Resi-Rings accept 3/4" Resi-Gard only ... SC100A and SC200A (shown)









Our Low Voltage Brackets are openbacked to easily accommodate the bend radiuses required for low voltage cabling and deep devices such as volume controls, while molded-in ports make it easy to connect flexible raceway for future-proofing. Or you can use them to tie off cable to the bracket. They can also be attached to wood or steel studs.



Resi-Gard® Flexible Raceway And Fittings

Available in 5 sizes from 3 /4" to 2", with factory installed pull tape in sizes 1" to 2", our Resi-Gard Flexible Raceway provides a main chase from the main distribution panel

to a secondary hub in the attic or basement. Ideal for easy access to add cable or service upgrades, or leave empty for future expansion

See page 97 for part numbers









Our complete line of quick-connect couplings, adapters, cable clips, conduit clamps, and solvent cement make for quick, easy professional installation of Resi-Gard Flexible Raceway.

Low Voltage Divider Plate

For applications where a combined high and low voltage closed back box is needed, such as placement in a firerated wall, we offer our Carlon SuperBlue™ two-, three-, and four-gang wiring boxes with a slip-in-place divider to give you the split box you need for the low voltage outlet SCDIV









What could be easier than converting one of our Carlon SuperBlue boxes for both high and low voltage use? Just slip the divider into place, and you're ready to go. Great for situations requiring a dual voltage fire-rated box.

Carlon® Resi-Gard® Flexible Raceway and Accessories Give You a Total Low Voltage System.



Resi-Gard® Flexible Raceway (3/4" to 2")

Ideal for providing a main chase from the main distribution panel to a secondary hub in the attic or basement, Resi-Gard nonmetallic flexible raceway is available in ³/₄" to 2" diameter sizes with factory installed pull tape in sizes 1" to 2". The raceway is hand bendable, lightweight and easily cut to length to reduce scrap. Bright orange color clearly signifies a low voltage installation.



Resi-Gard® Fittings

A complete line of Carlon one-piece quick connect couplings, threaded adapters, and snap-in terminator adapters are available for quick, easy professional installation of Resi-Gard Flexible Raceway.



Structured Cabling Boxes and Brackets

Carlon's new and innovative family of Structured Cabling Boxes and Brackets for all your installation requirements.

- Dual Voltage Box/Bracket
- Low Voltage Adjustable Bracket
- Low Voltage Divider Plate
- · Low Voltage Add-On Bracket
- · Low Voltage Bracket
- Mud Ring (4" Sq. 1/2" Raised Cover)



Cable Clips

Carlon's cable clips with pre-installed nails provide fast and easy installation for either a single cable, 2-3 cables, or 1 bundled cable.



Conduit Clamps

Carlon's orange conduit clamps are designed specifically for the installation of Resi-Gard.



Resi-Gard® Solvent Cement

Resi-Gard Solvent Cement is ideal for easy, tight installation of all Resi-Gard flexible non-metallic raceway and fittings and accessories. Available in pint sizes with convenient brush top applicator.



Resi-Gard® Flexible Raceway Cutters

Carlon's Kwikcut Cutter is ideal for fast, smooth field cuts for up to 1" diameter Resi-Gard nonmetallic flexible raceway. Carlon's Large PVC Cutter is ideal for cuts up to 2" diameter nonmetallic rigid and flexible raceway.



Resi-Gard® Flexible Raceway



Standard Length Coils

Size	Pull Tape	Part No.	Coil Length	Prod. Wt. (lbs.) Coil
3/4"	Empty*	SCE4X1-100	100	11.5
1"	900 lbs.	SCF4X1C-100	100	17.9
11/4"	900 lbs.	SCG4X1C-100	100	21.5
11/2"	900 lbs.	SCH4X1C-50	50	11.2
2"	900 lbs.	SCJ4X1C-50	50	13.4

^{*}If installing own tape, a lubricated polyester is recommended.



Standard Length Reels*

Size	Pull Tape	Part No.	Reel Length	Prod. Wt. (lbs.) Reel
3/4"	Empty	SCE4X1-1000	1000	115.0
1"	900 lbs.	SCF4X1C-1500	1500	268.5
2"	900 lbs.	SCJ4X1C-500	500	133.5

^{*} Made to order



Resi-Gard® Fittings





Quick Connect Coupling

-anon common companing					
Part No.	Size	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)		
SCA240E	3/4"	25	.783		
SCA240F	1"	20	.972		



Quick Connect Threaded Adapter

Part No.	Size	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)		
SCA243E	3/4"	25	.633		
SCA243F	1"	20	.778		



Male Terminal Adapter*

Part No.	Size	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
SCE943G	11/4"	50	3
SCE943H	1 ¹ /2''	25	2.5
SCE943J	2"	50	6.8





Standard Couplings*

Part No.	Size	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
SCE940G	11/4"	30	3.5
SCE940H	1 ¹ /2"	25	3.9
SCE940J	2"	30	5.2

^{*} Must be cemented to Resi-Gard® Flexible Raceway using ONLY Resi-Gard Solvent Cement



Quick Connect Snap-In Adapter

Part No.	Size	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
SCA253E	3/4"	25	.783
SCA253F	1"	20	.918



PVC Lock Nut

Part No.	Size	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
► LT9LE	3/4"	700	4
▶ LT9LF	1"	600	4



Structured Cabling Boxes and Brackets



Dual Voltage Box/Bracket

with 3/4" Resi-Rings

Part No.	Size	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
SC200DV	1-Gang	16	6.4

^{*}U.S. Patent D463,376

Low Voltage Add-On Bracket

with 3/4" Resi-Rings

Part No.	Size	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
SC100SC	1-Gang	24	2.3

^{*}U.S. Patent D459,312



* Allows for the installation of most decora style yoke



Low Voltage Adjustable Brackets

Part No.	Size	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
SC100ADJC	1-Gang	24	7.5
SC200ADJC	2-Gang	20	6.9





*Low Voltage Brackets

with 3/4" Resi-Rings

	3		
Part No.	Size	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
SC100A	1-Gang	24	5.3
SC200A	2-Gang	24	7.7

^{*}U.S. Patent D457,140 D462,664



Low Voltage Divider Plate

Part No.	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
SCDIV	50	2.2

For use with Carlon® SuperBlue™ boxes



E216492

Mud Ring (4" sq. 1/2" Raised Cover)

Part No.	Size	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
SCA410	1-Gang	20	1.54





Cable Clips

Size	Part No.	Standard Bag Quantity	Std. Ctn. Wt. (lbs.)	Std. Ctn. Qty.
1/4"	SC14CC	1 ea. (Equals one bag of 100 Clips	2.23	10 Bags of 100
1/2"	SC12CC	1 ea. (Equals one bag of 25 Clips	2.31	10 Bags of 25
3/4"	SC34CC	1 ea. (Equals one bag of 10 Clips	2.96	20 Bags of 10







Conduit Clamps

Size	Part No.	Standard Bag Quantity	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
3/4"	SCE977EC	1 ea. (Equals one bag of 5 Clamps	20 Bags of 5	1.5
1"	SCE977FC	1 ea. (Equals one bag of 5 Clamps	12 Bags of 5	1.3
11/4"	SCE977GC	1 ea. (Equals one bag of 5 Clamps	8 Bags of 5	1.1
11/2"	SCE977HC	1 ea. (Equals one bag of 5 Clamps	6 Bags of 5	1.0
2"	SCE977JC	1 ea. (Equals one bag of 5 Clamps	6 Bags of 5	1.5



NOTE: Each clamp requires 2 screws, 2 nuts, and/or 2 bolts



Resi-Gard® Solvent Cement

Part No.	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
VC9963SC	24	28.6





Resi-Gard® Cutters

Kwikcut Cutter

For fast, smooth field cuts of 1/2" through 1" innerduct.



Part No.	Size	Std. Ctn. Qty.
CC120B	8"	10

Large Cutter

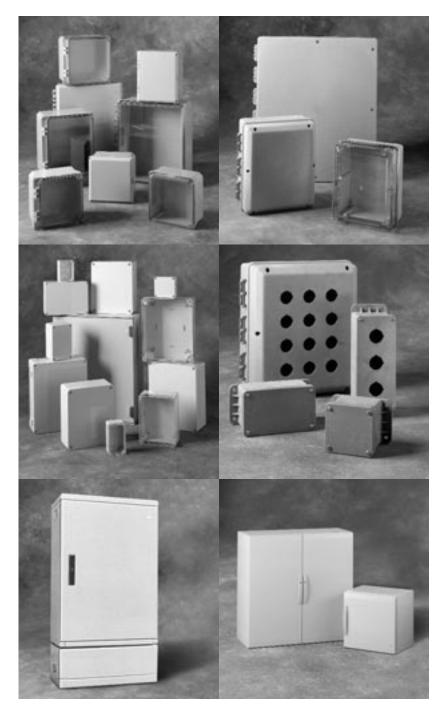
For clean cuts of conduit 1/2" through 2".



Part No.	Size	Std. Ctn. Qty.
CC122	17 ¹ /2"	1

Carlon® Nonmetallic Enclosures

Circuit Safe® NEMA
Circuit Safe® JIC
Distribution
Enclosures
Himeline® HE
Himeline® HS
Himeline® HP
Himeline® HLA/HLS
Slack and Splice
Enclosures



Circuit Safe NEMA Enclosures







Manufactured from solid, high-impact engineered thermoplastics (bodies and covers), Carlon® NEMA enclosures deliver high temperature stability (-30° F to 230° F), exceptional corrosion resistance, and greater performance than traditional steel and stainless steel enclosures. Less than half the weight of metal enclosures, they're also easier to machine without fear of fracture and easier to install, while offering both a lower installed cost and longer service life. In addition, these attractive enclosures offer molded-in features not found in metal enclosures along with no rough edges, sharp corners, or burrs. Rated for use in all NEMA Type 1, 2, 3, 3S, 3X, 3SX, 4, 4X, 12, and 13 environments, Carlon NEMA enclosures meet or exceed both UL and CSA requirements. They are available in 10 different styles and 11 sizes from 6 x 4 x 4 to 16 x 14 x 6 with screw or hinged design, clear or opaque covers, and quick-release latches.

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Features

- Captive stainless steel cover screws.
- Brass inserts for cover, mounting flanges and panel mounting screws.
- Back panel provisions accept standard size panels.
- Dove tailed corners for mounting panels or swing out panels at any depth. (Use optional adjustable back panel kit or swing out panel kit.)
- Oil resistant continuous gasket.
- Removable nonmetallic mounting rails included with factory assembled units.
- Tapered edge keeps liquids away from door opening.
- Ultraviolet stabilized for outdoor use.
- Optional steel or PVC back panels available.

Applications

- Junction boxes
- Terminal block enclosures
- Motor control housings
- Instrument cases
- Electronic equipment cases
- Splice and pull boxes
- Pushbutton housings

Standards

- Meets NEMA Type 1, 2, 3, 3S, 3X, 3SX, 4, 4X, 12, 13
- Per UL 50, enclosures for electrical equipment.
- CSA certified as indicated.

www.carlon.com

NEMA Enclosure Styles

Circuit Safe® NEMA enclosures are available in three different cover options and a wide range of sizes. From our screw cover style enclosures to our hidden hinge cover style enclosures to our external hinge cover style enclosures, Carlon has a Circuit Safe NEMA enclosure to meet your application-specific need.

Styles

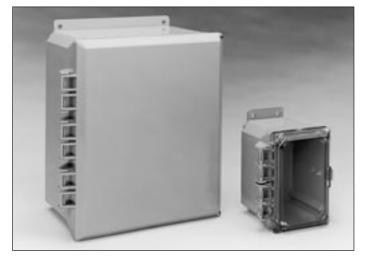
- Screw Cover
- External Hinge
- Hidden Hinge

Cover Color Options

- Opaque
- Clear



Screw Cover



External Hinge Cover



Hidden Hinge Cover

Screw-On Cover

Meets NEMA 1, 2, 3, 3S, 3X, 3SX, 4, 4X, 12







Opaque Cover



Clear Cover

Factory Assembled

Size	Opaque Cover Assembly*	Clear Cover Assembly*	Back Panels** Steel/PVC	Std. Ctn. Oty.	Std. Ctn. Wt. (lbs.) Opaque/Clear
6 x 4 x 4	NS644	NV644	JP64 / JP64P	1	Opa 1.8 / Clr 1.9
6 x 6 x 4	NS664	NV664	JP66 / JP66P	1	Opa 2.4 / Clr 2.4
8 x 6 x 4	NS864	NV864	JP86 / JP86P	1	Opa 2.9 / Clr 2.8
8 x 8 x 4	NS884	NV884	JP88 / JP88P	1	Opa 3.2 / Clr 3.3
10 x 8 x 4	NS1084	NV1084	JP108 / JP108P	1	Opa 4.0 / Clr 3.9
10 x 8 x 6	NS1086	NV1086	JP108 / JP108P	1	Opa 4.6 / Clr 4.5
10 x 10 x 6	NS10106	NV10106	JP1010 / JP1010P	1	Opa 5.3 / Clr 4.9
12 x 10 x 6	NS12106	NV12106	JP1210 / JP1210P	1	Opa 6.1 / Clr 5.2
12 x 12 x 6	NS12126	NV12126	JP1212 / JP1212P	1	Opa 6.8 / Clr 6.1
14 x 12 x 6	NS14126	NV14126	JP1412 / JP1412P	1	Opa 7.4 / Clr 7.0
16 x 14 x 6	NS16146	NV16146	JP1614 / JP1614P	1	Opa 9.2 / Clr 8.1

^{*} Kitted Enclosures include body, lid and mounting rail kit.

Individual Components

	End	ase*		Enclosure Li	Back Panels*	*			
Enclosure Size	Part Nos.	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)	Opaque Lids	Clear Lids	Std. Ctn . Qty.	Std. Ctn. Wt. (lbs.)	Steel /PVC Part Nos.	Std. Ctn Qty.
6 x 4 x 4	NP644B	18	21	NS64L	NV64L	4L 16 Opa 6.4 / Clr 5.7		JP64 / JP64P	1
6 x 6 x 4	NP664B	12	17	NS66L	NV66L	12	Opa 6.2 / Clr 5.7	JP66 / JP66P	1
8 x 6 x 4	NP864B	12	18	NS86L	NV86L	9	Opa 6 / Clr 4.4	JP86 / JP86P	1
8 x 8 x 4	NP884B	14	28	NS88L	NV88L	18	Opa 14 / Clr 11.2	JP88 / JP88P	1
10 x 8 x 4	NP1084B	12	26	NS108L	NV108L	12	Opa 13 / Clr 11	JP108 / JP108P	1
10 x 8 x 6	NP1086B	8	23	NS108L	NV108L	12	Opa 13 / Clr 11	JP108 / JP108P	1
10 x 10 x 6	NP1010B	6	20	NS1010L	NV1010L	11	Opa 14 / Clr 12	JP1010 / JP1010P	1
12 x 10 x 6	NP1210B	6	23	NS1210L	NV1210L	12	Opa 15 / Clr 15	JP1210 / JP1210P	1
12 x 12 x 6	NP1212B	5	22	NS1212L	NV1212L	10	Opa 15 / Clr 14	JP1212 / JP1212P	1
14 x 12 x 6	NP1412B	5	24	NS1412L	NV1412L	5	Opa 9 / Clr 9	JP1412 / JP1412P	1
16 x 14 x 6	NP1614B	4	31	NS1614L	NV1614L	5	Opa 11 / Clr 11	JP1614 / JP1614P	1

^{*} Mounting rails are not included. See "Mounting Rails" listed in the Enclosure Accessories section.

^{**} Order back panels separately.

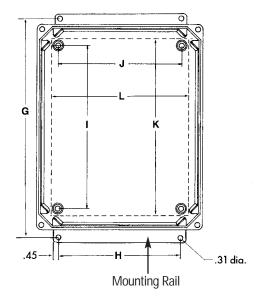
^{**} Order back panels separately.

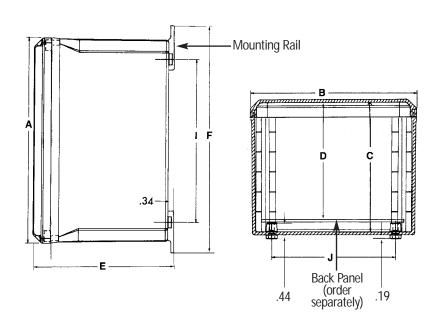
Screw-On Cover

Specifications

Enclosure With Clear Lid Opaque Lid				Enclosu	re Size			Enclosure Mounting Hole Spacing		Panel Mounting Hole Spacing		Back Panel Size		Back Panel** Part Nos.	
Part Nos.*	Part Nos.*	Α	В	С	D	E	F	G	Н	I	J	K	L	Steel	PVC
NV644	NS644	6.40	4.40	4.49	3.98	5.13	7.69	6.75	2.00	4.25	2.25	4.88	2.88	JP64	JP64P
NV664	NS664	6.40	6.40	4.49	3.98	5.13	7.69	6.75	4.00	4.25	4.25	4.88	4.88	JP66	JP66P
NV864	NS864	8.40	6.40	4.49	3.98	5.13	9.69	8.75	4.00	6.25	4.25	6.75	4.88	JP86	JP86P
NV884	NS884	8.40	8.40	4.49	3.98	5.13	9.69	8.75	6.00	6.25	6.25	6.75	6.88	JP88	JP88P
NV1084	NS1084	10.40	8.40	4.49	3.98	5.13	11.69	10.75	6.00	8.25	6.25	8.75	6.88	JP108	JP108P
NV1086	NS1086	10.40	8.40	6.49	5.98	7.13	11.69	10.75	6.00	8.25	6.25	8.75	6.88	JP108	JP108P
NV10106	NS10106	10.40	10.40	6.49	5.98	7.13	11.69	10.75	8.00	8.25	8.25	8.75	8.88	JP1010	JP1010P
NV12106	NS12106	12.40	10.40	6.49	5.98	7.13	13.69	12.75	8.00	10.25	8.25	10.75	8.88	JP1210	JP1210P
NV12126	NS12126	12.40	12.40	6.49	5.98	7.13	13.69	12.75	10.00	10.25	10.25	10.75	10.88	JP1212	JP1212P
NV14126	NS14126	14.40	12.40	6.49	5.98	7.13	15.69	14.75	10.00	12.25	10.25	12.75	10.88	JP1412	JP1412P
NV16146	NS16146	16.40	14.40	6.49	5.98	7.13	17.69	16.75	12.00	14.25	12.25	14.75	12.88	JP1614	JP1612P

 $[\]ensuremath{^{\star}}$ Packaged-To-Order Enclosures include body, lid and mounting rail kit.





^{**} Order back panels separately.

Hidden Hinge Cover Meets NEMA 1, 2, 3, 3S, 3X, 3SX, 4, 4X, 12







Opaque Cover



Clear Cover

Factory Assembled

Size	Opaque Cover Assembly*	Clear Cover Assembly*	Back Panels** Steel/PVC	Std. Ctn. Oty.	Std. Ctn. Wt. (lbs.) Opaque/Clear
6 x 4 x 5 (y)	NH644	NI644	JP64 / JP64P	1	Opa 2.2 / Clr 2.8
6 x 6 x 5	NH664	NI664	JP66 / JP66P	1	Opa 2.7 / Clr 3.2
8 x 6 x 5	NH864	NI864	JP86 / JP86P	1	Opa 3.3 / Clr 3.8
8 x 8 x 5	NH884	NI884	JP88 / JP88P	1	Opa 3.8 / Clr 3.8
10 x 8 x 5	NH1084	NI1084	JP108 / JP108P	1	Opa 4.0 / Clr 4.5
10 x 8 x 7	NH1086	NI1086	JP108 / JP108P	1	Opa 5.2 / Clr 5.1
10 x 10 x 7	NH10106	NI10106	JP1010 / JP1010P	1	Opa 5.7 / Clr 5.8
12 x 10 x 7	NH12106	NI12106	JP1210 / JP1210P	1	Opa 6.9 / Clr 6.1
12 x 12 x 7	NH12126	NI12126	JP1212 / JP1212P	1	Opa 7.7 / Clr 7.2
14 x 12 x 7	NH14126	NI14126	JP1412 / JP1412P	1	Opa 8.3 / Clr 7.9
16 x 14 x 7	NH16146	NI16146	JP1614 / JP1614P	1	Opa 10.1 / Clr 9.6

^{*} Packaged-To-Order Enclosures (except NI1084) include body, lid and mounting rail kit.

Individual Components

	Enclo	sure B	ase*		Enclosu	ıre Lic	ls	0	Collars		Back Panels**		
Enclosure Size	Part Nos.	Std. Ctn. Oty.	Std. Ctn. Wt. (lbs.)	Opaque Lids Part Nos.	Clear Lids Part Nos.	Ctn. Wt.		Part Nos.	Std. Ctn. Oty.	Std. Ctn. Wt. (lbs.)	Steel /PVC Part Nos.	Std. Ctn Qty.	
6 x 4 x 5(y)	NP644B	18	21	NH64L	NI64L	16	Opa 6.8 / Clr 6.3	NH64C	16	6	JP64 / JP64P	1	
6 x 6 x 5	NP664B	12	17	NH66L	NH66L	12	Opa 6.8 / Clr 6.3	NH66C	12	5	JP66 / JP66P	1	
8 x 6 x 5	NP864B	12	18	NH86L	NI86L	9	Opa 6.3 / Clr 5.7	NH86C	9	4	JP86 / JP86P	1	
8 x 8 x 5	NP884B	14	28	NH88L	NI88L	18	Opa 16 / Clr 15	NH88C	9	3.6	JP88 / JP88P	1	
10 x 8 x 5	NP1084B	12	26	NH108L	NI108L	12	Opa 13 / Clr 12	NH108C	12	7.8	JP108 / JP108P	1	
10 x 8 x 7	NP1086B	8	23	NH108L	NI108L	12	Opa 13 / Clr 12	NH108C	12	7.8	JP108 / JP108P	1	
10 x 10 x 7	NP1010B	6	20	NH1010L	NI1010L	11	Opa 14 / Clr 13	NH1010C	11	7.5	JP1010 / JP1010P	1	
12 x 10 x 7(z)	NP1210B	6	23	NH1210L	NI1210L	12	Opa 17 / Clr 6	NH1210C	12	8	JP1210 / JP1210P	1	
12 x 12 x 7(z)	NP1212B	5	22	NH1212L	NI1212L	10	Opa 17 / Clr 16	NH1212C	12	7.7	JP1212 / JP1212P	1	
14 x 12 x 7(z)	NP1412B	5	24	NH1412L	NI1412L	5	Opa 10 / Clr 10	NH1412C	5	4.7	JP1412 / JP1412P	1	
16 x 14 x 7(z)	NP1614B	4	31	NH1614L	NI1614L	5	Opa 13 / Clr 12	NH1614C	5	5.6	JP1614 / JP1614P	1	

^{*} Mounting rails are not included. See "Mounting Rails" listed in the Enclosure Accessories section.

^{**} Order back panels separately.

⁽y) 6 x 4 x 5 size not available with quick-release latches.

^{**} Order back panels separately.

⁽y) 6 x 4 x 5 enclosures are not available with quick-release latches.

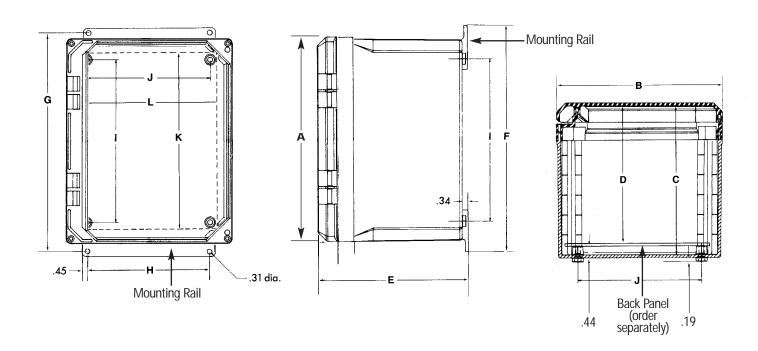
⁽z) Sizes 12 x 10 and larger require two (2) latches per enclosure.

Hidden Hinge Cover

Specifications

Enclosure With Clear Lid Opaque Lid				Enclosu	re Size			Enclosure Mounting Hole Spacing		Panel Mounting Hole Spacing		Back Panel Size		Back Panel** Part Nos.	
Part Nos.*	Part Nos.*	Α	В	С	D	E	F	G	Н	I	J	K	L	Steel	PVC
NH644	NI644	6.40	4.40	5.30	4.79	5.94	7.69	6.75	2.00	4.25	2.25	4.88	2.88	JP64	JP64P
NH664	NI664	6.40	6.40	5.30	4.79	5.94	7.69	6.75	4.00	4.25	4.25	4.88	4.88	JP66	JP66P
NH864	NI864	8.40	6.40	5.30	4.79	5.94	9.69	8.75	4.00	6.25	4.25	6.75	4.88	JP86	JP86P
NH884	NI884	8.40	8.40	5.30	4.79	5.94	9.69	8.75	6.00	6.25	6.25	6.75	6.88	JP88	JP88P
NH1084	NI1084	10.40	8.40	5.30	4.79	5.94	11.69	10.75	6.00	8.25	6.25	8.75	6.88	JP108	JP108P
NH1086	NI1086	10.40	8.40	7.30	6.79	7.94	11.69	10.75	6.00	8.25	6.25	8.75	6.88	JP108	JP108P
NH10106	NI10106	10.40	10.40	7.30	6.79	7.94	11.59	10.75	8.00	8.25	8.25	8.75	8.88	JP1010	JP1010P
NH12106	NI12106	12.40	10.40	7.30	6.79	7.94	13.69	12.75	8.00	10.25	8.25	10.75	8.88	JP1210	JP1210P
NH12126	NI12126	12.40	12.40	7.30	6.79	7.94	13.69	12.75	10.00	10.25	10.25	10.75	10.88	JP1212	JP1212P
NH14126	NI14126	14.40	12.40	7.30	6.79	7.94	15.69	14.75	10.00	12.25	10.25	12.75	10.88	JP1412	JP1412P
NH16146	NI16146	16.40	14.40	7.30	6.79	7.94	17.69	16.75	12.00	14.25	12.25	14.75	12.88	JP1614	JP1612P

^{*} Packaged-To-Order Enclosures (except NI1084) include body, lid and mounting rail kit.



^{**} Order back panels separately.

External Hinge Cover

Meets NEMA 1, 2, 3, 3S, 3X, 3SX, 4, 4X, 12





Factory Assembled



Opaque Cover



Clear Cover

Size	Opaque Cover Assembly*	Clear Cover Assembly*	Back Panels** Steel/PVC	Std. Ctn. Oty.	Std. Ctn. Wt. (lbs.) Opaque/Clear
6 x 4 x 4 (y)	NJ644	NC644	JP64 / JP64P	1	Opa 1.9 / Clr 2
6 x 6 x 4	NJ664	NC664	JP66 / JP66P	1	Opa 2.4 / Clr 2.4
8 x 6 x 4	NJ864	NC864	JP86 / JP86P	1	Opa 2.9 / Clr 2.9
8 x 8 x 4	NJ884	NC884	JP88 / JP88P	1	Opa 3.3 / Clr 3.3
10 x 8 x 4	NJ1084	NC1084	JP108 / JP108P	1	Opa 4 / Clr 4
10 x 8 x 6	NJ1086	NC1086	JP108 / JP108P	1	Opa 4.6 / Clr 4.7
10 x 10 x 6	NJ10106	NC10106	JP1010 / JP1010P	1	Opa 5.6 / Clr 5.3
12 x 10 x 6	NJ12106	NC12106	JP1210 / JP1210P	1	Opa 6.3 / Clr 5.8
12 x 12 x 6	NJ12126	NC12126	JP1212 / JP1212P	1	Opa 6.9 / Clr 6.6
14 x 12 x 6	NJ14126	NC14126	JP1412 / JP1412P	1	Opa 7.7 / Clr 7
16 x 14 x 6	NJ16146	NC16146	JP1614 / JP1614P	1	Opa 8.2 / Clr 8

^{*} Packaged-To-Order Enclosures include body, lid and mounting rail kit.

Individual Components

	End	closure Ba	ase*		Enclosure Li	ds		Back Panels*	*
Enclosure Size	Part Nos.	Std. Ctn. Oty.	Std. Ctn. Wt. (lbs.)	Opaque Lids	Clear Lids	Std. Ctn . Oty.	Std. Ctn. Wt. (lbs.)	Steel /PVC Part Nos.	Std. Ctn Qty.
6 x 4 x 4 (y)	NL644B	18	29	NJ64L	NC64L	16	Opa 6.4 / Clr 4.2	JP64 / JP64P	1
6 x 6 x 4	NL664B	12	18	NJ66L	NC66L	12	Opa 5.0 / Clr 5.9	JP66 / JP66P	1
8 x 6 x 4	NL864B	8	14	NJ86L	NC86L	9	Opa 6 / Clr 5.3	JP86 / JP86P	1
8 x 8 x 4	NL884B	14	28	NJ88L	NC88L	18	Opa 15 / Clr 13.5	JP88 / JP88P	1
10 x 8 x 4	NL1084B	12	32	NJ108L	NC108L	12	Opa 13 / Clr 11.7	JP108 / JP108P	1
10 x 8 x 6	NL1086B	8	15	NJ108L	NC108L	12	Opa 13 / Clr 11.7	JP108 / JP108P	1
10 x 10 x 6	NL1010B	6	20	NJ1010L	NC1010L	11	Opa 14 / Clr 13	JP1010 / JP1010P	1
12 x 10 x 6(z)	NL1210B	6	24	NJ1210L	NC1210L	12	Opa 14 / Clr 15	JP1210 / JP1210P	1
12 x 12 x 6(y)	NL1212B	5	21.8	NJ1212L	NC1212L	10	Opa 16 / Clr 14	JP1212 / JP1212P	1
14 x 12 x 6(y)	NL1412B	4	19	NJ1412L	NC1412L	5	Opa 10 / Clr 9	JP1412 / JP1412P	1
16 x 12 x 6(y)	NL1614B	4	31	NJ1614L	NC1614L	5	Opa 13.5 / Clr 12	JP1614 / JP1614P	1

^{*} Mounting rails are not included. See "Mounting Rails" listed in the Enclosure Accessories section.

^{**} Order back panels separately.

⁽y) Quick-release latch not available in 6 x 4 x 4 size.

^{**} Order back panels separately.

⁽z) Sizes 12 x 10 and larger require two (2) latches per enclosure.

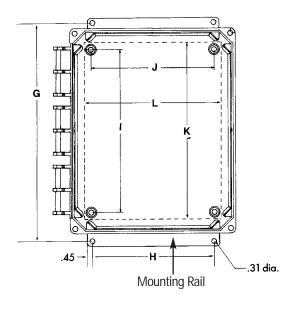
⁽y) Quick-release latch not available in 6 x 4 x 4 size.

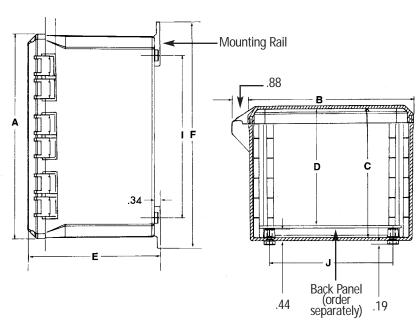
External Hinge Cover

Specifications

					re Size			Enclosure Mounting Hole Spacing		Panel Mounting Hole Spacing		Size		Back Panel** Part Nos.	
Part Nos.*	Part Nos.*	Α	В	С	D	E	F	G	Н	I	J	K	L	Steel	PVC
NC644	NJ644	6.40	4.40	4.49	3.98	5.13	7.69	6.75	2.00	4.25	2.25	4.88	2.88	JP64	JP64P
NC664	NJ664	6.40	6.40	4.49	3.98	5.13	7.69	6.75	4.00	4.25	4.25	4.88	4.88	JP66	JP66P
NC864	NJ864	8.40	6.40	4.49	3.98	5.13	9.69	8.75	4.00	6.25	4.25	6.75	4.88	JP86	JP86P
NC884	NJ884	8.40	8.40	4.49	3.98	5.13	9.69	8.75	6.00	6.25	6.25	6.75	6.88	JP88	JP88P
NC1084	NJ1084	10.40	8.40	4.49	3.98	5.13	11.69	10.75	6.00	8.25	6.25	8.75	6.88	JP108	JP108P
NC1086	NJ1086	10.40	8.40	6.49	5.98	7.13	11.69	10.75	6.00	8.25	6.25	8.75	6.88	JP108	JP108P
NC10106	NJ10106	10.40	10.40	6.49	5.98	7.13	11.69	10.75	8.00	8.25	8.25	8.75	8.88	JP1010	JP1010P
NC12106	NJ12106	12.40	10.40	6.49	5.98	7.13	13.69	12.75	8.00	10.25	8.25	10.75	8.88	JP1210	JP1210P
NC12126	NJ12126	12.40	12.40	6.49	5.98	7.13	13.69	12.75	10.00	10.25	10.25	10.75	10.88	JP1212	JP1212P
NC14126	NJ14126	14.40	12.40	6.49	5.98	7.13	15.69	14.75	10.00	12.25	10.25	12.75	10.88	JP1412	JP1412P
NC16146	NJ16146	16.40	14.40	6.49	5.98	7.13	17.69	16.75	12.00	14.25	12.25	14.75	12.88	JP1614	JP1614P

^{*} Packaged-To-Order Enclosures; include body, lid and mounting rail kit.





^{**} Order back panels separately.

Quick Reference

Screw-On Cover Style

Complete E	Enclosures			Ind	ividual Compon	ents		l let	ches
(no Panel o Opaque	Clear		ı		1	Back P	anels	(Qty. n	
Lid	Lid	Body	Lid	Collar	Mtg. Rails	Steel	PVC	Steel	PVC
NS644		NP644B	NS64L	N/A	NMK4V	JP64	JP64P	N/A	N/A
	NV644	NP644B	NV64L	N/A	NMK4V	JP64	JP64P	N/A	N/A
NS664		NP664B	NS66L	N/A	NMK6V	JP66	JP66P	N/A	N/A
	NV664	NP664B	NV66L	N/A	NMK6V	JP66	JP66P	N/A	N/A
NS864		NP864B	NS86L	N/A	NMK6V	JP86	JP86P	N/A	N/A
	NV864	NP864B	NV86L	N/A	NMK6V	JP86	JP86P	N/A	N/A
NS884		NP884B	NS88L	N/A	NMK8V	JP88	JP88P	N/A	N/A
	NV884	NP884B	NV88L	N/A	NMK8V	JP88	JP88P	N/A	N/A
NS1084		NP1084B	NS108L	N/A	NMK8V	JP108	JP108P	N/A	N/A
	NV1084	NP1084B	NV108L	N/A	NMK8V	JP108	JP108P	N/A	N/A
NS1086		NP1086B	NS108L	N/A	NMK8V	JP108	JP108P	N/A	N/A
	NV1086	NP1086B	NV108L	N/A	NMK8V	JP108	JP108P	N/A	N/A
NS10106		NP1010B	NS1010L	N/A	NMK10V	JP1010	JP1010P	N/A	N/A
	NV10106	NP1010B	NV1010L	N/A	NMK10V	JP1010	JP1010P	N/A	N/A
NS12106		NP1210B	NS1210L	N/A	NMK10V	JP1210	JP1210P	N/A	N/A
	NV12106	NP1210B	NV1210L	N/A	NMK10V	JP1210	JP1210P	N/A	N/A
NS12126		NP1212B	NS1212L	N/A	NMK12V	JP1212	JP1212P	N/A	N/A
	NV12126	NP1212B	NV1212L	N/A	NMK12V	JP1212	JP1212P	N/A	N/A
NS14126		NP1412B	NS1412L	N/A	NMK12V	JP1412	JP1412P	N/A	N/A
	NV14126	NP1412B	NV1412L	N/A	NMK12V	JP1412	JP1412P	N/A	N/A
NS16146		NP1614B	NS1614L	N/A	NMK14V	JP1614	JP1614P	N/A	N/A
	NV16146	NP1614B	NV1614L	N/A	NMK14V	JP1614	JP1614P	N/A	N/A

External Hinge Cover Style

Complete E			Individual Components Latches										
Opaque	Clear	ı		I	I	Back P	anels		eeded)				
Lid	Lid	Body	Lid	Collar	Mtg. Rails	Steel	PVC	Steel	Ρ̈́VC				
NJ644		NL644B	NJ64L	N/A	NMK4V	JP64	JP64P	SSLS (1)	NPL1S (1)				
	NC644	NL644B	NC64L	N/A	NMK4V	JP64	JP64P	SSLS (1)	NPL1S (1)				
NJ664		NL664B	NJ66L	N/A	NMK6V	JP66	JP66P	SSLS (1)	NPL1S (1)				
	NC664	NL664B	NC66L	N/A	NMK6V	JP66	JP66P	SSLS (1)	NPL1S (1)				
NJ864		NL864B	NJ86L	N/A	NMK6V	JP86	JP86P	SSLS (1)	NPL1S (1)				
	NC864	NL864B	NC86L	N/A	NMK6V	JP86	JP86P	SSLS (1)	NPL1S (1)				
NJ884		NL884B	NJ88L	N/A	NMK8V	JP88	JP88P	SSLS (1)	NPL1S (1)				
	NC884	NL884B	NC88L	N/A	NMK8V	JP88	JP88P	SSLS (1)	NPL1S (1)				
NJ1084		NL1084B	NJ108L	N/A	NMK8V	JP108	JP108P	SSLS (1)	NPL1S (1)				
	NC1084	NL1084B	NC108L	N/A	NMK8V	JP108	JP108P	SSLS (1)	NPL1S (1)				
NJ1086		NL1086B	NJ108L	N/A	NMK8V	JP108	JP108P	SSLS (1)	NPL1S (1)				
	NC1086	NL1086B	NC108L	N/A	NMK8V	JP108	JP108P	SSLS (1)	NPL1S (1)				
NJ10106		NL1010B	NJ1010L	N/A	NMK10V	JP1010	JP1010P	SSLS (1)	NPL1S (1)				
	NC10106	NL1010B	NC1010L	N/A	NMK10V	JP1010	JP1010P	SSLS (1)	NPL1S (1)				
NJ12106		NL1210B	NJ1210L	N/A	NMK10V	JP1210	JP1210P	SSLS (2)	NPL1S (2)				
	NC12106	NL1210B	NC1210L	N/A	NMK10V	JP1210	JP1210P	SSLS (2)	NPL1S (2)				
NJ12126		NL1212B	NJ1212L	N/A	NMK12V	JP1212	JP1212P	SSLS (2)	NPL1S (2)				
	NC12126	NL1212B	NC1212L	N/A	NMK12V	JP1212	JP1212P	SSLS (2)	NPL1S (2)				
NJ14126		NL1412B	NJ1412L	N/A	NMK12V	JP1412	JP1412P	SSLS (2)	NPL1S (2)				
	NC14126	NL1412B	NC1412L	N/A	NMK12V	JP1412	JP1412P	SSLS (2)	NPL1S (2)				
NJ16146		NL1614B	NJ1614L	N/A	NMK14V	JP1614	JP1614P	SSLS (2)	NPL1S (2)				
	NC16146	NL1614B	NC1614L	N/A	NMK14V	JP1614	JP1614P	SSLS (2)	NPL1S (2)				

Quick Reference

Hidden Hinge Cover Style

Complete E				Indiv	vidual Compon	ents			
(no Panel o Opaque Lid	r Latches) Clear Lid	Body	Lid	Collar	Mtg. Rails	Back P Steel	anels PVC		tches eeded) PVC
NH644		NP644B	NH64L	NH64C	NMK4V	JP64	JP64P	SSLL (1)	NPL1L (1)
	NI644	NP644B	NI64L	NH64C	NMK4V	JP64	JP64P	SSLL (1)	NPL1L (1)
NH664		NP664B	NH66L	NH66C	NMK6V	JP66	JP66P	SSLL (1)	NPL1L (1)
	NI664	NP664B	NI66L	NH66C	NMK6V	JP66	JP66P	SSLL (1)	NPL1L (1)
NH864		NP864B	NH86L	NH86C	NMK6V	JP86	JP86P	SSLL (1)	NPL1L (1)
	NI864	NP864B	NI86L	NH86C	NMK6V	JP86	JP86P	SSLL (1)	NPL1L (1)
NH884		NP884B	NH88L	NH88C	NMK8V	JP88	JP88P	SSLL (1)	NPL1L (1)
	NI884	NP884B	NI88L	NH88C	NMK8V	JP88	JP88P	SSLL (1)	NPL1L (1)
NH1084		NP1084B	NH108L	NH108C	NMK8V	JP108	JP108P	SSLL (1)	NPL1L (1)
	NI1084	NP1084B	NI108L	NH108C	NMK8V	JP108	JP108P	SSLL (1)	NPL1L (1)
NH1086		NP1086B	NH108L	NH108C	NMK8V	JP108	JP108P	SSLL (1)	NPL1L (1)
	NI1086	NP1086B	NI108L	NH108C	NMK8V	JP108	JP108P	SSLL (1)	NPL1L (1)
NH10106		NP1010B	NH1010L	NH1010C	NMK10V	JP1010	JP1010P	SSLL (1)	NPL1L (1)
	NI10106	NP1010B	NI1010L	NH1010C	NMK10V	JP1010	JP1010P	SSLL (1)	NPL1L (1)
NH12106		NP1210B	NH1210L	NH1210C	NMK10V	JP1210	JP1210P	SSLL (2)	NPL1L (2)
	NI12106	NP1210B	NI1210L	NH1210C	NMK10V	JP1210	JP1210P	SSLL (2)	NPL1L (2)
NH12126		NP1212B	NH1212L	NH1212C	NMK12V	JP1212	JP1212P	SSLL (2)	NPL1L (2)
	NI12126	NP1212B	NI1212L	NH1212C	NMK12V	JP1212	JP1212P	SSLL (2)	NPL1L (2)
NH14126		NP1412B	NH1412L	NH1412C	NMK12V	JP1412	JP1412P	SSLL (2)	NPL1L (2)
	NI14126	NP1412B	NI1412L	NH1412C	NMK12V	JP1412	JP1412P	SSLL (2)	NPL1L (2)
NH16146		NP1614B	NH1614L	NH1614C	NMK14V	JP1614	JP1614P	SSLL (2)	NPL1L (2)
	NI16146	NP1614B	NI1614L	NH1614C	NMK14V	JP1614	JP1614P	SSLL (2)	NPL1L (2)

Circuit Safe JIC Enclosures



Manufactured from structural foam thermoplastic, Carlon® Circuit Safe® JIC enclosures provide high impact strength to eliminate dents and deformations along with high dielectric strength, excellent weathering capabilities, and excellent resistance to a wide range of corrosive agents, acids, alkalines, and salts. These UL approved and CSA recognized enclosures also withstand wet and dirty environments, while their thick wall construction and temperature range (from -30° F to 230° F) make them a particularly good choice wherever condensation is a concern. Rated for use in Type 1, 3, 3S, 3X, 3SX, 4, 4X, 12, and 13 environments, Carlon Circuit Safe JIC enclosures are suited for virtually all indoor/outdoor industrial, MRO, and OEM applications. They are available in 10 sizes from 6 x 6 x 5 through 30 x 24 x 12 with a choice of screw or hinged design, opaque covers, or clear polycarbonate covers which protect devices from hostile environments while allowing monitoring of instrumentation and/or electrical functions.

Features

- Hinge caps make covers captive.
- Nonmetallic molded-in hinges on hinged models.
- No rough corners, sharp edges, or burrs.
- Nonconductive eliminates danger of electrical shock.
- Lid design provides greater usable internal volume.
- · Ample interior space for ease of wiring.
- Fully gasketed.
- Ultraviolet stabilized for outdoor use.

Applications

- · Instrument case.
- Junction and terminal boxes.
- Control and switching enclosures.
- Splice and pull boxes.
- Starter, pushbutton, and transformer housings.
- Meter and transformer cabinets.

Standards

- Meets NEMA Types 1, 3, 3S, 3X, 3SX, 4, 4X, 12, 13 as indicated.
- Listed per UL 50, enclosures for electrical equipment.
- · CSA certified.
- JIC compliance.

Hinged Cover

Meets NEMA 1, 3, 3S, 3X, 3SX, 4, 4X, 12, 13







Features

- Nonmetallic mounting feet and all mounting hardware included.
- Polycarbonate molded base and cover.
- White painted 14 gauge steel or 1/4" PVC back panel (order separately).
- 304 (18-8) stainless steel screws (10-32 / 11/8").
- Lid design provides greater usable internal volume.
- Completely nonmetallic hinges.
- · Brass screw inserts.

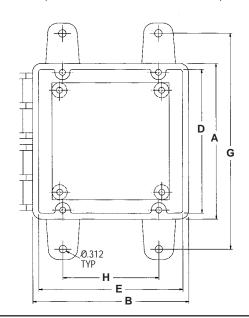
Factory Assembled

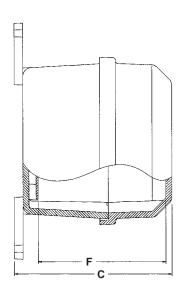
Opaque Cover	Clear Cover		Externa	Dimensions External Internal			l	Mour	nting	Std. Ctn. Qty. (lbs.)	Back Panel* Part Nos.	Panel	Std. Ctn. Qty. (lbs.)
Part Nos.	Part Nos.	Α	В	С	D	E	F	G	Н	Opaque/Clear	Steel/PVC	Size	Steel/PVC
CJ665	CC665	6.50	6.50	6.69	6.00	6.00	5.45	9.00	4.00	1 (Opa 3.5) / 1 (Clr 3.1)	JP66/JP66P	4.88 x 4.88	1 (1.0) / 1 (0.3)
CJ863	CC863	8.50	6.50	4.49	8.00	6.00	3.25	11.00	4.00	1 (Opa 2.8) / 1 (Clr 3.1)	JP86/JP86P	6.75 x 4.88	1 (1.0) / 1 (0.78)
CJ1085	CC1085	10.50	8.50	6.69	10.00	8.00	5.45	13.00	6.00	1 (Opa 5.2) / 1 (Clr 5.2)	JP108/JP108P	8.75 x 6.88	1 (1.5) / 1 (0.7)
CJ12106	CC12106	12.50	10.50	7.69	12.00	10.00	6.45	15.00	8.00	1 (Opa 7.1) / 1 (Clr 8.4)	JP1210/JP1210P	10.75 x 8.88	1 (2.0) / 1 (1.2)
CJ14126	CC14126	14.50	12.50	7.72	14.00	12.00	6.48	17.00	10.00	1 (Opa 9.0) / 1 (Clr 8.6)	JP1412/JP1412P	12.75 x 10.88	1 (3.2) / 1 (1.7)
CJ16147	CC16147	16.50	14.50	8.46	16.00	14.00	7.22	19.00	12.00	1 (Opa 10.6) / 1 (Clr 11.9)	JP1614/JP1614P	14.75 x 12.88	1 (4.7) / 1 (2.3)

^{*}Order back panels separately.

Enclosures shipped with mounting feet, hinge caps and screws.

For factory installed pad lockable quick-release latch, consult Customer Service for price and delivery.





Screw-On Cover

Meets NEMA 1, 3, 3S, 3X, 3SX, 4, 4X, 12, 13







Features

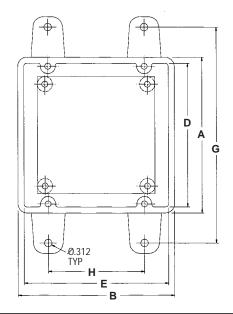
- Polycarbonate molded base and cover.
- · Nonmetallic mounting feet and all mounting hardware included.
- 304 (18-8) stainless steel screws (10-32 / 11/8").
- Brass screw inserts.
- Clear polycarbonate cover available.
- White painted 14 gauge steel or 1/4" PVC back panel (order separately).
- Lid design provides greater usable internal volume.

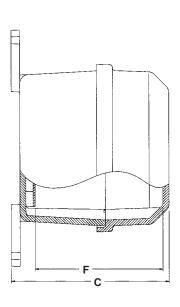
Factory Assembled

	•												
Opaque Cover Part Nos.	Clear Cover Part Nos.	A	Extern B	al C		Dimensions Internal Moun D E F G			nting H	Std. Ctn. Qty. (lbs.) Opaque/Clear	Back Panel* Part Nos. Steel/PVC	Panel Size	Std. Ctn. Qty. (lbs.) Steel/PVC
										11.11.11.11			
CS665	CV665	6.50	6.50	6.69	6.00	6.00	5.45	9.00	4.00	1 (Opa 2.7) / 1 (Clr 2.9)	JP66/JP66P	4.88 x 4.88	1 (1.0) / 1 (0.3)
CS863	CV863	8.50	6.50	4.49	8.00	6.00	3.25	11.00	4.00	1 (Opa 2.9) / 1 (Clr 2.9)	JP86/JP86P	6.75 x 4.88	1 (1.0) / 1 (0.4)
CS1085	CV1085	10.50	8.50	6.69	10.00	8.00	5.45	13.00	6.00	1 (Opa 5.0) / 1 (Clr 5.0)	JP108/JP108P	8.75 x 6.88	1 (1.5) / 1 (0.7)
CS12106	CV12106	12.50	10.50	7.69	12.00	10.00	6.45	15.00	8.00	1 (Opa 6.5) / 1 (Clr 7.2)	JP1210/JP1210P	10.75 x 8.88	1 (2.0) / 1 (1.2)
CS14126	CV14126	14.50	12.50	7.72	14.00	12.00	6.48	17.00	10.00	1 (Opa 8.0) / 1 (Clr 8.8)	JP1412/JP1412P	12.75 x 10.88	1 (3.2) / 1 (1.7)
CS16147	CV16147	16.50	14.50	8.46	16.00	14.00	7.22	19.00	12.00	1 (Opa 11.5) / 1 (Clr 10.8)	JP1614/JP1614P	14.75 x 12.88	1 (4.7) / 1 (2.3)

^{*}Order back panels separately.

Enclosures shipped with mounting feet and panel mounting hardware.





Medium Hinged Cover

Meets NEMA 1, 3, 3S, 3X, 3SX, 4, 4X, 12, 13





Features

- Nonmetallic mounting feet and all mounting hardware included.
- Polycarbonate molded base and cover.
- White painted 14 gauge steel or 1/4" PVC back panel (order separately).
- 304 (18-8) stainless steel screws (10-32 / 11/8").
- Completely nonmetallic hinges.
- Brass screw inserts.

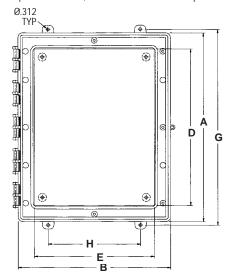
Factory Assembled

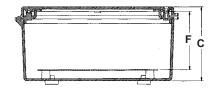
Part		External		Dimensions Internal			Mounting		Std. Ctn.	Back Panel* Part Nos.	Panel	Std. Ctn. Oty. (lbs.)
Nos.*	A	В	С	D	E	F	G	Н	Qty. (lbs.)	Steel/PVC	Size	Steel/PVC
C2016A4	20.50	16.50	8.36	17.25	13.25	6.28	21.26	10.00	1 (15.1)	NP2016/NP2016P	17 x 13.25	1 (7.0) / 1 (6.1)
C2016B4	20.50	16.50	10.36	17.25	13.25	8.28	21.26	10.00	1 (17.2)	NP2016/NP2016P	17 x 13.25	1 (7.0) / 1 (6.1)
C2016C4	20.50	16.50	12.36	17.25	13.25	10.28	21.26	10.00	1 (19.7)	NP2016/NP2016P	17 x 13.25	1 (7.0) / 1 (6.1)
C2420A4	24.50	20.50	8.36	21.25	17.25	6.28	25.26	14.00	1 (21.5)	NP2420/NP2420P	21 x 17	1 (10.4) / 1 (4.7)
C2420B4	24.50	20.50	10.36	21.25	17.25	8.28	25.26	14.00	1 (24)	NP2420/NP2420P	21 x 17	1 (10.4) / 1 (4.7)
C2420C4	24.50	20.50	12.36	21.25	17.25	10.28	25.26	14.00	1 (24.9)	NP2420/NP2420P	21 x 17	1 (10.4) / 1 (4.7)
C3024A4	30.50	24.50	8.36	27.25	21.25	6.28	31.26	18.00	1 (28.4)	NP3024/NP3024P	27 x 21	1 (18.0) / 1 (9.8)
C3024B4	30.50	24.50	10.36	27.25	21.25	8.28	31.26	18.00	1 (31.4)	NP3024/NP3024P	27 x 21	1 (18.0) / 1 (9.8)
C3024C4	30.50	24.50	12.36	27.25	21.25	10.28	31.26	18.00	1 (33.8)	NP3024/NP3024P	27 x 21	1 (18.0) / 1 (9.8)

^{*}Enclosure only available with opaque hinged cover.

Enclosures shipped with mounting feet, hinge caps and screws.

For factory installed pad lockable quick-release latch, consult Customer Service for price and delivery.





^{**}Order back panels separately.

Hinged Window Cover

Meets NEMA 1, 3, 3S, 3X, 3SX, 4, 4X, 12, 13







Features

- Nonmetallic mounting feet and all mounting hardware included.
- 304 (18-8) stainless steel screw (10-32 / 11/8").
- Polycarbonate molded base and cover.
- White painted 14 gauge steel or 1/4" PVC back panel (order separately).
- Completely nonmetallic hinges.
- Lid design provides greater usable internal volume.
- · Brass screw inserts.

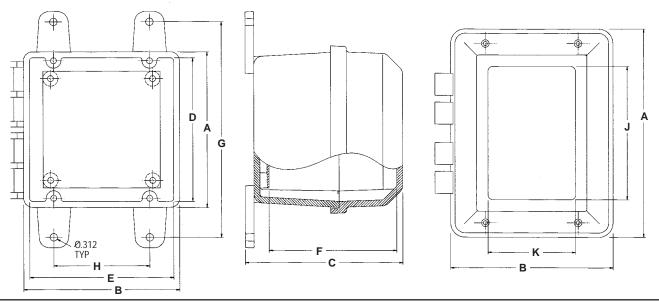
Note: Window material ¹/8" thick clear polycarbonate is permanently bonded to the cover.

Factory Assembled

Part						I	Mounting			Std. Ctn. Qty.	Back Panel* Part Nos.	Panel	Std. Ctn. Oty. (Ibs.)	
Nos.	Α	В	С	D	E	F	G	Н	J	K	(lbs.)	Steel/PVC	Size	Steel/PVC
J665W	6.50	6.50	6.69	6.00	6.00	5.45	9.00	4.00	4.70	4.70	1 (3.1)	JP66/JP66P	4.88 x 4.88	1 (1.0) / 1 (0.3)
J863W	8.50	6.50	4.49	8.00	6.00	3.25	11.00	4.00	4.70	4.70	1 (3.2)	JP86/JP86P	6.75 x 4.88	1 (1.0) / 1 (0.78)
J1085W	10.50	8.50	6.69	10.00	8.00	5.45	13.00	6.00	8.70	6.70	1 (5.6)	JP108/JP108P	8.75 x 6.88	1 (1.5) / 1 (0.7)
J12106W	12.50	10.50	7.69	12.00	10.00	6.45	15.00	8.00	10.70	8.70	1 (7.4)	JP1210/JP1210P	10.75 x 8.88	1 (2.0) / 1 (1.2)
J14126W	14.50	12.50	7.72	14.00	12.00	6.48	17.00	10.00	12.70	10.70	1 (9)	JP1412/JP1412P	12.75 x 10.88	1 (3.2) / 1 (1.7)
J16147W	16.50	14.50	8.46	16.00	14.00	7.22	19.00	12.00	14.70	12.70	1 (9.3)	JP1614/JP1614P	14.75 x 12.88	1 (4.7) / 1 (2.3)

Enclosures shipped with mounting feet, hinge caps and screws.

For factory installed pad lockable quick-release latch, consult Customer Service for price and delivery.



^{*}Order back panels separately.

Circuit Safe Pushbutton Enclosures







Circuit Safe® nonmetallic pushbutton enclosures are molded from engineered thermoplastic material that is resistant to most corrosive agents. Whether predrilled 1-2-3 hole enclosures, blank cover enclosures or enclosures with multiple hole openings, Carlon's pushbutton enclosure series offers high impact strength, chemical resistance, high dielectric strength and excellent durability for the correct application.

Features

- Engineered thermoplastic base and cover.
- 304 stainless steel screws.
- Brass screw inserts.
- High-impact strength.
- Temperature range from -40° F to 185° F.

Applications

- Standard oil-tight pushbuttons, switches and pilot lights.
- · Conduit entries.
- Junction boxes.
- MRO and OEM applications.

Standards

- Standards vary by product.
- Screw cover pushbutton enclosures with 1-2-3 hole openings are Listed per UL 50 for industrial controls.
- Narrow profile blank screw cover enclosures are listed per UL 50 for industrial controls and meets NEMA Type 1, 3, 3S, 3X, 3SX, 4, 4X, 12, and 13.
- Nonmetallic hinged cover enclosures with multiple hole openings are UL Listed.

Screw Cover Enclosures with 1-2-3 Hole Openings





Except where noted by



UL Listed per UL 50 for Industrial Controls

Wall mount pushbutton enclosures are molded from gray, engineered thermoplastic material that is resistant to most corrosive agents. Universal pushbutton holes are designed to accommodate all standard oil-tight pushbuttons, switches and pilot lights. A grounding plate is included on the cover. Auxiliary devices must be rated for appropriate NEMA applications.

Features

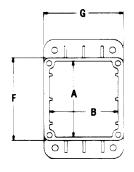
- 30.5 mm keyed or 22 mm pushbutton holes.
- Engineered thermoplastic base and cover.
- Integrally molded mounting flange.
- Brass screw inserts.
- 304 (18-8) stainless screws (8-32 / 3/8").
- Temperature range from 40°F to 185°F.

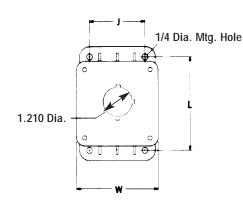
30.5 mm Pushbutton Enclosures*†

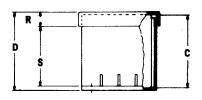
Part Nos.	Style	Inside Box Size A x B x C	Mounting L x J	Overall Outside Including Mounting Bracket H x W x D	F	G	R	S	Pieces/ Pkg.	Weight (lbs.)/Unit
CP100N	One Opening	3.13 x 2.81 x 3	4 x 2.38	4.88 x 3.50 x 3.38	3.38	3.25	.63	2.5	12	8.90
CP200N	Two Openings	5.38 x 2.81 x 3	6.25 x 2.38	7.13 x 3.50 x 3.38	5.63	3.25	.63	2.5	8	11.25
CP300N	Three Openings	7.38 x 2.81 x 3	8.50 x 2.38	9.38 x 3.50 x 3.38	7.88	3.25	.63	2.5	6	7.60

^{*} All Circuit Safe pushbutton enclosures are furnished with standard hole dimensions: 17/32" diameter with keyways at 12 o'clock and 3 o'clock.

[†] Dimensions are in inches unless marked otherwise. Operators not included.







Narrow Profile Blank Screw Cover Enclosures for Small Instrumentation and Control Applications





UL Listed per UL 50 for Industrial Controls Meets NEMA 1, 3, 3S, 3X, 3SX, 4, 4X, 12, 13



Blank cover enclosures can be easily drilled with a standard hole saw for conduit entries and pushbuttons. Wall mount enclosures are molded from gray, engineered thermoplastic material and are resistant to most corrosive agents.

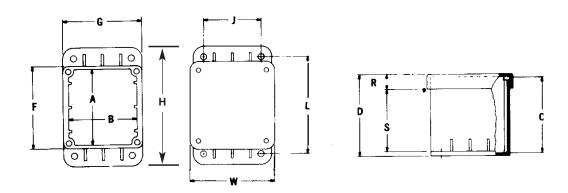
Features

- Brass screw inserts.
- Engineered thermoplastic base and cover.
- Integrally molded mounting flange.
- 304 (18-8) stainless screws (10-32 / 3/8").
- Temperature range from 40°F to 185°F.

Blank Screw Cover Enclosures*

Part Nos.	Style	Inside Box Size A x B x C	Mounting L x J	Overall Outside Including Mounting Bracket H x W x D	F	G	R	S	Pieces/ Pkg.	Weight (lbs.)/Unit
CP100NB	Blank Cover	3.13 x 2.81 x 3	4 x 2.38	4.88 x 3.50 x 3.38	3.38	3.25	.63	2.5	12	9.60
CP200NB	Blank Cover	5.38 x 2.81 x 3	6.25 x 2.38	7.13 x 3.50 x 3.38	5.63	3.25	.63	2.5	8	8.8
CP300NB	Blank Cover	7.38 x 2.81 x 3	8.50 x 2.38	9.38 x 3.50 x 3.38	7.88	3.25	.63	2.5	6	8.20

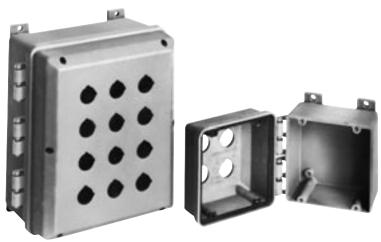
 $[\]ensuremath{^{\star}}$ Special openings or positionings available on request.



Hinged Cover Enclosures with Multiple Hole Openings







Made from engineered thermoplastic material, these enclosures are ideal for applications that require high-impact strength, chemical resistance, high dielectric strength, and excellent weathering capabilities, including indoor/outdoor industrial, MRO, and OEM applications. Nonmetallic hinges are an integral part of the mold. Hinge caps make cover captive and removable cover allows for easy field adjustment. Auxiliary devices must be rated for appropriate NEMA applications.

Features

- Nonmetallic mounting feet and all mounting hardware included.
- White painted 14 gauge steel or 1¹/8" PVC back panel (order separately).
- Engineered thermoplastic base and cover.
- 304 stainless steel screws.
- Brass screw inserts.
- Lid design provides greater usable volume.
- Completely nonmetallic hinges.
- Temperature range from 40°F to 185°F.

Screw Cover Pushbutton Enclosures With Multiple 30.5 mm Openings*

Part Nos.	Openings	Inside Box size	Weight	Qty.	Panel Part Nos.	Size Steel/PVC
J665P	4	6 x 6 x 5.88	2.42	1	JP66 / JP66P	4.88 x 4.88
J863P	6	8 x 6 x 3.63	1.86	1	JP86 / JP86P	6.75 x 4.88
J1085P	9	10 x 8 x 5.88	3.59	1	JP108 / JP108P	8.75 x 6.88
J12106P	12	12 x 10 x 6.88	4.29	1	JP1210 / JP1210P	10.75 x 8.88
J14126P	20	14 x 12 x 6.88	7.19	1	JP1412 / JP1412P	12.75 x 10.88
J16147P	25	16 x 14 x 7.63	11.20	1	JP1614 / JP1614P	14.75 x 12.88

For enclosures larger than 25 position, please call Customer Service.

Accessories

Gasketed Pushbutton Hole Plug



Part	Size	Standard	Standard
Number		Carton Qty.	Weight (lbs.)
CP900	Standard PB hole	100	2.0

^{*} All Circuit Safe pushbutton enclosures are furnished with standard hole dimensions: 17/32" diameter with keyways at 12 o'clock and 3 o'clock. Special openings or positionings available on request.

Circuit Safe® NEMA Accessories

Mounting Rails*



Mounting Rail Kits Part Number	Size (in.)	Std. Ctn. Qty.	Weight (lbs.)
NMK4V	4	25	5
NMK6V	6	24	7.7
NMK8V	8	24	10.25
NMK10V	10	20	13.26
NMK12V	12	20	11.4
NMK14V	14	25	17.76

^{*}Mounting rails can be mounted on long or short side of enclosure. Does not apply to 16" enclosure.

Panel Adjuster Kits







Product	Part Numbers	Description	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
Panel Adjuster Kit	NBPADJ2	4 panel adjusters 4 #10-32 screws to mount panel	10 kits	2.07
180° Swing Out Panel Kit	NBPSWG	4 panel adjusters 2 hinges 2 #10-32 screws to mount panel	10 kits	2.68
Swing Out Panel Adjuster Kit	NBPSWG2	2 hinged adjusters 2 panel adjusters 4 #10-32 screws	10 kits	1.80

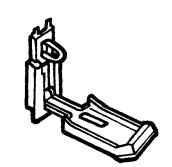
#10-32 Panel Thumb Screws Used on internal hinge door only.



Part Number	Description	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
NBPTSK	2 #10-32 thumb screws 2 nonmetallic washers	10 kits	1.2

Circuit Safe® NEMA Accessories

Latch Kits For NEMA hinged enclosures.

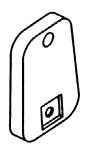




Product	Part Numbers	Description	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
Nonmetallic Quick-Release Latch Kit	NPL1L	Quick-Release Latch Kit for use with hidden hinge enclosure for NH & NI Series	25	2.00
Nonmetallic Quick-Release Latch Kit	NPL1S	Quick-Release Latch Kit for use with external hinge enclosure for NJ & NC Series	25	2.00
304 Stainless Steel Quick-Release Latch Kit	SSLL	Quick-Release Latch Kit for use with hidden hinge enclosure for NH & NI Series	25	4.27
304 Stainless Steel Quick-Release Latch Kit	SSLS	Quick-Release Latch Kit for use with external hinge enclosure for NJ & NC Series	25	3.41

Circuit Safe® JIC Accessories

Mounting Feet For Circuit Safe Enclosures – Type CC, CJ, CS, CV, J



Part	Std. Ctn.	Std. Ctn.
No.	Qty.	Wt. (lbs.)
CJB159*	As required	

^{*}CJB159 nonmetallic mounting feet provide 1/4" standoff and may be used to mount enclosures in horizontal or vertical mode. They are shipped with all Circuit Safe JIC enclosures. No screws are provided when mounting feet are ordered separately.

Hinge Caps* For Circuit Safe Enclosures – Type CC, CJ, J



Part	Std. Ctn.	Std. Ctn.
No.	Qty.	Wt. (lbs.)
CH100R	As required	0.03

^{*}For Circuit Safe enclosures to secure covers to bases. Shipped as standard with hinge cover enclosure.

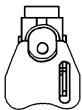
JIC Installation Kits*

Part	Std. Ctn.	Std. Ctn.
No.	Qty.	Wt. (lbs.)
CH208	1 Kit	0.25

^{*}Installation kit is included as standard equipment with all JIC enclosures. Information listed here for purposes of additional purchase only. Kit includes 4 mounting feet, 8 hinge caps, and 8 screws.

JIC Latch Kits*





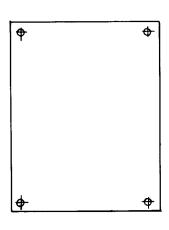
Part	Std. Ctn.	Std. Ctn.
No.	Qty.	Wt. (Ibs.)
CJTL	1 Kit	

Stainless steel. Kit includes latch and keeper.

^{*}Factory installed. Consult customer service for price and delivery.

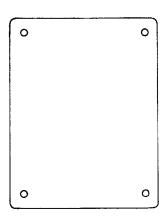
Circuit Safe® NEMA and JIC Accessories

Steel Back Panels* Steel back panels are white painted 14 gauge steel.



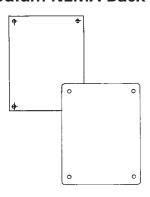
Part Nos.	Thickness (in.)	Size (in.)	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
JP64	14 gauge	4.88 x 2.88	1	0.6
JP66	14 gauge	4.88 x 4.88	1	1.0
JP86	14 gauge	6.75 x 4.88	1	1.0
JP88	14 gauge	6.75 x 6.88	1	1.2
JP108	14 gauge	8.75 x 6.88	1	1.5
JP1010	14 gauge	8.75 x 8.88	1	2.3
JP1210	14 gauge	10.75 x 8.88	1	2.7
JP1212	14 gauge	10.75 x 10.88	1	3.5
JP1412	14 gauge	12.75 x 10.88	1	3.8
JP1614	14 gauge	14.75 x 12.88	1	4.7

PVC Back Panels* PVC back panels are made from 1/4" PVC and meet UL94 V-O.



Part Nos.	Size (in.)	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
JP64P	4 ⁷ /8 x 2 ⁷ /8	1	0.3
JP66P	4 ⁷ /8 x 4 ⁷ /8	1	0.3
JP86P	6 ³ / ₄ x 4 ⁷ / ₈	1	0.4
JP88P	6 ³ / ₄ x 6 ⁷ / ₈	1	0.5
JP108P	8 ³ / ₄ x 8 ⁷ / ₈	1	0.7
JP1010P	8 ³ / ₄ x 8 ⁷ / ₈	1	0.9
JP1210P	10 ³ / ₄ x 10 ⁷ / ₈	1	1.2
JP1212P	10 ³ / ₄ x 10 ⁷ / ₈	1	1.5
JP1412P	12 ³ / ₄ x 10 ⁷ / ₈	1	1.7
JP1614P	14 ³ / ₄ x 12 ⁷ / ₈	1	2.3

Medium NEMA Back Panels*



Part Nos. Steel/PVC	Size (in.)	Std. Ctn. Oty.	Std. Ctn. Wt. (lbs.)
NP2016 / NP2016P	17 x 13	1	7.0 / 6.125
NP2420 / NP2420P	21 x 17	1	10.4 / 4.71
NP3024 / NP3024P	27 x 21	1	18.0 / 9.781

^{*}Circuit Safe NEMA enclosures are not shipped with back panels which must be ordered separately. All accessories can be factory installed. Consult Customer Service for price and delivery.

Circuit Safe® NEMA and JIC Accessories

Draining Device* For 3R Rating and condensation build-up.



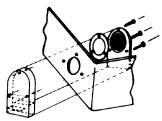
Part Number	Standard Carton Qty.
HPVEA9	1

Air Vents* NEMA 1 Rated only.



Part Numbers	Style	Standard Carton Qty.
HPVM25	For fitting outside of all enclosures	1
HPVM35	For fitting inside of all enclosures	1

Enclosure Ventilator* Allows any size enclosure to breathe, yet remains watertight.



Part	Standard
Number	Carton Qty.
HVM27	1

^{*}Factory installation available.

Window Kits



NEMA 4X Rated

Window kits are easily field-installed. Nonmetallic construction and double gaskets ensure environmental integrity. For circuit breaker and other surface mounted instruments.

Part Nos.*	Size (in.)	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
NI64W	6 x 4	1	.8
NI66W	6 x 6	1	.9
NI86W	8 x 6	1	1.17
NI88W	8 x 8	1	1.4
NI108W	10 x 8	1	1.5
NI1010W	10 x 10	1	1.82
NI1210W	12 x 10	1	2.12
NI1212W	12 x 12	1	2.65
NI1412W	14 x 12	1	2.67
► NI1614W	16 x 14	1	3.10

All window kits can be factory installed to Carlon $^{\otimes}$ enclosures. Consult factory for price and delivery.

Features

- High-impact strength.
- Excellent weathering capabilities.
- High dielectric strength.
- Corrosion resistant.
- Suitable for indoor and outdoor use.
- Fully gasketed.
- Extended temperature range -30°F to 230°F.
- Lightweight.

Standards

 UL Listed and meets NEMA 4X with the exception of NI1614W. All sizes are Type 12 rated.

Applications

- Instrument case.
- · Junction and terminal boxes.
- Control and switching enclosures
- Meter and transformer cabinets.
- · Small device enclosures.

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Size	Α	В	C	D	E	F
NI64W	6.42	4.41	5.92	3.92	2.72	3.80
	(163.1)	(112.0)	(150.4)	(99.6)	(69.1)	(96.5)
NI66W	6.42	6.42	5.92	5.92	4.72	5.80
	(163.1)	(163.1)	(150.4)	(150.4)	(119.9)	(147.3)
NI86W	8.42	6.42	7.92	5.92	4.72	5.80
	(213.9)	(163.1)	(201.2)	(150.4)	(119.9)	(147.3)
NI88W	8.42	8.42	7.92	7.92	6.72	7.80
	(213.9)	(213.9)	(201.2)	(201.2)	(170.7)	(198.1)
NI108W	10.42	8.42	9.92	7.92	6.72	7.80
	(264.7)	(213.9)	(252.0)	(201.2)	(170.7)	(198.1)
NI1010W	10.42	10.42	9.92	9.92	8.72	9.80
	(264.7)	(264.7)	(251.9)	(251.9)	(221.5)	(248.9)
NI1210W	12.42	10.42	11.92	9.92	8.72	9.80
	(315.5)	(264.7)	(302.7)	(251.9)	(221.5)	(248.9)
NI1212W	12.42	12.42	11.92	11.92	10.72	11.80
	(315.5)	(315.5)	(302.7)	(302.7)	(272.3)	(299.7)
NI1412W	14.42	12.42	13.92	11.92	10.72	11.80
	(366.3)	(315.5)	(353.6)	(302.7)	(272.3)	(299.7)
NI1614W	16.42	14.42	15.92	13.92	12.72	13.80
	(417.1)	(366.3)	(404.4)	(353.6)	(323.1)	(350.5)

^{*} Non-stock factory order only – consult Customer Service.

Himeline Enclosures HE, HS, HP, HLA/HLS Series



Carlon® Himeline® enclosures are the ideal alternative to expensive stainless steel enclosures. They have excellent corrosion resistant properties; are impervious to sunlight, dirt, and moisture. Available in four series (HE, HS, HP, and HLA/HLS), with sizes ranging from 4 x 3 x 2 through 50 x 40 x 17, these enclosures offer choices that include double doors, clear or opaque covers, hinged and screw versions, single or three point closure mechanisms, 4X windows, DIN rail mounting, and adjustable depth door in door option that allow you to customize your enclosures by separating power from communications.

Features

- · High-impact strength.
- High dielectric strength.
- Suitable for indoor and outdoor use.
- Fully gasketed.
- Lightweight.

Applications

- · Instrument case.
- Junction and terminal boxes.
- Control and switching enclosures.
- Meter and transformer cabinets.
- · Small device enclosures.

Standards

- Meets NEMA and IP standards as indicated in appropriate section.
- UL Listed as indicated.
- CSA certified as indicated.

Himeline® Enclosures – HE Series

HE Series

(Small Electronic Enclosures/Insulated Industrial Boxes – Except Hinged Boxes)

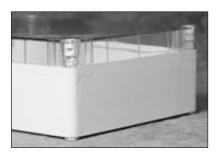




Lid Options



Opaque low lid. "BASIC" model.



Transparent low lid. "C" models.

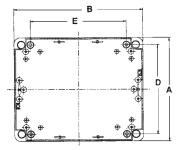
Carlon® Himeline® HE Series Enclosures are small Electronic Enclosures/Insulated Industrial Boxes ranging in size from 4 x 3 x 2 to 13 x 11x 4. They have a high-impact, high dielectric resistance, and are lightweight, fully gasketed and suitable for indoor and outdoor applications. The HE Series Enclosures meet IP 55 and are NEMA 4X Rated. All these features combined make these enclosures the ideal alternative to expensive stainless steel enclosures.

Features

- Meets IP 55.
- Hidden hinges open 185° for easy access.
- M8x18 screws for back panel mounting (included).
- · Sealing gasket on all models.
- Mounting plate available for specific sizes.
- Hinged versions available (factory installed). *For more information contact your Carlon Sales Representative.
- Optional internal/external hinges.
- Enclosures attach directly or with wall brackets.
- Opaque lids and bases PVC
- Clear lids polycarbonate

Himeline[®] Enclosures – HE Series





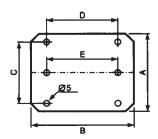


Opaque Cover Assembly	Clear Cover Assembly	A	D External B	imensior _I C		rnal _I E	Std. Ctn. Qty.	Std. Ctn. Wt. (Ibs.)	Unit Wt. (Ibs.)	Locking Screw Type
HE432	HE432C	4.33	2.96	2.29	4.14	2.76	5	1.1	5.2	Stainless Steel
HE443	HE443C	4.14	4.14	2.60	3.90	3.90	6	3.1	7.5	Stainless Steel
HE533	HE533C	5.32	2.92	2.84	5.12	2.72	5	2.4	6.3	Stainless Steel
HE743	HE743C	6.70	4.14	3.23	6.46	3.90	2	1.2	12.4	Polyamide
HE974	HE974C	8.66	6.62	4.18	8.43	6.38	1	1.1	-	Polyamide
HE1194	_	10.63	8.66	4.14	7.48	9.81	1	2.7	-	Polyamide
HE12105	HE1210C	12.33	9.97	4.53	11.82	9.45	1	3.0	-	Polyamide
HE14114	HE1411C	13.78	11.02	4.14	12.92	10.16	1	4.0	_	Polyamide

Accessories

Mounting Plates

To be fitted directly into the boxes with self-tapping screws included in the standard supply. Made of zinc coated steel, 1.5 mm thick.



	Part umber	Α	В	Dimensions C	D	E	Std.Ctn. Qty.	Std.Ctn. Wt. (lbs.)
EN	1P743	3.74 (95)	6.15 (156)			5.12 (130)	10	10
EN	1P974	6.15 (156)	8.07 (205)	5.12 (130)	5.91 (150)		10	8.5
EN	1P1194	8.19 (208)	10.16 (258)	6.34 (161)	8.70 (221)		10	13
EN	/IP1210	9.26 (235)	11.62 (295)	6.15 (156)	8.51 (216)		5	4.1
EN	1P1411	9.85 (250)	12.60 (320)	8.27 (210)	9.85 (250)		5	3

Air Vents* NEMA 1 Rated only.



Part Numbers	Style	Std. Ctn. Qty.
► HPVM25	For fitting outside of all enclosures	1
► HPVM35	For fitting inside of all enclosures	1

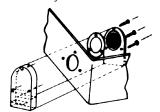
Wall Mounting Bracket



Part Number	Std. Ctn. Oty.	Std. Ctn. Wt. (lbs.)
►HEWMB	1	.35

Enclosure Ventilator*

Allows any size enclosure to breathe, yet remains watertight.



Part	Std.
Number	Ctn. Qty.
► HVM27	1

Draining Device*

For 3R Rating and condensation build-up.



Part	Std.
Number	Ctn. Qty.
► HPVEA9	1

*Factory installation available.

HS Series Screw-On Fastened and Hinged Cover Enclosures

- Meets NEMA 1, 3, 3S, 4, 4X, 12, 13
- Meets IP 65



Himeline® HS Series enclosures are designed for use as junction boxes, terminal wiring boxes, instrument and control housings, and small device enclosure applications. Molded under high pressure, Himeline HS Series enclosures provide high-impact strength, chemical resistance, high dielectric strength, and excellent weathering capabilities.

Features

- Fiberglass reinforced polyester.
- Standard slotted locking screw.
- High impact strength.
- Chemical resistance.
- High dielectric strength.
- Excellent weathering capabilities.
- Sealing gasket on all models.

Applications

- Junction boxes.
- Terminal wiring boxes.
- Instrument and control housings.
- Small device enclosure applications.

Standards

- Meets NEMA 1, 3, 3S, 4, 4X, 12, 13 standards as indicated.
- Listed per UL 50, enclosures for electrical equipment.
- CSA certified.
- Meets IP 65.
- UL Listed (E54381).

HS Series Screw-On Fastened and Hinged Cover Enclosures



Features



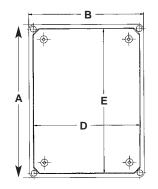


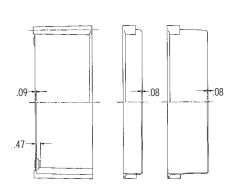
- Molded under high pressure.
- High impact strength.
- Chemical resistance.
- High dielectric strength.
- Excellent weathering capabilities.
- Clear cover available.

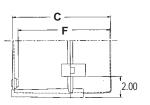
Specifications

Opaque Screw-On Cover Part Nos.	Clear Screw-On Cover Part Nos.	Opaque Hinged Cover Part Nos.	Clear Hinged Cover Part Nos.	А	External B	С	lr D	nternal E	F	Opaque Wt. (lbs.) each Screw/ Hinged	Clear Wt. (lbs.) each Screw/ Hinged	Std. Pkg.	Back Panel Part Nos.	Dimensions H x W	Thick- ness	Wt. (lbs.)	Std. Ctn. Oty.
HS7A7	HS7A7C	HH7A7	HH7A7C	10.63	7.09	7.09	6.26	9.80	6.54	10.7 / 7	10.9 / 6.2	4	HS7ABP	5.51 x 9.05	.08	1.1	1
HS11A7	HS11A7C	HH11A7	HH11A7C	10.63	10.63	7.09	9.80	9.80	6.54	15.2 / 8.5	14 / 8	4	HS11ABP	9.05 x 9.05	.08	1.7	1
HS11B7	HS11B7C	HH11B7	HH11B7C	14.17	10.63	7.09	9.80	13.35	6.54	17 / 4	18 / 4	4	HS11BBP	9.05 x 12.60	.08	2.4	1
HS11C7	HS11C7C	HH11C7	HH11C7C	21.26	10.63	7.09	9.80	20.43	6.54	13 / 13	12.5 / 13	2	HS11CBP	9.05 x 19.68	.08	3.9	1
HS15C7	HS15C7C	HH15C7	HH15C7C	21.26	14.17	7.09	13.35	20.43	6.54	17.7 / 11	18 / 11	2	HS15CBP	12.60 x 19.68	.08	6.6	1
HS21C7	HS21C7C	HH21C7	HH21C7C	21.26	21.26	7.09	20.43	20.43	6.54	12.5 / 13	12 / 13	1	HS21CBP	19.68 x 19.68	.08	8.8	1
HS11A9	HS11A9C	HH11A9	HH11A9C	10.63	10.63	9.06	9.80	9.80	8.47	15 / 4	16.6/5	4	HS11ABP	9.05 x 9.05	.08	1.7	1
HS11B9	HS11B9C	HH11B9	HH11B9C	14.17	10.63	9.06	9.80	13.35	8.47	20 / 6	19 / 6	4	HS11BBP	9.05 x 12.60	.08	2.5	1
HS11C9	HS11C9C	HH11C9	HH11C9C	21.26	10.63	9.06	9.80	20.43	8.47	14 / 9	14 / 9	2	HS11CBP	9.05 x 19.68	.08	3.9	1
HS15C9	HS15C9C	HH15C9	HH15C9C	21.26	14.17	9.06	13.35	20.43	8.47	18.5 / 11	19 / 11	2	HS15CBP	12.60 x 19.68	.08	6.6	1
HS21C9	HS21C9C	HH21C9	HH21C9C	21.26	21.26	9.06	20.43	20.43	8.47	13 / 14	14 / 14	1	HS21CBP	19.68 x 19.68	.08	8.8	1
HS15D9	HS15D9C	HH15D9	HH15D9C	28.35	14.17	9.06	13.35	27.52	8.47	13 / 13	13 / 13	1	HS15DBP	12.60 x 26.77	.10	9.5	1
HS21D9	HS21D9C	HH21D9	HH21D9C	28.35	21.26	9.06	20.43	27.52	8.47	18 / 18	17 / 18	1	HS21DBP	19.68 x 26.77	.10	15.5	1

Back panels and mounting feet must be ordered separately.

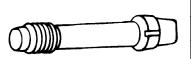






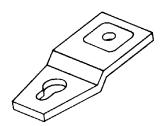
Placement of part P/N HSEH Hinge Kit at top and bottom of long side of HH Series enclosures.

Thumb Screws – For Himeline HS Enclosures



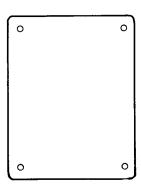
Part Numbers	Standard Carton Qty.	Standard Carton Wt. (lbs.).
HSTS4	4	0.1
HSTS6	6	0.15
HSTS8	8	0.2

Mounting Feet – For Himeline HS Enclosures



Part Numbers	Description	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
HSMFZ	Zinc dichromated Steel	4/set	0.2
HSMFSS	304 Stainless Steel	4/set	0.2

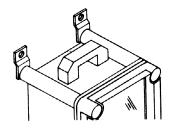
Back Panels – For Himeline HS Enclosures* Metal back panels are white painted 14 gauge steel.



Part Nos.	Size (in.)	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
HS7ABP	5.51 x 9.05	1	1.2
HS11ABP	9.05 x 9.05	1	2.0
HS11BBP	9.05 x 12.60	1	2.7
HS11CBP	9.05 x 19.68	1	4.3
HS15CBP	12.60 x 19.68	1	7.1
HS21CBP	19.68 x 19.68	1	9.6
HS15DBP	12.60 x 26.77	1	10.2
HS21DBP	19.68 x 26.77	1	16.6

^{*}Himeline HS enclosures are not shipped with back panels. Order separately. PVC back panels available upon request. Consult Customer Service.

Nonmetallic Carrying Handle Converts enclosures to portable units for meters and portable power.



Part	Standard	Standard			
Numbers	Carton Qty.	Carton Wt. (lbs.).			
HSCH	1	0.2			

Draining Device* For 3R Rating and condensation build-up.



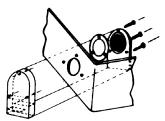
Part	Standard
Number	Carton Qty.
HPVEA9	1

Air Vents* NEMA 1 Rated only.



Part Numbers	Style	Standard Carton Qty.
HPVM25	For fitting outside of all enclosures	1
HPVM35	For fitting inside of all enclosures	1

Enclosure Ventilator* Allows any size enclosure to breathe, yet remains watertight.



Part	Standard
Number	Carton Qty.
HVM27	1

^{*}Factory installation available.

HP Series Enclosures with Hinged Quick-Release Cover

- Meets NEMA 1, 3, 3S, 4, 4X, 12, 13
- Meets IP 65



Himeline® HP Series enclosures for medium sized devices and equipment provide superior performance as junction and terminal wiring boxes, and instrument and control housing applications.

For indoor/outdoor industrial, MRO, and OEM applications. HP Series enclosures are resistant to corrosion, sunlight, chemicals, dirt, and moisture. Temperature range from -58° F to 320° F.

Features

- Projections for affixing cover mounted panel.
- Door locking mechanism convertible to key lock.
- M8x18 studs for back panel mounting (included).
- Hidden hinges open 185° for easy access.
- Multipositional DIN rail fixing components.
- Removable stainless steel hinge pins.
- Fiberglass reinforced polyester.
- Single piece construction.
- Opaque or tempered glass window option.
- Steel, nonmetallic & slotted back panels available.
- External & internal venting available.
- Hinged variable height inner panel option.
- Quick lock 1/4-turn entry.
- Underside grid pattern on inner door panel.
- Self-positioning panel depth adjusters.
- Pole mounting kit.
- Pedestal mounting capability.

Applications

- Junction boxes.
- Terminal wiring boxes.
- Instrument and control housing.

Standards

- NEMA Type 1, 3, 3S, 4, 4X, 12, 13.
- Listed per UL 50, enclosures for electrical equipment.
- · CSA certified.
- · Meets IP 66.

HP Series Enclosures with Hinged Quick-Release Cover



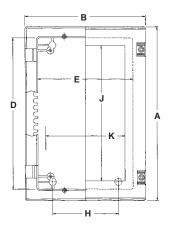


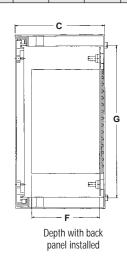
Specifications

Enclosure With Opaque Cover	Std. Ctn. Wt.	Enclosure With Clear	Std. Ctn. Wt.	Window Dimension								Std. Ctn.			
Part Nos.	(lbs.)	Window*	(lbs.)	(H x W) (in.)	Α	В	C	D	E	F	G	Н	J	K	Qty.
HP1612B	11.04	HC1612B	12.5	11 x 7.87	16.93	12.99	7.87	14.96	10.24	6.61	14.76	5.91	11.02	7.87	1
HP2016B	16.80	HC2016B	17.2	14.96 x 11.81	20.87	16.93	7.87	18.90	14.17	6.61	18.70	9.84	14.96	11.81	1
HP2416C	21.13	HC2416C	24.12	18.89 x 11.81	25.47	17.17	9.84	22.83	14.17	8.35	22.64	9.84	18.90	11.81	1
HP3020D	32.28	HC3020D**	36.02	22.83 x 15.74	29.41	21.10	11.81	26.77	18.11	10.28	26.57	13.78	22.83	15.75	1
HP3325D	39.00	HC3325D**	43.12	26.77 x 19.68	33.35	25.04	11.81	30.71	22.05	10.28	30.51	17.72	26.77	19.69	1

^{*} HC Enclosures are IP 65 Rated. Clear window is glass.

^{**} This series of enclosures come standard with body, lid and mounting rail kit.

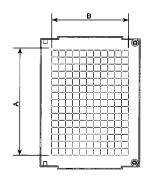


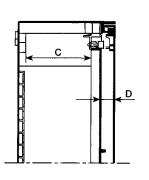


Hinged Internal Door

- Internal fiberglass reinforced polyester door assembly.
- Grid pattern on the inside for quicker positioning of equipment.
- Quick locking 1/4-turn entry.

Part	A		В			С		D	Std. Ctn.	Std. Ctn.	
Numbers	in.	(mm)	in.	(mm)	in.	(mm)	in.	(mm)	Qty.	Wt. (lbs.)	
PID1612	12.40	(315)	18.07	(205)	5.98	(152)	1.02	(26)	1	2.05	
PID2016	16.34	(415)	12.00	(305)	5.98	(152)	1.02	(26)	1	3.15	
PID2416	20.28	(515)	12.00	(305)	7.64	(194)	1.26	(32)	1	4.50	
PID3020	24.21	(615)	15.94	(405)	9.61	(244)	1.26	(32)	1	6.50	
PID3325	28.15	(715)	19.88	(505)	9.61	(244)	1.26	(32)	1	8.45	

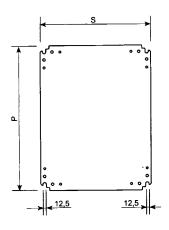




Back Panels Dimensions

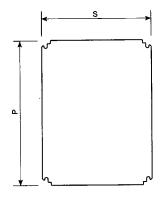
A complete range of plates, which can be directly fixed to the enclosure supports or to the adjustable depth supports.

Steel Back Panels Steel back panels are white painted 14 gauge steel.



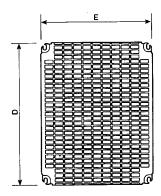
To Fit Enclosures	Part Numbers	Thickness in. (mm)				P in.	S in.
HP1612B	PMM1612	.079	(2)	3.10	(1.6)	14.37	9.84
HP2016B	PMM2016	.079	(2)	6.15	(2.5)	18.30	13.78
HP2416C	PMM2416	.079	(2)	8.0	(3.1)	22.24	13.78
HP3020D	PMM3020	.079	(2)	12.04	(4.6)	26.18	17.72
HP3325D	PMM3325	.118	(3)	20.0	(9.9)	30.11	21.65

PVC Insulating Back Panels PVC back panels are made from 1/4" PVC and meet UL94 V-O.



To Fit	Part	Wei	ght		P		S
Enclosures	Numbers	lbs.	(kg)	in.	(mm)	in.	(mm)
HP1612B	PMB1612	1.10	(0.5)	14.37	(365)	9.84	(250)
HP2016B	PMB2016	2.65	(1.2)	18.30	(465)	13.78	(350)
HP2416C	PMB2416	3.09	(1.4)	22.24	(565)	13.78	(350)
HP3020D	PMB3020	4.63	(2.1)	26.18	(665)	17.72	(450)
HP3325D	PMB3325	6.62	(3.0)	30.11	(765)	21.65	(550)

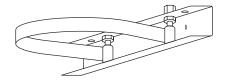
Slotted Back Panels Zinc dichromated coated steel plates perforated for addition of electrical circuitry.



To Fit	Part	Wei	ght	[)	E	Ē I
Enclosures	Numbers	lbs.	(kg)	in.	(mm)	in.	(mm)
HP1612B	PMR1612	1.54	(0.7)	13.74	(349)	9.8	(251)
HP2016B	PMR2016	2.87	(1.3)	17.72	(450)	13.82	(351)
HP2416C	PMR2416	3.53	(1.6)	21.85	(555)	13.82	(351)
HP3020D	PMR3020	5.07	(2.3)	25.39	(645)	17.76	(451)
HP3325D	PMR3325	7.06	(3.2)	29.53	(750)	21.69	(551)

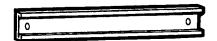
Refer to the Enclosure Accessories section for back panel accessories.

Pole Mounting Set



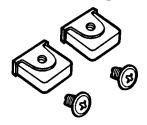
Part Numbers	To Fit To Enclosures	Standard Carton Quantity
HPPF300	HP1612B	1
HPPF400	HP2016B HP2416C	1
HPPF500	HP3020D	1
HPPF600	HP3325D	1

35 mm Symmetrical DIN Rail



Part Numbers	To Fit To Enclosures	Width (in.)	Std. Ctn. Qty.
HPCO300	HP1612B	11.02	1
HPCO400	HP2016B, HP2416C	14.96	1
HPCO500	HP3020D	18.90	1
HPCO600	HP3325D	22.83	1

Rail Mounting Insert



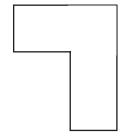
Part Number	Features	Standard Carton Quantity
HPRFK	Fits all enclosures	1

Wall Mounting Set (includes brass inserts and installation tools)



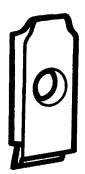
Part	Standard Carton	Standard Carton
Number	Quantity	Weight (lbs.)
HPWMF	4	

Blanking Grommet To close off openings on enclosure backs.



Part Numbers	Fits Enclosure Sizes	Description	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
HPBNGB	16 x 12 and 20 x 16	Blanking Grommet	Set of 4	1.00
HPBNGC	24 x 16, 30 x 20 and 33 x 25	Blanking Grommet	Set of 4	1.00

Fixing Accessories For Slotted Plates

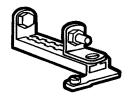


	FIXING NUT		FIXING	BOLT WITH W	/ASHER
Part Numbers	Type Of Thread	Std. Ctn. Qty.	Part Numbers	Length (in.)	Std. Ctn. Qty.
HPFA4	M4	100	HPFB104	.39	100
HPFA4	M4	100	HPFB164	.63	100
HPFA5	M5	100	HPFB125	.47	100
HPFA5	M5	100	HPFB185	.71	100
HPFA6	M6	100	HPFB126	.47	100
HPFA6	M6	100	HPFB186	.71	100

For slotted back panels, see page 34

Back Panel Depth Adjustable Supports

Supports designed to fit 7.87" (200 mm), 9.84" (250 mm), 11.81" (300 mm) and 13.78" (350 mm) deep enclosures. Self-positioning slots allow for adjustment every .49" (12.5 mm). Made of zinc dichromated coated steel.



To Fit Enclosures	Part Numbers	A in./mm	B in./mm	Standard Carton Quantity
HP1612B & HP2016B	HPLM200 HPLM200	5.98/152	3.90/99	1 set of 4
HP2416C	HPLM250	8.07/205	4.13/105	1 set of 4
HP3020D & HP3325D	HPLM300 HPLM300	10.04/255	8.07/205	1 set of 4

Pedestal Mount



Part	To Fit	Standard
Number	To Enclosures	Carton Qty.
HPSFS1	HP2016B HP2416C	1

Draining Device* For 3R Rating and condensation build-up.



Part Number	Standard Carton Qty.
HPVEA9	1

^{*}Factory installation available.

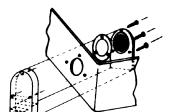
Air Vents* NEMA 1 Rated only.



Part Numbers	Style	Standard Carton Qty.
HPVM25	For fitting outside of all enclosures	1
HPVM35	For fitting inside of all enclosures	1

^{*}Factory installation available.

Enclosure Ventilator* Allows any size enclosure to breathe, yet remains watertight.



Part	Standard
Number	Carton Qty.
HVM27	1

^{*}Factory installation available.

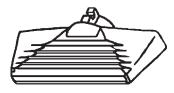
Coupling Frame For Himeline HP Enclosures

For Himeline HP Enclosures HP3020D and HP3325D



Part Number	Standard Carton Qty.
HPBU	1

Replacement Standard Handle



Part	Standard Carton	Standard Carton
Number	Quantity	Weight (lbs.)
HPRSH	1	0.05

Locks For Himeline HP Enclosures



Replacement Door Lock

Part	Std.
Number	Ctn. Qty.
HPRLA	1

For replacement handle, order HPRSH.



Cylinder Key Lock (Keyed Alike)

Part	Std.
Number	Ctn. Qty.
HPTPLM	1

For replacement key, order HPRKO.



Padlocking Service

Part	Std.	
Number	Ctn. Qty.	
HPPLH	1	

HLA/HLS Series Enclosures



Carlon® Himeline® HLA/HLS Series Enclosures are large Fiber Reinforced Polyester Cabinets ranging in sizes 20 x 20 x 17 to 50 x 40 x 17 and 20 x 20 x 12 to 50 x 40 x 12, respectively. They have operating temperatures of -50° to 150° C and can accommodate large devices and equipment for a wide range of applications including junction and terminal wiring boxes, instruments, and control housings. They are ideal for indoor/outdoor industrial, MRO and OEM applications, and offer superior strength and high resistance to corrosion, moisture, dust, oil and UV light, enabling them to withstand the harshest of environments.

The HLA/HLS Series Enclosures are fitted with a watertight gasket and are available in one-and two-door configurations. These cabinets have a closed top and bottom and the two-door version includes a central upright to maintain rigidity.

To maintain the watertight seal, the locking mechanism is positioned outside the gasketed area. A wide variety of accessories are available such as steel and nonmetallic back panels, self-positioning panel depth adjusters, and ventilator kits.

Carlon Enclosures...the ideal alternative to expensive stainless steel enclosures.

Features

- Fiber reinforced polyester.
- Temperature range of -58° to 302° F (-50° to 150° C).
- Indoor/outdoor applications.
- Superior strength.
- High resistance to harsh environments.
- Watertight gasket seal.
- One- and two-door configurations.
- Locking mechanism and hinge are outside gasketed area.
- Floor, wall, or pedestal mounted.

Applications

- Contain large devices and equipment.
- Junction and terminal wiring boxes.
- Instrument and control housings.

Standards

- IP 65 Rating (Single door versions only)
- 4/4X Rated (Single door versions only)
- UL Listed

HLA/HLS Series Single and Double Hinged Cover Enclosures with Latches





One Door NEMA Types 1, 2, 3, 3R, 4, 4X, 5, 12, 13



HLA One Door (17" Deep)

Part No.	D H	imensio W	ns D	Std. Ctn. Qty.	Std. Ctn. Wt.
HLA2020	20	20	17	1	38.3
HLA2030	20	30	17	1	53.9
HLA3020	30	20	17	1	53.9
HLA3030	30	30	17	1	60.7
HLA4020	40	20	17	1	63.1
HLA4030	40	30	17	1	81.0
HLA5020	50	20	17	1	78.7
HLA5030	50	30	17	1	96.7

HLS One Door (12" Deep)

• • • • • • • • • • • • • • • • • • • •							
Part No.	D H	imensio W	ns D	Std. Ctn. Qty.	Std. Ctn. Wt.		
HLS2020	20	20	12	1	29.8		
HLS2030	20	30	12	1	40.59		
HLS3020	30	20	12	1	49.5		
HLS3030	30	30	12	1	55.1		
HLS4020	40	20	12	1	56.81		
HLS4030	40	30	12	1	61.7		
HLS5020	50	20	12	1	67.56		
HLS5030	50	30	12	1	76.83		

Two Door NEMA Types 1, 2, 12, 13



HLA Two Door (17" Deep)

* ***					
	Dimensions			Std. Ctn.	Std. Ctn.
Part No.	Н	W	D	Qty.	Wt.
HLA30402	30	40	17	1	81.0
HLA40402	40	40	17	1	114.7
HLA40502	40	50	17	1	135.0
HLA50402	50	40	17	1	135.0

HLS Two Door (12" Deep)

1						
	Dimensions			Std. Ctn.	Std. Ctn.	
Part No.	Н	W	D	Qty.	Wt.	
HLS30402	30	40	12	1	62.57	
HLS40402	40	40	12	1	87.59	
HLS40502	40	50	12	1	104.28	
HLS50402	50	40	12	1	104.28	

Nonmetallic Thermosetting Plastic (Bakelite)



One Door

one boor							
Part No.	Dimensions H W		Std. Ctn. Qty.	Std. Ctn. Wt.			
LP2020BP	15.4	14.8	1	2.1			
LP3020BP*	25.2	14.8	1	3.0			
LP3030BP	25.2	24.6	1	6.3			
LP4020BP	35.0	14.8	1	5.2			
LP4030BP	35.0	24.6	1	8.8			
LP5020BP	44.3	14.8	1	6.7			
LP5030BP	44.3	24.6	1	11.2			

^{*} Use Back Panel LP3020BP for Enclosures HLA2030, HLA3020, HLS2030 and HLS3020

Two Door

Part No.	Dimer H	nsions W	Std. Ctn. Qty.	Std. Ctn. Wt.
LP30402BP	25.2	34.4	1	8.8
LP40402BP	35.0	34.4	1	12.3
LP40502BP	35.0	44.3	1	16.1
LP50402BP	44.3	34.4	1	16.1

Metal - Galvanized Steel





One Door

Part No.	Dimer H	nsions W	Std. Ctn. Qty.	Std. Ctn. Wt.
LA2020BP	15.4	14.8	1	5.6
LA3020BP*	25.2	14.8	1	8.6
LA3030BP	25.2	24.6	1	17.6
LA4020BP	35.0	14.8	1	14.6
LA4030BP	35.0	24.6	1	24.3
LA5020BP	44.3	14.8	1	19.4
LA5030BP	44.3	24.6	1	31.9

^{*} Use Back Panel LA3020BP for Enclosures HLA2030, HLA3020, HLS2030 and HLS3020

Two Door

1110 2001				
Part No.	Dimensions H W		Std. Ctn. Qty.	Std. Ctn. Wt.
LA30402BP	25.2	34.4	1	24.1
LA40402BP	35.0	34.4	1	33.8
LA40502BP	35.0	44.3	1	43.4
LA50402BP	44.3	34.4	1	43.7

Himeline® Enclosures – HLA/HLS Series (Fiber Reinforced Polyester)

Accessories

Mounting Feet



Part No.	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
HLAMFSS	1 ea. (set of 4)	.6

Replacement Handle with Cylinder Key Lock



Part No.	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
HLATEL	1 ea.	.41

Panel Adjuster Kit



Part No.	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
HLABPA4	1 ea. (set of 4)	.31

Standard Replacement Bar Lock with Key



Part No.	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
HLATD	1 ea.	.21

Padlock Device



Part No.	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
HLAPAD	1 ea.	.61

Replacement Handle with Push Button

Part No.	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
HLAHAN	1	.40

Draining Device*



Part No.	Std. Ctn. Qty.
HPVEA9	1

For 3R Rating and condensation build-up.

Air Vents*

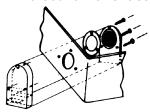


Part No.	Style	Std. Ctn. Wt. (lbs.)
HPVM25	For fitting outside of all enclosures	1
HPVM35	For fitting inside of all enclosures	1

NEMA 1 Rated only.

*Factory installation available.

Enclosure Ventilator*



Part No.	Std. Ctn. Qty.
HVM27	1

Allows any size enclosure to breathe, yet remains watertight.

Distribution Enclosure and Pedestal



Carlon® Distribution Enclosures and Pedestals are designed to accommodate all types of electrical equipment for electrical distribution applications. The enclosure may be directly installed on the ground or on top of a pedestal, while the pedestal itself is approved for direct bury applications. Both are manufactured using fiber reinforced polyester to provide high impact resistance and allow effortless modifications. And both are nonconductive, noncorrosive, and IP-43 Self-Ventilated and IP-54 Watertight rated.

Enclosure



Features

- High impact resistance
- Nonconductive and noncorrosive.
- Fits all type of electrical equipment
- IP-43 Self-Ventilated.
- IP-54 Watertight.
- One and two door configurations.
- Install directly on the ground or on a pedestal.
- Removable inner hinges for great access.

Pedestal



Features

- Can be direct buried.
- Nonconductive and noncorrosive
- Detachable upper front for easy access.
- High impact resistance.
- Auxiliary outlet on the side.
- IP-43 Self-Ventilated.
- IP-54 Watertight.
- Floor or wall mountable.

Applications









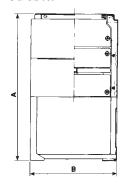
www.carlon.com

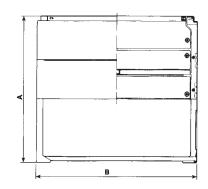
Distribution Enclosure and Pedestal

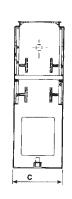
Specifications

Enclosures				Pedestals				Mounting Plates						
Number of Doors	Number of Locks	A Height	B Width	C Depth	Weight (lbs.)	A Height	B Width	B Depth	Weight (lbs.)	# of Plates per Encl.	D	E	Thick- ness	Weight (lbs.)
1	1	33.46	18.31	12.60	40.79	35.43	18.31	12.20	33.10	1	14.02	11.97	.20	4.41
1	1	33.46	23.23	12.60	48.50	35.43	23.23	12.20	37.48	1	18.94	16.89	.20	6.0
1	1	33.46	30.91	12.60	55.12	35.43	30.91	12.20	44.10	1	26.61	24.57	.20	8.38
2	1	33.46	43.90	12.60	77.16	35.43	43.90	12.20	55.12	2	17.64	15.59	.20	11.02
2	2	33.46	43.90	12.60	77.16	35.43	43.90	12.20	55.12	2	17.64	15.59	.20	11.02

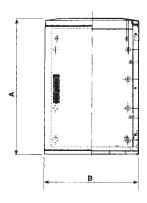
Pedestal

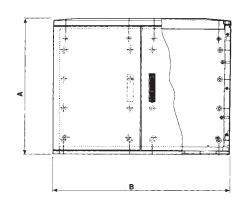






Enclosure







Mounting Plates



Carlon® Slack and Splice Enclosures

Slack and Splice Enclosures

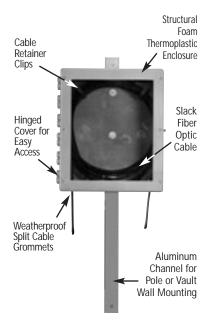


Carlon's state-of-the-art modification capabilities allow for design of Slack and Splice Enclosures to meet specific application requirements.

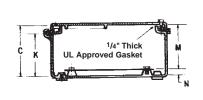
Features

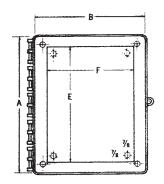
- Slack and Splice Enclosures provide maximum protection of slack fiber and splice unit assemblies.
- Eliminates need for difficult aerial and vault splicing.
- Stores adequate slack fiber to facilitate splicing at ground level work station.
- Enclosure sized to maintain minimum required radius of fiber optic cable.
- Splice tube to accommodate industry standard splice and tray assemblies (Splice enclosure only).

Slack Enclosures

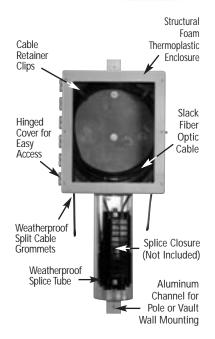


Part	Inside Box Size	Box Opening	Dimensions			
Number	A x B x C	E x F	K	M	N	
SLK11	30 x 24 x 11 ¹ / ₂	27 ¹ /4 x 21 ¹ /4	10 1/4	10 1/2	1	
SLK12	30 x 24 x 9 ¹ / ₂	27 ¹ /4 x 21 ¹ /4	8 1/4	8 1/2	1	
SLK21	24 x 20 x 11 ¹ / ₂	21 ¹ / ₄ x 17 ¹ / ₄	10 1/4	10 1/2	1	
SLK22	24 x 20 x 9 ¹ / ₂	21 ¹ /4 x 17 ¹ /4	8 1/4	8 1/2	1	
SLK31	20 x 16 x 11 ¹ / ₂	17 ¹ /4 x 13 ¹ /4	10 ¹ /4	10 ¹ /2	1	
SLK32	20 x 16 x 9 ¹ / ₂	17 ¹ /4 x 13 ¹ /4	10 ¹ /4	10 ¹ /2	1	





Splice Enclosures



Part	Inside Box Size	Tube	Box Opening	Dimensions		
Number	AxBxC	Size	E x F	K	M	N
SPL111	30 x 24 x 11 ¹ / ₂	10"	27 ¹ /4 x 21 ¹ /4	10 ¹ /4	10 ¹ /2	1
SPL122	30 x 24 x 9 ¹ / ₂	8"	27 ¹ / ₄ x 21 ¹ / ₄	8 1/4	8 1/2	1
SPL211	24 x 20 x 11 ¹ / ₂	10"	21 ¹ /4 x 17 ¹ /4	10 1/4	10 1/2	1
SPL222	24 x 20 x 9 ¹ / ₂	8"	21 ¹ / ₄ x 17 ¹ / ₄	8 1/4	8 1/2	1

For All Enclosures



Painted JIC enclosure with painted back panel. Installed clear cover with handle and guick-release latch.



Color molded JIC unit with addition of window and pushbuttons.



Molded junction box painted with addition of mounted in-use weatherproof cover.



Painted JIC enclosure with pocket installed in cover for control pad.

Color Molded Enclosures

All Circuit Safe® enclosures can be molded in a variety of colors. Minimum quantities for single shipment or releases against blanket orders are required.

Painted/Silkscreened Enclosures

All enclosures can be painted, interior and exterior, or by special request. Enclosure covers can also be silkscreened on request.

EMI/RFI Protection

For applications where Radio Frequency Interference is a factor, the interior can be coated with an acrylic base paint with a nickel filler. Windows can be covered with fine copper mesh.

Other Modifications Available

Our factory is capable of modifying any of our enclosures to a customer's specifications. Factory's capabilities include:

- Precision milling of button holes, windows, and pockets for keypad installations.
- Hole tapping.
- Ventilators.
- Mounting bosses.
- Access windows.
- · Hinged windows.
- Mounted in use weatherproof covers.
- · Handles for portable units.
- Latches.
- · Enclosure coolers.
- Cylinder locking systems.
- And more!

NEMA Types – Definitions Pertaining to Nonhazardous Locations

Enclosures for Electrical Equipment

An enclosure is a surrounding case constructed to provide protection from accidental contact with the enclosed equipment and to provide protection to the enclosed equipment from specified environmental conditions. A brief description of the more common types of enclosures used by the electrical industry follows.

Type 1 Enclosure: Intended for indoor use primarily to provide protection against contact with enclosed

equipment and a degree of protection against falling dirt.

Type 2 Enclosure: Intended for indoor use primarily to provide a degree of protection against limited

amounts of falling water and dirt.

Type 3 Enclosure: Intended for outdoor use primarily to provide a degree of protection against

wind-blown dust, rain, sleet and external ice formation.

Type 3R Enclosure: Intended for outdoor use primarily to provide a degree of protection against falling

rain, sleet and external ice formation.

Type 3S Enclosure: Intended for outdoor use primarily to provide a degree of protection against

wind-blown dust, rain, and sleet, and to provide for operation of external mechanism

when ice laden.

Type 3X Enclosure: Intended for outdoor use primarily to provide a degree of protection against

wind-blown dust, rain, sleet, external ice formation, and corrosion.

Type 3SX Enclosure: Intended for outdoor use primarily to provide a degree of protection against

wind-blown dust, rain, sleet, and corrosion, and to provide for operation of external

mechanism when ice laden.

Type 4 Enclosure: Intended for indoor or outdoor use primarily to provide a degree of protection against

wind-blown dust and rain, splashing water and hose-directed water.

Type 4X Enclosure: Intended for indoor or outdoor use primarily to provide a degree of protection against

corrosion, wind-blown dust and rain, splashing water and hose-directed water.

Type 6 Enclosure: Intended for indoor or outdoor use primarily to avoid a degree of protection against

contact with enclosed equipment, falling dirt, hose-directed water, entry of water

during occasional temporary submersion at a limited depth and external ice formation.

Type 6P Enclosure: Intended for indoor or outdoor use primarily to provide a degree of protection against

contact with enclosed equipment, falling dirt, hose-directed water, entry of water

during prolonged submersion at a limited depth and external ice formation.

Type 12 Enclosure: Intended for indoor use primarily to provide a degree of protection against dust,

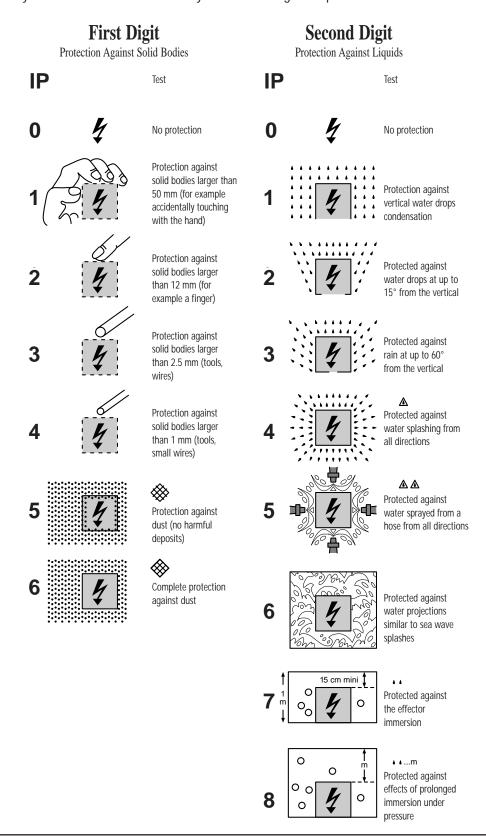
falling dirt and dripping noncorrosive liquids.

Type 13 Enclosure: Intended for indoor use primarily to provide a degree of protection against dust,

spraying of water, oil and noncorrosive coolant.

International Standards IP Protection Classification Data

The letters IP followed by three characteristic numbers symbolize the degree of protection.



Clearance Holes For Carflex® Fittings or PVC Male Terminal Adapters

Carflex Fittings & PVC Male Terminal Adapters Trade Sizes	Nominal Size (in.)	Actual Size (in.)	Actual Size (mm)
1/2	.875	.879	22.4
3/4	1.093	1.107	28.2
1	1.344	1.357	34.6
1 1/4	1.813	1.699	43.2
1 1/2	1.938	1.949	49.6
2	2.375	2.413	61.5
2 1/2	2.875	2.914	74.0
3	3.5	3.539	89.8
3 1/2	4	4.044	102.7
4	4.5	4.544	115.4
5	5.625	5.675	143.7

Engineering Properties Of Enclosures

Property	Test Method	Opaque Polycarbonate Covers & Boxes	Clear Polycarbonate Cover	FRP
Thermal And Mechanical				
Temperature Range (°F)	-	-30° to 230°	-30° to 230°	-58° to 320°
Specific Gravity (oz./in³)	ASTM D792	1.20	1.20	1.79
Thermal Conductivity (BTU/ft²/°F/in.)	ASTM D177	1.35	1.35	1.68
Heat Deflection Temperature @ 264 PSI (°F)	ASTM D648	265	260	392
Tensile Strength (PSI)	ASTM D638	8,800	9,000	13,000
Flexural Strength (PSI)	ASTM D790	13,500	14,000	19,000
Compressive Strength @ 10% Deformation (PSI)	ASTM D695	12,500	12,500	24,000
Impact Strength IZOD Notched (ft.lbs./in.)	ASTM D256	12	12	12
Water Absorption – 24 hrs. @ 73°F (%)	ASTM D570	0.15	0.15	0.17
Electrical				
Dielectric Strength (VOLTS/MIL.)	ASTM D149	380	380	467
Dielectric Constant	ASTM D150			
60 Hz		3.0	3.0	-
100 Hz		-	-	-
106		2.96	2.96	-
Volume Resistivity @ 73°F (OHM-CM)	ASTM D257	>1016	>1016	2.0 x 1015
Arc Resistance (SEC)	ASTM 495	120	120	200+

Chemical Resistance Data

Environmental Resistance Table: E-Excellent, G-Good, L-Limited, U-Unsatisfactory

These environmental resistance ratings are based upon tests where the specimens were placed in complete submergence in the reagent listed. In many applications the Circuit Safe® and Himeline® boxes can be used in process areas where these chemicals are manufactured or used because worker safety requirements dictate that any air presence or splashing be at a very low level. Most electrical controls are located in areas suitable for worker access. If there are any questions for specific suitability in a given environment, prototype samples should be tested under actual conditions.

Chemical	Polycarbonate	FRP Fiberglass Reinforced Polyester
Acetaldehyde Acetate Solvents-Crude Acetate Solvents-Pure Acetic Acid 0-20% Acetic Acid 20-30% Acetic Acid 30-60% Acetic Acid 30-60% Acetic Acid 80% Acetic Acid Vapors Acetic Acid Vapors Acetic Acid Vapors Acetic Anhydride Acetone Allyl Alcohol 96% Allyl Chloride Alum Aluminum Fluoride Aluminum Fluoride Aluminum Hydroxide Aluminum Dychloride Aluminum Sulfate Ammonia-Dry Gas Ammonia-Dry Gas Ammonium Bifluoride Ammonium Hydroxide 25% Ammonium Hydroxide 25% Ammonium Hydroxide 25% Ammonium Nitrate Ammonium Persulfate Ammonium Phosphate Ammonium Phosphate Ammonium Sulfate	00066 - 00 - 100 - 10 - 10 - 10 - 10 - 1	
Aniline Hydrochloride Antimony Trichloride Barium Carbonate Barium Chloride Barium Hydroxide Barium Sulfate Barium Sulfide Benzaldehyde Benzene Benzene Sulfonic Acid 10% Benzol Bismuth Carbonate Bleach -12 57% Active CL 2/3 Borax Boric Acid Brine Bromic Acid Bromine-Liquid Bromine-Water	5 E E E L E E U U U U E L L E E U U L	E E U E E U L E U -

Chemical	Polycarbonate	FRP Fiberglass Reinforced Polyester
Butane Butonal-Primary Butonal-Secondary Butyl Acetate Butyl Alcohol Butyl Phenol	L G U G U	rolyester U E
Calcium Bisulfite Calcium Carbonate Calcium Chlorate Calcium Chloride Calcium Hydroxide Calcium Hypochlorite Calcium Nitrate Calcium Sulfate Carbon Bisulfide Carbon Dioxide Gas-Wet Carbon Dioxide Gas-Wet Carbon Dioxide Aqueous Solution Carbon Tetrachloride Chlorine Water Chlorobenzene Chromic Acid 10% Citric Acid (5%) Cresol Cresylic Acid 5% Cyclohexanol Cyclohexanone	G E G E U L E G U E E E U G U E E U U U U U	
Demineralized Water Dextrin Dextrose Dimethylamine Dioctylphthalate Disodium Phosphate	E E U U	E - - U E -
Ethers Ethyl Acetate Ethyl Acrylate Ethyl Alcohol Ethyl Chloride Ethyl Ether Ethylene Bromide Ethylene Chlorohydrin Ethylene Glycol	U U U U U U U U U U U U U U U U U U U	L G L U E U E
Ferric Chloride Ferric Nitrate Ferric Sulfate Ferrous Chloride Ferrous Sulfate Formaldehyde (37%) Formic Acid (45%) Freon Furfural Gasoline-Sour Gasoline-Refined Glucose	E L G G E E G L U U U E	E E E E L - L

Chemical Resistance Data

Environmental Resistance Table: E-Excellent, G-Good, L-Limited, U-Unsatisfactory

These environmental resistance ratings are based upon tests where the specimens were placed in complete submergence in the reagent listed. In many applications the Circuit Safe® and Himeline® boxes can be used in process areas where these chemicals are manufactured or used because worker safety requirements dictate that any air presence or splashing be at a very low level. Most electrical controls are located in areas suitable for worker access. If there are any questions for specific suitability in a given environment, prototype samples should be tested under actual conditions.

Chemical	Dalvaanhanata	FRP
	Polycarbonate	Fiberglass Reinforced Polyester
Glycerine (Glycerol) Glycol	E G	E -
Heptane Hexane Hexanol Tertiary Hydrochloric Acid 0-25% Hydrochloric Acid 25-40% Hydrofluoric Acid 10% Hydrofluoric Acid 48% Hydrogen Peroxide 30% Hydrogen Peroxide 50% Hydrogen Peroxide 90% Hydroquinone	G G L G D G D D D E	E U E L E E
Kerosene Lactic Acid 28% Lauryl Chloride	G E G	E E E
Magnesium Carbonate Magnesium Chloride Magnesium Hydroxide Magnesium Nitrate Magnesium Sulfate Methyl Alcohol Methyl Chloride Methyl Ethyl Ketone Methylene Chloride Mineral Oils		E E G - E L U E U
Naphtha Nitric Acid 20% Nitrobenzene	U E U	E G L
Oleic Acid Oxalic Acid (10%)	L G	E E
Phenol Phenylhydrazine Phosphoric Acid 0-25% Phosphoric Acid 25-50% Phosphoric Acid 50-85% Phosphoric Pentoxide Photographic Chemicals Potassium Bicarbonate Potassium Bichromate Potassium Bromate Potassium Bromate Potassium Carbonate Potassium Chloride Potassium Chloride Potassium Cyanide Potassium Cyanide Potassium Ferricyanide Potassium Ferricyanide Potassium Fluoride Potassium Fluoride Potassium Fluoride Potassium Hydroxide Potassium Nitrate Potassium Perborate		L U U - - - - - - - - - - - - - - - - -

Chemical	Polycarbonate	FRP Fiberglass Reinforced Polyester
Potassium Permanganate 10% Potassium Persulfate Potassium Sulfate Propane Propyl Alcohol Propylene Dichloride Sodium Acetate Sodium Bicarbonate Sodium Bisulfate Sodium Bisulfite Sodium Bromide Sodium Chlorate Sodium Chlorate Sodium Chlorate Sodium Ferricyanide Sodium Ferricyanide Sodium Fluoride Sodium Hydroxide Sodium Hydroxide Sodium Hydroxide	ее - Сео ееееееСееео	Reinforced Polyester E - E - E - E - E E - U L
Sodium Nitrate Sodium Nitrate Sodium Phosphate-Acid Sodium Sulfate Sodium Sulfide Sodium Sulfite Sodium Thiosulfate (Hypo) Sulfur Sulfur Dioxide-Gas Dry Sulfur Dioxide-Gas Wet Sulfur Dioxide-Liquid Sulfuric Acid 0-10% Sulfuric Acid 10-75%		U E E E U E - E - E U
Tartaric Acid Tetrahydrofurane Titanium Tetrachloride Toluol or Toluene Tributyl Phosphate Trichloroethylene Tricresylphosphate Triethanolamine Triethylamine Trimethyl Propane Trisodium Phosphate Turpentine	E U G U U U U U U U	E L
Urea Vinegar Whiskey Wines	G G L L	L E -
Xylene or Xylol Zinc Chloride Zinc Chromate Zinc Nitrate Zinc Sulfate	U U U L	E E - E

Carlon® Conduit, Fittings and Accessories









Carlon® Rigid Nonmetallic Conduit, Fittings & Accessories

Carlon® manufactures the most complete line of nonmetallic conduits and fittings in the electrical industry. Carlon Schedule 40 and Schedule 80 conduits are designed for use aboveground and underground as described in the National Electrical Code. Specify only Carlon conduits and fittings to insure raceway system integrity.

Features

Ease of Installation Nonmetallic conduits are 1/4 to 1/5 the weight of metallic systems, can be installed in less than half the time, and are easily fabricated on the job.

Safety Nonmetallic conduits are nonconductive, assuring a safe system.

Impact Resistant Carlon Schedule 40 and Schedule 80 nonmetallic conduits are resistant to sunlight and are listed for exposed or outdoor usage. The use of expansion fittings allows the system to expand and contract with temperature variations.

Corrosion Resistant Carlon conduits and fittings are nonmetallic and will not rust or corrode.

Carlon nonmetallic Schedule 40 and Schedule 80 conduits and elbows are manufactured to NEMA TC-2, Federal specification WC1094A and UL 651 specifications. Fittings are manufactured to NEMA TC-3, Federal specification WC1094A and UL514B. Both conduit and fittings carry respective UL or ETL Listings and UL or ETL labels.

Carlon Schedule 40 Rigid PVC Nonmetallic Conduit (Heavy Wall EPC)





Listed for underground applications encased in concrete or direct burial. Also for use in exposed or concealed applications aboveground. • Sunlight resistant • Rated for use with 90°C conductors • Superior weathering characteristics

Schedule 40 Heavy Wall

With Integral Bell*



Part		Std. Cra	ate Qty.	Wt. Per	Dimer	nsions		
10'	20'	Nom. Size	10'	20'	100'	O.D.	I.D.	Wall
49005-010		1/2"	6000'		17	.840	.622	.109
49007-010	49007-020	3/4"	4400'	8800'	23	1.050	.824	.113
49008-010	49008-020	1"	3600'	7200'	34	1.315	1.049	.133
49009-010	49009-020	11/4"	3300'	6600'	46	1.660	1.380	.140
49010-010	49010-020	11/2"	2250'	4500'	55	1.900	1.610	.145
49011-010	49011-020	2"	1400'	2800'	73	2.375	2.067	.154
49012-010	49012-020	21/2"	930'	1860'	124	2.875	2.469	.203
49013-010	49013-020	3"	880'	1760'	163	3.500	3.068	.216
49014-010	49014-020	31/2"	630'	1260'	196	4.000	3.548	.226
49015-010	49015-020	4"	570'	1140'	232	4.500	4.026	.237
49016-010	49016-020	5"	380'	760'	315	5.563	5.047	.258
49017-010	49017-020	6"	260'	520'	409	6.625	6.065	.280

Rigid nonmetallic conduit is normally supplied in standard 10' lengths, with one belled end per length. For specific requirements, it may be produced in lengths shorter or longer than 10', with or without belled ends.

Use Schedule 40 Fittings with Schedule 40 and Schedule 80 Conduit.

Notes: 1. Special fittings and conduit sizes will be quoted on request.

- 2. DON'T FORGET TO ORDER CEMENT.
- 3. Carlon reserves the right to ship to the nearest unitized quantity.

Rigid Nonmetallic Conduit – Support in Aboveground Installations

Carlon Schedule 80 Rigid PVC Nonmetallic Conduit (Extra Heavy Wall EPC-80)





Listed for use in aboveground and belowground applications that are subject to physical damage.

- Sunlight resistant
 Rated for use with 90°C conductors
 Superior weathering characteristics
- For use in areas subject to physical damage

With Integral Bell*



Schedule 80 Extra Heavy Wall

Part No.	201	Nama Cina		td. Crate Q	•	Dimen		W-II
10'	20'	Nom. Size	10'	20'	100'	0.D.	I.D.	Wall
49405-010	-	1/2"	6000'	-	21	.840	.546	.147
49407-010	_	3/4"	4400'	_	30	1.050	.742	.154
49408-010	_	1"	3600'	_	44	1.315	.957	.179
49409-010	_	11/4"	3300'	_	60	1.660	1.278	.191
49410-010	49410-020	11/2"	2250'	3600'	72	1.900	1.500	.200
49411-010	49411-020	2"	1400'	2800'	101	2.375	1.939	.218
49412-010	49412-020	21/2"	930'	1880	154	2.875	2.323	.276
49413-010	49413-020	3"	880'	1760'	210	3.500	2.900	.300
49415-010	49415-020	4"	570'	1140'	308	4.500	3.826	.337
49416-010	49416-020	5"	380'	760'	428	5.563	4.813	.375
49417-010	49417-020	6"	260'	520'	588	6.625	5.761	4.32

Rigid nonmetallic conduit is normally supplied in standard 10' lengths, with one belled end per length. For specific requirements, it may be produced in lengths shorter or longer than 10', with or without belled ends.

Use Schedule 40 Fittings with Schedule 40 and Schedule 80 Conduit.

Notes: 1. Special fittings and conduit sizes will be quoted on request.

2. DON'T FORGET TO ORDER CEMENT.

3. Carlon reserves the right to ship to the nearest unitized quantity.

Support of Carlon Rigid Nonmetallic Conduit in Aboveground Installations Table 252 200

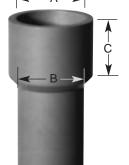
Table 352.30(B) NEC shows the support requirements for Schedule 40 and Schedule 80 rigid PVC nonmetallic conduit.

Plastic conduit should always be installed away from steam lines, etc. Support straps should allow for lineal movement caused by expansion and contraction.

Maximum ambient temperature is 122°F (50°C).

Table 352.30(B), NEC

Trade Size	Maximum Spacing Between Supports (feet)
1/2 - 1	3
11/4 - 2	5
21/2 - 3	6
31/2 - 5	7
6	8



Acceptable Dimensions in Inches of Integral Bell per UL 651

1				1	
	A			В	C
Trade	At Entrar	nce (in.)	At Bot	tom (in.)	Nominal Bell
Size	Maximum	Minimum	Maximum	Minimum	Depth (in.)
1/2	0.860	0.844	0.844	0.828	1.375
3/4	1.074	1.054	1.056	1.036	1.500
1	1.340	1.320	1.320	1.300	1.750
11/4	1.689	1.665	1.667	1.643	1.875
11/2	1.930	1.906	1.906	1.882	2.750
2	2.405	2.381	2.381	2.357	3.250
21/2	2.905	2.875	2.883	2.853	3.250
3	3.530	3.500	3.507	3.477	3.875
31/2	4.065	3.965	4.007	3.977	3.875
4	4.565	4.465	4.506	4.476	4.625
5	5.643	5.543	5.583	5.523	5.625
6	6.708	6.608	6.644	6.584	6.375

Rigid Nonmetallic Conduit - Elbows

Schedule 40 Elbows Standard Radius

to UL 651 in compliance

to the NEC

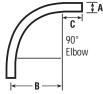


Available in plain and integral belled end for use with nonmetallic solvent weld fittings.

Item	Plain End Part No.	Belled End Part No.	Size	Plain End Std. Ctn. Qty.	Belled End Std. Ctn. Qty.	
90° Elbow	UA9AD	UA9ADB	1/2"	50	50	
	UA9ADR-CAR	UA9ADB	1/2"	25	50	
	UA9AE	UA9AEB	3/4"	25	25	
	UA9AF	UA9AFB	1"	25	25	
$/i/\setminus$	UA9AG	UA9AGB	11/4"	20	20	
\rightarrow	UA9AH	UA9AHB	11/2"	25	25	
90° R	UA9AJ	UA9AJB	2"	20	20	
لاسيد	UA9AJ-CAR	UA9AJB	2"	5	20	
	UA9AK-CAR	UA9AKB-CAR	21/2"	10	10	
	UA9AL	UA9ALB-CAR	3"	1	5	
	UA9AM	UA9AMB	31/2"	1	20	
	UA9AN	UA9ANB	4"	1	1	
	UA9AP	UA9APB	5"	1	1	
	UA9AR	UA9ARB	6"	1	1	
45° Elbow	UA7AD	UA7ADB	1/2"	50	50	
^	UA7AE	UA7AEB	3/4"	25	25	
<i>(</i> ,'')	UA7AER-CAR	UA7AEB	3/4"	15	25	
12%	UA7AF	UA7AFB	1"	20	20	
// R.	UA7AF-CAR	UA7AFB	1"	15	20	
45°	UA7AG	UA7AGB	11/4"	20	20	
+3/ >	UA7AH	UA7AHB	11/2"	20	20	
Ψ	UA7AJ	UA7AJB	2"	20	20	
	UA7AJ-CAR	UA7AJB-CAR	2"	4	4	
	UA7AK	UA7AKB	21/2"	20	20	
	UA7AK-CAR	UA7AKB-CAR	21/2"	5	5	
	UA7AL-CAR	UA7ALB	3"	5	25	
	UA7AL-CAR	UA7ALB-CAR	3"	5	10	
	UA7AM	UA7AMB	31/2"	1	20	
	UA7AN	UA7ANB	4"	1	20	
	UA7AP	UA7APB	5"	1	1	
	UA7AR	UA7ARB	6"	1	1	
30° Elbow	UA6AD	UA6ADB	1/2"	50	50	
~	UA6AE	UA6AEB	3/4"	25	25	
L7	UA6AF	UA6AFB	1"	25	1	
/i7<	UA6AG	UA6AGB	11/4"	20	20	
17	UA6AH	UA6AHB	11/2"	25	1	
30°/	UA6AJ	UA6AJB	2"	20	20	
[j] < 30 ∤	UA6AK	UA6AKB	21/2"	10	20	
$\overline{}$	UA6AL	UA6ALB	3"	1	1	
	UA6AM	UA6AMB	31/2"	1	1	
	UA6AN	UA6ANB	4"	1	1	
	UA6AP	UA6APB	5"	1	1	
		114 (4 5 5			-	

Item	Plain End Part No.	Belled End Part No.	Size	Plain End Std. Ctn. Qty.	Belled End Std. Ctn. Qty.
22 ¹ /2° Elbow	UA5AD	-	1/2"	1	-
R	UA5AE	-	3/4"	1	-
ω	UA5AF	-	1"	1	-
	UA5AG	-	11/4"	1	-
R 22.5°√	UA5AH	-	11/2"	1	-
<u> </u>	UA5AJ	UA5AJB	2"	25	1
'	UA5AK	-	21/2"	20	-
	UA5AL	UA5ALB	3"	5	1
	UA5AM	-	31/2"	1	-
	UA5AN	UA5ANB	4"	1	1
	UA5AP	UA5APB	5"	1	1
	UA5AR	UA5ARB	6"	1	1
11 ¹ / ₄ ° Elbow	UA3AD	-	1/2"	1	-
Ð	UA3AE	-	3/4"	1	-
 	UA3AF	-	1"	1	-
	UA3AG	-	11/4"	1	-
11.25°√ R	UA3AH	-	11/2"	1	-
'n.	UA3AJ	ı	2"	1	-
	UA3AK	ı	21/2"	1	-
	UA3AL	1	3"	1	-
	UA3AM	-	31/2"	1	-
	UA3AN	-	4"	1	-
	UA3AP	-	5"	1	-
	UA3AR	-	6"	1	-

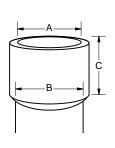
Standard Radius Elbow Dimensions





Size	Α	B Min.	C Min.
SIZC		(Radius)	
1/2"	.840	4"	11/2"
3/4"	1.050	41/2"	11/2"
1"	1.315	53/4"	17/8"
11/4"	1.660	71/4"	2"
11/2"	1.900	81/4"	2"
2"	2.375	91/2"	2"
21/2"	2.875	10 ¹ /2"	3"
3"	3.500	13"	31/8"
31/2"	4.000	15"	31/4"
4"	4.500	16"	33/8"
5"	5.563	24"	35/8"
6"	6.625	30"	33/4"

Integral Belled End **Dimensions**



	/	4	В		С	
Trade	At En	trance	At Bo	ottom	Socket Depth	
Size	Max.	Min.	Max.	Min.	Max.	Min.
1/2"	.860	0.844	0.844	0.828	1.500	0.652
3/4"	1.074	1.054	1.056	1.036	1.500	0.719
1"	1.340	1.320	1.320	1.300	1.875	0.875
11/4"	1.689	1.665	1.667	1.643	2.000	0.938
11/2"	1.930	1.906	1.906	1.882	2.000	1.062
2"	2.405	2.381	2.381	2.357	2.000	1.125
21/2"	2.905	2.875	2.883	2.853	3.000	1.469
3"	3.530	3.500	3.507	3.477	3.125	1.594
31/2"	4.065	3.965	4.007	3.977	3.250	1.687
4"	4.565	4.465	4.506	4.476	3.375	1.750
5"	5.643	5.543	5.583	5.523	3.625	1.937
6"	6.708	6.608	6.644	6.584	3.750	2.125

Rigid Nonmetallic Conduit - Elbows

Schedule 40 Elbows Special Radius *Consult factory for additional sizes/configurations





Segment	
90° Elbow	Γ
90° R	
$\psi \leftarrow \omega$	Γ

	Plain End Part No.	Belled End Part No.	Nom. Diam.	Radius (in.)	Plain End Std. Ctn. Qty.	Belled End Std. Ctn. Oty.
	UA9CF	UA9CFB	1"	18"	1	1
4	UA9DF	UA9DFB	1"	24"	1	1
	UA9EF	UA9EFB	1"	30"	1	1
	UA9FF	-	1"	36"	1	-
	UA9HF	-	1"	48"	1	-
	UA9CG	UA9CGB	11/4"	18"	1	1
	UA9DG	UA9DGB	11/4"	24"	1	1
	UA9EG	UA9EGB	11/4"	30"	1	1
	UA9FG	UA9FGB	11/4"	36"	1	1
	UA9HG	-	11/4"	48"	1	1
	UA9CH	UA9CHB	11/2"	18"	1	1
	UA9DH	UA9DHB	11/2"	24"	1	1
	UA9EH	UA9EHB	11/2"	30"	1	1
	UA9FH	UA9FHB	11/2"	36"	1	1
	UA9HH	-	1 ¹ /2"	48''	1	1
	UA9CJ	UA9CJB	2"	18"	1	1
	UA9DJ	UA9DJB-UPC	2"	24"	1	1
	UA9EJ	UA9EJB	2"	30"	1	1
	UA9FJ-UPC	UA9FJB	2"	36"	1	1
	UA9HJ	UA9HJB	2"	48"	1	1
	UA9CK	UA9CKB	21/2"	18"	1	1
	UA9DK	UA9DKB-UPC	21/2"	24"	1	1
	UA9EK	UA9EKB	21/2"	30"	1	1
	UA9FK-UPC	UA9FKB	21/2"	36"	1	1
	UA9HK	UA9HKB	21/2"	48''	1	1
	UA9CL	UA9CLB	3"	18"	1	1
	UA9DL	UA9DLB-UPC	3"	24"	1	1
	UA9EL	UA9ELB	3"	30"	1	1
	UA9FL	UA9FLB	3"	36"	1	1
	UA9HL	UA9HLB	3"	48''	1	1
	UA9DM	UA9DMB	31/2"	24"	1	1
	UA9EM	UA9EMB	31/2"	30"	1	1
	UA9FM	UA9FMB	31/2"	36"	1	1
	UA9HM	_	31/2"	48''	1	1
	UA9DN	UA9DNB	4"	24"	1	1
	UA9EN	UA9ENB	4"	30"	1	1
	UA9FN	UA9FNB	4"	36"	1	1
	UA9HN	UA9HNB	4"	48"	1	1
	UA9IN	UA9INB	4"	60"	1	1
	UA9JN	-	4"	72"	1	1
	UA9EP	UA9EPB	5"	30"	1	1
	UA9FP	UA9FPB	5"	36"	1	1
	UA9HP	UA9HPB	5"	48"	1	1
	UA9IP	UA9IPB	5"	60"	1	1
	UA9FR	UA9FRB	6"	36"	1	1
	UA9HR	UA9HRB	6"	48''	1	1
	UA9IR	UA9IRB	6"	60"	1	1
	UA9HT	-	8"	48''	1	1

Segment	Plain End Part No.	Belled End Part No.	Nom. Diam.	Radius (in.)	Plain End Std. Ctn. Qty.	Belled End Std. Ctn. Qty.
45° Elbow	UA7CF	-	1"	18"	1	-
	UA7DF	-	1"	24"	1	-
	UA7EF	-	1"	30"	1	-
R	UA7FF	-	1"	36"	1	-
45°	UA7HF	-	1"	48"	1	-
Ψ	UA7CG	-	11/4"	18"	1	-
	UA7DG	-	11/4"	24"	1	-
	UA7EG	-	11/4"	30"	1	_
	UA7FG	-	11/4"	36"	1	_
	UA7HG	-	11/4"	48"	1	_
	UA7CH	-	11/2"	18"	1	-
	UA7DH	-	1 ¹ /2"	24"	1	-
	UA7EH	-	11/2"	30"	1	-
	UA7FH	UA7FHB	1 ¹ /2"	36"	1	1
	UA7HH	-	11/2"	48''	1	-
	UA7CJ	UA7CJB	2"	18"	1	1
	UA7DJ	UA7DJB	2"	24"	1	1
	UA7EJ	UA7EJB	2"	30"	1	1
	UA7FJ	UA7FJB	2"	36"	1	1
	UA7HJ	UA7HJB	2"	48''	1	1
	UA7CK	-	21/2"	18"	1	-
	UA7DK	UA7DKB	21/2"	24"	1	1
	UA7EK	-	21/2"	30"	1	-
	UA7FK	UA7FKB	21/2"	36"	1	1
	UA7HK	-	21/2"	48"	1	-
	UA7CL	UA7CLB	3"	18"	1	1
	UA7DL	UA7DLB	3"	24"	1	1
	UA7EL	UA7ELB	3"	30"	1	1
	UA7FL	UA7FLB	3"	36"	1	1
	-	UA7HLB	3"	48"	-	1
	UA7DM	-	31/2"	24"	1	-
	UA7EM	-	31/2"	30"	1	-
	UA7FM	-	31/2"	36"	1	-
	UA7DN	UA7DNB	4"	24"	1	1
	UA7EN	UA7ENB	4"	30"	1	1
	UA7FN	UA7FNB	4"	36"	1	1
	UA7HN	UA7HNB	4"	48"	1	1
	-	UA7NNB	4"	120"	-	1
	UA7SN	UA7SNB	4"	150"	1	-
	UA7EP	UA7EPB	5"	30"	1	1
	UA7FP	UA7FPB	5"	36"	1	1
	UA7HP	UA7HPB	5"	48"	1	1
	-	UA7SPB	5"	150"	-	1
	LIATED	LILATEDS	1 / 11	1 0/11		1 4

UA7FR

UA7HR

UA7FRB

UA7HRB

Rigid Nonmetallic Conduit - Elbows

Schedule 40 Elbows Special Radius *Consult factory for additional sizes/configurations





	,					
Segment	Plain End Part No.	Belled End Part No.	Nom. Diam.	Radius (in.)	Plain End Std. Ctn. Qty.	Belled End Std. Ctn. Oty.
30° Elbow	UA6CJ	-	2"	18"	1	-
AX	UA6DJ	UA6DJB	2"	24"	1	1
\mathcal{A}	UA6FJ	UA6FJB	2"	36"	1	1
/ //	UA6HJ	UA6HJB	2"	48"	1	1
R 30°√	UA6CK	-	21/2"	18"	1	-
Ų ← 33 / ~	UA6DK	-	21/2"	24"	1	-
	UA6CL	-	3"	18"	1	-
	UA6DL	UA6DLB	3"	24"	1	1
	UA6FL	UA6FLB	3"	36"	1	1
	UA6HL	UA6HLB	3"	48"	1	1
	UA6DM	-	31/2"	24"	1	-
	UA6FM	-	31/2"	36"	1	-
	UA6HM	-	31/2"	48"	1	-
	UA6DN	-	4''	24"	1	-
	UA6FN	UA6FNB	4''	36"	1	1
	UA6HN	UA6HNB	4''	48"	1	1
	UA6FP	UA6FPB	5"	36"	1	1
	UA6HP	UA6HPB	5"	48"	1	1
	UA6FR	UA6FRB	6"	36"	1	1
	UA6HR	UA6HRB	6"	48"	1	1

	Segment	Plain End Part No.	Belled End Part No.	Nom. Diam.	Radius (in.)	Plain End Std. Ctn. Qty.	Belled End Std. Ctn. Qty.
	11 ¹ / ₄ ° Elbow	UA3DJ	UA3DJB	2"	24"	1	25
#	7	UA3FJ	UA3FJB	2"	36"	1	1
14		UA3HJ	-	2"	48"	1	-
14	11 25° / R	UA3HK	-	21/2"	48"	1	_
ψ.	11.25° R	UA3DL	UA3DLB	3"	24"	1	1
		UA3FL	-	3"	36"	1	-
		UA3HL	-	3"	48"	1	-
		UA3DM	-	31/2"	24"	1	-
		UA3HM	-	31/2"	48"	1	-
		UA3DN	UA3DNB	4''	24"	1	1
		UA3FN	UA3FNB	4"	36"	1	1
		UA3HN	UA3HNB	4"	48"	1	1
		UA3FP	UA3FPB	5"	36"	1	1
		UA3HP	-	5"	48"	1	_
		UA3FR	UA3FRB	6"	36"	1	1
		UA3HR	-	6"	48"	1	_

Segment	Plain End Part No.	Belled End Part No.	Nom. Diam.	Radius (in.)	Plain End Std. Ctn. Qty.	Belled End Std. Ctn. Qty.
22 ¹ /2° Elbow	UA5FF	_	1"	36"	1	-
<i>A</i>	UA5FG	_	11/4"	36"	1	_
H	UA5FH	UA5FHB	11/2"	36"	1	1
i R	UA5CJ	UA5CJB	2"	18"	1	1
22.5°√	UA5DJ	UA5DJB	2"	24"	1	25
Ψ	UA5EJ	UA5EJB	2"	30"	1	1
	UA5FJ	UA5FJB	2"	36"	1	1
	UA5HJ	_	2"	48"	1	_
	UA5VJ	_	2"	300"	1	_
	UA5CK	_	21/2"	18"	1	_
	UA5DK	_	21/2"	24"	1	_
	UA5EK	_	21/2"	30"	1	-
	UA5FK	-	21/2"	36"	1	-
	UA5HK	-	21/2"	48"	1	-
	UA5CL	UA5CLB	3"	18"	1	1
	UA5DL	UA5DLB	3"	24"	1	1
	UA5EL	UA5ELB	3"	30"	1	1
	UA5FL	UA5FLB	3"	36"	1	1
	UA5HL	-	3"	48"	1	-
	UA5VL	-	3"	300"	1	-
	UA5DM	-	31/2"	24"	1	-
	UA5EM	-	31/2"	30"	1	-
	UA5FM	-	31/2"	36"	1	-
	UA5HM	-	31/2"	48"	1	-
	UA5DN	UA5DNB	4"	24"	1	1
	UA5EN	UA5ENB	4"	30"	1	1
	UA5FN	UA5FNB	4"	36"	1	1
	UA5HN	UA5HNB	4"	48"	1	
	UA5IN	-	4"	60"	1	
	UA5SN	UA5SNB	4"	150"	1	
	_	UA5UNB	4"	240"	1	
	-	UA5VNB	4"	300"	-	1
	-	UA5DPB	5"	24"	1	1
	UA5EP	UA5EPB	5"	30"	1	1
	UA5FP	UA5FPB	5"	36"	1	1
	UA5HP	UA5HPB	5"	48"	1	1
	UA5SP	-	5"	150"	1	-
	_	UA5VPB	5"	300"	_	1
	UA5FR	UA5FRB	6"	36"	1	1
	UA5HR	UA5HRB	6"	48"	1	1
	UA5IR	-	6"	60"	1	-
	UA5RR		6"	144"	1	-

UA5SR UA5VR

Schedule 80 Elbows Standard Radius

Available in plain end only for use with nonmetallic solvent weld fittings.

Item	Part No.	Size	Std. Ctn. Qty.
90° Elbow	UB9AD	1/2"	50
70 2	UB9AD-CAR	1/2"	25
	UB9AE	3/4"	25
1/2	UB9AE-CAR	3/4"	15
	UB9AF	1"	25
90° B	UB9AF-CAR	1"	10
	UB9AG	11/4"	20
—	UB9AG-CAR	11/4"	5
	UB9AH	11/2"	25
	UB9AH-CAR	11/2"	5
	UB9AJ	2"	20
	UB9AJ-CAR	2"	5
	UB9AK-CAR	21/2"	10
	UB9AL-CAR	3"	5
	UB9AN	4"	1
	UB9AP	5"	1
	UB9AR	6"	1
45° Elbow	UB7AD	1/2"	50
43 Elbow	UB7AE-UPC	3/4"	25
//>	UB7AF-UPC	1"	20
14/	UB7AG	11/4"	20
/// R.	UB7AH	11/2"	20
45°	UB7AH-CAR	11/2"	5
	UB7AJ-UPC	2"	20
Ψ	UB7AK	21/2"	20
	UB7AL	3"	1
	UB7AN	4"	1
	UB7AP	5"	1
	UB7AR	6"	1
30° Elbow	UB6AD	1/2"	50
OU LIBOW	UB6AE	3/4"	25
	UB6AF	1"	25
1//	UB6AG	11/4"	5
114	UB6AH	11/2"	25
III R	UB6AJ	2"	20
30°√	UB6AK	21/2"	1
Ψ	UB6AL	3"	1
	UB6AN	4"	1
	UB6AP	5"	1
	UB6AR	6"	1

Flexible PVC Elbows



- UL listed for exposed and direct burial applications in accordance with Article 356 of 2002 NEC
- 0° 90° bending and offset applications
- O-ring seal for moisture tight connections
- · Maintains round shape throughout bend
- Sunlight resistant
- Non-corrosive all PVC and Neoprene material
- Fully assembled and ready to use

Part No.	Size	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)	Fully Assembled
UAFAD	1/2''	8	1.6	8.5"
UAFAE	3/4"	6	1.9	9.6"
UAFAF	1"	6	2.4	11.9"





Plain End | Belled End

Special Radius Belled

ETL Listed to UL 651 in compliance to the NEC

Segment	Plain End Part No.	End Part No.	Nom. Diam.	Radius (in.)	Std. Ctn. Qty.	Std.
90° Elbow	UB9CF	-	1"	18"	1	-
	UB9DF	-	1"	24"	1	-
	UB9FF	-	1"	36"	1	-
1	UB9HF	-	1"	48"	1	-
	UB9CG	_	11/4"	18"	1	_
1	LIDODO		417.11	2411	- 1	



45° Elbow

	Part No.	Part No.	Diam.	(In.)	ctn. Qty.	ctn. Qty.
	UB9CF	-	1"	18"	1	-
	UB9DF	-	1"	24"	1	-
1)	UB9FF	_	1"	36"	1	_
ן ע	UB9HF	_	1"	48"	1	_
	UB9CG	_	11/4"	18"	1	_
	UB9DG	_	11/4"	24"	1	_
	UB9FG	_	11/4"	36"	1	_
	UB9HG	_	11/4"	48"	1	_
	UB9CH	_	11/2"	18"	1	_
	UB9DH-UPC	_	11/2"	24"	1	_
	UB9FH	_	11/2"	36"	1	_
	UB9HH	_	11/2"	48"	1	_
	UB9CJ		2"	18"	1	
	UB9DJ-UPC	UB9DJB	2"	24"	1	1
	UB9FJ	007030	2"	36"	1	ı
	UB9HJ	_	2"	48"	1	_
		_	21/2"	18"		_
	UB9CK UB9DK-UPC	- LIDODKD	21/2"		1	- 1
		UB9DKB		24"	1	1
	UB9FK	UB9FKB	21/2"	36"	1	1
	UB9HK	_	21/2"	48"	1	-
	UB9CL	-	3"	18"	1	-
	UB9DL	UB9DLB	3"	24"	1	1
	UB9FL	UB9FLB	3"	36"	1	1
	UB9HL	-	3"	48"	1	-
	UB9DN	-	4''	24"	1	-
	UB9FN	UB9FNB	4"	36"	1	1
	UB9HN	UB9HNB	4"	48"	1	1
	UB9FP	-	5"	36"	1	-
	UB9HP	-	5"	48"	1	-
	UB9FR	-	6"	36"	1	-
	UB9HR	-	6"	48"	1	-
	UB7CF	-	1"	18"	1	_
	UB7DF	-	1"	24"	1	-
	UB7HF	-	1"	48"	1	-
	UB7DG	-	11/4"	24"	1	-
	UB7FG	-	11/4"	36"	1	-
	UB7HG	-	11/4"	48"	1	-
	UB7CH	_	11/2"	18"	1	_
	UB7DH	-	11/2"	24"	1	-
	UB7FH	-	11/2"	36"	1	-
	UB7CJ	-	2"	18"	1	-
	UB7DJ	-	2"	24"	1	-
	UB7FJ	-	2"	36"	1	-
	UB7HJ	-	2"	48"	1	-
	UB7DK	-	21/2"	24"	1	-
	UB7FK	-	21/2"	36"	1	-
	UB7CL	-	3"	18"	1	-
	UB7DL	-	3"	24"	1	-
	UB7FL	-	3"	36"	1	-
	UB7HL	-	3"	48"	1	-
	UB7DN	-	4''	24"	1	-
	UB7FN	-	4"	36"	1	-
	UB7HN	-	4"	48''	1	-
	UB7FP	-	5"	36"	1	-
	UB7HP	-	5"	48''	1	-
	UB7FR	-	6"	36"	1	_
	UB7HR	-	6"	48"	1	-

Rigid Nonmetallic Conduit - Couplings

Expansion Couplings



(For Use with Schedule 40 and Schedule 80)

E945 series expansion couplings are designed to compensate for length changes due to temperature variations in exposed conduit runs.



Standard Expansion Couplings

(Expands to a maximum of 6")

I	I		Lay Lengths					
Part No.	Size	Std. Ctn. Qty.	Stop to Stop Total Closed	Stop to Stop Total Open				
E945D	1/2	50	121/4	185/8				
E945E	3/4	50	12 ¹ / ₄	18 ⁵ /8				
E945F	1	45	123/4	19 ¹ /8				
E945G	11/4	30	123/4	19 1/8				
E945H	11/2	25	123/4	19 ¹ /8				
E945J	2	15	13 ¹ / ₂	197/8				
E945K	21/2	10	14	203/8				
E945KX (with male adapter)	21/2	10	14 ⁶³ /100	20 81/100				
E945KXL (special 12 trav)	21/2	10	24	36				
E945L	3	10	16 ¹ /2	23				
E945LX (with male adapter)	3	10	15 ⁹ /10	22 ¹ / ₃				
E945M	31/2	5	16 ¹ /2	23				
E945N	4	5	171/2	24				
E945P	5	3	18 ¹ / ₂	24 1/2				
E945R	6	2	201/2	26 ¹ /2				

Couplings Standard Couplings



E32447

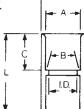
Except where noted by

⊷ OD →

All socket fittings should be attached Using Carlon solvent cement. Using Carlon fittings with Carlon nonmetallic conduit insures system integrity.



Socket type for joining nonmetallic conduit.



Part No.	Size	Std. Ctn. Qty.	A Typ	B pical	I.D.	O.D.	C Typ	L ical
E940D	1/2	150	.852	.836	.728	17/64	11/16	11/2
E940E	3/4	100	1.064	1.046	.840	1 ⁵ / ₁₆	3/4	15/8
E940F	1	50	1.330	1.310	1.210	1 ⁵ /8	15/16	2
E940G	11/4	30	1.677	1.655	1.535	163/64	1	21/8
E940H	11/2	25	1.918	1.894	1.755	215/64	11/8	23/8
E940J	2	30	2.393	2.369	2.190	247/64	13/16	21/2
E940K	21/2	20	2.890	2.868	2.688	35/16	133/64	33/16
E940K-CAR	21/2	4	2.890	2.868	2.688	35/16	133/64	33/16
E940L	3	25	3.515	3.492	3.375	331/32	13/4	313/32
E940L-CAR	3	5	3.515	3.492	3.375	331/32	13/4	313/32
E940M	31/2	20	4.015	3.992	3.780	49/16	13/4	35/8
E940N	4	15	4.515	4.491	4.265	53/32	1 ²⁵ / ₃₂	33/4
E940N-CAR	4	5	4.515	4.491	4.265	53/32	125/32	33/4
E940P	5	8	5.593	5.553	5.097	61/4	1 ⁵ / ₁₆	41/16
E940R	6	5	6.658	6.614	6.115	71/2	23/16	45/8

Short Expansion Couplings



(Expands to a maximum of 2")



Part No.	Size	Std. Ctn. Qty.
E955D	1/2	40
E955E	3/4	40
E955F	1	25
E955G	11/4	15
E955H	11/2	10
E955J	2	6

Special Long Line Couplings



Long Line Couplings

Part No.	Size	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
E941H	11/2	40	9
E941J	2	25	8
E941K	21/2	15	8
E941L	3	15	14
E941N	4	10	15
E941PF	5	4	12
► E941RF	6	5	21

Couplings

Special Long Line Couplings – Sleeve Couplings

Sleeve Coupling (For Repair Work)
No Internal Stop

Part No.	Size	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
► E948H	11/2	25	6
► E948J	2	25	5
► E948K	21/2	25	16
► E948L	3	25	13
► E948N	4	10	8
► E948P	5	14	33
► E948R	6	6	16
► E948JR	2" (6" long)	15	8
► E948JS	2" (Sch. 40 Split Duct)	25	6
► E948L12	3" (12" long)	1	1
► E948L6	3" (6" long)	15	15
► E948LS	3" (Sch. 40 Split Duct)	25	17
► E948N12	4" (12" long)	10	28
► E948N7	4" (7" long)	15	25
► E948NS	4" (Sch. 40 Split Duct)	10	15
► E948PS	5" (Sch. 40 Split Duct)	1	2
► E948R10	6" (10" long)	6	25
► E948RS	6" (Sch. 40 Split Duct)	1	2

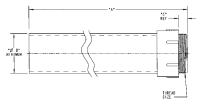
Special Schedule 40 Swedge Couplings

*Consult factory for additional sizes



Part No.	Size	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
►E442K	21/2	20	13
►E442R	6	6	27
► E442T	8	2	17

Risers Schedule 40





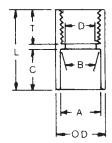
Part No.	Size	A (Length)	B (Min.)	С	Thread Size	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
E954HX	11/2	80.00	1.567	.950	1 ¹ /2"NPT	1	3.8
E954J	2	60.00	2.024	.825	2"NPT	1	3.7
E954JX	2	80.00	2.024	.825	2"NPT	1	5.0
E954K	21/2	60.00	2.418	.812	21/2"NPSC	1	6.0
E954KX	21/2	80.00	2.418	.812	21/2" NPSC	1	8.4
E954L	3	60.00	3.012	.798	3"NPSC	1	8.7
E954LX	3	80.00	3.012	.798	3"NPSC	1	11.0

Adapters

Female Adapters



For adapting nonmetallic conduits to threaded fittings, metallic systems. Female threads on one end, socket end on other.



Except where noted by

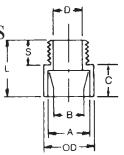
Part No.	Size	Std. Ctn. Qty.	А Тур	B oical	Min. D	Max. OD	С	T Typical	L
E942D	1/2	150	.852	.836	.620	1 ⁷ /64	11/16	3/4	19/16
E942E	3/4	100	1.064	1.046	.822	1 ⁵ /16	13/16	3/4	1 ⁵ /8
E942F	1	50	1.330	1.310	1.046	1 ⁵ /8	15/16	7/8	1 ¹⁵ / ₁₆
E942G	11/4	30	1.677	1.655	1.377	163/64	1	7/8	2
E942H	11/2	25	1.918	1.894	1.607	2 ⁵ /32	11/8	7/8	27/32
E942J	2	30	2.393	2.369	2.064	247/64	13/16	1	2 ⁵ /16
E942K	21/2	20	2.890	2.868	2.450	311/32	15/8	11/8	2 ¹⁵ /16
E942K-CAR	21/2	4	2.890	2.868	2.450	311/32	15/8	11/8	2 ¹⁵ /16
E942L	3	25	3.515	3.492	3.000	331/32	13/4	11/8	31/16
E942L-CAR	3	3	3.515	3.492	3.000	331/32	13/4	11/8	31/16
E942M	31/2	20	4.015	3.992	3.500	41/2	17/8	11/8	31/4
E942N	4	15	4.515	4.491	4.000	51/64	2	11/8	313/64
E942N-CAR	4	7	4.515	4.491	4.000	51/64	2	11/8	313/64
E942NX*	4	6		(Call	for in	forma	tion)		
E942P	5	8	5.593	5.553	5.047	61/4	1 ¹⁵ / ₁₆	11/16	33/16
E942R	6	6	6.658	6.614	6.055	71/4	21/8	11/16	33/8
E942RX*	6	6		(Call	for in	forma	tion)		

^{*} Long Line Adapter

Male Terminal Adapters



For adapting nonmetallic conduits to boxes, threaded fittings, metallic systems. Male threads on one end, socket end on other.



Part No.	Size	Std. Ctn. Qty.	A Typ	B ical	Min. D	Max. OD	С	S Typical	L
E943D	1/2	150	.852	.836	.597	11/8	5/8	9/16	15/16
E943E	3/4	125	1.064	1.046	.800	111/32	3/4	9/16	13/8
E943F	1	50	1.330	1.310	1.018	15/8	1	11/16	1 25/32
E943G	11/4	50	1.677	1.655	1.332	21/32	1	3/4	1 15/16
E943H	11/2	25	1.918	1.894	1.566	25/32	13/16	3/4	21/16
E943J	2	50	2.393	2.369	2.000	2 21/32	13/16	3/4	21/8
E943K	21/2	25	2.890	2.868	2.376	3 5/16	13/4	7/8	27/8
E943K-CAR	21/2	5	2.890	2.868	2.376	3 5/16	13/4	7/8	27/8
E943L	3	45	3.515	3.492	2.954	4	115/16	7/8	31/16
E943L-CAR	3	5	3.515	3.492	2.954	4	115/16	7/8	31/16
E943M	31/2	30	4.015	3.992	3.440	41/2	27/16	17/8	37/16
E943N	4	20	4.515	4.491	3.940	53/32	23/8	7/8	31/2
E943N-CAR	4	20	4.515	4.491	3.940	53/32	23/8	7/8	31/2
E943P	5	5	5.593	5.553	4.815	61/4	21/3	1	315/16
E943R	6	10	6.658	6.614	5.860	71/2	23/8	1	33/8

Adapters

Box Adapters for Enclosures Adapts nonmetallic



Adapts nonmetallic conduit to all electrical enclosures by inserting adapter through knockout and cementing into Carlon couplings.

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	O.D. →	

Part No.	Size	Std. Ctn. Qty.	Min D	OD Typical	Max X	CM Typi	L cal
E996D	1/2	100	.662	.840	17/64	23/32	27/32
E996E	3/4	100	.824	1.050	1 21/64	25/32	29/32
E996F	1	100	1.049	1.315	15/8	61/64	13/32
E996G	11/4	50	1.380	1.660	131/32	1 ¹ / ₁₆	11/4
E996H	11/2	50	1.610	1.900	213/64	13/16	13/8
E996J	2	25	2.067	2.375	229/32	11/4	17/16
E996K-CAR	21/2	10	2.469	2.875	37/16	17/8	115/16
E996L	3	20	3.068	3.500	41/8	2	21/16
E996L-CAR	3	5	3.068	3.500	41/8	2	21/16
E996N	4	10	4.026	4.500	51/8	21/2	21/4

Threaded Adapters



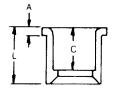
Part No.	Size	Std. Ctn. Qty.
E9842D 1	1/2	25
E9842E ²	3/4	25

¹ Fits ³/₄" sockets ² Fits 1" sockets

Reducers Reducer Bushings



For connecting different sizes of conduit. Bell x Spigot.



Part No.	Size	Std. Ctn. Oty.	L Typical	A Typical	C Typical
E950ED	3/4" x 1/2"	100	15/32	13/64	11/32
E950FD-CAR	1" x ¹ /2"	25	111/32	3/16	57/64
E950FE	1" x ³ /4"	100	111/32	3/16	11/64
E950GE-CAR	11/4" x 3/4"	10	115/32	3/16	11/64
E950GF	1 ¹ / ₄ " x 1"	50	115/32	3/16	19/64
E950HF-CAR	1 ¹ /2" x 1"	10	119/32	3/16	19/64
E950HG-CAR	1 ¹ / ₂ " x 1 ¹ / ₄ "	10	119/32	3/16	117/64
E950JG-CAR	2" x 1 ¹ / ₄ "	10	13/4	7/32	117/64
E950JH-CAR	2" x 1 ¹ / ₂ "	10	13/4	7/32	125/64
E950KJ-CAR	2 ¹ /2" x 2"	10	25/32	3/8	127/64
E950LJ-CAR	3" x 2"	10	21/8	1/4	17/8
►E950LK	3" x 21/2"	25	1 ¹⁵ / ₁₆	1/4	1 ¹¹ / ₁₆
E950NL	4" x 3"	25	23/4	5/16	1 ¹⁵ / ₁₆

Reducers



E32447 Except where noted by ▶

Fabricated Reducers



Fabricated Reducers (Male x Male)

Part No.	Size	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
► E952KJ	2 ¹ /2" x 2"	48	28
► E952LJ	3" x 2"	36	21
► E952LK	3" x 21/2"	36	31
►E952NL	4" x 3"	15	23
►E952NM	4" x 31/2"	15	25
►E952PN	5" x 4"	12	26
►E952RP	6" x 5"	10	31

Plugs

Reducer Plugs



Part No.	Size	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
► E971C	3/4" x 1/2"	100	2
► E971D	1" x ³ /4"	100	3

Plugs



Part No.	Size	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
► P258H	11/2"	50	2
► P258K	21/2"	25	1.5

Plugs with Pull Tabs



Part No.	Size	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
► P258JT	2	60	3
▶ P258LT	3	30	3
► P258NT	4	48	8
▶ P258PT	5	30	6
► P258RT	6	30	9

Caps

Service Entrance Caps



		Std. Ctn.	Number of Openings			
Part No.	Size	Qty.	4	3	2	1
E998E-CAR	3/4	5	-	.430	-	_
► E998F-CAR	1	5	.555	ı	-	_
E998G-CAR	11/4	5	_	.752	.584	.435
► E998H-CAR	11/2	5	-	.995	.745	.529
E998J	2	5	-	.995	.745	.529
► E998K-UPC	21/2	2		1.275 1.750		
E998L	3	2	1.142	1.759	1	_
E998N	4	2	1.142	1.759	-	-

Note: Made in Canada

End Caps



Part No.	Size	Color	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
► E958D	1/2	Grey	100	3
► E958E	3/4	Grey	100	4
► E958F	1	Grey	75	5
► E958G	11/4	Grey	40	4
► E958H	11/2	Grey	30	4
► E958J	2	Grey	25	5
► E958K	21/2	White	10	4
► E958L	3	White	10	5
► E958N	4	White	5	17
► E958P	5	White	5	11
► E958R	6	White	5	13

PVC Riser Caps



Part No.	Size	Std. Ctn. Oty.	Std. Ctn. Wt. (lbs.)
► E935J	2	25	9
► E935L	3	25	18
► E935N	4	25	18
► E935P	5	25	35
► E935R	6	10	13

Offsets Meter Offset



Except where noted by

Std. Std.

Size Std. Ctn. Qty. Part No. Offset ►E995G 0.758 4.230 0.684 4.270



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Part No.	Size	Std. Ctn. Qty.	Std. Ctn. Qty. Wt. (lbs.)
► E994DR-CAR	1/2	25	3
► E994ER-CAR	3/4	15	2
► E994F	1	50	12

End Bells **End Bells**



Part No.	Size	Ctn. Qty.	Ctn. Wt. (lbs.)
► E997F	1	50	1
► E997F-CAR	1	15	1
► E997G	11/4	35	1
► E997G-CAR	11/4	15	1
► E997H	11/2	30	1
► E997H-CAR	11/2	10	1
► E997J	2	40	1
► E997J-CAR	2	10	1
► E997K	21/2	30	2
► E997K-CAR	21/2	10	2
► E997L	3	50	2
► E997L-CAR	3	10	2
► E997M	31/2	40	10
► E997N	4	30	11
► E997P	5	15	10
► E997R	6	10	7.4
► E997T	8	3	14.55
		-	

Fabricated End Bells Schedule 40

Part No.	Size	Std. Ctn. Qty.	Std. Wt. (lbs.)
E949J5	2" x 5"	50	10
E949J6	2" x 6"	25	12
E949JN	2" x 4"	25	7
E949JX	2" x 8"	12	7
E949LR	3" x 6"	20	21
E949N5	4" x 5"	20	2
E949NR	4" x 6"	15	21
E949R5	6" x 5"	12	27
E949RX	6" x 8"	6	17

Washers Flat Sealing Washer

Where a waterproof termination is required into any enclosure (metallic or nonmetallic), install the neoprene washer over the threads of a terminal adapter before inserting into the enclosure. Use a standard locknut or threaded bushing to secure the assembly.



Part No.	Size	Std. Ctn. Qty.
►E943DW	1/2	125
►E943EW	3/4	125
►E943FW	1	100
►E943GW	11/4	50
►E943HW	11/2	50
► E943JW	2	25

Lock Nuts



PVC Lock Nut



Part No.	Size	Std. Ctn. Qty.
►LT9LD	1/2	1200
►LT9LE	3/4	700
►LT9LF	1	600

Pull Elbows

Access Pull Elbows



Gasket included.



Part No.	Size	Std. Ctn. Qty.	A Typical	B Typical	C Typical	D Typical
►E990D	1/2	75	.852	.836	2.187	.718
►E990DR-CAR	1/2	25	.852	.836	2.187	.718
►E990E	3/4	50	1.064	1.046	2.531	.781
► E990ER-CAR	3/4	20	1.064	1.046	2.531	.781

Sleeves HOLFORM[™] Concrete Sleeves



E32447 Except where noted by

HOLFORM nonmetallic concrete sleeve forms are the easy way to form holes in concrete. They install in seconds with nails, screws or staples and are easily removed. Concrete will not adhere to them. HOLFORMS are adjustable to any slab thickness.



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Part No.	Min. O.D. A	В	Std. Ctn. Oty.	Std. Ctn. Wt. (lbs.)
► E92CSH	11/2	13/4	20	3
► E92CSJ	2	213/32	25	6
► E92CSL	3	313/32	25	8
► E92CSN	4	413/32	18	8
► E92CSP	5	513/32	15	8
► E92CSR	6	613/32	12	8

Conduit Bodies

Type X with Cover

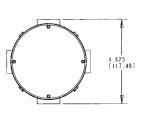
Four knock-out type socket openings, 90° spacing. Available with 1/2" or 3/4" socket outlets. Includes cover and gasket. Supplied with separate mounting feet for easy mounting.

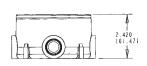


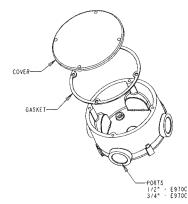
Separate Mounting Feet Included

Part No.	Size	Vol. Cu. In.	Std. Ctn. Qty.
E970CD	1/2	15.16	15
E970CE	3/4	15.16	15

Supplied with 4 stainless steel cover screws. Diameter 41/8", Thickness 1/4". *Not designed for use with wiring devices or light fixtures.



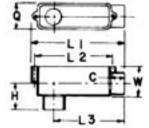




Rigid Nonmetallic Conduit – Conduit Bodies

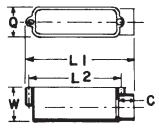
Conduit Bodies (hubs are not threaded)



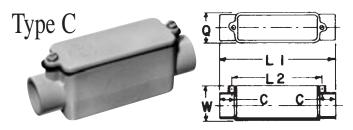


Part No.	Size	Std. Ctn. Qty.	C Typical	Max. L1	L2 Typ	L3 ical	Max H	Max Q	Max. W	Vol. Cu. In.
E986D-CAR	1/2	10	11/16	4 5/16	37/32	31/16	1 5/16	111/32	11/2	4.0
E986E-CAR	3/4	10	29/32	6 9/32	5 %32	4 25/32	1 ²⁵ /32	13/4	2 1/32	12.0
E986F-CAR	1	10	29/32	6 9/32	5 %32	4 25/32	1 ²⁵ /32	13/4	2 1/32	12.0
E986G-CAR	11/4	5	13/32	731/32	6 13/32	6	25/16	21/2	23/4	32.0
E986H-CAR	11/2	5	13/32	731/32	6 13/32	6	25/16	21/2	23/4	32.0
E986J	2	10	15/32	9 31/32	8 13/32	7 1/4	29/16	35/32	315/32	63.0
►E986K	21/2	4	15/8	14 ⁷ /8	13 ¹ / ₄	1131/32	33/4	4 11/32	4 5/8	210.
►E986L	3	4	15/8	147/8	131/4	1131/32	33/4	4 11/32	4 5/8	210.
►E986M	31/2	4	1 25/32	17 ²³ / ₃₂	15 ⁷ /8	14 17/64	47/16	511/32	5 21/32	390.
►E986N	4	4	1 25/32	17 ²³ / ₃₂	157/8	14 17/64	47/16	511/32	5 21/32	390.





Part No.	Size	Std. Ctn. Qty.	С	L1	L2	Q	W	Vol. Cu. In.
E988D-CAR	1/2	5	11/16	4 5/16	31/2	111/32	11/2	4.0
E988E	3/4	20	29/32	6 11/32	5 ⁹ /32	13/4	2 1/32	12.0
E988F-CAR	1	10	29/32	6 11/32	5 9/32	13/4	2 1/32	12.0
E988G-CAR	11/4	5	1 ³ /32	8	6 13/32	21/2	23/4	32.0
E988H-CAR	11/2	5	13/32	8	6 13/32	21/2	23/4	32.0
E988J	2	5	15/32	9 15/32	8 13/32	35/32	3 15/32	63.0



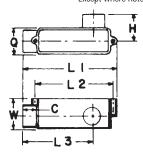
Part No.	Size	Std. Ctn. Qty.	C Typical	Max. L1	L2 Typical	Max Q	Max. W	Vol. Cu. In.
E987D-CAR	1/2	10	11/16	4 11/16	31/2	111/32	11/2	4.0
E987E-CAR	3/4	10	29/32	67/8	5 32/64	13/4	2 1/32	12.0
E987F-CAR	1	10	29/32	67/8	5 9/32	13/4	2 1/32	12.0
E987G-CAR	11/4	5	13/32	8 21/32	6 13/32	21/2	23/4	32.0
E987H-CAR	11/2	4	13/32	8 21/32	6 13/32	21/2	23/4	32.0
E987J	2	15	1 5/32	10 ⁵ /16	8 13/32	35/32	315/32	63.0

Conduit Bodies

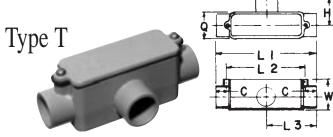


E42728 Except where noted by ▶

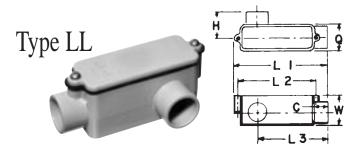
Type LR



Part No.	Size	Std. Ctn. Qty.	C Typical	Max. L1	L2 Typ	L3 ical	Max. H	Max. Q	Max. W	Vol. Cu. In.
E985D-CAR	1/2	10	11/16	4 5/16	37/32	31/16	1 ⁵ /16	111/32	11/2	4.0
E985E-CAR	3/4	10	29/32	6 9/32	5 9/32	4 25/32	125/32	13/4	21/32	12.0
E985F-CAR	1	10	29/32	6 9/32	5 9/32	4 25/32	125/32	13/4	21/32	12.0
E985G-CAR	11/4	5	13/32	731/32	6 13/32	6	2 ⁵ /16	21/2	23/4	32.0
E985H-CAR	11/2	5	13/32	731/32	6 13/32	6	2 ⁵ /16	21/2	23/4	32.0
E985J	2	10	15/32	99/32	8 13/32	71/4	2 ⁹ /16	35/32	315/32	63.0



Part No.	Size	Std. Ctn.Qty.	C Typical	Max. L1	L2 Typ	L3 ical	Max H	Max Q	Max. W	Vol. Cu. In.
E983D-CAR	1/2	10	11/16	4 11/16	37/32	211/32	1 ⁵ /16	111/32	11/2	4.0
E983E-CAR	3/4	10	29/32	67/8	5 9/32	47/16	125/32	13/4	2 1/32	12.0
E983F	1	20	29/32	67/8	5 9/32	37/16	125/32	13/4	2 1/32	12.0
E983G	11/4	10	13/32	8 21/32	6 13/32	4 21/64	25/16	21/2	23/4	32.0
E983H-CAR	11/2	4	13/32	8 21/32	6 13/32	4 21/64	2 ⁵ /16	21/2	23/4	32.0
E983J	2	10	1 5/32	10 ⁵ /16	8 13/32	55/32	29/16	35/32	3 ¹⁵ /16	63.0



Part No.	Size	Std. Ctn. Qty.	C Typical	Max. L1	L2 Typ	L3 pical	Max H	Max Q	Max. W	Vol. Cu. In.
E984D-CAR	1/2	10	11/16	4 5/16	37/32	31/16	1 ⁵ /16	111/32	11/2	4.0
E984E-CAR	3/4	8	2 29/32	69/32	5 ⁹ /32	4 25/32	125/32	13/4	2 1/32	12.0
E984F-CAR	1	10	2 29/32	69/32	5 ⁹ /32	4 25/32	125/32	13/4	21/32	12.0
E984G-CAR	11/4	5	13/32	731/32	6 13/32	6	25/16	21/2	23/4	32.0
E984H-CAR	11/2	5	13/32	731/32	6 13/32	6	25/16	21/2	23/4	32.0
E984J	2	10	1 ⁵ /32	99/32	8 13/32	71/4	29/16	35/32	315/32	63.0

Rigid Nonmetallic Conduit - Junction Boxes

Molded Nonmetallic Junction Boxes 6P Rated

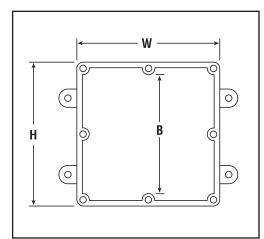


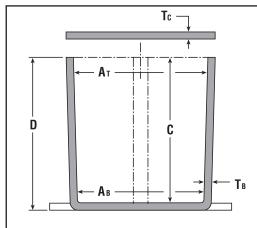


It's another first from Carlon® - the first nonmetallic junction boxes UL Listed with a NEMA 6P rating per Section 314.29, Exception of the National Electrical Code. Manufactured from PVC or PPO thermoplastic molding compound and featuring gasketed lids attached with stainless steel screws, these rugged enclosures offer all the corrosion resistance and physical properties you need for direct burial applications.

Type 6P enclosures are intended for indoor or outdoor use, primarily to provide a degree of protection against contact with enclosed equipment, falling dirt, hose-directed water, entry of water during prolonged submersion at a limited depth, and external ice formation.







All Carlon Junction Boxes are UL Listed and maintain a minimum of a NEMA Type 4/4x Rating.

Parts numbers with an asterisk (*) are UL Listed and maintain a NEMA Type 6P Rating.

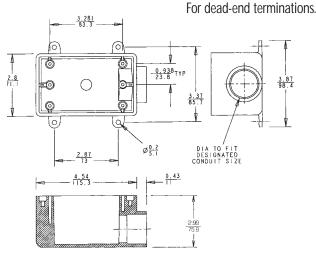
Part No.	Size in Inches H x W x D	Std. Ctn. Qty.	Min At	Min. Ав	Min. B	Min. C	Ta Typ	 Tc ical	Mate PVC	erial Thermo- plastic	Std. Ctn. Wt. (Lbs.)
E989NNJ-CAR*	4 x 4 x 2	5	311/16	35/8	N/A	2	.160	.155	Х	'	3
E987N-CAR*	4 x 4 x 4	5	311/16	31/2	N/A	4	.160	.155	Χ		4
†E989NNR-CAR*	4 x 4 x 6	4	311/16	33/8	N/A	6	.160	.200	Χ		5
E989PPJ-CAR*	5 x 5 x 2	4	411/16	41/2	N/A	2	.110	.150		Х	3
E987R-CAR*	6 x 6 x 4	2	6	55/8	N/A	4	.190	.190		Х	3
E989RRR-UPC*	6 x 6 x 6	8	5 ⁵ /8	53/8	N/A	6	.160	.150		Х	14
E989N-CAR	8 x 8 x 4	1	8	8	N/A	4	.185	.190		Х	2
E989SSX-UPC	8 x 8 x 7	2	7 21/32	75/16	N/A	7	.160	.150		Х	6
E989UUN	12 x 12 x 4	3	11 ⁵ /8	11 ¹ / ₂	11 ¹ /8	4	.160	.150		Х	12
E989R-UPC	12 x 12 x 6	2	1115/16	117/8	11 ⁷ /16	6	.265	.185		Х	10

Single Gang FS Boxes

Type FSE

All sizes take standard covers and accessories or devices. Integral mounting feet provide easy mounting.



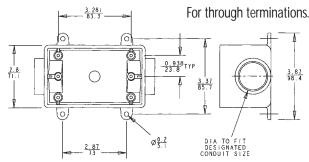


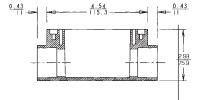
Part No.	Size	Vol. Cu. In.	Std. Ctn. Qty.
E980DFN	1/2	19	10
E980EFN	3/4	19	10
E980FFN-CAR	1	19	10

Type FSC

All sizes take standard covers and accessories or devices. Detachable mounting feet provide easy mounting.







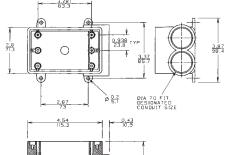
_	Part No.	Size	Vol. Cu. In.	Std. Ctn. Oty.
	E981DFN	1/2	19	15
	E981EFN	3/4	19	15
	E981FFN-CAR	1	19	10



Type FSS

All sizes take standard covers and accessories or devices. Detachable mounting feet provide easy mounting.





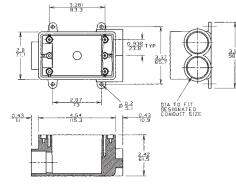
For multiple dead-end circuit terminations or where additional support is required in stub-up applications.

Part No.	Size	Vol. Cu. In.	Std. Ctn. Qty.
E982DFN	1/2	19	10
E982EFN	3/4	19	10
E982FFN-CAR	1	19	8

Type FSCC

All sizes take standard covers and accessories or devices. Detachable mounting feet provide easy mounting.





For multiple through circuit terminations or where additional support is required in stub-up applications.

Part No.	Size	Vol. Cu. In.	Std. Ctn. Qty.
E979DFN-CAR	1/2	19	10
E979EFN-CAR	3/4	19	10
E979FFN	1	19	15

Rigid Nonmetallic Conduit - Switch Boxes

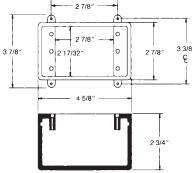
Single Gang FD Deep Device Boxes



Type FD

All sizes take standard covers and accessories or devices. Integral mounting feet provide easy mounting.





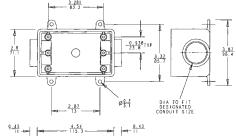
For terminations where hub requirements vary according to application – hubs easily made with flared wood bit or hole saw.

Part	Size	Vol.	Std.
No.		Cu. In.	Ctn. Qty.
E9801	N/A	25	10

Type FDC

All sizes take standard covers and accessories or devices. Integral mounting feet provide easy mounting.





For through terminations where large devices or additional wiring capacity is required.

Part No.	Size	Vol. Cu. In.	Std. Ctn. Qty.
E9811DN	1/2	25	10
E9811EN	3/4	25	10

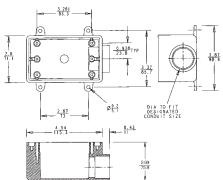
10

E9811FN

Type FDE

All sizes take standard covers and accessories or devices. Integral mounting feet provide easy mounting.





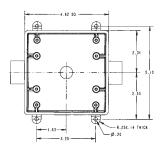
For dead-end terminations where large devices or additional wiring capacity is required.

Part No.	Size	Vol. Cu. In.	Std. Ctn. Qty.
E9801DN	1/2	25	10
E9801EN	3/4	25	10
E9801FN	1	25	10

Two Gang FS Boxes

Type 2FSC

All sizes take standard covers and accessories or devices. Integral mounting feet provide easy mounting.







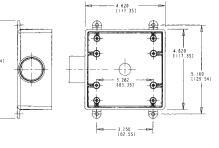
For through terminations where two devices or additional wiring capacity is required.

Part No.	Size	Vol. Cu. In.	Std. Ctn. Qty.
E9812D	1/2	32	10
E9812E	3/4	32	10
E9812F	1	32	10

Type 2FSE

All sizes take standard covers and accessories or devices. Integral mounting feet provide easy mounting.





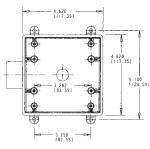
For dead-end terminations where two devices or additional wiring capacity is required.



Part No.	Size	Vol. Cu. In.	Std. Ctn. Qty.
E9802D	1/2	32	10
E9802E	3/4	32	10
E9802F	1	32	10

Type FS

All sizes take standard covers and accessories or devices. Integral mounting feet provide easy mounting.







For terminations where hub requirements vary according to application - hubs easily made with flared wood bit or hole saw.

Part	Size	Vol.	Std.
No.		Cu. In.	Ctn. Qty.
E9802	N/A	32	10

Blank Covers

Single Gang



Fits Carlon® single gang FS boxes. Supplied with stainless steel mounting screws and gasket.

Part No.	Size	Std. Ctn. Oty.	Std. Ctn. Wt. (lbs.)
E980CN-CAR	-	12	2

Two Gang



Fits Carlon® two gang FS boxes, other nonmetallic and metallic FS boxes. Supplied with stainless steel mounting screws and gasket.

Part No.	Size	Std. Ctn. Oty.	Std. Ctn. Wt. (lbs.)	
E9802CN-CAR	-	10	2	

Rigid Nonmetallic Conduit - Support Straps

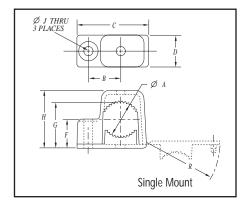
Snap Strap® Conduit Support Straps

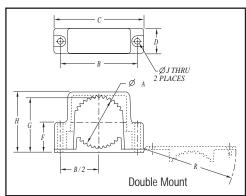
Carlon's Snap Strap® offers a unique support strap designed especially for the installation of PVC conduit. Also usable for installations of rigid steel. This high strength, nonmetallic clamp allows conduit to expand and contract freely, eliminating the bowing commonly seen from the expansion and contraction of conduit caused by varying temperature changes. Finished installations have a neat, attractive appearance on exposed applications.

To be used in accordance with conduit spacing requirements per the NEC, Section 352.30. This part is not supplied with screws.











Single Mount (Indoor Use Only)

Part No.	Size: inches (mm)	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)	А	В	С	D	F	G	Н	J	R
E978DC-CAR	1/2''	40	1	0.80	.75	1.63	0.75	.59	.99	1.36	.21	1.67
	(16)			(20.3)	(1.90)	(41.4)	(19.1)	(14.9)	(25.1)	(34.5)	(5.33)	(42.4)
E978EC-CAR	3/4'' (21)	40	3	1.00 (25.4)	.88 (22.4)	1.92 (48.7)	0.75 (19.1)	.70 (17.8)	1.20 (30.4)	1.57 (39.9)	.21 (5.33)	1.96 (49.8)
E978FC-CAR	1" (27)	30	4	1.20 (30.5)	1.02 (25.9)	2.17 (55.1)	0.75 (19.1)	.83 (21.1)	1.43 (36.3)	1.84 (46.7)	.21 (5.33)	2.22 (56.3)

Double Mount (Indoor Use Only)

Part No.	Size: inches (mm)	Std. Ctn. Oty.	Std. Ctn. Wt. (lbs.)	А	В	С	D	F	G	Н	J	R
E978GC-CAR	11/4"	15	4	1.66	2.75	3.23	1.00	.95	1.78	2.15	.218	3.28
	(35)			(42.16)	(69.9)	(82.0)	(25.4)	(24.1)	(45.2)	(54.61)	(5.54)	(83.3)
E978HC-CAR	1 ¹ /2'' (41)	15	5	1.92 (48.77)	3.05 (77.5)	3.53 (89.7)	1.00 (25.4)	1.08 (27.4)	2.04 (51.8)	2.40 (60.96)	.218 (5.54)	3.58 (90.9)
E978JC-CAR	2" (53)	10	5	2.34 (59.44)	3.50 (88.9)	4.00 (101.6)	1.00 (25.4)	1.31 (33.3)	2.48 (63.0)	2.86 (72.64)	.218 (5.54)	4.06 (103.1)

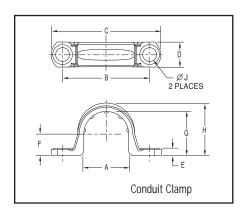
Rigid Nonmetallic Conduit - Clamps

Nonmetallic Clamps

Nonmetallic clamps offer the same chemical resistance as Carlon nonmetallic conduits for a complete, corrosion resistant system.

To be used in accordance with conduit spacing requirements per the NEC, Section 352.30.





Conduit Clamps

Part No.	Size: inches (mm)	Std. Ctn. Oty.	Std. Ctn. Wt. (lbs.)	A	В	С	D	E	F	G	Н	J
E977DC	1/2'' (16)	100	1.2	0.892 (22.6)	1.71 (43.4)	2.16 (54.8)	0.50 (12.7)	.14 (3.5)	.42 (10.6)	.866 (21.9)	1.04 (26.4)	.260 (6.6)
E977EC	³ / ₄ '' (21)	100	1.4	1.102 (27.9)	1.97 (50.0)	2.40 (60.9)	0.50 (12.7)	.14 (3.5)	.525 (13.3)	1.076 (27.3)	1.255 (31.8)	.260 (6.6)
E977FC	1" (27)	100	2	1.39 (35.3)	2.25 (57.1)	2.81 (71.3)	0.594 (15.0)	.14 (3.5)	.658 (16.7)	1.342 (34.0)	1.574 (39.9)	.260 (6.6)
E977GC	1 ¹ / ₄ '' (35)	50	5	1.714 (43.5)	2.68 (68.0)	3.28 (83.3)	.64 (16.2)	.15 (3.8)	.83 (21.0)	1.687 (42.8)	1.89 (48.0)	.320 (8.1)
E977HC	1 ¹ / ₂ '' (41)	50	6	1.92 (48.7)	2.82 (71.6)	3.44 (87.3)	.70 (17.7)	.15 (3.8)	.97 (24.6)	1.93 (49.0)	2.12 (53.8)	.312 (7.9)
E977JC	2" (53)	25	4.5	2.54 (64.5)	3.54 (89.9)	4.18 (106.1)	.76 (19.3)	.16 (4.0)	1.05 (26.6)	2.29 (58.1)	2.49 (63.2)	.315 (8.0)
E977KC-CAR	2 ¹ / ₂ '' (63)	25	1.4	2.86 (72.6)	4.50 (114.3)	5.46 (138.7)	1.00 (25.4)	.20 (5.08)	1.43 (36.3)	2.86 (72.6)	3.12 (79.2)	.36 (9.14)
E977LC-CAR	3" (78)	20	1.4	3.47 (88.2)	5.00 (127.0)	6.00 (152.4)	1.00 (25.4)	.20 (5.08)	1.74 (44.3)	3.48 (88.4)	3.70 (94.0)	.36 (9.14)
E977NC-CAR	4" (103)	15	12.2	4.366 (110.9)	6.15 (156.2)	7.20 (182.9)	1.00 (25.4)	.20 (5.08)	2.32 (58.8)	4.50 (114.3	4.70 (119.4)	.36 (9.14)

^{*}Note: Some clamp applications require 2 screws, 2 nuts and 2 washers.

Rigid Nonmetallic Conduit

Typical Properties of Conduit Raw Material Compound

Therma	al	ASTM Test	Typical Values
	cient of Thermal Expansion-inch/inch/°F ties @ 73.4°F)	D696	3.38 x 10 ⁻⁵
Heat Di	stortion °F at 264 psi	D648	160°F
Therma	l Conductivity BTU (hr.) (ft.) (°F/in.)	N/A	1.3

Electrical	ASTM Test	Typical Values
Dielectrical Strength volts/mil	D149	1100
Dielectric Constant 60 CPS @ 30°C	D150	4.00
Power Factor 60 CPS @ 30°C	D150	1.93

Mechanical		
Ivicenamear	ASTM Test	Typical Values
Specific Gravity	D792	1.43 - 1.6
Tensile Strength (psi) @ 73.4°F	D638	5,000-6,500
Izod Impact ft lbs./in. of notch	D256	0.65 - 1.5
Flexural Strength (psi)	D790	12,500
Compressive Strength (psi)	D695	9,000
Hardness (Durometer D)	D2240	85

Impedance (Volts lost per ampere per 100 feet) 3Ø 90% P.F. 1Ø 90% 80% P.F. P.F. .0118 .0123 .0136 .0142 Steel Conduit

Using 250 KCmil Cu. conductor. comparable values for other conductor sizes.

Schedule 40®

Wire Fill

Maximum number of conductors in Schedule 40 PVC conduit (Based on Table 1, Chapter 9 of the NEC)

Туре	Conductor Size					Trade	Size								
Letters	AWG, MCM	1/2	3/4	1	11/4	11/2	2	21/2	3	31/2	4	41/4	5	6	8
THWN	14	13	24	39	69	94	154								
	12	10	18	29	51	79	114	164							
	10	6	11	18	32	44	73	194	160						
	8	3	5	9	19	22	36	51	71	106	136				
THHN	6	1	4	6	11	15	26	37	57	76	98	125	154		
IHHN	4	1	2	4	7	9	16	22	35	47	60	75	94	137	236
FEP (14.11	3	1	1	3	6	8	13	19	29	39	51	64	90	116	201
(14 thru 2)	2	1	1	3	5	7	11	16	25	33	43	54	67	97	169
FEPB	1		1	1	3	5	9	12	18	25	32	49	59	72	125
(14 thru 8)	1/0		1	1	3	4	7	10	15	21	27	33	42	61	105
PFA	2/0		1	1	2	3	6	8	13	17	22	28	35	51	88
(14 thru 4/0)	3/0		1	1	1	3	5	7	11	14	18	23	29	42	73
PFAH	4/0		1	1	1	2	4	6	9	12	15	19	24	35	61
(14 thru 4/0)	250			1	1	1	3	4	7	10	12	16	20	28	49
7	300			1	1	1	3	4	6	8	11	13	17	24	42
(14 thru 4/0)	350			1	1	1	2	3	5	7	9	12	15	21	37
XHHW	400				1	1	1	3	5	6	8	10	13	19	33
(4 thru	500				1	1	1	2	4	5	7	9	11	16	27
500MCM)	600				1	1	1	1	3	4	5	7	9	13	22
,	700					1	1	1	3	4	5	6	8	11	19
	750					1	1	1	2	3	4	6	7	11	19
	6	1	3	5	9	13	21	30	47	63	81	102	128	185	320
	600				1	1	1	1	3	4	5	7	9	13	22
XHHW	700					1	1	1	3	4	5	6	7	11	19
	750					1	1	1	2	3	4	6	7	10	18

Weight Comparison

Carlon Schedule 40® rigid nonmetallic conduit compared to other rigid conduit in pounds per 100 feet (approx.)

Nom. Size	Carlon Schedule 40® Rigid Nonmetallic Conduit	Rigid	Aluminum	Electrical Metallic Tubing (EMT)	Inter- mediate Metal Conduit (IMC)	Rigid Metal Conduit (RMC)
1/2	18	22	27	30	57	79
3/4	23	29	36	46	78	105
1	35	43	53	66	112	153
11/4	48	60	70	96	114	201
11/2	57	72	86	112	176	246
2	76	100	116	142	230	334
21/2	125	153	183	230	393	527
3	164	212	239	270	483	690
31/2	198		288	350	561	831
4	234	310	340	400	625	982
5	317	431	465	Not Made	Not Made	1344
6	412	592	612	Not Made	Not Made	1770

Maximum number of conductors in Schedule 80 PVC conduit (Based on Table 1, Chapter 9 of the NEC)

.0106

.0121

.0122

Conductor Size						Trade	Size				
AWG, MCM		1/2	3/4	1	1 ¹ / ₄	1 ¹ / ₂	2	21/2	3	4	5
# 14	THW	4	8	13	24	34	57	82	128		
	THHN	10	19	33	58	81	135	194	0		
12	THW	3	6	11	20	28	47	67	105	183	
	THHN	8	14	24	43	60	100	144	0		
10	THW	3	5	9	16	22	37	54	85	148	
	THHN	5	9	15	27	38	64	92	143		
8	THW	1	2	4	8	11	19	28	44	77	121
	THHN	1	4	7	13	18	31	45	70	123	195
6	THW	1	1	3	6	8	14	20	32	56	88
	THHN	1	3	5	9	13	22	32	50	88	140
4	THW	0	1	2	4	6	10	15	24	42	66
	THHN	1	1	3	6	8	13	20	31	54	86
3	THW	0	1	1	4	5	9	13	20	36	57
	THHN	1	1	2	5	7	11	17	26	46	73
2	THW	0	1	1	3	4	8	11	17	31	49
	THHN	1	1	1	4	5	9	14	22	38	61
1	THW	0	1	1	1	3	5	8	13	22	35
	THHN	0	1	1	3	4	7	10	16	28	45
0	THW	0	0	1	1	2	4	7	11	19	30
	THHN	0	1	1	2	3	6	8	13	24	38
00	THW	0	0	1	1	1	4	6	9	16	26
	THHN	0	1	1	1	3	5	7	11	20	32
000	THW	0	0	1	1	1	3	5	8	14	22
	THHN	0	0	1	1	2	4	6	9	16	26
0000	THW	0	0	1	1	1	3	4	6	11	18
	THHN	0	0	1	1	1	3	5	8	14	22
250	THW	0	0	0	1	1	1	3	5	9	14
	THHN	0	0	0	1	1	2	4	6	11	18
300	ThW	0	0	0	1	1	1	3	4	8	13
	THHN	0	0	0	1	1	1	3	5	9	15
350	THW	0	0	0	1	1	1	2	4	7	11
	THHN	0	0	0	1	1	1	3	4	8	13
400	THW	0	0	0	0	1	1	1	3	6	10
	THHN	0	0	0	1	1	1	2	4	7	12
500	THW	0	0	0	0	1	1	1	3	5	8
	THHN	0	0	0	0	1	1	1	3	6	10
600	THW	0	0	0	0	0	1	1	1	4	7
	THHN	0	0	0	0	1	1	1	3	5	8
700	THW	0	0	0	0	0	1	1	1	3	6

Expansion and Contraction

Temperature Considerations for Rigid Nonmetallic Conduit Compensation for Linear Expansion

Like all construction materials, PVC will expand or contract with variations in temperatures. The coefficient of linear expansion in PVC conduit is 3.38×10^{-5} in./in./°F as compared to 1.2×10^{-5} for aluminum and 0.6×10^{-5} for steel. An expansion coupling is needed whenever the change in length due to temperature variation will exceed $^{1}/_{2}$ in.

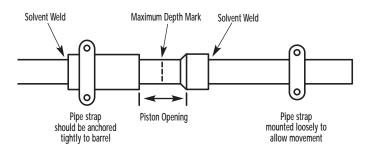
Add 30°F to the estimated temperature range when conduit is installed in direct sunlight to allow for radiant heating.

An expansion coupling consists of two sections of conduit, one telescoping inside another. When installing expansion couplings, alignment of piston and barrel is important. Be sure to mount expansion joint level for best performance.

For a vertical run, the expansion coupling must be installed close to the top of the run with the barrel jointing down, in order that rain water does not run into the opening. The lower end of the conduit run must be secured at the bottom so that any length change due to temperature variation will result in an upward movement.

Expansion Characteristics of PVC Rigid Nonmetallic Conduit Coefficient of Thermal Expansion = 3.38 x 10⁻⁵ in./in./°F

Temperature Change in Degrees F	Length Change in inches per 100 Ft. of PVC Conduit	Temperature Change in Degrees F	Length Change in inches per 100 Ft. of PVC Conduit	Temperature Change in Degrees F	Length Change in inches per 100 Ft. of PVC Conduit	Temperature Change in Degrees F	Length Change in inches per 100 Ft. of PVC Conduit
5	0.2	55	2.2	105	4.2	155	6.3
10	0.4	60	2.4	110	4.5	160	6.5
15	0.6	65	2.6	115	4.7	165	6.7
20	0.8	70	2.8	120	4.9	170	6.9
25	1.0	75	3.0	125	5.1	175	7.1
30	1.2	80	3.2	130	5.3	180	7.3
35	1.4	85	3.4	135	5.5	185	7.5
40	1.6	90	3.6	140	5.7	190	7.7
45	1.8	95	3.8	145	5.9	195	7.9
50	2.0	100	4.1	150	6.1	200	8.1



Determine the Piston Opening

The expansion joint must be installed to allow both expansion and contraction of the conduit run. The correct piston opening for any installation condition should use the following formula:

$$D = \begin{bmatrix} \frac{\text{T max - T installed}}{\Delta \text{T}} \end{bmatrix} E$$

Where:

O = Piston opening (in.)

 $\begin{array}{rcl} T \; \text{max} & = & \text{Maximum anticipated temperature of conduit (°F)} \\ T \; \text{inst.} & = & \text{Temperature of conduit at time of installation (°F)} \\ \Delta T & = & \text{Total change in temperature of conduit (°F)} \end{array}$

E = Expansion allowance built into each expansion coupling (in.)

Example

380 ft. of conduit is to be installed on the outside of a building exposed to the sun in a single straight run. It is expected that the conduit will vary in temperature from 0°F in the winter to 140°F in the summer (this includes the 30°F for radiant heating from the sun.) The installation is to be made at a conduit temperature of 90°F. From the table, a 140°F temperature change will cause a 5.7 in. length change in 100 ft. of conduit. The total change for this example is 5.7" x 3.8 = 21.67" which should be rounded to 22". The number of expansion couplings will be 22" \div coupling range (6" fir E945, 2" for E955.) If the E945 coupling is used, the number will be 22" \div 6 = 3.67 which should be rounded to 4. The coupling should be placed at 95 ft. intervals (380 \div 4). the proper piston setting at the time of installation is calculated as explained above.

$$O = \begin{bmatrix} \frac{140 - 190}{140} \end{bmatrix} 6.0 = 2.1 \text{ in.}$$

Insert the piston into the barrel to the maximum depth. Place a mark on the piston at the end of the barrel. To properly set the piston, pull the piston out of the barrel to correspond to the 2.1 in. calculated above. See drawing at lower left.

Summary

- 1. Anticipate expansion and contraction of PVC conduit in aboveground, exposed installation.
- 2. Use an expansion coupling when length change due to temperature variation will exceed 1/4".
- 3. PVC conduit expands 4.1" for each 100 feet of run and a 100°F temperature change.
- 4. Align expansion coupling with the conduit run to prevent binding.
- 5. Follow the instructions to set the piston opening.
- 6. Rigidly fix the outer barrel of the expansion coupling so it cannot move. Mount the conduit connected to the piston loosely enough to allow the conduit to move as the temperature changes.

Corrosion Resistance of Carlon Schedule 40 and Schedule 80 Conduit and Fittings

Carlon Schedule 40 and Schedule 80 are generally acceptable for use in environments containing the chemicals below. These environmental resistance ratings are based upon tests where the specimens were placed in complete submergence in the reagent listed. Schedule 40 and Schedule 80 can be used in many process areas where

chemicals not on this list are manufactured or used because worker safety requirements dictate that any air presence or splashing be at a very low level.

If there are any questions for specific suitability in a given environment, prototype samples should be tested under actual conditions.

Acetic Acid O-20% Acetic Acid 20-30% Acetic Acid 30-60% Acetic Acid 80% Acetic Acid - Glacial Acetic Acid Vapors Acetylene Adipic Acid Alum Aluminum Chloride Aluminum Fluoride Aluminum Hydroxide Aluminum Oxychloride Aluminum Nitrate Aluminum Sulfate Ammonia-Dry Gas Ammonium Bifluoride Ammonium Carbonate Ammonium Chloride Ammonium Hydroxide 28% Ammonium Metaphosphate Ammonium Nitrate Ammonium Persulfate Ammonium Phosphate - Neutral Ammonium Sulfate Ammonium Sulfide Ammonium Thiocyanate Amyl Alcohol Anthraguinone Anthraquinonesulfonic Acid Antimony Trichloride Aqua Regia Arsenic Acid 80% ArvIsulfonic Acid Barium Carbonate Barium Chloride Barium Hydroxide Barium Sulfate Barium Sulfide Beet - Sugar Liquor Benzine Sulfonic Acid 10% Benzoic Acid Bismuth Carbonate Black Liquor (Paper Industry) Bleach - 12.5% Active CL2 Borax Boric Acid

Breeder Pellets - Dane. Fish

Bromic Acid

Butane Butadiene

Bromine - Water

Butyl Alcohol **Butyl Phenol** Butylene Butyric Acid Calcium Bisulfite Calcium Carbonate Calcium Chlorate Calcium Chloride Calcium Hydroxide Calcium Hypochlorite Calcium Nitrate Calcium Sulfate Carbonic Acid Carbon Dioxide Gas - Wet Carbon Dioxide - Aqueous Solution Carbon Monoxide Caustic Potash Caustic Soda Chloracatic Acid Chloral Hydrate Chlorine Gas (Drv) Chlorine Gas (Moist) Chlorine Water Chlorosulfonic Acid Chrome Alum Chromic Acid 10% Chromic Acid 30% Chromic Acid 40% Chromic Acid 50% Citric Acid Copper Chloride Copper Cyanide Copper Fluoride Copper Nitrate Copper Sulfate Cottonseed Oil Cresvlic Acid 50% Crude Oil - Sour Crude Oil - Sweet Demineralized Water Dextrin Dextrose Diglycolic Acid Disodium Phosphate Ethyl Alcohol Ethylene Glycol Fatty Acids Ferric Chloride Ferric Nitrate Ferric Sulfate Ferrous Chloride Ferrous Sulfate

Fluorine Gas - Wet Fluorine Gas - Dry Fluoroboric Acid Fluorosilicic Acid Formaldehyde Formic Acid Fructose Gallic Acid Gas - Coke Oven Gas - Natural (Dry) Gas - Natural (Wet) Gasoline - Sour Gasoline - Refined Glucose Glycerine (Glycerol) Glycol Glycolic Acid Green Liquor (Paper Industry) Heptane Hexanol, Tertiary Hydrobromic Acid 20% Hydrochloric Acid 0% - 25% Hydrochloric Acid 25% - 40% Hydrocyanic Acid or Hydrogen Cyanide Hydrofluoric Acid 10% Hydrofluorosilicic Acid Hydrogen Phosphide Hydrogen Sulfide - Dry Hydrogen Sulfide -Aqueous Solution Hydroguinone Hydroxylamine Sulfate Iodine Kerosene Lactic Acid 28% Lauric Acid Lauryl Chloride Lauryl Sulfate Lead Acetate Lime Sulfur Linoleic Acid Linseed Oil Lubricating Oils Magnesium Carbonate Magnesium Chloride Magnesium Hydroxide Magnesium Nitrate Magnesium Sulfate Maleic Acid Malic Acid Mercuric Chloride Mercuric Cvanide

Mercurous Nitrate Mercury Methyl Sulfate Methylene Chloride Mineral Oils Naphthalene Nickel Chloride Nickel Nitrate Nitric Acid, Anydrous Nitric Acid 20% Nitric Acid 40% Nitric Acid 60% Nitrobenzene Nitrous Oxide Oils and Fats Oils - Petroleum - (See Type) Oleic Acid Oxalic Acid Palmitic Acid 10% Perchloric Acid 10% Phenylhydrazine Hydrochloride Phosgene, Gas Phosphoric Acid - 0-25% Phosphoric Acid – 25-50% Phosphoric Acid - 50-85% Photographic Chemicals Plating Solutions Potassium Bicarbonate Potassium Bichromate Potassium Borate Potassium Bromide Potassium Carbonate Potassium Chloride Potassium Chromate Potassium Cvanide Potassium Dichromate Potassium Ferricyanide Potassium Ferrocvanide Potassium Fluoride Potassium Hydroxide Potassium Nitrate Potassium Perborate Potassium Perchlorite Potassium Permanganate 10% Potassium Persulfate Potassium Sulfate Propane Propyl Alcohol Silicic Acid Silver Cyanide Silver Nitrate Silver Plating Solutions Sodium Acetate

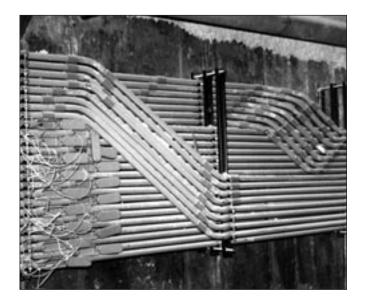
Sodium Arsenite Sodium Benzoate Sodium Bicarbonate Sodium Bisulfate Sodium Bisulfite Sodium Bromide Sodium Chlorate Sodium Chloride Sodium Cyanide Sodium Dichromate Sodium Ferricyanide Sodium Ferrocyanide Sodium Fluoride Sodium Hydroxide Sodium Hypochlorite Sodium Nitrate Sodium Nitrite Sodium Sulfate Sodium Sulfide Sodium Sulfite Sodium Thiosulfate (Hypo) Stannic Chloride Stannous Chloride Stearic Acid Sulfur Sulfur Dioxide - Gas Dry Sulfur Trioxide Sulfuric Acid - 0-10% Sulfuric Acid - 10-75% Sulfuric Acid - 75-90% Sulfurous Acid Tannic Acid Tanning Liquors Tartaric Acid Titanium Tetrachloride Triethanolamine Trimethyl Propane Trisodium Phosphate Turpentine Urea Vinegar Whiskey White Liquor (Paper Industry) Wines Zinc Chloride Zinc Chromate 7inc Cyanide Zinc Nitrate Zinc Sulfate

Rigid Nonmetallic Conduit - Specification Format

Suggested Format for Specifying Carlon Nonmetallic Conduit, Conduit Fittings and Junction Boxes

- **A.** The Carlon rigid nonmetallic conduit system shall be installed as indicated on the drawings and as specified herein.
- **B.** All wiring shall be installed in Carlon rigid nonmetallic conduit. All conduit shall be secured by means of proper fittings. All fittings shall be Carlon.
- **C.** Carlon outlet boxes, fittings and junction boxes shall be used for all outlets, pull boxes and junction points. (Lighting fixtures shall not be supported or hung from PVC junction boxes but be supported in position by other means.)
- D. Exposed conduits shall be mounted securely by suitable hangers or straps with the maximum spacing of points of supports not greater than indicated by Section 352.30 of the NEC.
- E. Except where embedded in concrete or direct buried, Carlon conduit shall be supported to permit adequate lineal movement to allow for expansion and contraction of conduit due to temperature change.
- **F.** For aboveground installations where temperature change in excess of 14°C (25°F) is anticipated, expansion joints shall be installed. See Table 352.44(A) NEC for expansion characteristics.
- G. Proper care shall be taken when field bending is employed to maintain the internal diameter and wall thickness of the conduit.







Heavy Wall Rigid Schedule 40 Utility Conduit

Non-UL LIsted

- Rated for 90°C conductors or cable
- For direct earth burial and concrete encasement, specifically designed for the power utility specifications.

With Integral Bell*



*Limited geographical area

Pa	art No.	Std. Crate Qty.			Dimensions			Wt. Per
20'	10'	10'	20'	Nom. Size	0.D.	I.D.	Wall	100'
59610-020	59610-010	2250'	4500'	1/2"	1.900	1.610	.145	56
59611-020	59611-010	1400'	2800'	2"	2.375	2.067	.154	75
59611X-020	59611X-010	1200'	2400'	2"	2.125	1.817	.154	79
59612-020	59612-010	930'	1860'	21/2"	2.875	2.469	.203	124
59613-020	59613-010	880'	1760'	3"	3.500	3.068	.216	172
59615-020	59615-010	570'	1140'	4''	4.500	4.026	.237	244
59616-020	59616-010	380'	760'	5"	5.563	5.047	.258	331
59617-020	59617-010	260'	520'	6"	6.625	6.065	.280	430
59618-020	59618-010	150'	300'	8"	8.625	7.981	.322	647

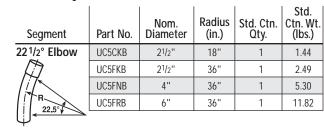
Dimensions in Inches of Utility Conduit Integral Bells



Difficusions in filenes of Othicy Conduit integra								
Trade Size	A At Entrance Maximum		At Bo	ttom Minimum	C Nominal Bell Depth			
11/2	1.926	1.916	1.911	1.901	2.750			
2	2.405	2.395	2.386	2.376	3.250			
21/2	2.911	2.901	2.887	2.877	3.250			
3	3.543	3.533	3.513	3.503	3.875			
4	4.549	4.539	4.514	4.504	3.875			
5	5.619	5.609	5.578	5.568	4.625			
6	6.692	6.682	6.641	6.631	5.625			
8	8.692	8.682	8.614	8.631	6.375			

Deep Socket Schedule 40 Utility Elbows with Integral Belled Ends

1					
Segment	Part No.	Nom. Diameter	Radius (in.)	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
90° Elbow	UC9BHB	11/2"	12"	20	25.00
	UC9DHB	11/2"	24"	1	2.13
	UC9FHB	11/2"	36"	1	3.05
	UC9BJB	2"	12"	1	1.44
90° R	UC9DJB	2"	24"	1	2.82
90° R	UC9FJB	2"	36"	1	4.14
Ψ—	UC9HJB	2"	48''	1	5.15
	UC9DKB	21/2"	24"	1	5.00
	UC9FKB	21/2"	36"	1	7.15
	UC9DLB	3"	24"	1	6.57
	UC9FLB	3"	36"	1	9.15
	UC9DNB	4"	24"	1	10.59
	UC9FNB	4"	36"	1	13.64
	UC9HNB	4"	48"	1	17.72
	UC9FRB	6"	36"	1	25.80
	UC9HRB	6"	48''	1	32.24
45° Elbow	UC7FHB	11/2"	36"	1	1.74
	UC7FJB	2"	36"	1	2.07
/ <i>X</i>	UC7CKB	21/2"	18"	1	2.27
//X R	UC7FKB	21/2"	36"	1	4.12
45°	UC7FLB	3"	36"	1	5.00
	UC7FNB	4"	36"	1	8.15
T	UC7HRB	6"	48"	1	17.19





Dimensions in Inches of Utility Elbows Bells

Trade	A At Entrance			B ottom	C Nominal Bell	
Size	Max.	Min.	Max.	Min.	Max.	Min.
11/2	1.926	1.916	1.900	1.888	2.750	2.500
2	2.405	2.395	2.381	2.357	2.875	2.625
21/2	2.911	2.901	2.875	2.861	3.125	2.875
3	3.543	3.533	3.500	3.484	3.125	2.875
4	4.549	4.539	4.500	4.482	3.750	3.500
5	5.619	5.609	5.563	5.543	4.250	4.000
6	6.692	6.682	6.625	6.603	5.250	5.000
8	8.692	8.682	8.641	8.631	6.250	6.000

Rigid Nonmetallic Long Belled Utility Elbows

Specifications Non-UL Listed



Part Number	Nom. Diameter	Radius (In.)	Std. Ctn. Oty.	Std. Ctn. Wt. (lbs.)
UC5FRBLB	6"	36	1	9.6



UC7CJBLB	2"	18	1	1.3
UC7DJBLB	2"	24	1	1.4
UC7DLBLB	3"	24	1	5.0
UC7DNBLB	4"	24	1	5.8
UC7DPBLB	5"	24	1	8.5
UC7FJBLB	2"	36	1	2.2
UC7FLBLB	3"	36	1	5.2
UC7FNBLB	4"	36	1	7.8
UC7FPBLB	5"	36	1	11.1
UC7FRBLB	6"	36	1	9.6
UC7HJBLB	2"	48	1	2.8
UC7HLBLB	3"	48	1	6.6
UC7HNBLB	4"	48	1	9.7
UC7HPBLB	5"	48	1	13.7
UC7HRBLB	6"	48	1	18.1



UC9CJBLB	2"	18	1	2.2
UC9DJBLB	2"	24	1	2.8
UC9DLBLB	3"	24	1	6.6
UC9DNBLB	4"	24	1	10.6
UC9DPBLB	5"	24	1	13.7
UC9FJBLB	2"	36	1	4.2
UC9FLBLB	3"	36	1	9.2
UC9FNBLB	4"	36	1	13.6
UC9FPBLB	5"	36	1	19
UC9FRBLB	6"	36	1	25.8
UC9HJBLB	2"	48	1	5.1
UC9HLBLB	3"	48	1	12
UC9HNBLB	4"	48	1	17.1
UC9HPBLB	5"	48	1	24.1
UC9HRBLB	6"	48	1	32.2

Integral Belled End Dimensions



Trade Size		A ance (in.) Minimum	At Bot Maximum	B ttom (in.) Minimum	C Nominal Bell Depth (in.)
1 - 11/2"	1.924	1.912	1.900	1.888	2 3/4"
2"	2.399	2.387	2.375	2.363	3 1/4"
2 - 21/2"	2.897	2.883	2.875	2.861	3 1/4"
3"	3.523	3.507	3.500	3.484	4"
4"	4.524	4.506	4.500	4.482	4 3/4"
5"	5.603	5.583	5.563	5.543	5 ³ /4"
6"	6.669	6.647	6.625	6.603	6 1/4"

Carlon® P&C® Duct

Carlon P&C Duct and fittings are designed and formulated specifically for concrete encased and direct burial applications of power utility primaries, secondaries, street lighting and distribution systems. Carlon P&C Duct complies with NEMA Standard TC-6 & 8, and ASTM F-512 for utility duct. Both EB and DB duct are rated for use with 90°C conductors. P&C Duct fittings comply with NEMA TC-9 Standard.

Carlon Telephone Duct complies with NEMA TC-10. Bellcore CAO 8546, GT8343, and other applicable telephone standards.

Advantages:

- Manufactured for high modulus C-250 compound
- High impact strength
- Excellent structural strength
- Superior load bearing
- Multiple duct banks can be pre-assembled and lowered into trench
- No special cutting or tapering devices required
- Provides easy bending around obstructions minimizing the need for special angle couplings and sweeps
- Superior aging and weathering characteristics

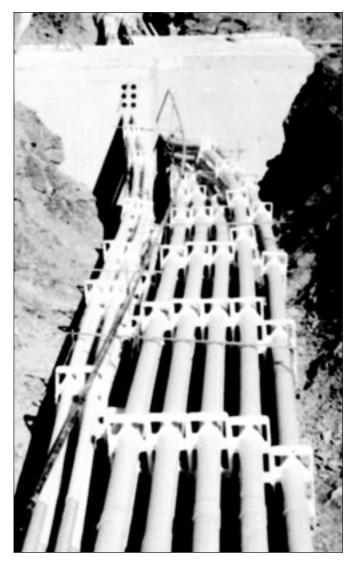
Features:

- Heat resistant
- Fire resistant
- Conforms to NEMA Standard TC-6 & 8 and ASTM Standard F-512 for utility duct*
- Carlon P&C Duct Type EB-20 is ETL Listed
- Low coefficient of expansion
- Continuous rigid control
- Smooth inner wall and smooth transition between joints

Engineering Features:

Chemical Inertness resists water absorption and is totally immune to galvanic or electrolytic attacks.

Solvent Cemented Joints provide leakproof duct runs tested at 25 psi. This type of joint eliminates the need for costly mechanical rodding procedure. Carlon P&C Duct can be rodded pneumatically.





RUS Listed

Carlon® P&C® Duct Type EB

Carlon nonmetallic P&C Duct Type EB is manufactured from Carlon's exclusive high modulus C-600 compound, developed especially for power and communications applications, and is designed for use in concrete encased installations. Type EB is rated for 90°C Cable.







P&C Duct Type EB-20

ETL Listed. Meets NEMA Standard TC-6 & 8
FR-20/ASTM F-512

LD-20/A31W11-312						
om. ize	Part Number	Std. Crate Qty.	Approx. Wt. per 100 ft.	O.D.	*Min. Wall	
2	48711-020	2,800	36	2.375	.060	
3	48713-020	2,000	59	3.500	.061	
4	48715-020	1,140	98	4.500	.082	
5	48716-020	760	148	5.563	.103	
6	48717-020	520	212	6.625	.125	
	2 3 4 5	Number 2 48711-020 3 48713-020 4 48715-020 5 48716-020	Dom. ize Part Number Std. Crate Oty. 2 48711-020 2,800 3 48713-020 2,000 4 48715-020 1,140 5 48716-020 760	Om. ize Part Number Std. Crate Oty. Approx. Wt. per 100 ft. 2 48711-020 2,800 36 3 48713-020 2,000 59 4 48715-020 1,140 98 5 48716-020 760 148	Om. ize Part Number Std. Crate Oty. Approx. Wt. per 100 ft. O.D. 2 48711-020 2,800 36 2.375 3 48713-020 2,000 59 3.500 4 48715-020 1,140 98 4.500 5 48716-020 760 148 5.563	

*Min. wall thickness relates to 500,000 modulus Note: One belled end per 20' length

P&C Duct Type EB-35 Heavy Wall

Meets NEMA Standard TC-6 & 8 EB-35/ASTM F-512

25 00//10/1111 012						
Nom. Size	Part Number	Std. Crate Qty.	Approx. Wt. per 100 ft.	O.D.	*Min. Wall	
2	68711-020	2,800	39	2.375	.060	
3	68713-020	2,000	72	3.500	.076	
4	68715-020	1,140	116	4.500	.100	
5	68716-020	760	177	5.563	.126	
6	68717-020**	520	251	6.625	.152	

*Min. wall thickness relates to 500,000 modulus

**Special order item

Note: One belled end per 20' length

Use DB Sweeps with EB Duct.

Carlon® P&C® Duct Type DB

Carlon nonmetallic P&C Duct Type DB is manufactured from Carlon's exclusive high modulus C-600 compound, developed especially for power and communications applications, and is designed for use in direct burial or concrete encased installations. Type DB is rated for 90°C Cable.



Trenching:

Trench should be graded true and free from stones and soft spots. Backfill should also be free of stones and be firmly tamped around the sides of the conduit, to develop maximum supporting strength. Tamping on top of the conduit is not recommended.

Backfill:

In rocky soil where it is impossible to have an even trench bottom, a selected backfill should be put in before laying the conduit. Selected backfill (not tamped) at least 6" over the top of the conduit is recommended. After final backfill is placed, tamping may be used to finish the grade.

The method of direct burial varies with soil condition, load conditions, and engineering preferences. A common practice is to lay one tier at a time, backfill, and repeat with the desired spacing of ducts being made as ducts are layered.

Many companies have used the heavier wall Type DB-120 in a duct-to-duct formation. Where limited loads occur, this type of installation has proven satisfactory.

RUS Listed

P&C Duct Type DB-60

Meets NEMA Standard TC-6 & 8 DB-60/ASTM F-512

Nom. Size	Part Number	Std. Crate Qty.	Approx. Wt. per 100 ft.	O.D.	*Min. Wall
2	48811-020	2,800	38	2.375	.060
3	48813-020	2,000	81	3.500	.092
4	48815-020	1,140	133	4.500	.121
5	48816-020	760	202	5.563	.152
6	48817-020	520	288	6.625	.182

*Min. wall thickness relates to 500,000 modulus

Note: One belled end per 20' length

P&C Duct Type DB-120 Heavy Wall

Meets NEMA Standard TC-6 & 8 DB-120/ASTM F-512

Nom. Size	Part Number	Std. Crate Qty.	Approx. Wt. per 100 ft.	O.D.	*Min. Wall
1	48808-020	8,000	18	1.315	.060
11/2	48810-020	4,500	28	1.900	.060
2	68811-020	2,800	47	2.375	.077
2 1/2	68812-020	2,040	68	2.875	.100
3	68813-020	2,000	99	3.500	.118
4	68815-020	1,140	165	4.500	.154
5	68816-020	760	251	5.563	.191
6	68817-020	520	356	6.625	.227

*Min. wall thickness relates to 500,000 modulus

Note: One belled end per 20' length

Carlon Special California Rigid Nonmetallic DB-100 P&C® Duct & Sweeps

RUS Listed



Carlon DB-100 nonmetallic P&C Duct Type DB is manufactured to NEMA Standard TC-6 & 8 and to specifications that exist within the State of California, and is designed for use in direct burial or concrete encased installations. Rated for use with 90°C cable.

P&C Duct Type DB-100

Meets NEMA Standard TC-6 & 8 and ASTM F-512

Nom. Size	Part Number	Std. Crate Oty.	Approx. Wt. per 100 ft.	O.D.	*Min. Wall
4	68915-020	1,140	154	4.500	.155
5	68916-020	760	237	5.563	.192
6	68917-020	520	337	6.625	.229

^{*}Min. wall thickness relates to 500,000 modulus Note: One belled end per 20' length

P&C Duct Type DB-100 DWP Approved

Meets NEMA Standard TC-6 & 8 and ASTM F-512

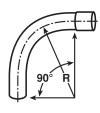
Nom. Size	Part Number	Std. Crate Oty.	Approx. Wt. per 100 ft.	O.D.	*Min. Wall
3	68913D-020	2,000	95	4.500	.155
4	68915D-020	1,140	156	5.563	.192
5	68916D-020	760	237	6.625	.229

^{*}Min. wall thickness relates to 500,000 modulus

DB-100 Sweeps

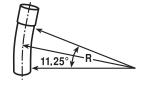
*Consult factory for additional sizes

90° Sweep – 48" Radius



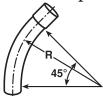
Part No.	Size	Sta. Ctn. Qty.
PE9HN	4''	1
PE9HP	5"	1

11¹/₄° Sweep – 150" Radius



Part No.	Size	Std. Ctn. Qty.
PE3SP	5"	1

45° Sweep – 150" Radius



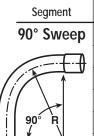
Part No.	Size	Std. Ctn. Qty.
PE7SP	5"	1

11¹/₄° Sweep – 150" Radius (Segmented sweeps)

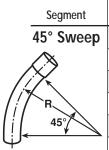
Part No.	Size	Std. Ctn. Oty.
PE3SNS	4''	1
PE3SPS	5"	1
PE3SRS	6"	1

DB-60 Sweeps

*Consult factory for additional sizes/configurations



Part No.	Size	Radius (in.)	Std. Ctn. Qty.
PF9CH	11/2"	18"	1
PF9CJ	2"	18"	1
PF9CL	3"	18"	1
PF9CN	4"	18"	1
PF9DF	1"	24"	1
PF9DH	11/2"	24"	1
PF9DJ	2"	24"	1
PF9DL	3"	24"	1
PF9DN	4''	24"	1
PF9DP	5"	24"	1
PF9FF	1"	36"	1
PF9FJ	2"	36"	1
PF9FL	3"	36"	1
PF9FN	4"	36"	1
PF9FP	5"	36"	1
PF9FR	6"	36"	1
PF9HL	3"	48''	1
PF9HN	4"	48''	1
PF9HP	5"	48''	1
PF9HR	6"	48''	1
PF9IL	3"	60''	1
PF9IN	4"	60''	1
PF9IP	5"	60''	1
PF9IR	6"	60''	1
PF9SH	11/2"	150"	1
PF9SJ	2"	150"	1
PF9SL	3"	150"	1
PF9SR	6"	150"	1
PF9VL	3"	300"	1
PF9VN	4"	300"	1
PF9VP	5"	300"	1



	Part No.	Size	Radius (in.)	Std. Ctn. Qty.
p	PF7CF	1"	18"	1
	PF7CH	11/2"	18"	1
	PF7CJ	2"	18"	1
	PF7CL	3"	18"	1
	PF7DF	1"	24"	1
_	PF7DH	11/2"	24"	1
	PF7DJ	2"	24"	1
	PF7DL	3"	24"	1
	PF7DN	4"	24"	1
	PF7FF	1"	36"	1
	PF7FH	11/2"	36"	1
	PF7FJ	2"	36"	1
	PF7FL	3"	36"	1
	PF7FN	4"	36"	1
	PF7FP	5"	36"	1
	PF7FR	6"	36"	1
	PF7HJ	2"	48"	1
	PF7HL	3"	48"	1
	PF7HN	4"	48"	1
	PF7HP	5"	48''	1
	PF7HR	6"	48"	1
	PF7IL	3"	60"	1
	PF7IP	5"	60"	1
	PF7SH	11/2"	150"	1
	PF7SJ	2"	150"	1
	PF7SL	3"	150"	1
	PF7SN	4"	150"	1
	PF7SP	5"	150"	1
	PF7SR	6"	150"	1
	PF7VN	4"	300"	1
	PF7VP	5"	300"	1
	PF7VR	6"	300"	1

DB-60 Sweeps

*Consult factory for additional sizes/configurations

Segment	Part No.	Size	Radius (in.)	Std. Ctn. Qty.
30° Sweep	PF6CJ	2"	18"	1
M	PF6CL	3"	18"	1
<i> </i>	PF6DL	3"	24"	1
/i /	PF6DN	4"	24"	1
R 30°√	PF6DP	5"	24"	1
<u></u>	PF6FJ	2"	36"	1
	PF6FL	3"	36"	1
	PF6FN	4"	36"	1
	PF6FR	6"	36"	1
	PF6HJ	2"	48''	1
	PF6HN	4"	48"	1
	PF6HP	5"	48"	1
	PF6HR	6"	48"	1
	PF6IN	4"	60"	1
	PF6IP	5"	60"	1
	PF6SJ	2"	150"	1
	PF6SN	4"	150"	1
	PF6SP	5"	150"	1
	PF6VJ	2"	300"	1
	PF6VN	4"	300"	1
	PF6VR	6"	300"	1
22 ¹ /2° Sweep	PF5DN	4''	24"	1
M	PF5DP	5"	24"	1
17/	PF5FF	1"	36"	1
I R	PF5FL	3''	36"	1
22.5°√	PF5FN	4"	36"	1
Ψ	PF5FP	5"	36"	1
	PF5FR	6"	36"	1
	PF5HL	3"	48"	1
	PF5HN	4"	48"	1
	PF5HR	6"	48"	1
	PF5IJ PF5IL	2" 3"	60"	1
	PF5IP	5"	60"	1
	PF5IR	6"	60"	1
	PF5SJ	2"	150"	1
	PF5SL	3"	150"	1
	PF5SN	4"	150"	1
	PF5SP	5"	150"	1
	PF5SR	6"	150"	1
	PF5VN	4"	300"	1
	PF5VP	5"	300"	1
	PF5VR	6"	300"	1
	HYCTT	0	300	

Segment	Part No.	Size	Radius (in.)	Std. Ctn. Qty.
111/4° Sweep	PF3CJ	2"	18"	1
\$	PF3CL	3"	18"	1
\mathcal{H}_{\sim}	PF3DF	1"	24"	1
11 25° J R	PF3DH	11/2"	24"	1
11.25°√ R	PF3DP	5"	24"	1
•	PF3FJ	2"	36"	1
	PF3FL	3"	36"	1
	PF3FN	4''	36"	1
	PF3FP	5"	36"	1
	PF3FR	6"	36"	1
	PF3HL	3"	48"	1
	PF3HN	4"	48"	1
	PF3HP	5"	48"	1
	PF3HR	6"	48"	1
	PF3IJ	2"	60"	1
	PF3IR	6"	60"	1
	PF3SJ	2"	150"	1
	PF3SN	4"	150"	1
	PF3SP	5"	150"	1
	PF3SR	6"	150"	1
	PF3VJ	2"	300"	1
	PF3VL	3"	300"	1
	PF3VN	4''	300"	1

PF3VP

PF3VR

5"

6"

300"

300"

1

1

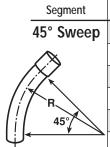
P&C® Duct - DB-120 Sweeps

DB-120 Sweeps

*Consult factory for additional sizes/configurations



Part No.	Size	Radius (in.)	Std. Ctn. Qty.
PH9CJ	2"	18"	1
PH9CL	3"	18"	1
PH9CN	4"	18"	1
PH9DJ	2"	24"	1
PH9DL	3"	24"	1
PH9DN	4"	24"	1
PH9DP	5"	24"	1
PH9FJ	2"	36"	1
PH9FL	3"	36"	1
PH9FN	4"	36"	1
PH9FP	5"	36"	1
PH9FR	6"	36"	1
PH9HJ	2"	48''	1
PH9HL	3"	48''	1
PH9HN	4''	48''	1
PH9HP	5"	48''	1
PH9HR	6"	48''	1
PH9IJ	2"	60''	1
PH9IL	3"	60''	1
PH9IN	4"	60"	1
PH9IR	6"	60''	1
PH9SJ	2"	150"	1
PH9SL	3"	150"	1
PH9SN	4"	150"	1
PH9SP	5"	150"	1
PH9SR	6"	150"	1
PH9VN	4''	300"	1
PH9VR	6"	300"	1



Part No.	Size	(in.)	Ctn. Qty.
PH7CJ	2"	18"	1
PH7CL	3"	18"	1
PH7CN	4''	18"	1
PH7DJ	2"	24"	1
PH7DL	3"	24"	1
PH7DN	4''	24"	1
PH7DP	5"	24"	1
PH7FJ	2"	36"	1
PH7FK	21/2"	36"	1
PH7FL	3"	36"	1
PH7FN	4''	36"	1
PH7FP	5"	36"	1
PH7FR	6"	36"	1
PH7HJ	2"	48''	1
PH7HL	3"	48"	1
PH7HN	4''	48''	1
PH7HP	5"	48"	1
PH7HR	6"	48"	1
PH7IJ	2"	60"	1
PH7IL	3"	60"	1
PH7IP	5"	60"	1
PH7SJ	2"	150"	1
PH7SN	4''	150"	1
PH7SP	5"	150"	1
PH7SR	6"	150"	1

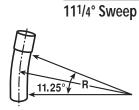
Radius Std.

DB-120 Sweeps

Note: For Nom. Diameter of 1": use 1" DB-60 Sweeps For Nom. Diameter of $1^{1/2}$ ": use $1^{1/2}$ " DB-60 Sweeps

*Consult factory for additional sizes/configurations

Segment	Part No.	Size	Radius (in.)	Std. Ctn. Qty.
30° Sweep	PH6CJ	2"	18"	1
M	PH6CL	3"	18"	1
/ //	PH6CN	4''	18"	1
R	PH6DJ	2"	24"	1
30°√	PH6DN	4''	24"	1
J ~~~	PH6DP	5"	24"	1
	PH6FJ	2"	36"	1
	PH6FL	3"	36"	1
	PH6FN	4"	36"	1
	PH6FP	5"	36"	1
	PH6FR	6"	36"	1
	PH6HN	4"	48"	1
	PH6HR	6"	48"	1
	PH6IN	4''	60"	1
	PH6SL	3"	150"	1
221/2° Sweep	PH5CJ	2"	18"	1
(*)	PH5CL	3"	18"	1
	PH5CN	4''	18"	1
I R	PH5DJ	2"	24"	1
22.5°V	PH5DL	3"	24"	1
T	PH5DP	5"	24"	1
	PH5FJ	2"	36"	1
	PH5FL	3"	36"	1
	PH5FN	4''	36"	1
	PH5FP	5"	36"	1
	PH5HL	3"	48''	1
	PH5HN	4''	48''	1
	PH5HP	5''	48''	1
	PH5HR	6"	48''	1
	PH5IJ	2"	60"	1
	PH5IL	3"	60"	1
	PH5IR	6"	60"	1
	PH5SN	4"	150"	1
	PH5SP	5"	150"	1
	PH5SR	6"	150"	1
	PH5VJ	2"	300"	1
	PH5VN	4"	300"	1



Segment

Part No.	Size	(in.)	Ctn. Oty.
PH3CJ	2"	18"	1
PH3CN	4"	18"	1
PH3DJ	2"	24"	1
PH3DN	4"	24"	1
PH3DP	5"	24"	1
PH3FJ	2"	36"	1
PH3FL	3"	36"	1
PH3FN	4"	36"	1
PH3FP	5"	36"	1
PH3FR	6"	36"	1
PH3HN	4"	48"	1
PH3IN	4"	60"	1
PH3IP	5"	60"	1
PH3IR	6"	60"	1
PH3SJ	2"	150"	1
PH3SN	4"	150"	1
PH3SP	5"	150"	1
PH3SR	6"	150"	1
PH3VR	6"	300"	1

Radius | Std.

Couplings

(Use same type fittings for Type EB and DB)

 $Sleeve\ Coupling\ ({\rm for\ repair\ work})$



No internal stop

-	_		
	Part No.	Size	Std. Ctn. Qty.
	E200J	2"	30
	E200L	3"	25
	E200M	31/2"	20
	E200N	4"	15
	E200P	5"	8
	E200R	6"	5

Coupling



Part No.	Size	Std. Ctn. Qty.
E940H	11/2"	25
E940J	2"	30
E940K	21/2"	20
E240L	3"	30
E240N	4''	15
E240P	5"	20
E240RF	6"	5

^{*}Sizes 11/2" - 21/2" order part numbers E940_

Long Line Coupling

*Consult factory for additional sizes



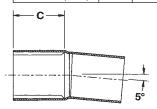
Part No.	Size	Std. Ctn. Qty.
E941H	11/2"	40
E941J	2"	25
E941K	21/2"	15
E241L	3"	15
E241N	4''	10

^{*}Sizes 11/2" - 21/2" order part numbers E941_

5° Angle Coupling BxS



Part No.	Size	С	Std. Ctn. Qty.
E244J	2"	2.13	15
E244L	3"	3.25	5
E244NF	4"	3.50	15
E244NF5 (short)	4"	1.87	25
E244PF	5"	4.13	10
E244PF5 (short)	5"	2.00	20
E244RF	6"	5.13	5
E244RF5 (short)	6"	2.25	10



5° Angle Coupling BxB



Part No.	Size	Std. Ctn. Qty.
E2440NF	4''	15
E2440PF	5"	10
E2440RF	6"	5

5° Angle Coupling BxB (Swedged)



Part No.	Size	Std. Ctn. Qty.
E245J	2"	20
E245N	4''	10
E245P	5"	10
E245R	6"	5

Plugs Plug



Part No.	Size	Std. Ctn. Qty.
P258H	11/2"	50

Plug with Pull Tab



Part No.	Size	Std. Ctn. Qty.
P258JT	2"	60
P258LT	3"	30
P258NT	4''	48
P258PT	5''	30
P258RT	6"	30

Swedge Coupling

Part No.	Size	Std. Ctn. Qty.
E242J	2"	48

5° Angle Coupling S x S

Part No.	Size	Std. Ctn. Qty.
E2440N5	4''	15
E2440P5	5"	20

Adapters

Male Adapter



Part No.	Size	Std. Ctn. Qty.
E943F	1"	50
E943H	11/2"	25
E943J	2"	50
E943L-CAR	3"	5
E943N-CAR	4''	5
E943P	5"	5
E943R	6"	10

Female Adapter



Part No.	Size	Std. Ctn. Qty.
E942F	1"	50
E942H	11/2"	25
E942J	2"	30
E942L-CAR	3"	3
E942N-CAR	4"	7
E942P	5"	8
E942R	6"	6

Reducers

Swedge Reducer (Male x Male)



Part No.	Size	Std. Ctn. Qty.
E252LJ	3" x 2"	50
E252NJS	4" x 2"	25
E252NL	4" x 3"	25
E252PN	5" x 4"	20
E252RNS	6" x 4"	6
E252RP	6" x 5"	10

Markers Cable Marker



Part No.	Size	Std. Ctn. Qty.
E299JM	2" x 42"	1
E299JP	2" x 56"	1
E299JR	2" x 78"	1
E299NN	4" x 120"	1
E299NX7	4" x 84"	1

End Bells

End Bell



Part No.	Size	Std. Ctn. Qty.
E997F-CAR	1"	15
E997H-CAR	11/2"	10
E997J-CAR	2"	10
E997L-CAR	3"	10
E997N	4''	30
E997P	5"	15
E997R	6"	10
·		

Molded End Bell

(For use with P&C Duct only)



Part No.	Size	Std. Ctn. Qty.
E297J	2''	40
E297L	3''	50
E297N	4''	30
E297P	5''	15

Fabricated End Bell

(For use with P&C Duct only)

*Consult factory for additional sizes



Part No.	Size	Std. Ctn. Qty.
E297RF	6" x 5"	10
E297JN	2" x 4"	25
E297LR	3" x 6"	20
E297NT	4" x 10"	15
E297PS	5" x 8"	10
E297PT	5" x 10"	10
E297RT	6" x 10"	6

Long Length End Bell P&C Duct



Part No.	Size	Std. Ctn. Qty.
E297RR	6"(6" long)	10

Note: for manhole terminations

Telephone Duct Type B

Carlon® Telephone Duct Type B is designed for use in concrete encased installations. Type B duct meets the requirements of NEMA TC-10 and conforms to Bellcore CAO8546.



RUS Listed

Telephone Duct Type B

Nom. Size	Part Number	Std. Crate Qty.	Approx. Wt. per 100 ft.	O.D.	*Min. Wall
4"	68315-020 (Grey)	1260	100	4.350	.090
4''	68315W-020 (White)	1260	100	4.350	.095

Telephone Duct Type B Heavy Wall

Nom. Size	Part Number	Std. Crate Qty.	Approx. Wt. per 100 ft.	0.D.	*Min. Wall
4"	68415-020 (Grey)	1260	100	4.350	.100
4"	68415W-020 (White)	1260	100	4.350	.100

* Estimated min. wall to meet performance criteria (500,000 modulus compound

NOTE: One Belled End per 20' length (for concrete encasement only)

Telephone Duct Type C

Carlon® Telephone Duct Type C is designed for direct burial or concrete encased applications. Type C duct complies with NEMA Standard TC-10 and Bellcore CAO8546.



RUS Listed

Telephone Duct Type C

One belled end per 20' length

Nom. Size	Part Number	Std. Crate Qty.	Approx. Wt. per 100 ft.	O.D.	*Min. Wall
4"	68515-020 (Grey)	1260	151	4.350	.150
4''	68515W-020 (White)	1260	151	4.350	.150

* Estimated min. wall to meet performance criteria

Telephone Duct Type D

White Only (Carlon® Telephone Duct Type D is designed to be used in exposed applications.)



RUS Listed

Telephone Duct Type D

Nom. Size	Part Number	Std. Crate Qty.	Approx. Wt. per 100 ft.		*Min. Wall
4''	68615-020 (White)	1260	150	4.350	.160

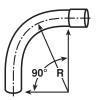
* Estimated min. wall to meet performance criteria

RUS Listed

Telephone Duct Sweeps Manufactured from Heavy Wall "C" Duct

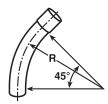
Each sweep is furnished with a belled end. Straight end length 3".

90° Sweep



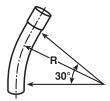
Part No. (Gray)	Bend Radius	Std. Ctn. Qty.
TP9CN	1'6"	1
TP9DN	2'	1
TP9FN	3'	1
TP9HN	4'	1
TP9IN	5'	1
TP9JN	6'	1
TP9MN	9'	1
TP9NN	10'	1
TP9SN	12'6"	1
TP9TN	15'	1
TP9UN	20'	1
(White):		
TW9DN	2'	1
TW9FN	3'	1
TW9HN	4'	1
TW9IN	5'	1
TW9JN	6'	1
TW9MN	9'	1
TW9NN	10'	1
TW9SN	12'6"	1
TW9TN	15'	1

45° Sweep



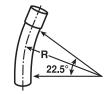
Part No. (Gray)	Bend Radius	Std. Ctn. Qty.
TP7DN	2'	1
TP7FN	3'	1
TP7HN	4'	1
TP7ON	4'6"	1
TP7IN	5'	1
TP7JN	6'	1
TP7MN	9'	1
TP7NN	10'	1
TP7RN	12'	1
TP7SN	12'6"	1
TP7TN	15'	1
TP7UN	20'	1
(White):		
TW7DN	2'	1
TW7FN	3'	1
TW7HN	4'	1
TW70N	4'6''	1
TW7IN	5'	1
TW7JN	6'	1
TW7MN	9'	1
TW7NN	10'	1
TW7RN	12'	1
TW7SN	12'6"	1
TW7TN	15'	1

30° Sweep



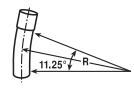
Part No. Gray	Radius	Std. Ctn. Qty.
TP6FN	3'	1
TP6HN	4'	1
TP6JN	6'	1
TP6MN	9'	1
TP6NN	10'	1
TP6RN	12'	1
TP6SN	12'6"	1
TP6TN	15'	1
(White):		
TW6FN	3'	1
TW6HN	4'	1
TW6JN	6'	1
TW6MN	9'	1
TW6NN	10'	1
TW6RN	12'	1
TW6SN	12'6"	1
TW6TN	15'	1

221/2° Sweep



Part No. (Gray)	Bend Radius	Std. Ctn. Qty.
TP5DN	2'	1
TP5FN	3'	1
TP5HN	4'	1
TP5IN	5'	1
TP5JN	6'	1
TP5MN	9'	1
TP5RN	12'	1
TP5SN	12'6"	1
TP5TN	15'	1
TP5UN	20'	1
TP5VN	25'	1
(White):		
TW5DN	2'	1
TW5FN	3'	1
TW5HN	4'	1
TW5JN	6'	1
TW5MN	9'	1
TW5SN	12'6"	1

11¹/₄° Sweep



Part No. (Gray)	Bend Radius	Std. Ctn. Qty.
TP3DN	2'	1
TP3FN	3'	1
TP3HN	4'	1
TP3IN	5'	1
TP3JN	6'	1
(White):		
TW3DN	2'	1
TW3FN	3'	1
TW3HN	4'	1

E-Bends – Riser Ells

90° Sweep



Part No. (Gray Only)	Bend Radius	Std. Ctn. Qty.
TA9ENT (Belled End)	2' 6"	1
TA9FN (Plain End)	3'	1
TA9FNT (Belled End)	3'	1

Telephone Duct Fittings & Accessories

Couplings

Sleeve Coupling



No	internal	stop	

Part No.	Size	Std. Ctn. Qty.			
For Repair Work:		_			
E900N	4"x 6"	25			
E900NU	4"x 12"	10			
E900NW (White)	4"x 6"	25			
Split Sleeve Couplings:					
E900MS	31/2"	1			
E900NS	4"	25			
E900NS8 (White)	4"x 8"	15			
E900NSW (White)	4"	25			
E900PS	5"	15			
For Type D Duct A	For Type D Duct Applications Only:				
E900DN (White)	4"	25			

Molded Coupling



Internal Stop

Part No.	Size	Std. Ctn. Qty.
E908N	4"	25

5° Angle Coupling



Part No.	Size	Std. Ctn. Qty.
E914N	4"	15

Plugs

$Plug \ \ {\rm with} \ {\rm Pull} \ {\rm Tab}$



Part No.	Size	Std. Ctn. Qty.
P258 NTB	4"	50

End Bells

Square to Round



Part No.	Size	Std. Ctn. Qty.
E903N	4" Sq.	4
E903N	4" Sq.	4

Molded End Bell



Part No.	Size	Std. Ctn. Qty.
E917N	4''	10

Straight End Bell



Part No.	Size	Std. Ctn. Qty.
E907N	4''	10
E907NY	4" x 5"	1

(Designed for use with a coupling.)

Split End Bell (PVC)



Part No.	Size	Std. Ctn. Qty.
E9098NS	4''	1
E9098PS	5"	1

Adapters

Internal Adapter



Adapts Telephone Duct to Fiber Transite MCD

Part No.	Size	Std. Ctn. Qty.
E901N	4"	24
Split:		
E901NS	4''	24

Female Adapter



Adapts threaded metal pipe to Telephone Duct

Part No.	Size	Std. Ctn. Qty.
E902N	4''	10

Square Clay Tile Adapter



•	•	
Part No.	Size	Std. Ctn. Qty.
Adapts Clay	to Telephone Duct:	
E904M	3 ¹ / ₄ " to 4" x 18"	10
E904M12	3 ¹ / ₄ " to 4" x 12"	10
E904M8	31/4" to 4"x 81/2"	1
E904MM	31/2" to 31/2" x 18	' 12
E904MX	3" to 4"x 18"	1
E904N	31/2" to 4"x 18"	10
E904N12	31/2" to 4"x 12"	1
E904N8	31/2" to 4"x 8"	10
Split Square Adapter:		
E904MS	31/4" x 4"	10
E904NS	31/2" to 4"x 18"	10

Cast Iron Adapter



Adapts Telephone Duct to Cast Iron Bends

Part No.	Size	Std. Ctn. Qty.
E906N	4''	1

Round Clay Tile Adapter



Part No.	Size	Std. Ctn. Qty.
E923NM	4" to 3 ¹ /4"	10

P&C Duct® Adapter



Adapts Telephone Duct to P&C Duct (IPS)

Part No.	Size	Std. Ctn. Qty.
E913N	4"	15
E913NW (White)	4"	15
E913NF	4"	15

Reducers

P&C Duct® Reducer



Adapts Telephone Duct to P&C Duct (IPS)

Part No.	Size	Std. Ctn. Qty.
E908NM	4" to 31/2"	15

Wyes

Wye Branch



For starting lateral runs:

Part No.	Size	Std. Ctn. Qty.
E916N	4''	1
E916NW (White)	4''	1
Split:		
E916NS	4''	1
E916NSW (White)	4"	5
	7	5

Expansion Joints

Expansion Joint - Type D



Part No.	Size	Std. Ctn. Qty.
E905N	4''	5
E905NL (Long)	4"	1

P&C® Duct and Telephone Duct - Specification

Physical Properties of P&C° Duct by ASTM Test Methods

		Typical Values	
Property	ASTM No.	P&C® Duct	Telephone Duct
Tensile strength, psi	D638	4,800	4,800
Modulus of elasticity in tension, psi	D638	500,000	500,000
Flexural strength, psi	D790	11,000	11,000
Deflection temp under load at 265 psi deg. C	D648	72°C	72°C
Coefficient of thermal expansion in/in/°F	D696	3.30 x 10 ⁻⁵	3.30 x 10 ⁻⁵
Coefficient of static friction		.20	.20

Collapse Pressure of P&C Duct Materials (PSI)

- 11.2
- 11.2
- 11.2
- 26.6
- 6.6
- 8.2
- 15.2
- 34.0
- 6.7
- 9.2
- 17.0
- 36.6

5" EB-20	- 5.9
5" EB-35	- 10.3
5" DB-60	- 18.9
5" DB-120	- 38.2
6" EB-20	- 6.1
6" EB-35	- 11.2
6" DB-60	- 19.6
6" DB-120	- 38.0

Collapse F Telephone Duct		
Type B Duct	_	9.2
Type C Duct	-	36.6
Type D Duct	-	36.6

Performance Properties of P&C Duct as Indicated per NEMA Standard TC-6 & 8 and ASTM F-512

Pipe Stiffness lb/in/in

Conduit Series	Minimum Pipe Stiffness (F/ Δ y), all sizes
EB-20	20
EB-35	35
DB-60	60
DB-100	100
DB-120	120

Minimum Impact Resistance at 0°C (32°F) ft • lbf

Nominal	Conduit Series				
Size	EB-20	EB-35	DB-60	DB-100	DB-120
1	_	_	_	-	10
11/2	_	_	10	_	15
2	20	20	20	-	25
3	20	30	40	45	50
31/2	20	35	50	60	65
4	25	40	60	70	80
5	30	55	85	100	110
6	40	75	120	135	150

Performance Properties of Telephone Duct as Indicated per NEMA Standard TC-10

Pipe Stiffness $F/\Delta y$ lb/in/in

Nominal Size	B-Duct	HWB	C-Duct	D-Duct
All	30	40	120	120

Minimum Impact Resistance at 32°C

B-Duct	C-Duct	D-Duct
ft. lb.	ft. lb.	ft. lb.
25	50	50

Typical Installation Practices for P&C® Duct Type EB and Telephone Duct Type B

RUS Listed

Trenching:

Whenever possible the walls of the trench for P&C Duct should act as forms for concrete encasement. The trench should be made no wider than necessary to provide the nominal size concrete thickness.

Duct Spacing:

Duct spacing, both vertical and horizontal, is accomplished with the use of Carlon PVC Snap-Loc® Spacers.

Recommended interval between spacer assemblies is 8 to 10 feet.

Terminating:

For smooth cable pulling and properly engineered terminations into manholes, Carlon P&C Duct end bells should be used.

Concrete:

The concrete used with P&C Duct should be 3/8" aggregate with a nominal compressive strength of 2,500 lbs. per square inch. The slump should be at the upper end of the range, preferably 7 to 8 inches. It should have just enough slump to flow to the bottom of the formation and yet not be so wet as to cause the ducts to float. In placing concrete around P&C Duct, adjust the delivery chute so the fall of the concrete into the trench is minimal. Use a splash board to divert the flow of concrete away from the trench sides and avoid dislodging soil and stones.



Pressure Grouting:

This technique is used for ducts in a casing or bored construction. Hydraulic pressure exceeding 25 psi is common and thus dictates the use of a P&C Duct Type DB-120 or a Schedule 40® product. (See collapse pressure chart). Hydraulic pressure from grouting is a function of the line pressure at the nozzle and back pressure created by pumping. If the exhaust nozzle isn't withdrawn properly, the back pressure will rapidly build and equal the line pressure. Depending on the type casing and pumping distance, line pressures will go up to 90 psi.

Hydraulic Pressure:

The primary consideration for duct selection is the height of the duct bank. Since concrete exerts a force of 1.03 psi per foot of height, to determine the correct duct selection, consider the following examples:

1. 16 way duct bank, 5" conduit, 4 x 4 configuration with 3" separation, and 3" concrete cover

Concrete Height
$$-4 \times 5.563" + 4 \times 3 = 22.5 + 12" = 34.2"$$

Hydraulic Pressure $-(34.2"/12) \times 1.03 = 2.9 \text{ psi}$ In this instance the maximum force on the bottom ducts would be 2.9 psi, therefore, 5" EB-20 would be a satisfactory choice.

2. 16 way duct bank, 5" conduit, 8 x 2 configuration with 3" separation, and 3" concrete cover.

Hydraulic Pressure — (68.5"/12) x 1.03 = 5.9 psi

In this instance the hydraulic force is equal to the theoretical collapse pressure of 5" EB-20, therefore, the use of 5" EB-35 or DB-60 would be a satisfactory choice.

Another alternative would be to use a sequential pour technique. Pour approximately 1/2 the height, allow the concrete to set-up, and then pour the remaining distance. Using this method, 5" EB-20 would be satisfactory, since the hydraulic pressure has been reduced by 50%.

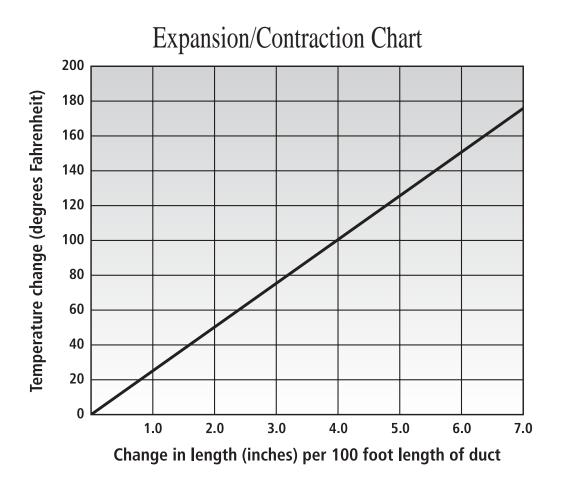
P&C® Duct and Telephone Duct – Expansion & Contraction

Expansion & Contraction

When duct temperature variations are anticipated during the installation of Carlon P&C® Duct and Telephone Duct, allow extra duct footage at each tie-in for contraction. Terminated duct runs should be covered with backfill from tie-in point toward the end of the duct run. If the trench must be left open, don't terminate the run. All plastic duct may expand or contract as concrete is poured and cured. When placing concrete encasement, always encase from one end of the duct

section toward the other end of the section, to allow the free end to move. Never encase from each end of the section toward the center.

The coefficient of thermal expansion of Carlon P&C Duct and Telephone Duct is 3.30 x 10⁻⁵ in/in/°F. The following chart indicates what expansion or contraction can be expected at various temperature changes.



Bridge Crossings and Exposed Applications

Type D Telephone Duct is designated specifically for use in bridge crossings and exposed applications. Using the expansion/contraction chart, calculate the number of expansion joints required. Expansion joints provide a 6" allowance for expansion/contraction. Utilize one expansion

joint for each 100 feet of exposed length for most installations. The duct should be free to move during expansion/contraction; the barrel should be securely clamped and the piston should be aligned properly with the barrel for easy movement.

Carlon® P&C Flex® Corrugated Flexible Conduit

Carlon P&C Flex nonmetallic corrugated flexible conduit is designed specifically for power and communications applications when protecting or replacing cable. Produced to IPS dimensions, Carlon P&C Flex is grey in color and formulated for sunlight resistance.

The corrugated design of P&C Flex provides maximum flexibility for easy handling and installation. It is perfect for a wide range of applications from underground residential communication raceway to under bridge or roadway conduit. P&C Flex provides adaptability in the field since it may be used with existing conduits, couplings, adapters, end bells and plugs in virtually any configuration.

*Custom straight lengths available in FULL crate quantities ONLY





]	Round Wooden Reel Std. Std. Std.											
	Part No.	Nominal Size	Ctn. Oty.	Ctn. Wt. (lbs.)	I.D.	0.D.						
	11810-250	1 1/2"	250 Ft.	50	1.570	1.900						
	11810T-250 (Tape)	1 ¹ /2"	250 Ft.	81	1.570	1.900						
	11811-250	2"	250 Ft.	101	2.045	2.375						
	11811T-250 (Tane)	2"	250 Ft	103	2 045	2 375						

Edge Brace Reel Std. Std. Part Nominal Ctn. Ctn. Wt. (lbs.) I.D. 0.D. No. Size Qty. 2" 11811-700 2.045 700 Ft. 175 2.375 11812-250 21/2" 250 Ft. 126 2.469 2.875 11812AG-001 21/2" 510 1300 Ft. 2.469 2.875 3" 193 11813-250 250 Ft. 3.068 3.500

	11815-250	4"	250 Ft.	254	4.026	4.500	
(Custom Straight	Lengths					
	Part No.	Nominal Size	Length	Std. Ctn. Qty.	I.D.	O.D.	
	11815B-008	4''	9.25 ft.	57 pieces	4.026	4.500	

4"

Performance Properties											
l'errormance rroperties	1 ¹ /2"	2"	21/2"	3"	4"						
Stiffness F/▲y at 5% deflection	200	200	130	130	90						
Impact Strength (Ft./Lbs.) 72°	50	50	70	120	140						
Impact Strength (Ft./Lbs.) 32°	15	25	35	60	60						
Minimum Bending Radius (inches)	6	8	12	15	18						
Conduit Tensile Strength	500	700	1000	1500	2000						
01 405 1 45005											

14.75 ft.

57 pieces

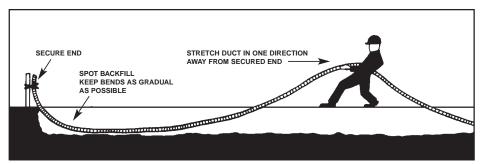
4.026

4.500

Storage: -4°F to 158°FHandling: -4°F to 104°F

11815C-008

P&C Flex® Corrugated Flexible Conduit Installation Techniques



top of the conduit is recommended. After final backfill is placed, taming may be used to finish the grade.

3. Duct Placement

Duct may be unreeled directly into trench or along side trench and subsequently placed in trench. After placing in trench, secure one end and stretch it by hand to take up the slack. Spot backfill to hold in position. Do not use mechanical stretching equipment.

Ctd Ctn

1. Trenching

Trench should be graded true and free from stones or soft spots. Backfill should also be free of stones and be firmly tamped around the sides of the conduit, to develop maximum supporting strength. Tamping on top of the conduit is not recommended.

2. Backfill

In rocky soil where it is impossible to have an even trench bottom, a selected backfill should be put in before laying the conduit. Selected backfill (not tamped) at least 6" over the

4. Changes in Direction

Avoid unnecessary turns, dips, or changes in direction. Keep bends as gradual as possible to assure ease of cable pull-in after duct installation.

5. Pneumatic Rodding

All commonly used vacuum or pressure can be used to rod P&C Flex. The line carrier (mouse, puck, rocket) should be soft, flexible material designed to fit snugly into duct without interference.

6. Mechanical Rodding

All commonly used mechanical rodding equipment can be used to rod P&C Flex. The tip should have a ball-type arrangement to keep rod from catching in the convolutions on the inside of duct.

P&C Flex® Conduit Fittings

Couplings



Part No.	Size	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
E940H	11/2"	25	4
E940J	2"	30	5
E940K-CAR	2 1/2"	4	2
E940L-CAR	3"	5	3
E940M	31/2"	20	13
E940N-CAR	4"	5	4

Plugs



Part No.	Size	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
P258H	11/2"	50	2
P258JT	2"	60	3
P258K	21/2"	25	2
P258LT	3"	30	3
P258NT	4"	48	8

Bell Ends (Schedule 40)



Part No.	Size	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
E997H-CAR	1 ¹ /2"	10	.9
E997J-CAR	2"	10	1.2
E997K-CAR	21/2"	10	1.9
E997L-CAR	3"	10	2.1
E997M	31/2"	40	10.2
E997N	4"	30	10.7

Female Adapters



No.	Size	Ctn. Qty.	Wt. (lbs.)
E942H	11/2"	25	3
E942J	2"	30	6
E942K-CAR	21/2"	4	1.4
E942L-CAR	3"	3	1.5
E942M	31/2"	20	12
E942N-CAR	4"	7	5

Terminal Adapters



Part No.	Size	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
E943H	11/2"	25	3
E943J	2"	5	7
E943K-CAR	21/2"	5	1.2
E943L-CAR	3"	5	2
E943M	31/2"	30	14
E943N-CAR	4"	5	3

RUS Listed

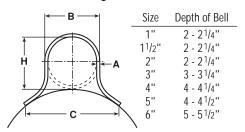
Carlon PV-Mold Nonmetallic Pole Riser System

Carlon PV-Mold is a nonmetallic pole riser system designed to protect communications power cable installed on poles.

Features:

- Meets or exceeds requirements outlined in the National Electric Safety Code (NESC).
- Designed in accordance with NEMA TC-19 specifications.
- Ultraviolet, cold temperature and corrosive atmosphere resistant.
- Schedule 40 wall meets Schedule 80 PVC conduit impact requirements per NEMA TC-19.
- No grounding required.
- Belled end fits over each added section or conduit.
- · Flame retardant.
- Requires no maintenance.
- PV-Mold acts as an insulator against electrical shock.
- Interchangeable parts and accessories to match the needs of specific requirements.

Flanged Overall Length 10 Feet, Including Bell



Slots are 1/2" from side to side, and allow for expansion and contraction.

Slot Dimensions: for sizes 2" through 6" are $^{5}/_{16}$ " wide, $^{3}/_{4}$ " long.

Slot Dimensions: for 1" and $1^{1/2}$ " are 3/16" wide, 3/4" long.

Slot Spacing: 18" from center, beginning 6" from end.





Steel U-Guard requires grounding strapping and does not have belled ends.



PV-Mold has belled ends, flanged design and does not require grounding.

Standard Duty

Part No.	Size	Std. Ctn. Oty.	Std. Ctn. Wt. (lbs.)		Dimensi B	Actual Impact @ 0°C 20 Pound Tup		
59208N	1"	294	1059	0.100"	15/8"	23/8"	15/8"	40 FtLbs.
59211N	2''	136	726	0.100"	23/8"	41/2"	23/8"	100 FtLbs.
59211X (5' length)	2"	136	363	0.100"	23/8"	41/2"	23/8"	100 FtLbs.
59213N	3''	66	761	0.150"	31/2"	6''	31/2"	110 FtLbs.
59213X (5' length)	3"	66	381	0.150"	31/2"	6"	31/2"	100 FtLbs.
59215N	4''	65	910	0.150"	41/2"	6 ¹ /2"	41/2"	110 FtLbs.
59216N	5"	30	515	0.150"	51/2"	71/2"	51/2"	110 FtLbs.

Heavy Duty Schedule 40

	v							
59010N	11/2"	200	1142	0.145"	129/32"	31/2"	129/32"	100 FtLbs.
59011N	2"	136	1214	0.154"	2 3/8"	41/2"	23/8"	150 FtLbs.
59013N	3"	66	937	0.216"	31/2"	6''	3 9/32"	150 FtLbs.
59015N	4''	65	1621	0.237"	41/2"	61/2"	41/2"	260 FtLbs.
59015X (5' length)	4"	65	707	0.237"	41/2"	61/2"	41/2"	260 FtLbs.
59016N	5"	30	870	0.258"	51/2"	71/2"	51/2"	260 FtLbs.
59017N	6"	30	1160	0.280"	65/8"	83/4"	6 ⁵ /8"	260 FtLbs.

Extra Heavy Duty Schedule 80

59411N	2"	136	1549	0.218"	23/8"	41/2"	23/8"	300 FtLbs.
59413N	3"	66	1495	0.030"	31/2"	6''	31/2"	525 FtLbs.

PV-Mold[®] System Accessories



Polyethylene Vented Boots and Adapters

D

5.07

7.13

5.88

7.08

D

8.50

Std.Ctn. Std.Ctn. Wt. (lbs.)

10.57

8.00

Wt. (lbs.)

8

Std.Ctn. Std.Ctn.

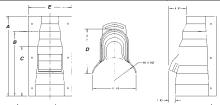
Qty.

Ε

7.40

Vented Boots

Part No.	Size	A [Dimensio B	Std.Ctn. Qty.	Std.Ctn. Wt. (lbs.)		
E938JR	2" x 6"	20.50	5.38	6.14	6.88	4	13.58
E938NT	4" x 8"	21.00	15.00	11.31	9.76	4	16.67



Part	Dimensions					Dimensions			
No.	Size	Α	В	C	D	E	Qty.	Wt. (lbs.)	
E938NRR	4" x 6"	20.87	16.57	12.87	11.68	11.43	1	7	

- 1. A field cut may be needed to accommodate different boot or adapter to Carlon U-Mold size combinations.
- 2. Recommendation: 2 sets of mounting holes per boot/fitting. To add mounting holes, use a ³/₈" drill bit and drill out where needed.
- 3. When 3" or smaller conduit is being used, it's recommended that the bottom (largest section) of the boot or adapter section be buried 2" to 3" below ground surface.

Part No. Size E939NRT 4" x 6"

Schedule 80 **Pole Risers**

Adapters

Size

2" x 4"

4" x 6"

Part

No.

E939JN

E939NR



Dimensions

В

6.75

6.75

Dimensions

4.25

11.00

11.00

19.75

Couplings

	1 0		
Part No.	Size/Description	Std. Ctn. Qty.	Std. Ctn Wt. (lbs.)
F96611	2"x 2" Sch. 80 Double Belled Coupling	10	9

Duct to Riser Fitting



Part No.	Size	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
E939NL	4" x 3"	15	5.6
E939N	4" x 4"	15	5.3

	Back Plat	king e	4			Std.	Std. Ctn.
	Part No.	Size	D A	imension B	s C	Ctn. Qty.	Wt. (lbs.)
Ī	59111	2"	1/16''	13/16"	21/8"	1	1.2
	59113	3"	1/16"	15/16"	31/8"	1	1.5
	59115	4''	1/16"	1 ⁵ /16"	41/8"	1	3.0
	59116	5"	1/16''	13/4"	51/4"	1	3.1
	59117	6"	1/16"	15/8"	61/16"	1	4.2

Installation is easy with PV-Mold pole risers:

- 1. Install ventilator or duct to riser fittings at the base of the pole.
- 2. Nail backing plate sections to the surface of the pole. Three nail holes are provided in each section. Place the "U" sections over the cable and backing plate, with belled end at the bottom, and attach using 1/4" lag bolts.



Field Installation Instructions for Carlon PV-Mold Adapters

For Adapters (E939JN, E939NR, E939NRT)

E939JN

To transition from 4" Conduit to 2" PV-Mold

Place Adapter over conduit, attach to pole using the top and bottom mounting holes, place PV-Mold over top section of Adapter and secure PV-Mold to pole.

To transition from 4" Conduit to 3" PV-Mold

Measure 6.3" up from bottom (large end) of adapter and cut. Assemble to pole as described above.

To transition from 3" Conduit to 2" PV-Mold*

Measure 4.75" up from bottom (large end) of adapter and cut. Assemble to pole as described above.

E939NR

To transition from 5" Conduit to 4" PV-Mold

Place Adapter over conduit, attach to pole using the top and bottom mounting holes, place PV-Mold over top section of Adapter and secure PV-Mold to pole.

To transition from 6" Conduit to 5" PV-Mold

Measure 7.25" up from bottom (large end) of adapter and cut. Assemble to pole as described above.

To transition from 5" Conduit to 5" PV-Mold*

Measure 4.5" down from the top of adapter and cut. Assemble to pole as described above.

*For these transitions it is not necessary to cut the Adapter if desired. If the Adapter is not modified, it is recommended that the bottom 3" of the Adapter be buried below grade.

E939NRT

To transition from 6" Conduit to 4" PV Mold

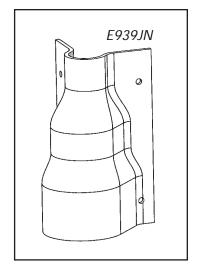
Place Adapter over conduit and attach to pole using the top and bottom mounting holes. Place PV Mold over top section of Adapter and secure PV Mold to pole

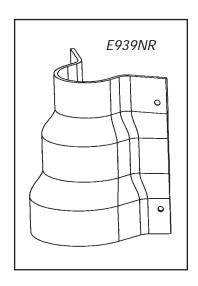
Assemble to pole as described above.

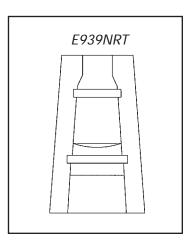
To transition from 6" Conduit to 6" PV Mold

Measure 9.5" up from the bottom of the adapter and cut. Assemble to pole as described above.

To transition from 6" Conduit to 5" PV Mold Measure 5.25" down from the top of the adapter and cut.







Field Installation Instructions for Carlon PV-Mold Vented Boots

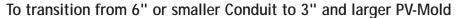
For Vented Boots (E938JR, E938NT, E938NRR)

E938JR

To transition from 6" or smaller Conduit to 2" PV-Mold

Place Vented Boot over conduit, attach to pole using the top and bottom mounting holes, place PV-Mold over top section of Vented Boot and secure PV-Mold to pole.

It is recommended that for conduit sizes smaller than 6" the bottom 3" of the Boot be buried below grade.



For 3" PV-Mold: Measure 3.75" from the TOP of the Boot and cut. Place the Boot over the Conduit and attach to the pole. Place belled end of PV-Mold over the top end of the boot and secure.

For 4" and 5" PV-Mold: Measure 12" up from the BOTTOM of the Boot and cut. Place the Boot over the conduit and attach to the pole. Place the Belled end of the PV-Mold AGAINST the top edge of the vent protrusion and secure to the pole.

For 6" PV-Mold: Measure 12" up from the BOTTOM of the Boot and cut. Place the Boot over the conduit and attach to the pole. Place the Belled end of the PV-Mold OVER the vent protrusion and secure to the pole.



To transition from 6" to 8" Conduit to 4" PV Mold

Place Boot over conduit and attach to the pole using the mounting holes. Place PV Mold over top section of Vented Boot and secure to the pole.

It is recommended that for conduit sizes smaller than 8", the bottom 3" of the boot be buried below grade.

The E938NT can also be used to transition multiple smaller conduits to PV Mold.

ADDITIONAL PV-MOLD COMPONENTS

To transition directly from conduit to PV-Mold use Duct to Riser Fittings

E939NL Transitions 4" Conduit to 3" PV-Mold

E939N Transitions 4" Conduit to 4" PV-Mold

When additional insulation is required between the pole and cables, use PV-Mold Backing Plates:

59111 2" 59115 4" 59117* 6"

59113 3" 59116 5" *Indicates non-stock factory Made-to-order items



To transition from 6" or smaller conduit to 4" PV Mold

Place Vented Boot over conduit and attach to pole using the top and bottom mounting holes. Place PV Mold over top section of Vented Boot and secure PV Mold to pole

To transition from 6" or smaller conduit to 5" PV Mold

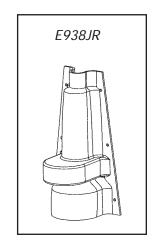
Measure 4.125" down from the top of the vented boot and cut.

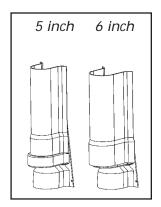
Assemble to pole as described above.

To transition from 6" or smaller conduit to 6" PV Mold

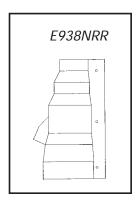
Measure 8.25" down from the top of the vented boot and cut.

Assemble to pole as described above.









Slip Meter Risers

Carlon® Slip Meter Risers are designed for use in electrical service entrance applications. They provide solutions for applications requiring a non-rigid connection, with incoming service conduit diameters ranging from 2" to 4".

The Slip Meter Risers are fitted with a terminal adapter for easy installation at the service entrance location, and provide a low-cost method to comply with NEC 300-5 (j), which requires protection for buried cables in areas subject to ground movement due to frost or trench settling.

Features:

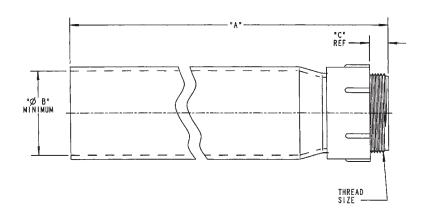
- Designed to provide faster and easier underground service entrance installations.
- Provides cable protection from ground movement.
- Accommodates incoming service conduit diameters ranging from 2" to 4".
- Fitted with Terminal Adapters for easy installing.
- Complies with NEC 300-5



Slip Meter Riser Specifications

Part Number	Size	A Length	B (Minimum)	С	Thread Size	Std. Carton Qty.	Std. Carton Wt. (lbs.)
E954JXX	2"	24.00	2.024	.825	2" NPT	20	46
E954JXS (split)	2"	24.00	2.024	.825	2" NPT	1	2.2
E954KXX	2 1/2"	24.00	2.418	.812	21/2" NPSC	10	28
E954LXX	3"	24.00	3.012	.798	3" NPSC	10	35
E954LXS (split)	3"	24.00	3.012	.798	3" NPSC	10	36
E954NXX	4"	24.00	5.060	.773	4" NPSC	5	23





Article 300 Wiring Methods

(j) Ground Movement. Where direct buried conductors, raceways, or cables are subject to movement by settlement or frost, direct buried conductors, raceways, or cables shall be arranged to prevent damage to the enclosed conductors or to equipment connected to the raceways. **(FPN):** This section recognizes "S" loops in underground direct burial to raceway transitions, expansion joints in pipe risers to fixed equipment, and generally the provision of flexible connections to equipment subject to settlement or frost heaves.

Carlon® Split Duct

Carlon Split Duct is the fast and easy way to repair broken ductwork without the costly cutting and resplicing of your conductors.

Our unique tongue-and-groove design leads the industry in providing a strong, rigid solution for duct repair situations.

The interlocking design allows the split duct sections to be staggered and butted together. Joints may be sealed with tape and reinforced with plastic or metallic straps to produce a rigid, stable unit.

Manufactured from a compound designed specifically for power and telecommunications applications, Carlon Split Duct exhibits superior impact strength and ultraviolet resistance.

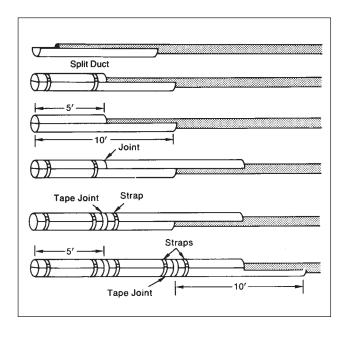
Available in 2" through 6" diameters, this product line also contains couplings and sweeps necessary to complete the system.



The fast and easy method of installing duct around existing cable for repair and temporary installations.

Recommended Installation Procedure

- 1. Place one 10-foot Split Duct section under cable.
- 2. In order to stagger joints, saw another section in half (about 5 feet long).
- **3**. Place 5-foot section over cable and snap the two sections together.
- 4. Place strap about one foot from the end and another strap about a foot from the joint where the ends of the top sections will butt.
- **5.** Place another 10-foot Split Duct section over the open half of the bottom section, butt the ends tightly together and snap the sections together.
- **6.** Place a length of tape around both sections of the Split Duct to cover the butted joint.
- 7. Place a strap about one foot beyond the taped joint.
- **8**. Lay another length of Split Duct underneath cable, butt together, tape the butted joint and strap one foot on each side of the joint.
- 9. Repeat procedure.



Split Duct



որու որու	,				
Part Number	D	escription	Std. Ctn. Qty.	Std. Ctn. Wt.(lbs.)	O.D.
Schedule 40					
49011SD-010	2"	Schedule 40 Split Duct	700	564	2.375
49012SD-010	21/2"	Schedule 40 Split Duct	460	572	2.975
49013SD-010	3"	Schedule 40 Split Duct	500	857	3.500
49014SD-010	31/2"	Schedule 40 Split Duct	290	569	4.125
49015SD-010	4"	Schedule 40 Split Duct	290	701	4.500
49016SD-010	5"	Schedule 40 Split Duct	230	751	5.563
49017SD-010	6"	Schedule 40 Split Duct	130	548	6.625
Schedule 80					
49411SD-010	2"	Schedule 80 Split Duct	700	749	2.375
49415SD-010	4"	Schedule 80 Split Duct	290	922	4.500
C Duct					
68515SD-010	4"	C Duct Split Duct	320	614	4.350



Split Sleeve Coupling For joining Split Duct to existing duct.

Split Sleeve Coupling (Split on one side)

Part Number		Description	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
Schedule 40			,	()
E200JS6	2"	Schedule 40 Split Coupling (6" long)	25	9
E200KS7	21/2"	Schedule 40 Split Coupling (7" long)	25	21
E200LS7	3"	Schedule 40 Split Coupling (7" long)	25	17
E200LSS	3"	Sleeve Coupling Split 1 SD	25	10
E200MS8	31/2"	Sleeve Coupling Split 1 SD	25	20
E200NS8	4"	Schedule 40 Split Coupling (8" long)	15	16
E200NSS	4"	Split Coupling 1 SD (6" long)	25	17
E200PS8	5"	Schedule 40 Split Coupling (8" long)	15	25
E200PS9	5"	Schedule 40 Split Coupling (9" long)	8	12
E200RS1	6"	Schedule 40 Split Coupling (10" long)	6	17
C Duct				
E900NS8	4''	C Duct Split Coupling (8" long)	15	19
E900NSW (White)	4"	C Duct Split Coupling (6" long)	25	24





Segment	Part No.	Nom. Size	Radius (in.)	Std.Ctn. Qty.	Std. Ctn. Wt. (lbs.)
45° Sweep	UA7DJSD	2"	24"	1	1.4
	UA7FJSD	2"	36"	1	2.1
	UA7FLSD	3''	36"	1	4.7
	UA7HJSD	2''	48''	1	2.7
	UA7HLSD	3''	48''	1	6.1
	UA7IJSD	2''	60''	1	3.2
	UA7ILSD	3"	60''	1	7.2
	UA7INSD	4''	60"	1	10.2
22 ¹ / ₂ ° Sweep	UA5INSD	4"	60"	1	6.1
11 ¹ / ₄ ° Sweep	UA3IJSD	2"	60"	1	1
	UA3ILSD	3"	60"	1	3.6
	UA3INSD	4''	60''	1	5.1

Two 45° Elbows may be segmented for 90°.

RUS Listed

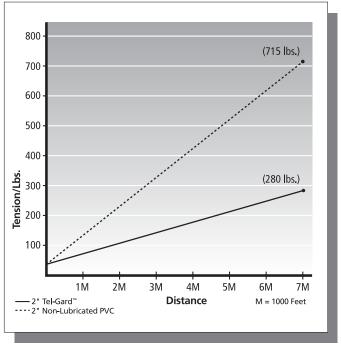
Carlon® Tel-Gard™ Pre-Lubricated Raceway

Carlon offers factory applied lubricant, field tested and proven. Increase the pulling distance – reduce the cost... and the mess. Designed specifically for copper, coax and fiber optic cabling.

Tel-Gard is pre-lubricated at the factory to ensure a consistent and even coating compared to field applied lubricant.

Features:

- Entire duct run is thoroughly lubricated
- Applied lubricant exceeds Bellcore minimum co-efficient of friction requirements using TR-TSY-000356 test procedure using MDPE FO cable
 - ▲ Non-lubricated .31
 - ▲ Tel-Gard[™] Pre-lubricated .068
- Reduce risk of pulling tension damage to cable
- Increase pulling distance between pull points
- Reduce expense of field applying lubricant
- Will not evaporate, enhancing repullability
- Will not stress crack cable
- · Compatible with other field applied lubricants if mixed



Calculated using MDPE F/O cable (Wgt.= .11 lbs./ft.)

Tel-Gard™ Prelubricated PVC Raceways

Part No	Description	Nom. Size	Min. I.D.	Max O.D.	Stiffness	Wgt. per 100	Length	Std. Crate Qty.
C-Duct Meet	ts NEMA TC-10							
68515WL-020	Type C Direct Bury White	4"	4.020	4.350	120	145	20'	1260'
68515PL-020	Type C Direct Bury Grey	4"	4.020	4.350	120	145	20'	1260'
High Perform	nance Exceeds NEMA TC-6 &	8						
59810L-020	Type High Performance DB Grey	11/2"	1.657	1.900	600	40	10'20'	3600'
59813L-020	Type High Performance DB Grey	3"	3.136	3.500	310	123	10'20'	2000'
59815L-020	Type High Performance DB Grey	4"	4.106	4.500	180	175	10'20'	1140'

Tel-Gard™ Prelubricated PVC Bends

Type C - White

	i l	Nom.	Radius	Std.
Segment	Part No.	Size	(in.)	Ctn. Oty.
90° Sweep	TW9DNL	4"	24"	1
	TW9FNL	4"	36"	1
45° Sweep	TW7DNL	4"	24"	1
	TW7FNL	4"	36"	1
30° Sweep	TW6TNL	4''	180"	1
22 ¹ /2° Sweep	TW5DNL	4"	24"	1
	TW5FNL	4"	36"	5
11 ¹ / ₄ ° Sweep	TW3FNL	4"	36"	10

DB120 - Grey

Segment	Part No.	Nom. Size	Radius (in.)	Std. Ctn. Qty.
90° Sweep	PH9DJL	2"	24"	1
	PH9FJL	2"	36"	1
	PH9DLL	3"	24"	1
	PH9FNL	4"	36"	1

Carlon[®] Cement

(MSDS sheets available at www.carlon.com)



Standard Grade Clear Solvent Cement with dauber

Part No.	Size	Std. Ctn. Qt
VC9964	1/2 Pint	10
VC9963	Pint	24
VC9962	Quart	12
VC9961P	Gallon	6

Recommended pipe application and sizes

Recommended for all grades and types of Carlon PVC conduit, duct, wireway and fittings, except Flex-Plus® Blue™ ENT (Electrical Nonmetallic Tubing.)

40° to 100°F

Viscosity at ap Shear 75° as 73°F manufactured





Up through 6" diameter.

30°-50°F 5-6 minutes **50°-70°F** 3-4 minutes 70°-90°F 1-2 minutes

50°-70°F 3-4 minutes

70°-90°F 1-2 minutes

70°-90°F 1/2-11/2 minutes

10°-30°F 4-5 minutes

30°-50°F 3-4 minutes

50°-70°F 1-2 minutes

70°-90°F 1-2 minutes

N/A

70°-90°F 1/2-11/2 minutes

10°-30°F Not recommended

2 hrs. 350 psi 16 hrs. 800 psi 72 hrs. 1,500 psi



Regular Grade Grey Solvent Cement with dauber*

Part No.	Size	Std. Ctn. Qty
VC9924-24	1/2 Pint	24
VC9923	Pint	24
VC9922	Quart	12
VC9941P	Gallon	6

Recommended for all grades and types of Carlon PVC conduit, duct, wireway and fittings, except Flex-Plus® Blue™ ENT (Electrical Nonmetallic Tubing.) Up through 6" diameter.

10°-30°F Not recommended 40° to 100°F 30°-50°F 5-6 minutes

2 hrs. 350 psi 16 hrs. 800 psi

72 hrs. 1,500 psi

500-900 cps



All-Weather "Quick-Set" Clear Solvent Cement with dauber*

Part No.	Size	Std. Ctn. Qty.
VC9984	1/2 Pint	10
VC9983	Pint	24
VC9982	Quart	12
VC9981P	Gallon	6

Recommended for all grades and types of Carlon PVC conduit, duct, wireway and fittings, except Flex-Plus® Blue™ ENT (Electrical Nonmetallic Tubing.) Up through 6" diameter.

10°-30°F 4-5 minutes -5° to 100°F 30°-50°F 3-4 minutes **50°-70°F** 1-2 minutes

2 hrs. 350 psi

400-700 cps

16 hrs. 800 psi 72 hrs. 1,500 psi



All-Weather ENT Blue "Quick-Set" Solvent Cement with brush*

Part No.	Size	Std. Ctn. Qty.
VC9992	Quart	12
VC9993	Pint	24

Required for use with Flex-Plus® Blue™ ENT (Electrical Nonmetallic Tubing), Riser-Gard® & PVC Optic-Gard®, P&C Flex®, and Carlon PVC fittings.

Up through 4" diameter.

4° to 100°F 2 hrs. 350 psi

400-700 cps

16 hrs. 800 psi 72 hrs. 1,500 psi



Low VOC Solvent Cement with dauber*

Part No.	Size	Std. Ctn. Qty.
VC9LV4	1/2 Pint	10
VC9LV3	Pint	24
VC9LV2	Quart	12

Recommended for all grades and types of Carlon PVC conduit, duct, wireway and fittings, except Flex-Plus® Blue™ ENT (Electrical Nonmetallic Tubing.)

Up through 6" diameter. VOC emission of 490 grams/liter per the Bay and South Coast test method.

10°-30°F Not recommended 40° to 100°F **30°-50°F** 5-6 minutes 50°-70°F 3-4 minutes

2 hrs. 350 psi 16 hrs. 800 psi

72 hrs. 1,500 psi

N/A

500-900 cps

CLEAR

Primer with dauber

Part No.	Size	Std. Ctn. Qty.		
VC9903	Pint	24		
VC9902	Quart	12		
Purple:				
VC9932	Ouart	12		

Recommended for use with Carlon cement and all types and sizes of Carlon WireSafe™ wireway.

5° to 100°F

N/A

*Meets ASTM D2564

Cement Joints









Carlon nonmetallic products are joined by means of solvent cement joints. Sizes 1/2" through 11/2" should be cut square (using a fine tooth handsaw) and deburred. For sizes 2" through 6" a miter box or similar saw guide should be utilized to keep the material steady. After cutting and deburring, wipe ends clean of dust, dirt and shavings.

Joining process as follows: Be sure that conduit end is clean and dry. Apply coat of Carlon Solvent Cement (use dauber) to end of conduit, the length of the socket to be attached. Push conduit firmly into fitting

while rotating conduit slightly about one-quarter turn to spread cement evenly. Allow joint to set approximately 10 minutes.

Carlon recommends the use of Carlon cement for proper solvent cement joints. Since this cement is prepared particularly for our product compounds and tolerances, we cannot guarantee joints assembled with cement materials supplied by other manufacturers. Regular grade grey solvent cement will accommodate most application situations being of a general purpose nature. In situations requiring an extremely fast-setting joint, (low temperature or difficult installation conditions) Carlon All Weather Quick-Set Cement is recommended. Standard grade clear cement is recommended for noncritical utility applications where gap filling and leak testing are not required.

Averag	e numb	er of jo	oints pe	er can
Pipe size	1/2 Pint	Pint	Quart	Gallon
1/2	140	275	550	2,200
3/4	90	180	360	1,440
1	70	140	280	1,120
11/4	50	100	200	800
11/2	37	75	150	600
2	20	40	80	320
21/2	17	35	70	280
3	15	30	60	240
31/2	13	27	54	216
4	12	25	50	200
5	9	19	38	150
6	6	12	24	95

Average shelf-life of all Carlon cement is 24 months (unopened cans stored below 80 F.)

All Carlon cements are specially formulated to be used with Carlon PVC products, and do not require primers when parts are clean of dirt and moisture.



Cementing PVC Conduit:

- 1. Make square saw cut with fine tooth saw.
- 2. Deburr and round inside edge of the cut end.
- 3. Clean socket ID and spigot OD of dirt and moisture.
- 4. Apply a uniform coat of cement to spigot end and push onto socket bottom, rotating 1/4 turn.
- 5. Allow time to set before disturbing. This will depend upon temperature.

Cementing PVC Conduit for Submerged Areas Requiring Air or Water Tightness:

- 1. Follow the procedure to the left for cementing conduit.
- 2. Test workmanship by conducting a low pressure air (3.0 5.0 psi) test after system is installed and cemented joints are set.
- 3. Plug and block ends to prevent movement prior to pressurization.
- 4. Check for leaks with soap solution.
- 5. Even low pressure air can cause high thrust loads and caution must be observed.



Cementing ENT for Concrete -Tight Applications:

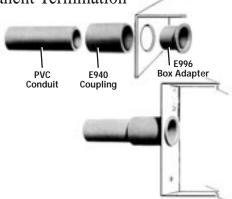
- 1. Use Carlon Socket tight fittings or couplings.
- 2. *Do not* use chemical primer or cleaner.
- 3. Apply a light uniform coat of cement, labeled for use with FNT
- 4. A brush shall be used to apply the cement.
- 5. Brush excess cement out of ENT grooves
- **6.** Promptly insert ENT into fitting while cement is wet, until the fitting stop is reached, and give 1/4 turn.
- 7. Do not disturb until the joint is set.

Accessories – Conduit Termination, Cutting and Joining

Fittings and Adapters for Terminating Carlon Schedule 40 and Schedule 80 Rigid Conduit

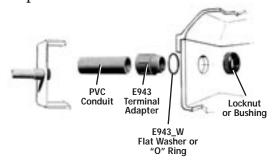
Terminating Carlon Schedule 40 and Schedule 80 rigid conduit is quick and easy utilizing either of the methods indicated below. Terminations may be made in any electrical box or enclosure using standard size knock-outs or drilled holes.

Method 1. Permanent Termination



Apply solvent cement to shoulder and shank of box adapter and insert through knock-out from inside the enclosure. Push coupling over the shank of the box adapter, tight against the enclosure wall. Rotate the coupling about one-half turn while installing, and hold in position for a few seconds to permit setting of solvent cement. The coupling is now ready for the conduit to be installed. Only the shoulder of the box adapter extends inside the enclosure.

Method 2. Separable Termination



If watertight construction is required, place flat washer over the threads of the terminal adapter, securely against the shoulder. Insert the adapter threads through knock-out and secure using either a standard locknut or threaded bushing. If watertight construction is not required, eliminate flat washer.

PVC Conduit Cutters

Kwikcut Cutter

For fast, smooth field cuts of 1/2" through 1"
Schedule 40 and 80
rigid conduit, Flex-Plus®
Blue™ ENT, and Carflex®
liquidtight flexible nonmetallic conduit.



Part No.	Size	Std. Ctn. Qty.
CC120B	8''	10

Medium Cutter

Hand held cutter makes fast square, smooth field cuts on Schedule 40 and 80 conduit from 1/2" through 11/4".

Produces burr-free cut with no shavings. Fits into pocket or pouch.

Part No.	Size	Std. Ctn. Qty.
CC125	9"	12

PVC Cutter

For clean cuts of conduit 1/2" through 2".





Accessories – EZ BEND™ Conduit Bending Equipment

EZ BEND[™] Conduit Bending Equipment



For field bending of small and large diameter nonmetallic conduit, the easy answer is Carlon EZ BEND* conduit bending equipment.

- Lightweight
- Fast, Simple and Safe
- Includes complete instructions and a convenient bending chart
- Portable
- Less expensive than factory bends

EZ BEND™ Conduit Bender, Jr.

A practical, convenient portable conduit bender for 1/2" through 2" diameter nonmetallic conduit allows bends up to 14" radius and to 90° elbows. The EZ BEND Conduit Bender, Jr. is a timesaving, easy-to-carry unit featuring a bracket to store the power cord, a carrying handle, and a clasped cover. The unit operates on a standard 20 amp, 120 V circuit.

Dimensions: 71/2" x 81/2" x 31" Operating Temperature: 180° - 200°F

Part No.	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
G280J	1	14

Carlon's EZ BEND Conduit Bending Equipment is designed with the electrical contractor in mind. The completely portable and fully encased EZ BEND benders and plug kits can be transported from job to job without damage or harm to the equipment. Additionally, the heavy duty construction and integrity of Carlon's EZ BEND Conduit Bending Equipment ensures that it will last for years to come.

Field Bending Rigid Nonmetallic Conduit

1. Heating

Conduit section to be bent must be heated evenly over the entire length of the curve. Carlon offers EZ BEND electric heaters designed specifically for the purpose, in sizes to accommodate all conduit diameters. These devices employ infra-red heat energy which is most quickly absorbed by the conduit. Small sizes are ready to bend after a few seconds, while larger diameters require two or three minutes, or more, depending on conditions. The use of torches or other flame-type devices is not recommended. PVC conduit exposed to excessively high temperatures may take on a brownish color. Sections showing evidence of such scorching should be discarded.

2. Forming The Bend

1/2" thru 11/2" Diameters – When properly heated the conduit is very flexible and can be shaped to almost any configuration. The conduit is then cooled by sponging with water, and the bend is ready to install.

2" and Larger Diameters – Larger sizes of conduits and ducts require internal support to prevent "crimping" or deforming during the bending process. Bending plugs are inserted in each end of the conduit section before heating. The plugs expand to provide an airtight seal. (Note: Carlon does not offer bending plugs.)



Minimum practice is required to master the three steps in bending nonmetallic conduits and ducts.

3. Cooling

As the conduit is heated, the retained air expands, and the increased internal pressure allows the conduit to be bent without deforming. The conduit must be cooled before the plugs are removed. For an immediate cool and set, sponge with cold water.

Special Bends

For "blind" bends or for compound turns in a conduit run, the heated conduit may be solvent cemented in place while still flexible.

^{*}EZ BEND is a registered trademark of Bradshaw Manufacturing, Inc.

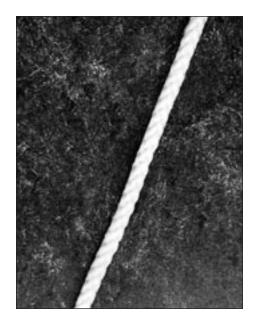
Rope

(Conduit Pulling Lines for Conductors or Fiber Optics)

White Diamond Braid Rope

This rope is constructed of polyethylene over polyester, designed specifically for fiber-optic pulling. The polyethylene jacket gives the "slippery" feel that gives less drag in pulling through conduit. Available in standard 5,000 foot and 10,000 foot reels.

Part No.	Reel Length	Diameter	Recommended Working Load (lbs.)	Approximate Avg. Tensile (lbs.)	Std. Ctn. Wt. (lbs.)
SB14105	5,000 ft.	1/4''	260	1700	100

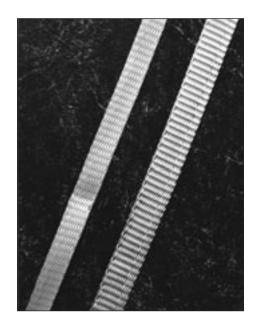


Tape

Prelubricated, woven polyester tape made from low friction, high abrasion resistant yarns providing a low coefficient of friction. Tape is printed with sequential footage markings for accurate measurements.

Part No.	Size	Tensile Strength	Reel Lengths
TL14505	1/2''	1250 lbs.	5,000 ft.
TL14510	1/2"	1250 lbs.	10,000 ft.
TL38203	5/8''	1800 lbs.	3,000 ft.
TL38265	5/8''	1800 lbs.	6,500 ft.
TL38210	5/8''	1800 lbs.	10,000 ft.

Other ropes and tapes are available. Consult your sales service location for additional information.



www.carlon.com

Carlon® Snap-Loc® Spacers

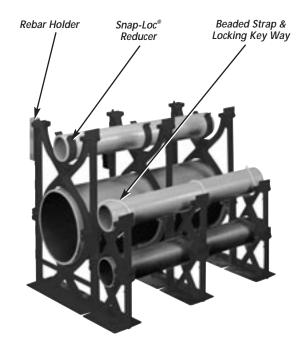
Carlon Snap-Loc duct spacers provide stability, consistent separation and relieve direct stress for duct materials encased in concrete, and direct bury applications.

Carlon Snap-Loc Spacers provide:

- A side dovetail rail and groove design allowing for side-by-side interchangeability of conduit spacer sizes while maintaining horizontal stability.
- Locking key ways incorporated into intermediate spacers eliminate the need for costly top spacers in each size. The locking key ways provide for the use of a beaded strap that secures the top section of conduit.
- 1" and 2" Snap-Loc Reducers allow fixturing of 1" or 2" conduit inside larger spacers.
- The Snap-Loc Rebar Holder provides stabilization on large banks of spacers.

Nonmetallic Snap-Loc Spacers are designed specifically for use with nonmetallic duct, with maximum O.D. dimensions as specified in NEMA TC-2, TC-6 & 8, TC-10 and ASTM F512. The innovative vertical and horizontal interlocking Snap-Loc design has tapered joining slots with maximum tolerances for easy job site assembly.





IMPORTANT:

- 1. The use of duct spacers for direct burial may result in excessive point deflections unless proper design engineering is applied, such as the proper compaction of the appropriate backfill material.
- 2. Carlon is <u>NOT</u> responsible for Snap-Loc Spacers used in direct bury applications... design engineers and contractors are responsible for the design of the installation.

Accessories – Snap-Loc Spacers

Dimensions – Base Spacers

		1			
Part No.	Size*	А	С	D (Dia.)	Std. Ctn. Qty.
S288JHN	2x1 ¹ / ₂	4.25	4.12	2.50	100
S288JJN	2x2	4.25	4.62	2.50	100
S288JLN	2x3	4.25	5.62	2.50	100
S288LHN	3x1 ¹ / ₂	4.81	5.25	3.63	90
S288LJN	3x2	4.81	5.75	3.63	80
S288LLN	3x3	4.81	6.75	3.63	60
S288NFN	4x1	5.31	5.75	4.63	70
S288NHN	4x1 ¹ / ₂	5.31	6.25	4.63	50
S288NJN	4x2	5.31	6.75	4.63	50
S288NLN	4x3	5.31	7.75	4.63	60
S288PHN	5x1 ¹ / ₂	5.84	7.31	5.69	50
S288PJN	5x2	5.84	7.81	5.69	60
S288PLN	5x3	5.84	8.81	5.69	50
S288RHN	6x1 ¹ / ₂	6.38	8.38	6.75	50
S288RJN	6x2	6.38	8.88	6.75	50
S288RLN	6x3	6.38	9.88	6.75	40

Dimensions – Intermediate Spacers

Part No.	Size*	В	С	D (Dia.)	Std. Ctn. Qty.
S289JHN	2x1 ¹ / ₂	3.88	4.12	2.50	120
S289JJN	2x2	4.38	4.62	2.50	100
S289JLN	2x3	5.38	5.62	2.50	80
S289LHN	3x1 ¹ / ₂	5.01	5.25	3.63	100
S289LJN	3x2	5.51	5.75	3.63	80
S289LLN	3x3	6.51	6.75	3.63	60
S289NFN	4x1	5.51	5.75	4.63	70
S289NHN	4x1 ¹ / ₂	6.01	6.25	4.63	60
S289NJN	4x2	6.51	6.75	4.63	60
S289NLN	4x3	7.51	7.75	4.63	50
S289PHN	5x1 ¹ / ₂	7.07	7.31	5.69	50
S289PJN	5x2	7.57	7.81	5.69	50
S289PLN	5x3	8.57	8.81	5.69	30
S289RHN	6x1 ¹ / ₂	8.14	8.38	6.75	50
S289RJN	6x2	8.64	8.88	6.75	40
S289RLN	6x3	9.64	9.88	6.75	30

^{*}First number indicates trade size of duct, second number indicates separation between conduits or ducts.

Accessories











Snap-Loc® Reducer

Part No.	Size	Std. Ctn. Qty.
S287F	1"	100
S287J	2"	100

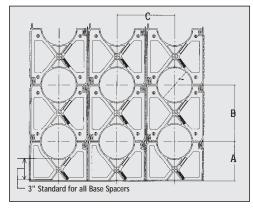
Rebar Holder

Part No.	Std. Ctn. Qty.
S258RH	100

Beaded Strap

Part No.	Std. Ctn. Qty.
S28612	100

Specifications



Suggested Specification

(Duct) (Conduit) bank shall be encased in concrete with at least three inches of concrete at the top and bottom and two inches on each side. A horizontal and vertical separation between the ducts ____* inches shall be maintained by installing Carlon high impact spacers with horizontal and vertical locking intervals of

- *Standard Separations of 1", 11/2", 2", and 3" are available.
- **Preferred interval between spacer assemblies is 8 to 10 feet.

Installation note

The Spacers and Rebar Holder are designed with a dovetail tongue and groove feature for easy installation.

If required to permanently fix the position of a group of Spacers and/or Rebar Holder, the following are recommended procedures:

- 1. Use Carlon Quick-set Cement glue during assembly or spot glue after assembly to secure.
- 2. During assembly, deform the edge of the tongue or groove portion of the dovetail slide with a pair of pliers or similar tool. This deformation will create an interference, restricting movement.
- 3. An assembled system may be wired together for additional support.

IMPORTANT:

- 1. The use of duct spacers for direct burial may result in excessive point deflections unless proper design engineering is applied, such as the proper compaction of the appropriate backfill material.
- 2. Carlon is not responsible for Snap-Loc Spacers used in direct bury applications... design engineers and contractors are responsible for the design of the installation.

New Schedule 80 Bore-Gard

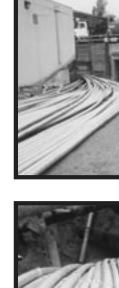
Carlon® Bore-Gard® and Boreable Multi-Gard® Raceway

Innovative
Solutions
for Wire
and Cable
Management













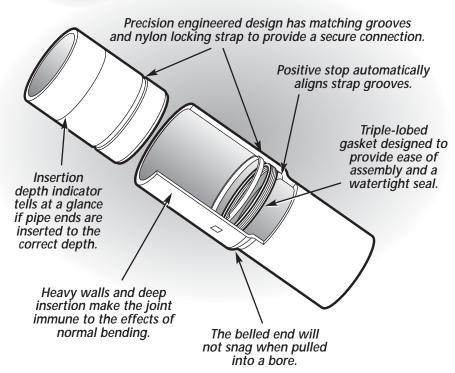
Carlon® Bore-Gard® Trenchless Raceway

Carlon's PVC Bore-Gard conduit eliminates the costly problems of HDPE pipe on a reel such as reel handling, fusion welding, uncoiling and wasted pipe, safety hazards and additional job site labor.

Bore-Gard is designed and proven to meet the rigorous requirements of horizontal directional drilling for electrical and datacom applications and is available in Heavywall Schedule 40 or Extra Heavywall Schedule 80 conduit.

The unique design incorporates a water-tight seal and locking ring that enables fast, cement-free assembly, strong enough for 1000 foot bores. Short lengths of 10 and 20 feet fit into the tightest spaces and can be easily transported to the job site. Simplify trenchless installations and lower your costs with Bore-Gard.

Type: Schedule 40 Schedule 80



Features:

- Easy to handle 10 and 20 foot lengths
- For bores up to 1000 feet
- · Fast easy assembly
- Strong water-tight joints without cement
- Fits standard Schedule 40 fittings

- All nonmetallic construction
- Superior crush and stiffness over HDPE
- Eliminates the need for chains and backing plate installation
- Type: Schedule 40 Heavywall Schedule 80 Extra Heavywall
- Sizes: Schedule 40 3", 4", 5", & 6" Schedule 80 4"



Locking ring enables fast, cement-free assembly.



Slide locking ring into the joint.



Fully assembled, the locking ring provides strong water-tight joints without cement.

Precision engineered design has

matching grooves and nylon locking

strap to provide a secure connection.

Positive stop automatically aligns

strap grooves.

Carlon® Boreable Multi-Gard®

Factory installed

innerducts

eliminate post

bore installations.

Carlon's PVC Boreable Multi-Gard conduit combines a strong boreable outerduct with the convenience of a Multi-Cell conduit.

Boreable Multi-Gard utilizes leading technology from Carlon's PVC Bore-Gard® Trenchless Raceway, offering a field-proven design.

Bores up to 500 feet can be achieved without labor-intensive operations. Lengths of 20 feet fit into tight spaces often encountered on underground boring job sites.

Experience the strength and convenience of Carlon Boreable Multi-Gard.

Features:

- Withstands pulling and bending forces of directional drilling
- Fast assembly
- Eliminates labor related to gluing and screwing joints together
- For bores up to 500 feet

Heavy walls and deep insertion make the joint

immune to the effects of

normal bending.

- Available in 3 and 4 way multi-cell configurations
- Easy to handle 20 foot lengths
- 4" Type 40 PVC outerduct
- Prelubricated innerducts

Strong water-tight joints

without cement

Triple-lobed gasket

designed to provide

ease of assembly and a watertight seal.

The belled end will not snag

when pulled into a bore.

- Fits standard Schedule 40 fittings
- Compatible with Multi-Gard Type 40 PVC products



Factory installed innerducts provide immediate post bore cable installation



Designed to meet all your cable needs.



Statue of Liberty







Carlon® Bore-Gard® was the product of choice when additional conduit was considered necessary for future utilities and cables on Liberty Island.





Horizontal Directional Drilling was the preferred method of installation because it minimized any disruption to the island's pristine environment.

















Bore-Gard®/Boreable Multi-Gard® Assembly

Bore-Gard® Assembly



Trim spigot end before attaching pulling eye.

- Position Bore-Gard with the print line facing up.
- 2. Remove plastic locking strap and set it aside
- Remove end caps on first stick only, trim spigot end of Bore-Gard at the groove before attaching the pulling eye/gripping attachment.
- Insert pulling eye into spigot end of Bore-Gard.



Tighten pulling eye so that it expands against interior of the conduit.

- Tighten pulling eye so that it expands against the interior of the conduit. Use of sleeve over O.D. of conduit is recommended.
- The installer should use appropriate instrumentation to insure that maximum pull rating is not exceeded.
- Take next piece of Bore-Gard (10' or 20') and insert spigot end into belled end of the first piece until the insertion line is no longer visible.



Attach the next piece of Bore-Gard.

- Slide the plastic locking strap into slot on the side of the bell. Push the strap in completely. It is not necessary to remove or cover the handle on the strap.
- Repeat with remaining sections as space allows.
- **10**. Bore-Gard is now ready for installation.

For additional information on the Bore-Gard* line of products, request Frequently Asked Questions about Bore-Gard, BGFAQ; Bore-Gard Technical Reference Guide, BGTRG;
Ten Reasons to Buy Bore-Gard, BG10REA and the Bore-Gard six minute Video, BGVID. All of these materials are available direct from Carlon or from your local Carlon representative.

Boreable Multi-Gard® Assembly

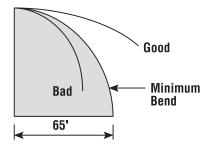
- 1. Position Boreable Multi-Gard with the print line facing up.
- 2. Remove plastic locking strap and set it aside.
- 3. Seal off lead end to keep out drilling fluid.
- Attach 4" Kellems Grip over lead end. Note: Internal pulling eye cannot be used due to innerduct interference.
- **5.** The installer should use appropriate instrumentation to insure that the maximum pull rating is not exceeded.
- 6. Take next piece of Boreable Multi-Gard and insert spigot end into belled end of the first piece until the insertion line is no longer visible.

NOTE: Innerducts need to be aligned before insertion

- Slide the plastic locking strap into slot on the side of the bell. Push strap in completely. It is not necessary to remove or cover the handle on the strap.
- **8.** Repeat with remaining sections as space allows.
- 9. Pull into bored hole. Terminate into man holes.
- **10.** Boreable Multi-Gard is now ready for duct proofing and cable installation.

For more information on Carlon's Multi-Gard® System, request catalog number 2B21.

Bend Radius for Bore-Gard® & Boreable Multi-Gard®



Minimum Bend Radius: Turns in a bore path should be made gradually. Bore-Gard and Boreable Multi-Gard have a minimum bend radius of 65'. Bending more than this recommended limit will stress the joint. The drawing below illustrates the 65' bend radius. To obtain a 90° turn you will require 65' of forward distance in any directional plane.

Note: Successful directional drilling, reaming and pipe installation are influenced by numerous factors including the reamed diameter, pull rate, fluid chemistry, fluid flow rate, drill rod diameter, soil conditions, equipment performance and condition, and operator experience. All manufacturers' equipment recommendations and training should be followed for successful drilling results.



Bore-Gard is flexible enough to be pulled around a building.

Bore-Gard®/Boreable Multi-Gard® Specifications

Bore-Gard® Specifications





Except where noted by

Except where noted by

Schedule	e 40									less ction)		ви		lbs.	% Min.
Part No.	Description	Length (ft.)	Dimensions O.D. (in.)	Dimensions I.D. (in.)	Pkg. Oty. (ft./bundle)	Bundles per Truckload	Feet per Truckload	Wt. per 100 ft. (lbs.)	Min. Bend Radius (ft.)	Typical Stiffness Ibs./in./in. (@ 5% deflection)	Insertion Force (lbs.)	Seal Pressure Rating (P.S.I.)	Joint Pull Rating (lbs.)	Typical Crush (@ 30% deflection)	UL Std. 651 a NEMA TC2 N Crush (lbs.)
BG340SP-010	3" Sch. 40 Bore-Gard	10	3.50	3.0	350	56	19,600	164	65	600	20	75	7,000	1,225	1,000
BG340SP-020	3" Sch. 40 Bore-Gard	20	3.50	3.0	700	28	19,600	164	65	600	20	75	7,000	1,225	1,000
BG440SP-010	4" Sch. 40 Bore-Gard	10	4.50	4.0	260	56	14,560	234	65	375	40	75	8,700	1,075	900
BG440SP-020	4" Sch. 40 Bore-Gard	20	4.50	4.0	520	28	14,560	234	65	375	40	75	8,700	1,075	900
BG540SP-010	5" Sch. 40 Bore-Gard	10	5.56	5.0	230	40	9,200	317	65	250	60	75	11,300	950	850
BG540SP-020	5" Sch. 40 Bore-Gard	20	5.56	5.0	460	20	9,200	317	65	250	60	75	11,300	950	850
BG640SP-010	6" Sch. 40 Bore-Gard	10	6.625	6.0	200	40	8,000	418	65	200	80	75	14,000	950	850
BG640SP-020	6" Sch. 40 Bore-Gard	20	6.625	6.0	400	20	8,000	418	65	200.	80	75	14,000	950	850

NEW Sch	edule 80		S							fness ection)		Rating	s.)	ush Ibs.	I & Min.
Part No.	Description	Length (ft.)	Dimension: 0.D. (in.)	Dimensions I.D. (in.)	Pkg. Oty. (ft./bundle)	Bundles pe Truckload	Feet per Truckload	Wt. per 100 ft. (lbs.)	Min. Bend Radius (ft.)	Typical Stif Ibs./in./in. (@ 5% defl	Insertion Force (lbs.)	Seal Pressure Ra (P.S.I.)	Joint Pull Rating (lbs.	Typical Cru (@ 30% deflection)	UL Std. 657 NEMA TC2 Crush (lbs.)
† BG480SP-010	4" Sch. 80 Bore-Gard	10	4.50	3.8	260	56	14,560	308	65	750	40	75	12,000	2,000	2,000
† BG480SP-020	4" Sch. 80 Bore-Gard	20	4.50	3.8	520	28	14,560	308	65	750	40	75	12,000	2,000	2,000

Accessories

Pulling Eyes

These high-quality pulling eyes have a permanent outer sleeve and a seal on pipe O.D.

Part No.	Description	Package Dimensions (in.)	Package Weight (lbs.)	Package Type
► BG3PE	3" Pulling Eye	10"x 4"x 4"	8	Carton
► BG4PE	4" Pulling Eye	17"x 6"x 6"	26	Carton
► BG5PE	5" Pulling Eye	16"x 7 ³ /4"x 7 ³ /4"	37	Crate
► BG6PE	6" Pulling Eye	19 ¹ / ₂ "x 8 ¹ / ₄ "x 8 ¹ / ₄ "	63	Crate

Locking Straps

Gaskets

Size	Part No.	Std. Ctn. Oty.	Part No.	Std. Ctn. Qty.
3"	► GSUP3	1	► HBOR3	1
4"	► GSUP	1	► HBOR	1
5"	► GSUP5	1	► HBOR5	1
6"	► GSUP6	1	► HBOR6	1

Boreable Multi-Gard® Specifications

Part No.	Description	Length (ft.)	Dimensions 0.D. (in.)	Innerduct Dimensions I.D. (in.)	Pkg. Oty. (ft./bundle)	Bundles per Truckload	Feet per Truckload	Wt. per 100 ft. (lbs.)	Min. Bend Radius (ft.)	Seal Pressure Rating (P.S.I.)	Maximum Pull Rating (lbs.)
►MFSS3B-020	3-way Boreable Multi-Gard	20	4.50	1.50	520	28	14,560	561	65	75	5000
►MFSS4B-020	4-way Boreable Multi-Gard	20	4.50	1.19	520	28	14,560	565	65	75	5000

Steel Mesh Grip part no. MAG4 is recommended to be used as pulling attachment for Boreable Multi-Gard®.

Carlon® Multi-Gard® Multi-Cell Raceway

PVC
Fiberglass
Galvanized Steel
PVC Coated
Galvanized Steel
EMT - Electrical
Metallic Tubing



Carlon® Multi-Gard PVC

Multi-Gard PVC is a multi-cell raceway system specifically designed for use in direct bury and concrete encasement applications. Multi-Gard PVC is available in Type C, Schedule 40 and Schedule 80 outer shells with 3-way or 4-way innerduct configurations. Multi-Gard PVC is manufactured in convenient 20ft. lengths for easy handling and transportation, and is ideal for jetting or pulling cable.

Applications: Direct Bury and Concrete Encasement Wall Types: Type C, Schedule 40 and Schedule 80 Innerducts: 3-Way or 4-Way configurations

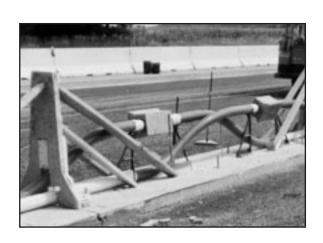
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Features

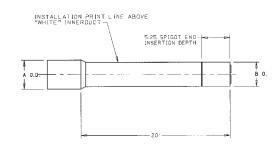
- Pre-lubricated innerducts provide very low coefficient of friction for easy pulls, and PVC innerducts expand and contract at the same rate as outerduct.
- Anti-reversing gaskets on coupling body allow for easy joining. Eliminates need for cementing joints.
- Jettable using high speed air blowing systems.
- O-ring gasket at base of bell reduces risk of water entering system.
- Inward tapering holes on coupling body give quick and easy innerduct alignment.
- Print line on outer duct states "Install Print Line Up" to keep system straight during installation.
- Marked innerduct and marked hole on coupling body ensure proper innerduct alignment and allow crews to work from opposite directions.
- Terminators for standard, pull-through, and jet-through applications.
- Standard and slip sleeve couplings for field cuts and repairs.
- Field repair kit for outershell and innerducts allows repair without taking cable out of service.
- Transition adapters allow transition between different outerducts.
- 6" deep bell provides strong joint for field bends.
- Internal spacers maintain straight innerduct path.
- End caps are provided on each 20 ft. section.
- Staging materials to job site is simplified.
- Patented flexible bends allow changes in direction.
- 3-Way 11/2 and 4-Way 11/4





20' Length PVC Multi-Cell With Bell

Part No.	Description	Bell (A)	Outerduct (B)	Innerduct O.D.	Innerduct I.D.	Pkg. Qty.	Wt. per 100 lbs.
MXSS4S-020	4-Way Type C	4.67	4.35	1.31	1.19	1060'	245
MXSS3S-020	3-Way Type C	4.67	4.35	1.66	1.50	1060'	256
MFSS4S-020	4-Way Schedule 40	5.00	4.50	1.31	1.19	960'	338
MFSS3S-020	3-Way Schedule 40	5.00	4.50	1.66	1.50	960'	348
MDSS4S-020	4-Way Schedule 80	5.50	4.75	1.31	1.19	760'	450
MDSS3S-020	3-Way Schedule 80	5.50	4.75	1.66	1.50	760'	460



Standard Multi-Gard supplied with grey and one white tracer innerduct.

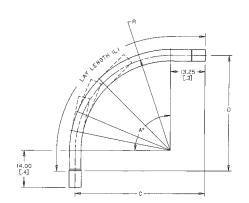
- Custom Orders: * Custom innerduct colors available upon request
 - * Minimum order quantity required
 - * Custom orders non-returnable, non-refundable and non-cancelable

PVC Multi-Cell Fixed Bends With Bell

Multi-Gard fixed bends use the same coupling design as straight sections. All bends are provided with engineered plastic innerducts to avoid rope cutthrough. These fixed bends are jettable.

Part No.	Description	Innerduct I.D.	Pkg. Qty.
MN4S	4-Way Fixed Bend	1.19	1
MN3S	3-Way Fixed Bend	1.50	1

Pos. 1	Pos. 2	Pos. 3	Pos. 4	Pos. 5	Pos. 6	Pos. 7
Product	Outerduct	Degree(A)	Radius(R)	O.D.	Innerducts	Innerduct Wall Type
M = Multi-Cell	71	3 = 111/4 5 = 221/2 6 = 30° 7 = 45° 9 = 90°		N = 4"	4 = 4-Way 3 = 3-Way	S = Smooth



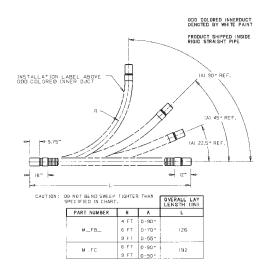
		DIMENSIONS - INCHES (METERS)						
PART NUMBER	A	R	С	0	L			
M3FNS	11.25*		3.28 (0.08)	27.90 (0.71)	2 '4" (0.71)			
M_5FN_S	22.5*	36 (0.91)	7.81 (0.20)	33.90 (0.86)	3.0. (0.91)			
M7FNS	45 *	36 (0.51)	19.91 (0.51)	42.70 [1.08]	4.2. (1.27)			
M9FN\$	90	1	49.25 (1.25)	43.88 (1.11)	6'6" (1.98)			
M3HN,S	11.25 *		3.51 (0.09)	30.24 (0.77)	2*7" (0.79)			
M_5HN_S	22.5*	48 (1.22)	8.72 (0.22)	38.49 (0.98)	3'4" (1.02)			
M_7HN_S	45'	70 11.227	23.43 (0.60)	51.19 (1.30)	4'11" (1.50)			
M_9HN_S	90 *	ì	61.25 (1.56)	55.88 (1.42)	8 '1" (2.46)			
M_3JN_5	11.25 *		3.97 (0.10)	34.92 (0.89)	3'0" (0.91)			
M5JN_S	22.5*	72 (1.83)	10.55 (0.27)	47.57 (1.21)	4'2" (1,27)			
M7JNS	45 *	72 11.031	30.46 (0.77)	68.16 (1.73)	6'6" (1.98)			
M_9JN_5	90 '	1	85.25 (2.17)	79.88 (2.03)	11'3" (3.43)			
M_3MN_S	11,25+		4.66 (0.12)	41.94 (1.07)	3*7" [1.09]			
M_5MN_S	22.5*	108 (2.74)	13.29 (0.34)	61.45 (1.56)	5 '4" (1.63)			
M_7MN_S	45*		41.00 (1.04)	93.62 (2.38)	8 '10" (2.69)			
M_9MN_S	90*	l	121.25 (3.08)	115.88 (2.94)	15*11" (4.85)			

PVC Multi-Cell Flexible Bends With Bell

Multi-Gard flexible bends use a patented design capable of a 4' minimum bend radius and use the same coupling design as straight sections and fixed bends. All bends are provided with engineered plastic innerducts to avoid rope cut-through. NOTE: After positioning the bend in its application, it is necessary to cut off the excess innerduct material flush to pipe and deburr both the I.D. and O.D. of the innerduct to remove snags.

Part No.	Description	Innerduct I.D.	Pkg. Qty.
M_F_4	4-Way Flexible Bend	1.19	1
M_F_3	3-Way Flexible Bend	1.50	1
M_F_4J	4-Way Flexible Bend	1.19	1
M_F_3J	3-Way Flexible Bend	1.50	1

Pos. 1	Pos. 2	Pos. 3	Pos. 4	Pos. 5	Pos. 6
Product	Outerduct Bell	Description	Degree and Radius	Innerducts	
M = Multi-Cell	X = Type C F = Type 40 D = Type 80	F = Flexible	B = 126" (Length) 4' x 90° C = 192" (Length) 6' x 90°	4 = 4-Way 3 = 3-Way	J = Jettable



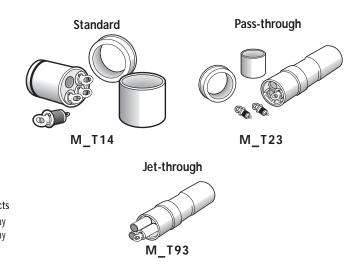
Terminators

Termination kits allow for sealing inner and outerducts. Each kit contains innerduct sealing plugs with rope tie. Standard terminators allow for end terminations, and pass-through (jet-through) terminators allow for bridging innerducts across a vault to allow for unassisted pulling (or jetting) of cable through the vault. Box terminators allow end terminations into aboveground cabinets.

Part No.	Description	Pkg. Qty.
M_T	Terminator	1

Pos. 1 Product	Pos. 2 Outerduct	Pos. 3 Description	Pos. 4 Type	Pos. 5 Innerduct
M = Multi-	X = Type C	T = Terminator	1 = Standard w/ plugs	3 = 3-Way
Cell	F = Schedule 40		2 = Pass-through w/ plugs	4 = 4-Way
	D = Schedule 80		6 = Enclosure Termin. w/ plugs	,

9 = Jetting Termin. w/ plugs



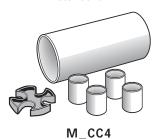
Couplings

Couplings are provided in standard sleeve for joining two uninstalled plain ends and slip couplings for male/male connections and repair of unoccupied Multi-Gard. PVC expansion couplings are listed on page 225.

Part No.	Description	Pkg. Qty.
M_CC_	Standard Sleeve Coupling	1

Pos. 1 Product	Pos. 2 Outerduct	Pos. 3 Description	Pos. 4 Type	Pos. 5 Innerducts
M = Multi-	X = Type C	C = Standard Coupling	C = Coupling	3 = 3-Way
Cell	F = Schedule 40			4 = 4-Way
	D = Schedule 80			•

Standard



Transition Adapters

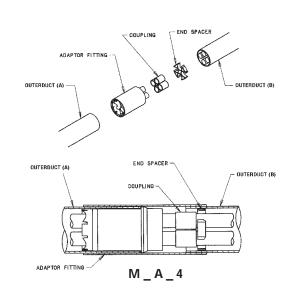
• Spigot to Spigot

Transition adaptors allow different outerducts to be coupled together while maintaining same innerduct.

Part numbers configured from smaller duct to larger duct.

Part No.	Description	Pkg. Qty.	
M_A	Transition Adapter	1	

Pos. 1 Product	Pos. 2 Outerduct (A)	Pos. 3 Description	Pos. 4 Outerduct (B)	Pos. 5 Innerducts
M = Multi-Cell	X = Type C PVC	A = Adapter	E = EMT	3 = 3-Way
	F = Schedule 40 PVC		R = Galv. Steel	4 = 4-Way
	D = Schedule 80 PVC		B = F/G BR	
			H = F/G HW	
			S = F/G Std.	
			F = Schedule 40 PVC	2
			D = Schedule 80 PV	C
			X = Type C PVC	



Expansion Joints

Expansion Joints allow for thermal expansion and contraction of outerduct. Fiberglass expansion joints are recommended every 150 feet on bridge crossing applications.

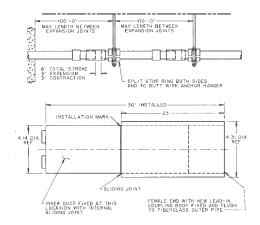
* Must use Split Stop Rings with Expansion Joints

Part No.	Description	Pkg. Qty.
M_EC_	Expansion Joint	1

Pos. 1 Pos. 2 Pos. 3 Pos. 4 Product Outerduct Description Type M = Multi-Cell X = Type C PVCE = Expansion Joint C = CouplingF = Schedule 40 PVC D = Schedule 80 PVC

Innerducts 4 = 4-Way 3 = 3-Way

Pos. 5

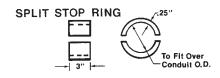


Split Stop Ring

Use split stop rings on either side of support anchors to keep Multi-Gard stationary.

* Must use Split Stop Rings with Expansion Joints

Part No.	Description	Pkg. Qty.	Wt. ea.
MFSSR	Schedule 40 Split Ring	1	.51
MDSSR	Schedule 80 Split Ring	1	.73



Repair Kits – 10 Ft.

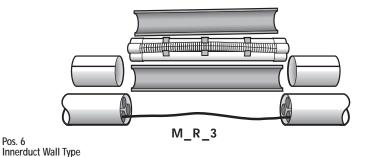
Repair kits allow for Multi-Gard repair without disrupting a live cable.

Part No.	Description	Pkg. Qty.
M_R_4S	4-Way 10 ft. Repair - Cable installed	1
M_R_3S	3-Way 10 ft. Repair - Cable installed	1

Pos. 1 Pos. 2 Pos. 3 Pos. 4 Pos. 5

Product Outerduct Description No. of Cables Innerducts M = Multi-Cell X = Type CR = Repair 1 = 1 Cable 4 = 4-Way F = Schedule 40 2 = 2 Cables

4 = 4 Cables



S = Smoothwall3 = 3-Way 3 = 3 Cables

Spare Spacers

Part No.	Description	Std. Ctn. Qty.	Std. Ctn. Wt.	
MAES4	4-way end spacers	1 ea. = 5 spacers	3.5	
MAES3	3-way end spacers	1 ea. = 5 spacers	.6	



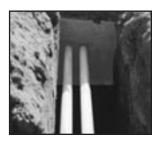
Pos. 6

Multi-Gard® PVC – Assembly / Field Cuts

Assembly



1. Distribute Multi-gard sections along the sides of the trench with male ends pointing towards starting vault entrance.



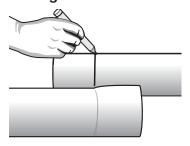
2. Remove protective cap and install Multi-Gard terminator on male end. Install first section into vault opening or enclosure making sure the print line is on the top stating "INSTALL PRINT LINE UP." (See next page for terminations.)



3. Each consecutive 20' section can now be placed by inserting the male end into the gasketed belled end 1/2" to the gasket depth. Make sure the print line is upright. (If not, rotate the outer duct until it is.) Now push the sections together with a firm push until belled end seats against insertion line.

Field Cuts

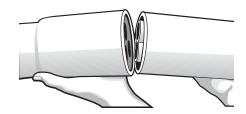
Joining Male and Female Ends



1. Lay the Multi-Gard sections side by side and mark the male end at the base of the bell on the female end. Make a straight cut using a standard carpenter saw.

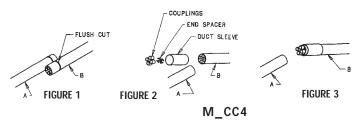


2. A spare spacer may be installed to align the innerducts if they seem loose.

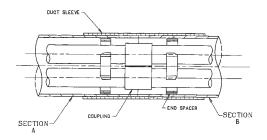


3. Raise both ends and align the innerducts on the male end into the coupling body on the female end. Lower both ends and the innerducts will automatically return to their original position as the joints are forced together.

Joining Two Male Ends

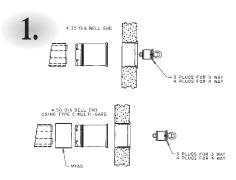


1. Flush cut Multi-Gard sections "A" + "B" as shown in figure 1. Slide outerduct sleeve over Multi-Gard section "B" as shown in figure #2. Insert end spacer into Multi-Gard plain end (chamfer side in) as shown in figure #2. Press couplings onto innerducts of Multi-Gard section "B" as shown in figure #3.



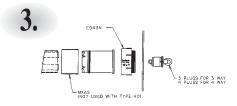
2. Align innerducts on Multi-Gard section "A" with couplings on section "B". Solvent cement each coupling for air tight seal and push until both ends are flush. Apply solvent cement to both ends of Multi-Gard and slide sleeve until it is centered on both sections.

Terminations



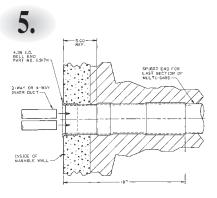
Standard Terminators (Type 1) allow Multi-Gard to be terminated into a standard pre-cast termination.

- Remove watertight plugs in order to assure total insertion of the Multi-Gard innerducts.
- 2. Install terminators into male end of Multi-Gard to full depth.
- 3. Replace watertight plugs into the terminator and tighten.
- 4. Insert prepared male end into the pre-cast terminator with print line facing upward. Solvent cement into place.
- Use shim enclosed for terminator requiring a connection of Type C (4.35 O.D.) into a Type 40 (4.50 O.D.) termination.



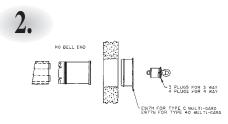
Use a Type 6 Enclosure Terminator at entrances into metal or non-metallic enclosures above ground.

- Remove watertight plugs in order to assure total insertion of the Multi-Gard innerducts.
- 2. Install terminators into male end of Multi-Gard to full depth.
- 3. Replace watertight plugs into the terminator and tighten.
- Install threaded adapter over end of Multi-Gard using solvent cement. Insert adapter through enclosure hole and provide 4" locking ring.
- 5. Use shim enclosed for terminator requiring a connection of type C (4.35 O.D.) termination.



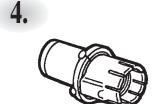
The pass-through terminator is designed to allow for continuous ducts through the vault or hand hole for cable pulling.

- 1. Install terminator into vault following steps 1 through 5 for standard Type 1 terminator.
- Cut innerduct of pass through kit 10" longer than the width of the manhole. Add spacers as needed.
- 3. Upon completion, remove the watertight plugs and install innerducts to traverse manhole/handhole by cutting to length inserting into one side of handhole and raising or bowing center of innerduct span to insert into the pass-through terminator on the opposite side. (See pass-through kits on page 276.)

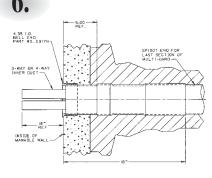


Use a Type 1 Standard Terminator also at an entrance where a pre-cast terminator is not available or a knockout is used:

- Insert the male end section of Multi-Gard 4 inches past the inside wall of the vault with print line facing upward.
- 2. Remove the protective cap from the male end of the Multi-Gard.
- 3. Remove the watertight plugs and insert the terminator to full depth.
- 4. Install bell fitting over the end of Multi-Gard using solvent cement, and replace plugs.
- Slide Multi-Gard section until bell fitting is flush with inside, and then seal entrance as required by job specifications.



Use split plugs for sealing Multi-Gard cells where cable has been installed. (See page 274)



Use the jet terminator for jetting operations.

- 1. Remove watertight plugs in order to assure to total insertion.
- 2. Apply standard grade solvent cement (VC9962) to male end of Multi-Gard. Install jet terminator to insertion line.
- 3. Replace watertight plugs into terminator and tighten.
- Apply standard grade solvent cement to terminator male end and insert into pre-cast bell end. (Install PVC bell fitting in kit if precast bell end is not available).
- 5. Use shim enclosed for terminator requiring a connection of Type C (4.35" O.D.) into a Type 40 (4.50" O.D.) termination.
- Measure between ends of terminators on opposite ends of vault, and cut innerduct to length.
- 7. Solvent cement each coupling into place or use mechanical coupling rated for use with high speed air blowing systems.

Multi-Gard® PVC - Installation

Trenching

All PVC Trenching installation allows Multi-Gard to be placed in the trench one section at a time or over the trencher for continuous feed.

Open trenching with Type C Multi-Gard is recommended for direct burial or concrete encased applications.





Features

- Install one section at a time.
- Multiple-cells are installed as soon as product is placed.
- Economical installation with installation speed as fast as the trencher.
- Easy installation with standard equipment.
- Gasketed coupling body prevents conduit pulling apart during installation.
- Industry standard outer duct in Type C is suitable for direct burial.
- Schedule 40 outershell and Schedule 80 outershell are available where extra protection is necessary.
- Spacers inside outershell allow PVC innerduct internal movement allowing for more flexibility.

Procedures

Paved Areas In paved areas, the surface should be carefully cut to prevent unnecessary excessive width at the top of the trench and help reduce the amount of surface to be repaved.

Trench Width For economical operation, particularly where paving is involved, the trench width should be no greater than is needed to provide adequate working space. Generally, this dimension is controlled by the types of excavating equipment used. As a minimum, the trench must be 5 inches wider than the width of the conduit structure where backfill will be used and 3 inches wider where concrete encasement will be used. Individual job specifications will dictate trench width.

Trench Bed Grade and level the trench bed. Where necessary, provide sand and/or other granular backfill as bedding material so the conduit will be evenly supported over the length of each section.

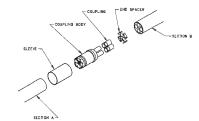
Assembly On Top Of The Trench After preparing the trench, the Multi-Gard can be assembled on top of the ground outside of the trench by following the directions described on page 5. Once joined together, the Multi-Gard can then be laid gently into the trench. Backfill according to the job specifications.

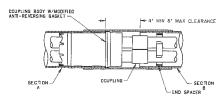
Trench Feeding Multi-Gard Using Rollers This procedure involves assembling the Multi-Gard above the ground. After the first four or five lengths are assembled, place on top of the trenching machine. The remainder of the duct can be attached to the first section and assembled ahead of the trencher on the ground directly above the intended place for the trench. As the trencher advances forward, the Multi-Gard will lay itself into the trench behind. Once placed in the trench, backfill according to the job specification.

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Repairing Vacant Multi-Gard

- **1.** Cut out the damaged section and insert a belled short section (4" shorter than damaged section) of Multi-Gard onto either one of the ends (section A).
- **2.** Apply 2" of cement on ends of spigots of coupling body, press couplings onto spigots.
- **3.** Slide innerduct sleeve over Multi-Gard plain end (section A). Insert end spacer into Multi-Gard plain end (section B).

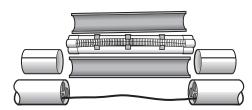




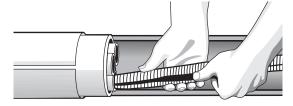
M_SC4 Slip Coupling

- **4.** Insert female end of slip coupling into Multi-Gard plain end (section A). Align sections A and B. Apply cement to couplings. Slide slip coupling back onto innerducts in Multi-Gard (section B) until seated.
- **5.** Apply cement to both plain ends of Multi-Gard and slide sleeve until centered on both sections.

Repairing Multi-Gard Containing Cable(s)



1. Carefully cut out damaged section up to 10 feet. Larger sections can be accommodated using multiple repair kits.



2. Install the 4" split sleeve couplings over the existing Multi-Gard. Slide the smaller split couplings onto the individual innerduct, fitting the cable into the split coupling. Repeat this process on opposite side. Carefully insert the cable(s) into the split corrugated innerduct.

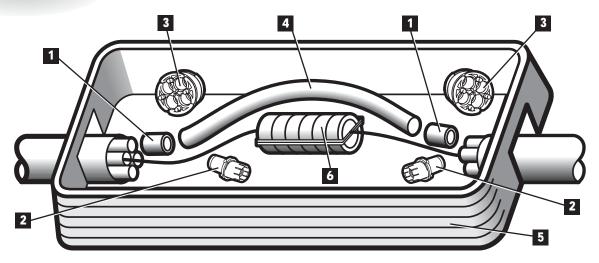


3. Install corrugated innerduct and remaining smooth innerduct into couplings by raising in the center and guiding them into their respective openings. Install the spacers to evenly support the innerduct.



4. Lay one piece of split duct under the repaired section. Install the other piece of split duct onto the first piece and strap or tape in place. Apply cement onto each end and slide the slip sleeves until centered on both sections. Backfill according to job specifications.

Repair Kits



Repairing Multi-Gard with Damaged Cables

- 1 E940F PVC Coupling Couples PVC innerduct with solvent cement for empty cells (standard grade qt. cement #VC9962).
- 2 MAFPG7 Fiber Optic Simplex Plug (cable O.D. range .57 - .65) Seals innerduct with cable installed.
- 3 MAQPG2 Quadplex Plug (4 holes each) Seals outershell and innerduct

- 48808DK PVC Pass-through Kit
 (4 x 20' lengths) 20 foot lengths can be cut to length for continuous empty innerduct.
- 5 Underground Vault & Lid needed
 Choose size & construction based on dimensions
 of splice cases and weight requirements. (Allow
 12" on either side of splice for bending
 innerduct)
- 6 Splice Case

Repair Kit Instructions:

- **1.** Dig around break area enough to allow vault to drop over the repair area and rest level when the mouseholes have been cut away for the duct.
- 2. Cut away and remove outer shell and any damaged inner-ducts, being careful to protect any exposed cables.
- **3.** Cut back the outer duct to allow approximately 6" of inner-duct exposed.
- **4.** Install the splice case per manufacturer's or customer's specifications, allowing enough cable slack so no tension is felt.

- **5.** Install the quad plugs (Item #3) and single plugs (Item #2) in duct containing cable.
- **6.** Install pass-through ducts (Item #4) with coupling (Item #1) sealing with solvent cement.
- **7.** Set the enclosure base over the entire package and place cover on enclosure.
- **8.** Refill hole as required.

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Carlon® Multi-Gard® Fiberglass

Multi-Gard is a multi-cell raceway manufactured in 20 ft. lengths with pre-installed, pre-lubricated innerducts. The pre-installed innerduct design feature eliminates the need of pulling innerducts through existing pipe, which saves valuable time and money.

Applications: Bridge Crossings

Wall Types: Standard, Heavy or Bullet Resistant

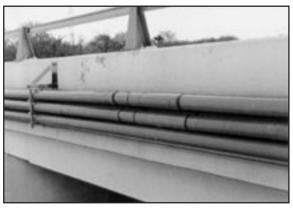
Innerducts: 3-Way or 4-Way

Features

- Pre-lubricated PVC innerducts reduce coefficient of friction for easy cable pulling.
- Anti-reversing gaskets on coupling body allow easy push in – hard to pull out sealing system.
- O-ring gasket at base of bell reduces risk of water entering system.
- Inward tapering holes on coupling body give quick and easy innerduct alignment.
- Marked innerduct and marked hole on coupling body ensure proper innerduct alignment.
- Couplings in standard and slip sleeve reduce waste.
- Transition adapters to allow transition between different outerducts.
- Deep bell provides strong joint.
- Internal spacers keep innerducts straight.
- Staging materials to job site is simplified.
- Standard Wall .070" provides basic mechanical and UV protection.
- Heavy Wall .090" provides enhanced mechanical protection where physical abuse might be experienced.
- Bullet Resistant .250" provides heavy duty protection.
- Lightweight construction for easy handling.
- 3-Way 1¹/₂ and 4-Way 1¹/₄







Assembly Instructions

- 1. Place plain end of one 20' section into gasketed coupling body 1/2" to the gasket depth of another 20' section.
- 2. Check for alignment and apply epoxy to outside of plain end.
- 3. Push sections together with a firm push by hand until plain end seats fully into belled end.

20' Length Fiberglass Multi-Cell With Bell

Part No.	Description	Wall Thick- ness	Bell (A) Dim.	Outerduct (B) Dim.	Innerduct Dim. O.D.	Innerduct Dim. I.D.	Pkg. Qty.	Wt. per 100 ft. (lbs.)
MSSS4S-020	4-Way Standard	.070	4.31	4.14	1.31	1.19	1140'	240
MSSS3S-020	3-Way Standard	.070	4.31	4.14	1.66	1.50	1140'	253
MHSS4S-020	4-Way Heavy Wall	.090	4.39	4.18	1.31	1.19	1140'	338
MHSS3S-020	3-Way Heavy Wall	.090	4.39	4.18	1.66	1.50	1140'	340
MBSS4S-020	4-Way Bullet Res.	.250	5.00	4.25	1.31	1.19	1140'	450
MBSS3S-020	3-Way Bullet Res.	.250	5.00	4.25	1.66	1.50	1140'	450



Standard Multi-Gard supplied with grey and one white tracer innerduct.

- Custom Orders: * Custom innerduct colors available upon request
 - * Minimum order quantity required
 - * Custom orders non-returnable, non-refundable and non-cancelable

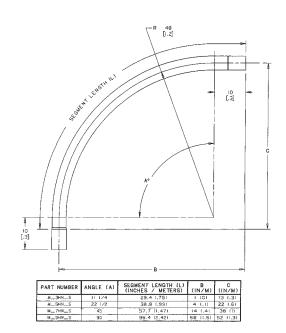
Fiberglass Multi-Cell Fixed Bends with Bell

Multi-Gard fixed bends use the same coupling design as straight sections. All bends are provided with engineered plastic innerducts to avoid rope cut-through into adjacent innerducts.

Part No.	Description	Innerduct I.D.	Pkg. Qty.
MHN4S	1HN4S 4-Way Fixed Bend		1
MHN3S	3-Way Fixed Bend	1.50 I.D.	1

 $7 = 45^{\circ}$ $9 = 90^{\circ}$

Pos. 1 Product	Pos. 2 Outerduct	Pos. 3 Degree (A)	Pos. 4 Radius	Pos. 5 O.D.		Pos. 7 Innerduct Wall Type
M = Multi-Cell	S = Standard H = Heavy wall	$3 = 11^{1/4}$,	S = Smoothwall
	B = Bullet Res.	$5 = 22^{1/2}$ 6 = 30				

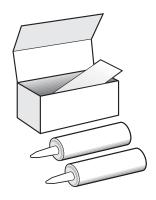


Epoxy Kits

Apply epoxy to plain end and bell before insertion for a water tight joint and to avoid joint pull-out.

Part		Pkg.	Wt.
No. Description		Qty.	ea.
MA30EK	30 oz. w/mixing tip	1	

Pipe Size	# Joints per 30 oz. Kit
2"	30
3"	24
4"	18
5"	12
6"	10

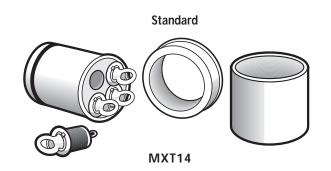


Terminators

Termination kits allow for sealing inner and outerducts. Each kit contains innerduct sealing plugs with tie rope. Standard terminators allow for end terminations.

Part No.	Description	Pkg. Qty.	Wt. Ea
MXT1_	Terminator	1	1.5

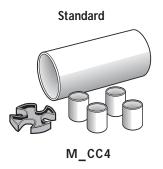
Pos. 1 Product	Pos. 2 Outerduct	Pos. 3 Description	Pos. 4 Type	Pos. 5 Innerducts
M = Multi-Cell	X = Standard	T = Terminator	1 = Standard w/ plugs	3 = 3-Way
				4 = 4-Way



Couplings

Couplings are provided in standard sleeve for joining two uninstalled plain ends and slip couplings for repair of unoccupied Multi-Gard.

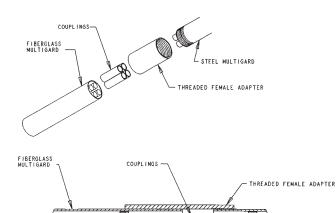
	Part No.	Descrip	Qty.		
	M_CC_	Standard Sleeve Coupling		1	
Pos. 1 Product		Pos. 2 Outerduct	Pos. 3 Description	Pos. 4 Type	Pos. 5 Innerducts
M = Multi-Cell		S = Std. wall .070 H = Hvy. wall .090 B = B. res250	C = Standard	C = Coupling	3 = 3-Way $4 = 4-Way$



Transition Adapters

Transition adapters allow different outerducts to be coupled together while maintaining same innerduct. (See PVC section for transitioning to PVC Multi-Gard.)

Part No.	Description			Pkg. Qty.	
M_A	Transition Adapters			1	
Pos. 1 Product M = Multi-Cell	Pos. 2 Pos. 3 Outerduct Description B = F/G BR A = Adapter H = F/G HW S = F/G Std.		E = R = B = H = S = F = D = X =	. 4 rerduct EMT Galv. Steel F/G BR F/G HW F/G Std. Sch. 40 PVC Sch. 80 PVC Type C PVC PVC Coated St	Pos. 5 Innerducts 3 = 3-Way 4 = 4-Way



STEEL MULTIGARD

Spare Spacers

Part No.	Description	Std. Ctn. Oty.	Std. Ctn. Wt.
MAES4	4-way end spacers	1 ea. = 5 spacers	3.5
MAES3	3-way end spacers	1 ea. = 5 spacers	.6



Multi-Gard® Fiberglass – Accessories

Expansion Joints

Expansion Joints allow for thermal expansion and contraction of outerduct. Fiberglass expansion joints are recommended every 150 feet on bridge crossing applications.

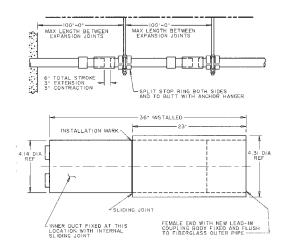
* Must use Split Stop Rings with Expansion Joints

H = Heavy Wall

B = Bullet Res.

Part No.	Description		Pkg. Qty.	
M_EC_	Expansion Joints	S	1	
Pos. 1 Product M = Multi-Cel	Pos. 2 Outerduct I S = Standard	Pos. 3 Description E = Expansion	71	Pos. 5 Innerducts upling 4 = 4-Way

3 = 3-Way

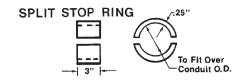


Split Stop Ring

Use split stop rings on either side of support anchors to keep Multi-Gard stationary.

* Must use Split Stop Rings with Expansion Joints

Part No.	Description	Pkg. Qty.	Wt. Ea
MSSR	Standard Wall Split Ring	1	.50
MSSRH	Heavy Wall Split Ring	1	.50
MBSSR	Bullet Resistant Split Ring	1	1.75



Carlon® Multi-Gard® Galvanized Steel

Multi-Gard Galvanized Steel is a multiple celled raceway system designed for bridge applications and other areas requiring heavy duty protection. Multi-Gard is manufactured in 10 ft. lengths with pre-installed, pre-lubricated, smoothwall innerducts.

Applications: Bridge applications and areas

requiring extra protection

Innerducts: 3-Way or 4-Way



- Pre-lubricated PVC innerducts for very low co-efficient of friction and lay straight for long pulls.
- Pre-installed reverse spin coupling allows coupling Multi-Gard together without turning pipe.
- 3 set screws keep coupling from backing off, before and after installation.
- Standard sweeps and terminators.
- Patented flexible bend.
- Conforms to NEC 96 Article 300-22 for installation of communication cables inside buildings.
- All bends have "cut-through" resistant innerducts in bends to avoid rope cutting into adjacent occupied innerduct.
- Accessories such as pull line and line blowing kits available.
- Gasketed coupling body and PVC innerducts are designed to handle jetting equipment or line blowing.
- 3-Way 11/2 and 4-Way 11/4





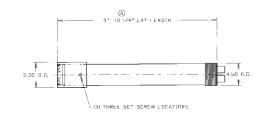


Assembly Instructions

- 1. Remove cap and loosen set screws on coupling. Spin back to allow for insertion.
- 2. Insert male into female end and spin coupling forward to bottom out.
- 3. Check for alignment of marked innerduct and marked hole.
- 4. Tighten set screws.

10' Sections Galvanized Steel with Spin Coupling

Part No.	Description	Coupling O.D.	Outerduct Dim.	Innerduct Dim. O.D.	Innerduct Dim. I.D.	Pkg. Qty.	Wt. per 100 ft.
MRSS4S-010	4-Way Galvanized Steel	5.00	4.50	1.315	1.19	170	1130
MRSS3S-010 3-Way Galvanized Steel		5.00	4.50	1.660	1.50	170	1130
MPSS4S-010	4-Way PVC Coated Steel	5.00	4.50	1.315	1.19	170	1200
MPSS3S-010	3-Way PVC Coated Steel	5.00	4.50	1.660	1.50	170	1200



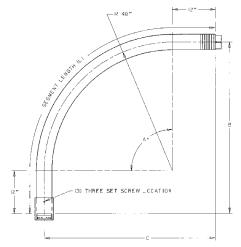
Standard Multi-Gard supplied with grey and one white tracer innerduct.

Galvanized Steel Multi-Cell Fixed Bends With Spin Coupling

Multi-Gard fixed bends use the same coupling design as straight sections. All bends are provided with engineered plastic innerducts to avoid rope cut-through into adjacent innerducts.

Part No.	Description	Innerduct I.D.	Pkg. Qty.
MR_HN4S	4-Way Fixed Bends	1.19	1
MR_HN3S	3-Way Fixed Bends	1.50	1

Pos. 1 Product M = Multi-Cell	Pos. 2 Outerduct R = Galvanized Steel	3 , ,	N = 4"	Pos. 7 Innerduct Wall Type S = Smooth
	P = PVC Coated Steel	6 = 30° 7 = 45° 9 = 90°		



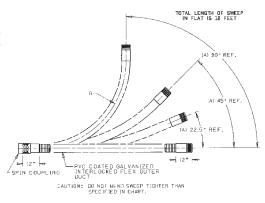
		DIMENSIONS			
PART NUMBER	A	В	C	L	
MR3HN_S	1:.25 °	60	60	2' 9"	
MRSHN_S	22.5	60	60	3*-7"	
MR7HN5	45 *	60	60	5'-2"	
MR9HN_S	90 *	60	60	8'-3"	

PRODUCT SHIPPED WITH CLOSED END THREAD PROTECTORS

PVC Coated Flexible Steel Bends With Spin Coupling

Multi-Gard flexible bends use a patented design capable of a 4' minimum bend radius and use the same coupling design as straight sections and fixed bends. All bends are provided with engineered plastic innerducts to avoid rope cut-through into adjacent innerducts. NOTE: After positioning the bend in its application, it is necessary to cut off the excess innerduct material flush to pipe and deburr both the I.D. and O.D. of the innerduct to remove snags.

Part No.	Description	Innerduct I.D.
MRFB4	4-Way Flexible Bend	1
MRFB3	3-Way Flexible Bend	1

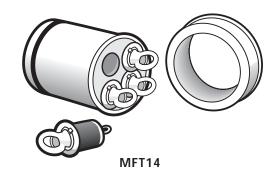


	DIMENSIONS			
PART NUMBER	R	A		
	4 FT	0-90 °		
MRFB	8 FT	0-70*		
	9 FT	0-55°		

Terminators Galvanized Steel

Termination kits allow for sealing inner and outerducts. Each kit contains innerduct sealing plugs with rope tie. Standard terminators allow for end terminations.

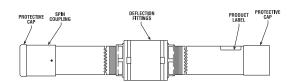
Part No.	Description	Pkg. Qty.	Wt. Ea.
MFT14	4-Way Standard Terminator GS	1	1.5
MFT13	3-Way Standard Terminator GS	1	1.5



Deflection Joint

Couplings are provided in standard sleeve for joining two uninstalled plain ends and slip couplings for repair of unoccupied Multi-Gard.

Part No.	Descrip	Description		Wt. Ea.	
MROS_	Deflection	Deflection Joint		25 lbs.	
Pos. 1 Product M = Multi-Ce	Pos. 2 Outerduct III R = Galv. Steel	Pos. 3 Description O = Offset/ Deflection	Pos. 4 Outerdu S = Stand	lard 4 =	5 rduct 4-Way 3-Way

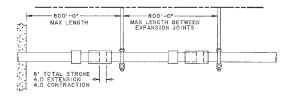


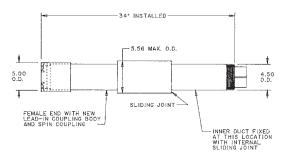
NOTE: PRODUCT DESIGNED FOR OUTDOOR
WET LOCATIONS.
PRODUCT SHIPPED WITH CLOSED-END
THREAD PROTECTORS.

Expansion Joints

Expansion Joints allow for thermal expansion and contraction of outerduct. Steel expansion joints are recommended every 150 feet on bridge crossing applications.

Part No.	Description	Pkg. Qty.	Wt. Ea.
MREC4	4-Way 8" Stroke	1	42
MREC3	3-Way 8" Stroke	1	42





Spare Spacers

Part No.	Description	Std. Ctn. Qty.	Std. Ctn. Wt.
MAES4	4-way end spacers	1 ea. = 5 spacers	3.5
MAES3	3-way end spacers	1 ea. = 5 spacers	.6



Multi-Gard® Galvanized Steel – Accessories

P = PVC Coated Steel

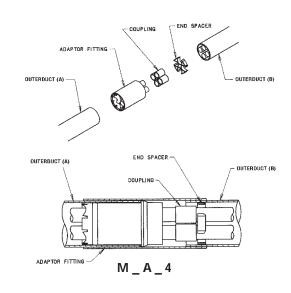
Transition Adapters

Transition adaptors allow different outerducts to be coupled together while maintaining same innerduct.

Part numbers configured from smaller duct to larger duct.

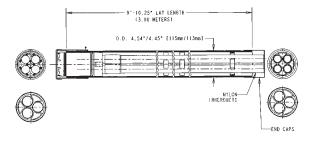
Part No.	Description	Pkg. Qty.
M_A	Transition Adapter	1

Pos. 1	Pos. 2	Pos. 3	Pos. 4	Pos. 5
Product	Outerduct (A)	Description	Outerduct (B)	Innerducts
M = Multi-Cell	R = Galv. Steel P = PVC Coated Steel	A = Adapter	E = EMT R = Galv. Steel B = F/G BR H = F/G HW S = F/G Std. F = Schedule 40 PVC D = Schedule 80 PV C = Type C PVC	-



Field Bendable Sweeps

Part No.	Description	Pkg. Qty.
MRSS4SFB-010	4-Way Field Bendable Sweep - 10 ft.	1
MRSS3SFB-010	3-Way Field Bendable Sweep - 10 ft.	1



Carlon® Multi-Gard® EMT

Multi-Gard EMT is a multi-cell conduit system for use inside buildings. It's a UL Listed electrical metallic tubing (EMT) outershell with pre-installed PVC innerducts, and each 10 ft. section has a gasketed coupling body.

Features

- 10' lengths with set screw couplings.
- Standard sweeps and terminators
- Transition adapters available such as EMT to Type C Multi-Gard.
- PVC innerducts lay straight for longer pulls.
- PVC innerducts are pre-lubricated for longer pulls.
- All metallic components are UL Listed and conform to meet NEC 96 Article 300-22 for communication cable installation inside buildings.
- All bends have "cut through" resistant innerducts to avoid rope cutting into adjacent occupied innerduct.
- Accessories such as line blowing kits and pull line available.
- 3-Way 11/2 and 4-Way 11/4





Assembly Instructions

- 1. Remove cap and loosen set screws on open end of coupling.
- Insert male end of conduit into female coupling, checking for alignment of marked innerduct into marked hole.
- 3. Tighten set screws.

10' Sections EMT Multi-Cell with Set Screw Coupling

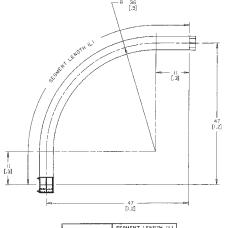
Part No.	Description	Outerduct Dim. O.D.	Outerduct Dim. I.D.	Innerduct Dim. O.D.	Innerduct Dim. I.D.	Pkg. Qty.	Wt. per 100 ft.
MESS4S-010	4-Way	4.50	4.33	1.32	1.19	170'	555
MESS3S-010	3-Way	4.50	4.33	1.66	1.50	170'	555



Fixed Bends EMT Multi-Cell with Set Screw Coupling

Multi-Gard fixed bends use the same coupling design as straight sections. All bends are provided with engineered plastic innerducts to avoid rope cut-through into adjacent innerducts.

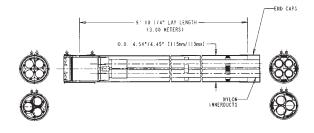
Part No.	Description	Pkg. Qty.	Wt. Ea. (lbs.)
ME9FN4S	4-Way 90°x36" Radius	1	39
ME7FN4S	4-Way 45°x36" Radius	1	20
ME9FN3S	3-Way 90'x36" Radius	1	39
ME7FN3S	3-Way 45 [*] x36" Radius	1	20



PART NUMBER	SEGMENT LENGTH (L) (INCHES / METERS)
WE7FN_S	50,30 (1.28)
MESFN_S	78.50 (1.99)

Field Bendable Sweeps

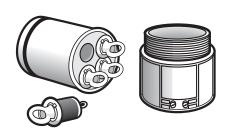
Part No.	Description	Pkg. Qty.
MESS4SFB-010	4-Way EMT Field Bendable Sweep - 10 ft.	1
MESS3SFB-010	3-Way EMT Field Bendable Sweep - 10 ft.	1



Terminators for EMT Multi-Gard

Multi-Gard flexible bends use a patented design capable of a 4' minimum bend radius and use the same coupling design as straight sections and fixed bends. All bends are provided with engineered plastic innerducts to avoid rope cut-through into adjacent innerducts. NOTE: After positioning the bend in its application, it is necessary to cut off the excess innerduct material flush to pipe and deburr both the I.D. and O.D. of the innerduct to remove snags.

Part No.	Description	Pkg. Qty.	Wt. Ea. (lbs.)
MET64	4-Way Standard Enclosure Terminator	1	2.5
MET63	3-Way Standard Enclosure Terminator	1	2.5



Spare Spacers

Part No.	Description	Std. Ctn. Qty.	Std. Ctn. Wt.
MAES4	4-way end spacers	1 ea. = 5 spacers	3.5
MAES3	3-way end spacers	1 ea. = 5 spacers	.6



Carlon® Intra-Gard® Multi-Cell Raceway

4-Way Intra-Gard®
6-Way Intra-Gard®
Hybrid Intra-Gard®
Accessories



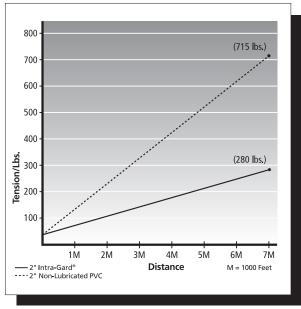
4-Way, 6-Way & Hybrid Intra-Gard®

Carlon® Intra-Gard® is a multi-cell raceway system used in direct bury and concrete encased applications. Intra-Gard ducts are pre-lubricated, eliminating the need for field applied lubricants and reducing the coefficient of friction, thus allowing for longer cable pulls.

Intra-Gard is available in Type C and Schedule 40 wall types and is manufactured with extended length bell ends to facilitate assembly and ensure joint integrity. Factory installed spacers provide proper spacing and alignment throughout the system. And for precise 20' lay lengths, Intra-Gard is supplied in 20'3" sticks.

Features:

- Pre-lubricated ducts reduces coefficient of friction, thus allowing longer cable pulls
- Meets Bellcore GR356-CORE coefficient of friction requirements
- Schedule 40 and Type C wall types
- Factory installed spacers
- Multiple color configurations available for easy duct identification
- Extended length bell ends available on request
- Standard colors white and grey



Calculated using MDPE F/O cable (Wgt.= .11 lbs./ft.)

Applications

Schedule 40

Type C

- Direct bury
- Concrete encased
- Concrete encased
- Direct bury

4-Way Intra-Gard



Standard - Two Color

	Wall type	Part Number	Color	Maximum O.D.	Minimum I.D.	Wall Th Min.	ickness Max.
	Schedule 40	I4SFG-020	1 White, 3 Grey	1.67	1.34	.13	.15
1 ¹ / ₄ "	Schedule 40	I4SFGG-020	1 White, 3 Green	1.67	1.34	.13	.15
	Type C	I4SXG-020	1 White, 3 Grey	1.67	1.46	.08	.10
11/2"	Schedule 40	I41540-020	1 White, 3 Grey	1.91	1.57	.15	.17
1.12	Type C	I415C-020	1 White, 3 Grey	1.90	1.66	.10	.12
2"	Schedule 40	I42240-020	1 White, 3 Grey	2.38	2.02	.15	.17
	Type C	I422C-020	1 White, 3 Grey	2.38	2.16	.08	.11

Multi-Color Options

	Wall type	Part Number	Color	Max. O.D.	Min. I.D.	Wall Th Min.	ickness Max.
	Schedule 40	I4SFGB-020	Grey, White, Red & Orange	1.67	1.34	.13	.15
	Schedule 40	I4SFGA-020	Orange, Green, Blue & Yellow	1.67	1.34	.13	.15
1 ¹ / ₄ "	Schedule 40	I4SFG6-020	Green, Yellow, Red & Black	1.67	1.34	.13	.15
	Schedule 40	I4SFG4-020	Grey, White, Green & Orange	1.67	1.34	.13	.15
	Schedule 40	I4SFG5-020	Grey, White, Blue & Orange	1.67	1.34	.13	.15
11/2"	Schedule 40	I41540MC-020	Grey, White, Blue & Orange	1.91	1.57	.15	.17
1 /2	Type C	I415CMC-020	Grey, White, Blue & Orange	1.90	1.66	.10	.12
2"	Schedule 40	I42240MC-020	Grey, White, Blue & Orange	2.38	2.02	.15	.17
2	Туре С	I422CMC-020	Grey, White, Blue & Orange	2.38	2.16	.08	.11

Flared bell end design provides easy assembly. Available with 11/4" duct only.

6-Way Intra-Gard



Standard - Two Color

	Wall type	Part Number	Color	Maximum O.D.	Minimum I.D.	Wall Thi Min.	ckness Max.
1 ¹ / ₄ "	Schedule 40	I6SFG-020	1 White, 5 Grey	1.67	1.34	.13	.15
1 74	Туре С	I6SXG-020	1 White, 5 Grey	1.67	1.46	.08	.10
211	Schedule 40	I62240-020	1 White, 5 Grey	2.38	2.02	.15	.17
2"	Туре С	I622C-020	1 White, 5 Grey	2.38	2.16	.08	.11

^{*} Flared bell end design provides easy assembly. Available with 11/4" duct only.

4-Way Hybrid 2" & 11/4"



Standard - Two Color

Wall type	Part Number	Color	
Schedule 40	I41240-020	1 White, 3 Grey	
Type C	I412C-020	1 White, 3 Grey	

Multi-Color Options

Wall type	Part Number	Color
Schedule 40	I41240MC-020	Grey, White, Blue & Orange
Type C	I412CMC-020	Grey, White, Blue & Orange

Specifications

	Wall Type	Max. O.D.	Min. I.D.	Wall Thi Min.	ickness Max.
1 ¹ / ₄ "	Schedule 40	1.67	1.34	.13	.15
1 /4	Type C	1.67	1.46	.08	.10
2"	Schedule 40	2.38	2.02	.15	.17
_	Type C	2.38	2.16	.08	.11

Shipping Quantities

All products within the Intra-Gard® system are supplied with protective dust caps, ensuring system reliability for current and future cable installations.

Туре	Pallet Qty.	Truck Load
4-way 1 ¹ / ₄ "	1,200 ft.	14,400 ft.
4-way 1 ¹ / ₂ "	1,200 ft.	14,400 ft.
4-way 2"	1,200 ft.	14,400 ft.
6-way 1 ¹ / ₄ "	720 ft.	8640 ft.
6-way 2"	720 ft.	8640 ft.
4-way Hybrid 2" x 1 ¹ / ₄ "	1,200 ft.	14,400 ft.

Unloading

When unloading Intra-Gard from the delivery truck, mechanical equipment should be used. If possible, distribute the Intra-Gard along the route of the trench site as it is unloaded.



Fixed Elbows

Intra-Gard® elbows are available in 3' and 4' radii and 11¹/4°, 22¹/2°, 45° and 90° angles of curvature. They are manufactured with system compatible bell and spigot ends, are pre-lubricated, grey in color, and shipped with dust caps.



4-Way - 11/4"

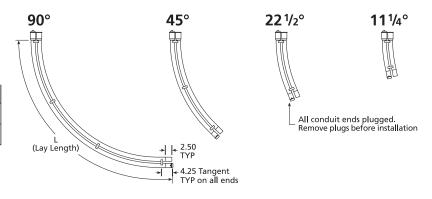
Wall Type	Part No.	Angle	Radius	Length
Schedule 40	IF9HG4	90°	48"	81"
Schedule 40	IF9FG4	90°	36"	81"
Schedule 40	IF7HG4	45°	48''	43''
Schedule 40	IF7FG4	45°	36"	43''
Schedule 40	IF5HG4	221/2°	48"	26"
Schedule 40	IF5FG4	221/2°	36"	26"
Schedule 40	IF3HG4	11 ¹ / ₄ °	48"	15"
Schedule 40	IF3FG4	11 ¹ / ₄ °	36"	15"
Type C	IX9HG4	90°	48"	81"
Type C	IX9FG4	90°	36"	81"
Type C	IX7HG4	45°	48"	43''
Type C	IX7FG4	45°	36"	43''
Type C	IX5HG4	221/2°	48''	26"
Type C	IX5FG4	22 ¹ /2°	36"	26"
Type C	IX3FH4	11 ¹ / ₄ °	48"	15"
Type C	IX3FG4	11 ¹ / ₄ °	36"	15"

6-Way - 11/4"

Wall Type	Part No.	Angle	Radius	Length
Schedule 40	IF9HG6	90°	48"	81"
Schedule 40	IF9FG6	90°	36"	81"
Schedule 40	IF7HG6	45°	48''	43"
Schedule 40	IF7FG6	45°	36"	43"
Schedule 40	IF5HG6	221/2°	48''	26"
Schedule 40	IF5FG6	221/2°	36"	26"
Schedule 40	IF3HG6	11 ¹ / ₄ °	48''	15"
Schedule 40	IF3FG6	11 ¹ / ₄ °	36"	15"
Type C	IX9HG6	90°	48''	81"
Type C	IX9FG6	90°	36"	81"
Type C	IX7HG6	45°	48''	43"
Type C	IX7FG6	45°	36"	43"
Type C	IX5HG6	221/2°	48''	26"
Type C	IX5FG6	221/2°	36"	26"
Type C	IX3FH6	11 ¹ / ₄ °	48''	15"
Type C	IX3FG6	11 ¹ / ₄ °	36"	15"

Hybrid – 2" & 11/4"

Wall Type	Part No.	Angle	Radius	Length
Schedule 40	I4129040	90°	36"	39"
Schedule 40	I4124540	45°	36"	67"

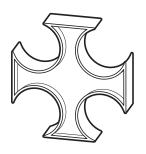


4-Way

Nom. Size	Part No.
11/4"	I4ISG
11/2"	I4ISG15
2"	I4ISH

Hybrid

Nom. Size	Part No.
2" & 11/4"	I4HISG



End Bell Terminator Ring

Manhole Terminator or Handhole Entrance

At the manhole or handhole entrance, the ideal termination procedure is to use commercially available industry standard Type C duct end bell (4.35") precast into the manhole or handhole wall. To properly seal the Intra-Gard® at its termination points, Intra-Gard manhole terminator rings are available as a 1" thick disk designed to properly space the innerducts and fit into a 4.35" O.D. (Part #IRS4.)

- Start by removing the protective caps from the male ends of the pipes and then align the ducts with the Intra-Gard terminator spacer ring and insert spigot ends through holes provided.
- 2. Insert prepared male end into the precast terminator. The terminator should be solvent cemented into the precast terminator or sealed around outside of the entrance as required by the job specifications.
- **3.** Duct plugs should be used (MAEPG3) after installation on empty ducts to avoid water and dust infiltration.

Other Type Entrances

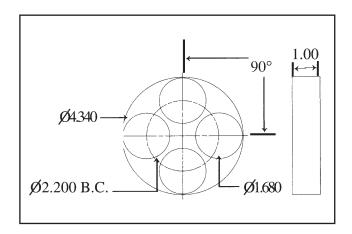
- 1. Where a knockout is used, the procedure starts with inserting the male end of the section of pipe four inches past the inside wall of the manhole or handhole. Remove the protective caps from the ends of the pipe, insert terminator and align the ducts with Intra-Gard terminator ring. Seal around entrance as required by the job specifications.
- 2. A pass through terminator may be secured into wall of manhole or handhole either directly into precast terminator or grout in place if knockout is used.



Terminator Ring

Part No.	Description			
IRS4	4-Way 1 ¹ / ₄ " Terminator Ring			

^{*} Manhole terminator sold separately



Upon completion of conduit placement, install ducts to traverse manhole/handhole by cutting to length, inserting into one side of handhole, and raising or bowing center of duct span to insert in the pass through terminator on the other side.

Pass through application may be accomplished by installing a long line coupling (E600G) onto each duct entering the vault. Couplings should then be solvent cemented onto each remaining duct of Intra-Gard.

Installation Instructions

When handling Intra-Gard®, care must be taken to avoid striking the ends against hard surfaces. This can cause damage from impact or crushing of the end of the conduit.

Assembly In Trench

 In the trench, set the first layer of ducts by inserting the male ends into the female ends on the sections previously placed.
 Remove the protective caps as the sections of pipe are about to be joined together, and make sure the matching colors are aligned.



- 2. A thin coating of Carlon Quick Set Cement should be applied to the inside surface of the sockets lightly enough to prevent the formation of a bead of cement at the interior shoulder of the sockets. Then, apply in the same manner to the spigot ends of the conduits to the depth of the socket.
- **3.** Immediately after applying the coat of cement to the conduit, insert the spigot ends into the sockets.



Duct Proofing

Use appropriate seal-off kit (Reference pg. 9 for Line Blowing Kits). For maximum line blowing potential, use air compressor at 175 CFM (125 PSI Max.)

- Slide pull line through opening in threaded nozzle end of seal-off. Attach blowing missile to pull line.
- Insert blowing missile into individual duct and insert threaded end of seal-off into duct to assure minimal air loss.
- Attach seal-off to air compressor with air release lever in off position. Hold seal off firmly in hands.
- 4. Open lever quickly making sure slight tension is on to prevent pull line from packing. CAUTION SHOULD BE EXERCISED AT THE EXIT POINT FOR MISSILE TO AVOID INJURY. Blow pull line in all ducts to ensure no blockages are present.

Field Cuts

Joining a Male/Female Connection

- 1. The pipes should be laid side by side and the male end marked at the base of the bell on the female end.
- **2.** Make a straight through cut on the male end using a standard carpenter's saw. Deburr the ends of the cut pipe.
- **3.** Apply Carlon Quick Set Cement in a thin uniform coating to the inside surface of the sockets and raise both ends and align the ducts on the male ends to the bells on the female end.
- **4.** Once the ducts are aligned with their sockets, lower both of the pipes. The ducts will be automatically returned to their original position as the joints are forced together.



Joining Two Male Ends

- 1. The pipes should be laid side by side, marked and flush cut to butt up against each other. Deburr the ends of the cut pipe and install a spare spacer if needed, and use standard couplings.
- 2. Place each individual coupling onto ducts using Carlon Quick Set Cement.
- **3.** Lift sections to align each coupling with other ducts.
- **4.** Lower both sections to a level position.

Repairing Intra-Gard® Once Installed

Repair sections may use a standard 20' length of Intra-Gard with sockets and cut to length.

Repairing Damaged Intra-Gard That Is Vacant

- 1. Cut out damaged section making a flush cut on both sides and deburr all pipes.
- Measure damaged section and new section with a socket and measure from base of socket and cut flush. Intra-Gard couplings are installed onto the individual ducts of the section in the ground.
- **3.** Install new section in trench by first applying Carlon Quick Set Cement and pushing sockets onto either spigot ends.
- **4.** Line up ducts with couplings and raise or bow center of duct span, apply cement and slip ducts into couplings.

Repairing Intra-Gard Housing a Cable

- 1. Carefully cut out the damaged section of the Intra-Gard.
- **2.** Where cable is installed, slide the split couplings onto each individual duct, fitting the cable into the grooved coupling passage. Repeat the process on the other side.
- **3.** Carefully insert the cable into the split duct. Push the split duct into the split coupling at both ends. Wrap all slit areas with sealing tape or shrink wrap, etc. as recommended by specifier to seal out water.
- **4.** Install stop coupling onto other vacant ducts with Carlon Quick Set Cement and install the ducts into the other openings of the couplings with cement.
- **5.** Ensure the duct system is straight and even before encasing in soil.

Carlon® Intra-Gard® Quote Request

Date:	Needed By:	Destination:	
Customer:		Account Number:	
Rep Agency:		Market: Power To	elecommunication
Total Quantity Feet:		Target Price:	
·		Competitors Price:	
Quoted Price:			
Valid Until:		Ounted Ry:	

4-Way Intra-Gard

Standard - Two Color

Standard - 1990 Color				
	Wall type	Part No.	Qty.	
	Schedule 40	I4SFG-020		
1 ¹ / ₄ ''	Schedule 40	I4SFGG-020		
	Type C	I4SXG-020		
1 ¹ /2"	Schedule 40	I41540-020		
	Type C	I415C-020		
2"	Schedule 40	I42240-020		
-	Type C	I422C-020	·	

Multi-Color Options

	Wall type	Part No.	Qty.
41/ 11	Schedule 40	I4SFGB-020	
1 ¹ / ₄ "	Schedule 40	I4SFGA-020	
	Schedule 40	I4SFG6-020	
	Schedule 40	I4SFG4-020	
	Schedule 40	I4SFG5-020	
11/2"	Schedule 40	I41540MC-020	
	Type C	I415CMC-020	
2"	Schedule 40	I42240MC-020	
	Type C	I422CMC-020	

Fixed Elbows - 4 Way 11/4" Schedule 40

Part No.	Angle	Radius	Qty.
IF9HG4	90°	48"	
IF9FG4	90°	36"	
IF7HG4	45°	48"	
IF7FG4	45°	36"	
IF5HG4	22 ¹ /2°	48"	
IF5FG4	22 ¹ /2°	36"	
IF3HG4	11 ¹ / ₄ °	48"	
IF3FG4	11 ¹ / ₄ °	36"	

Type C

Part No.	Angle	Radius	Qty.
IX9HG4	90°	48"	
IX9FG4	90°	36"	
IX7HG4	45°	48"	
IX7FG4	45°	36"	
IX5HG4	22 ¹ /2°	48"	
IX5FG4	22 ¹ /2°	36"	
IX3HG4	11 ¹ /4°	48"	
IX3FG4	11 ¹ /4°	36"	

6-Way Intra-Gard

Standard - Two Color

	Wall type	Part No.	Qty.
11/4"	Schedule 40	I6SFG-020	
1 '/4	Туре С	I6SXG-020	
2"	Schedule 40	I62240-020	
	Type C	I622C-020	

Fixed Elbows - 6 Way 11/4"

Schedule 40

Scriedo	JIE 40			Type C			
Part No.	Angle	Radius	Qty.	Part No.	Angle	Radius	Qty.
IF9HG6	90°	48"		IX9HG6	90°	48"	
IF9FG6	90°	36"		IX9FG6	90°	36"	
IF7HG6	45°	48"		IX7HG6	45°	48"	
IF7FG6	45°	36"		IX7FG6	45°	36"	
IF5HG6	22 ¹ /2°	48"		IX5HG6	22 ¹ / ₂ °	48"	
IF5FG6	22 ¹ /2°	36"		IX5FG6	22 ¹ / ₂ °	36"	
IF3HG6	11 ¹ / ₄ °	48"		IX3HG6	11 ¹ / ₄ °	48''	
IF3FG6	11 ¹ /4°	36"		IX3FG6	11 ¹ /4°	36"	

4-Way Hybrid 2" & 11/4" Intra-Gard

Standard - Two Color

Wall type	Part No.	Qty.
Schedule 40	I41240-020	
Type C	I412C-020	

Multi-Color Options

Wall type	Part No.	Qty.
Schedule 40	I41240MC-020	
Туре С	I412CMC-020	

Fixed Elbows - Hybrid 2" & 11/4"

Wall type	Part No.	Angle	Radius	Qty.
Schedule 40	I4129040	90°	36"	
Schedule 40	I4124540	45°	36"	

Accessories

Pull Line Part No. Qty.

Part No.	uty.	

Part No.	Qty.

Line Blowing Accessories

Spacers

Part No.	Qty.

Warning Tape

marining rapo					
Part No.	Qty.				

Cutters				
Part No.	Qty.			

NOTE: Please fill in desired part number and quantities.

Fax completed Quote Request to your Local Carlon Representative. Visit www.carlon.com to locate a Carlon Representative.

Carlon® High Density Polyethylene

Telecommunication, Electrical, and Power Utility Solutions:



Ribbed Wall

UL Listed

Aerial

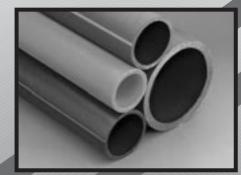
Aerial Figure 8

Corrugated

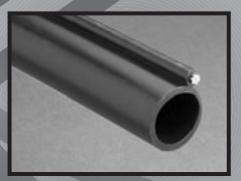
Toneable

Accessories













Smoothwall



Applications: Underground or innerduct **Installation methods:** Plowing, open trench, directional boring or pulled through existing conduit

Smoothwall HDPE is a nonmetallic flexible raceway manufactured from High Density Polyethylene (HDPE) for use in underground and innerduct applications.

Smoothwall offers superior protection,

Smoothwall offers superior protection, increases pathways of existing duct systems, allows extra channels for future cabling needs, and is ideal for jetting cable.

Available in a wide range of sizes, colors, and options, Carlon HDPE is the only cable management system you need.

Smooth Interior Wall

Smoothwall is ideal for jetting cable



Smoothwall Options

- Sizes 1/2" 16"
- Multiple colors and stripes
- Factory installed pull lines
- Sequentially marked footage
- Up to four colors of equal lengths paralleled or segmented on one reel
- Pre-lubricated
- Toneable Duct copper conductor within the wall of duct. Used to locate buried conduit. (see page 254)



Directional Boring



Open Trench

- Custom Orders
 * Custom Orders are not returnable
 * Custom lengths are available in minimum order quantities specified on page 271

How to Build a Part Number:

Product	Size	Туре	Wall	Options	Splits	Color	Stripes	Таре	Length
A = HDPE	2 = 1/2"	C = Smooth/Smooth	4 = SCH 40	N = None	1 = 1 Way Single	A = Black	NN = None	A = Empty	1500
	3 = 3/4"		5 = SCH 80	D = Lube Duct	2 = 2 Way Segmented	B = Blue	3A = Black Stripes	B = 1130 lbs. Polyester Tape	(Equals 1500 Feet)
	5 = 1"		6 = SDR 11		3 = 3 Way Segmented	C = Brown	3B = Blue Stripes	C = 1250 lbs. Polyester Tape	
	6 = 1-1/4"		9 = SDR 13.5		4 = 4 Way Segmented	D = Buff	3C = Brown Stripes	D = 1500 lbs. Polyester Tape	
	9 = 1-1/2"		13 = SDR 15.5		5 = 2 Way Parallel	E = Grey	3D = Buff Stripes	E = 1800 lbs. Polyester Tape	
	13 = 2"		14 = SDR 17		6 = 3 Way Parallel	F = Green	3E = Grey Stripes	G = 200 lbs. Polyester Tape	
	14 = 2-1/2"		16 = SDR 21		7 = 4 Way Parallel	G = Lilac	3F = Green Stripes	J = 2500 lbs. Polyester Tape	
	15 = 3"		22 = SDR 7		12 = 2 Way Compart	H = Lt. Green	3G = Lilac Stripes	K = 400 lbs. Detect. Polyester Tape	
	16 = 4"		24 = SDR 9		13 = 3 Way Compart	J = Orange	3H = Lt. Green Stripes	T = 1250 lbs. Poly Metric Tape	
	17 = 4.75"		26 = SIDR 11.5		14 = 4 Way Compart	K = Red	3J = Orange Stripes	V = 1250 lbs. Detectable 22G Poly Tape	
	18 = 5"		27 = SIDR 11.5 True			L = Terra Cotta	3K = Red Stripes		
	22 = 6"		29 = SIDR 15			M = White	3L = Terra Cotta Stripes		
	23 = 7"		34 = SIDR 7			N = Yellow	3M = White Stripes		
	24 = 8"		36 = SIDR 9				3N = Yellow Stripes		
	25 = 10"		37 = SIDR 9 True						
	26 = 12"		42 = TC-7A						
	27 = 14"		45 = True 11						
	28 = 16"		46 = True 9						

Standard Length - Reels and Coils

	Color	Part No.	Туре	Wall	Pull Tape Polyester Woven	Reel Size	Reel Length (ft.)	Wt./Ea. (lbs.)
	Orange	A5C6N1JNNA7000	S/S	SDR 11	Empty	72x45x24	7000	1517
	Orange	A5C6N1JNNB7000	S/S	SDR 11	1130 lb.	72x45x24	7000	1576
	Orange	A5C9N1JNNB250	S/S	SDR 13.5	1130 lb.	Coil	250	42
1"	Orange	A5C9N1JNNB500	S/S	SDR 13.5	1130 lb.	Coil	500	84
	Orange	A5C9N1JNNB1800	S/S	SDR 13.5	1130 lb.	48x30x24	1800	382
	Orange	A5C9N1JNNA7000	S/S	SDR 13.5	Empty	72x45x24	7000	1278
	Orange	A5C9N1JNNB7000	S/S	SDR 13.5	1130 lb.	72x45x24	7000	1337
	Orange	A6C6N1JNNA5000	S/S	SDR 11	Empty	82x45x30	5000	1742
	Orange	A6C6N1JNNB5000	S/S	SDR 11	1130 lb.	82x45x30	5000	1784
	Orange	A6C9N1JNNB250	S/S	SDR 13.5	1130 lb.	Coil	250	66
	Orange	A6C9N1JNNB500	S/S	SDR 13.5	1130 lb.	Coil	500	132
11/4"	Orange	A6C9N1JNNC2500	S/S	SDR 13.5	1250 lb.	66x45x30	2500	793
	Orange	A6C9N1JNNA5000	S/S	SDR 13.5	Empty	82x45x30	5000	1481
	Orange	A6C9N1JNNB5000	S/S	SDR 13.5	1130 lb.	82x45x30	5000	1523
	Orange	A6C9N1JNNA8000	S/S	SDR 13.5	Empty	96x45x32	8000	2271
	Orange	A6C9N1JNNB8000	S/S	SDR 13.5	1130 lb.	96x45x32	8000	2338
	Orange	A9C6N1JNNA5000	S/S	SDR 11	Empty	96x45x32	5000	2246
11/2"	Orange	A9C9N1JNNA5000	S/S	SDR 13.5	Empty	96x45x32	5000	1904
1 '/2	Orange	A9C9N1JNNB5000	S/S	SDR 13.5	1130 lb.	96x45x32	5000	1946
	Orange	A9C26N1JNNC2500	S/S	SIDR 11.5	1250 lb.	66x45x30	2500	1190

Standard Length - Reels and Coils

	Color	Part No.	Туре	Wall	Pull Tape Polyester Woven	Reel Size	Reel Length (ft.)	Wt./Ea. (lbs.)
	Orange	A13C4N1JNNC2500	S/S	Sch 40	1250 lb.	82x45x40	2500	1410
	T Cotta	A13C5N1LNNC2500	S/S	Sch 80	1250 lb.	82x45x40	2500	1816
	Grey	A13C6N1ENNA4000	S/S	SDR 11	Empty	96x45x32	4000	2747
2"	Black	A13C6N1ANNA4000	S/S	SDR 11	Empty	96x45x32	4000	2747
	Orange	A13C6N1JNNA4000	S/S	SDR 11	Empty	96x45x32	4000	2747
	Black 3 RD	A13C9N1A3KA4000	S/S	SDR 13.5	Empty	96x45x32	4000	2319
	Black	A13C9N1ANNA4000	S/S	SDR 13.5	Empty	96x45x32	4000	2319
	Orange	A13C9N1JNNA4000	S/S	SDR 13.5	Empty	96x45x32	4000	2319
3"	Black	A15C9N1ANNA1000	S/S	SDR 13.5	Empty	96x45x68	1000	1364
3	Orange	A15C9N1JNNA1000	S/S	SDR 13.5	Empty	96x45x68	1000	1364
	Black	A16C6N1ANNA766	S/S	SDR 11	Empty	102x45x68	766	2022
	Orange	A16C6N1JNNA766	S/S	SDR 11	Empty	102x45x68	766	2022
4"	Black	A16C9N1ANNA766	S/S	SDR 13.5	Empty	102x45x68	766	1727
	Orange	A16C9N1JNNA766	S/S	SDR 13.5	Empty	102x45x68	766	1727
	Orange	A16C26N1JNNC700	S/S	SIDR 11.5	1250 lb.	102x45x68	700	1746
4.37.II	Grey	A17C9N1ENNA700	S/S	SDR 13.5	Empty	102x45x68	700	2171
4 3/4"	Orange	A17C9N1JNNA700	S/S	SDR 13.5	Empty	102x45x68	700	2171
5"	Grey	A18C9N1ENNA480	S/S	SDR 13.5	Empty	114x45x85	480	1842
5	Black	A18C9N1ANNA480	S/S	SDR 13.5	Empty	114x45x85	480	1842
	Grey	A22C9N1ENNA450	S/S	SDR 13.5	Empty	120x45x85	450	2296
6"	Black	A22C6N1ANNA450	S/S	SDR 11	Empty	120x45x85	450	2669
	Black	A22C9N1ANNA450	S/S	SDR 13.5	Empty	120x45x85	450	2296

ID Ribbed Wall



Applications: Underground or innerduct **Installation methods:** Plowing, open trench, directional boring or pulled through existing conduit

ID Ribbed Wall HDPE is a nonmetallic flexible raceway manufactured from High Density Polyethylene (HDPE) for use in underground and innerduct applications.

Ribbed Wall offers superior protection, increases pathways of existing duct systems, allowing extra channels for future cabling needs. Available in a wide range of sizes, colors, and options, Carlon HDPE is the only cable management system you need.

ID Ribbed Interior Wall

Ribbed Wall is ideal for pulling or jetting cable. Interior ribs reduce surface contact with cable during installation.



Ribbed Wall Options

- Sizes 1/2" 6"
- Multiple colors and stripes
- Factory installed pull lines
- Sequentially marked footage
- Up to four colors of equal lengths paralleled or segmented on one reel
- Pre-lubricated
- Toneable Duct copper conductor within the wall of duct. Used to locate buried conduit. (see page 254)



Trenching

- Custom Orders
 * Custom Orders are not returnable
 * Custom lengths are available in minimum order quantities specified on page 271

How to Build a Part Number:

Product	Size	Туре	Wall	Options	Splits	Color	Stripes	Таре	Length
A = HDPE	2 = 1/2"	B = Smooth Out/Ribbed In	4 = SCH 40	N = None	1 = 1 Way Single	A = Black	NN = None	A = Empty	1500
	3 = 3/4"		5 = SCH 80	D = Lube Duct	2 = 2 Way Segmented	B = Blue	3A = Black Stripes	B = 1130 lbs. Polyester Tape	(Equals 1500 Feet)
	5 = 1"		6 = SDR 11		3 = 3 Way Segmented	C = Brown	3B = Blue Stripes	C = 1250 lbs. Polyester Tape	
	6 = 1-1/4"		9 = SDR 13.5		4 = 4 Way Segmented	D = Buff	3C = Brown Stripes	D = 1500 lbs. Polyester Tape	
	9 = 1-1/2"		13 = SDR 15.5		5 = 2 Way Parallel	E = Grey	3D = Buff Stripes	E = 1800 lbs. Polyester Tape	
	13 = 2"		14 = SDR 17		6 = 3 Way Parallel	F = Green	3E = Grey Stripes	G = 200 lbs. Polyester Tape	
	14 = 2-1/2"		16 = SDR 21		7 = 4 Way Parallel	G = Lilac	3F = Green Stripes	J = 2500 lbs. Polyester Tape	
	15 = 3"		22 = SDR 7		12 = 2 Way Compart	H = Lt. Green	3G = Lilac Stripes	K = 400 lbs. Detect Polyester Tape	
	16 = 4"		24 = SDR 9		13 = 3 Way Compart	J = Orange	3H = Lt. Green Stripes	T = 1250 lbs. Poly Metric Tape	
	17 = 4.75"		26 = SIDR 11.5		14 = 4 Way Compart	K = Red	3J = Orange Stripes	V = 1250 lbs. Detectable 22G Poly Tape	
	18 = 5"		27 = SIDR 11.5 True			L = Terra Cotta	3K = Red Stripes		
	22 = 6"		29 = SIDR 15			M = White	3L = Terra Cotta Stripes		
			34 = SIDR 7			N = Yellow	3M = White Stripes		
			36 = SIDR 9				3N = Yellow Stripes		
			37 = SIDR 9 True						
			42 = TC-7A						
			45 = True 11						
			46 = True 9						



Application: Underground **Installation methods:** Direct bury, directional boring, or trench

Toneable HDPE Duct incorporates a patented design using bare solid copper conductor wire within the duct wall underneath a LDPE or HDPE stripe providing easy access to the conductor wire for grounding and coupling applications.

Allows detectability and toning isolation of empty duct structures as well as ducts with dielectric fiber installations using conventional transmission, receiving, and locating equipment.

Standard metal and nonmetallic coupling methods allow conduit detectability and nonmetallic toneable pressure couplings allow detection/toning isolation of conduit.

Complete system of conduit and couplings provides the solution to finding buried occupied or non-occupied conduits.

Toneable Options

- Industry standard conduit sizes 1" 2"
- Solid bare copper tone wire
- Use Conventional locating devices
- Tone wire easily accessible for coupling and grounding
- Standard/compression couplings available (page 269)
- Allows isolation tone and/or detection
- Suitable for direct bury, bore, trench applications
- Single color stripe option



Open Trench

Specifications

Conductor Data

18 Solid Bare Copper #22 Solid Bare Copper AWG 16.2 OHMS per 1,000 ft. Resistivity 6.39 OHMS per 1,000 ft.

Elongation 10% min. 32% min.

Custom Orders * Custom Orders are not returnable

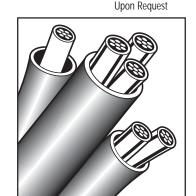
- * Custom reel lengths are available in minimum order quantities of 25,000 ft. or min. set up charge

How to Build a Part Number:

Product	Size	Туре	Wall	Options	Splits	Color	Stripe (one)	Таре	Length
A = HDPE	5 = 1"	B = Smooth Out/	4 = SCH 40	J = Toneable/18G	1 = 1 Way Single	A = Black	NN = None	A = Empty	1500
	6 = 1-1/4"	Ribbed In	5 = SCH 80	1 ¹ /2" – 2"	2 = 2 Way Segmented	B = Blue	1A = Black Stripe	B = 1130 lbs.	(Equals 1500 Feet)
	9 = 1-1/2"	C = Smooth/	6 = SDR 11	G = Toneable/22G	3 = 3 Way Segmented	C = Brown	1B = Blue Stripe	Polyester Tape	
	13 = 2"	Smooth	9 = SDR 13.5	1" - 1 ¹ /4"	4 = 4 Way Segmented	D = Buff	1C = Brown Stripe	C = 1250 lbs.	
					5 = 2 Way Parallel	E = Grey	1D = Buff Stripe	Polyester Tape	
					6 = 3 Way Parallel	F = Green	1E = Grey Stripe	D = 1500 lbs.	
					7 = 4 Way Parallel	G = Lilac	1F = Green Stripe	Polyester Tape	
					12 = 2 Way Compart	H = Lt. Green	1G = Lilac Stripe	E = 1800 lbs.	
					13 = 3 Way Compart	J = Orange	1H = Lt. Green Stripe	Polyester Tape	
					14 = 4 Way Compart	K = Red	1J = Orange Stripe	G = 200 lbs.	
						L = Terra Cotta	1K = Red Stripe	Polyester Tape	
						M = White	1L = Terra Cotta Stripe	J = 2500 lbs.	
						N = Yellow	1M = White Stripe	Polyester Tape	
							1N = Yellow Stripe	T = 1250 lbs. Poly	
								Metric Tape	

Features

- Cables preinstalled in HDPE eliminating the need to pull cables.
- Standard wall thicknesses of TC7 Type A, TC7 Type B (SDR 13.5), Schedule 40 and Schedule 80
- UL Listed duct assembly (upon request)
- Manufactured in accordance to NEC Articles 352 and 354.
- · Conduit sequentially marked
- · Prelubricated during assembly process
- Conforms to electrical industry specifications



Specifications

1.0 General

Carlon HDPE Power Cable In Duct is manufactured to the following various industry standards and specifications for dimensional requirements.

ASTM F 2160 Solid Wall High Density Polyethylene (HDPE) Conduit Based on Controlled Outside Diameter (OD).

ASTM D 3485 Standard specification for Smoothwall Coilable Polyethylene (PE) Conduit (duct) for preassembled wire and cable.

ASTM D 3035 Polyethylene (PE) Plastic Pipe (SDR) Based on Controlled Outside Diameter.

NEMA TC-7 Smooth Wall Coilable Polyethylene Electrical Plastic Conduit. **UL 651B** Continuous length HDPE

2.0 Material

Carlon duct is manufactured from a suitable thermoplastic polymer conforming to the minimum standard of PE334470E/C as defined in ASTM D3350. (see table 1)

Carlon® High Density

Polyethylene duct is manufactured in the following configuration:

Smoothwall – Smooth Interior and Smooth Exterior wall.

3.0 Product Description

Polyethylene duct extruded as coilable tubing for use as a single or multiple raceway assembly.

The conduit assembly may be direct buried, encased in concrete and used as innerducts.

Table 1 – Resin Properties The resin properties shall meet or exceed the values listed below for HDPE.

ASTM Test	Description	Values HDPE
D-1505	Density g/CM ³	.941955
D-1238	Melt Index, g/10 min Condition E	.0550
D-790	Flexural Modulus, MPa (PSI)	80,000 min.
D-638	Tensile strength at yield (psi)	3000 min.
D-1693	Environmental Stress Crack Resistance Condition B,F ₁₀	96 hrs. min.
D-746	Brittleness Temperature	-75°C

TC7 Type A

Nom.	Nom.	Nom.	Min.	Conduit Wt/			iameter*	
Size	OD	ID	Wall	100 Ft.	1	2	3	4
1"	1.315	1.165	.075	12.64	0.842	0.456	0.422	0.366
1-1/4"	1.660	1.460	.100	21.19	1.057	0.572	0.530	0.459
1-1/2"	1.900	1.670	.115	27.89	1.210	0.654	0.607	0.526
2"	2.375	2.085	.145	43.93	1.512	0.818	0.758	0.657
2-1/2"	2.875	2.469	.203	73.69	1.792	0.969	0.899	0.778
3"	3.500	3.068	.216	96.37	2.228	1.205	1.117	0.968

TC7 SDR 13.5 Type B

Nom. Size	Nom. OD	Nom. ID	Min. Wall	Conduit Wt/ 100 Ft.		Cable D	iameter* 3	4
1"	1.315	1.121	.097	16.05	0.810	0.438	0.406	0.352
1-1/4"	1.660	1.414	.123	25.68	1.024	0.554	0.513	0.445
1-1/2"	1.900	1.618	.141	33.70	1.172	0.634	0.588	0.509
2"	2.375	2.023	.176	52.58	1.467	0.793	0.736	0.637
2-1/2"	2.875	2.449	.213	76.41	1.755	0.949	0.880	0.762
3"	3.500	2.982	.259	114.04	2.158	1.167	1.082	0.937

Schedule 40

Nom.	Nom.	Nom.	Min.	Conduit Wt/		Cable D	iameter*	
Size	OD	ID	Wall	100 Ft.	1	2	3	4
1"	1.315	1.049	.133	21.68	0.749	0.405	0.376	0.325
1-1/4"	1.660	1.380	.140	29.31	0.990	0.535	0.497	0.430
1-1/2"	1.900	1.610	.145	35.00	1.158	0.626	0.581	0.503
2"	2.375	2.067	.154	46.92	1.490	0.806	0.747	0.647
2-1/2"	2.875	2.469	.203	74.00	1.783	0.964	0.894	0.774
3"	3.500	3.040	.216	97.31	2.213	1.197	1.110	0.961

Schedule 80

Nom.	Nom.	Nom.	Min.	Conduit Wt/		Cable D	iameter*	
Size	OD	ID	Wall	100 Ft.	1	2	3	4
1"	1.315	.957	.179	27.66	0.682	0.369	0.342	0.296
1-1/4"	1.660	1.278	.191	38.11	0.914	0.494	0.459	0.397
1-1/2"	1.900	1.500	.200	46.30	1.075	0.581	0.539	0.467
2"	2.375	1.939	.218	64.08	1.393	0.753	0.699	0.605
2-1/2"	2.875	2.323	.276	97.59	1.668	0.902	0.837	0.724
3"	3.500	2.900	.300	130.92	2.085	1.128	1.046	0.906

^{*}Maximum cable diameter based on 2002 National Electrical Code, Chapter 9 Article 352 Table 4 - fill percentages of: 1 Cable 53%; 2 Cables 31%; 3 or more Cables 40%.

Cable Specifications

Common Cable offerings. Other Power Cables available according to customer specifications.

600 Volt THHN Cu

Gauge	OD	Wt/Ft.
10	.164	.040
8	.216	.066
6	.253	.100
4	.322	.159
3	.350	.191
2	.381	.241
1	.443	.305
1/0	.483	.377

5 KV 115mil Cu XLP/sh

Gauge	OD	Wt/Ft.
6	.715	.266
4	.765	.355
2	.865	.432
1	.905	.505
1/0	.945	.589
2/0	.990	.694
2/0	.990	.694

15 KV 175mil Cu XLP/sh

Gauge	OD	Wt/Ft.
2	.990	.545
1	1.025	.616
1/0	1.065	.705
2/0	1.110	.815

600 Volt USE-2 Alum XLP Triplexed Non-sh

Gauge	OD	Wt/Ft.
4	.770	.204
2	.890	.294
1/0	1.150	.462
2/0	1.240	.557

5 KV 125mil Cu EPR/Non-sh

Gauge	OD	Wt/Ft.
6	.605	.231
4	.650	.296
2	.710	.346
1	.750	.465
1/0	.790	.548
2/0	.835	.646

15 KV 220mil Cu XLP/sh

Gauge	OD	Wt/Ft.		
2	1.090	.609		
1	1.120	.682		
1/0	1.160	.774		
2/0	1.205	.886		

5 KV Airport Lighting L-824 Cu/Non sh

Gauge	OD	Wt/Ft.
8	.375	.094
6	.415	.130
4	.46	.189

15 KV 175mil Alum URD/EPR

Gauge	OD	Wt/Ft.		
2	.977	.505		
1/0	1.056	.650		
2/0	1.100	.845		

Full neutral

5/8 KV 115mil Alum EPR/sh

Gauge	OD	Wt/Ft.		
2	.811	.305		
1/0	.901	.375		
2/0	.975	.445		

5KV 133% 8KV 100%

15 KV 220mil Alum URD/EPR

Gauge	OD	Wt/Ft.		
2	1.067	.550		
1/0	1.146	.720		
2/0	1.190	.825		

Full neutral

Reel Information

Reel Wt. (lbs.)	Outside Dimensions F x W x D	1"	1-1/4"	1-1/2"	2"	2-1/2"	3
235	48 x 48 x 30	6000	3600	2500			
235	66 x 48 x 40				1150	1050	
260	72 x 48 x 30	7400	4575	3250			
260	72 x 48 x 40				1800	1350	
300	82 x 48 x 30	10000	6200	4600			
300	82 x 48 x 40				2500	1975	
330	96 x 48 x 30		8300	6375			
330	96 x 48 x 40				3700	2700	
330	96 x 48 x 68						1000

^{±10%} Max Lengths

Maximum wt. (including reel wt.): 4300 lbs. for steel, 6000 lbs. for wood.

Minimum quantity: 1000 ft.

Recommended fill: 1 Cable 53%; 2 Cables 31%; 3 or more Cables 40%.

Packaging (returnable): Steel reel with wood reinforced staves for 4300 lbs. or less and wood reels for up to 6000 lbs.

Warranty

Carlon can purchase cable to customer specifications and warranty cable and conduit from defects and workmanship during manufacture. Cable manufacturers' warranty of one year applies to purchased cable. Supplied cable can also be provided with warranty agreement between cable supplier and customer. Cable certifications are available upon request for incoming inspection and post-installation.

UL Listed





Applications: Underground or innerduct. Ideal for use in parking lots, traffic lights, etc. **Installation methods:** Plowing, open trench, directional boring or pulled through existing conduit

UL Listed HDPE is a nonmetallic flexible raceway manufactured from High Density Polyethylene (HDPE), offering a protective pathway for cables and wires, and is used in underground or innerduct applications.

UL Listed HDPE conduit is compliant with the 2002 NEC Articles 300 and 352, and is listed to UL 651B. Its high tensile strengthto-weight ratio, superior crush resistance, and low coefficient of friction when installing cable makes it ideal for directional boring.

UL Listed Options

- Sizes 1" 4"
- Wall types:
 EPEC 40 (Schedule 40)
 EPEC 80 (Schedule 80)
 EPEC-B (SDR 13.5)
 2" 4"
- Multiple colors and stripes
- Sequentially marked footage
- · Available in smoothwall only
- Available with pre-installed conductors as nonmetallic underground conduit with conductors (NUCC) per Article 354 of the 2002 NEC, UL File 195593.
- Conforms to NEMA TC-7 Smoothwall Coilable PE Electrical Plastic Conduit



Directional Boring

- Custom Orders
 * Custom Orders are not returnable
 * Custom lengths are available in minimum order quantities specified on page 271

How to Build a Part Number:

Product	Size	Туре	Wall	Options	Splits	Color	Stripes	Таре	Length
U = UL Listed	5 = 1"	C = Smooth/Smooth	4 = SCH 40	N = None	1 = 1 Way Single	A = Black	NN = None	A = EMPTY	1500
	6 = 1-1/4"		1" - 4"	D = Lube Duct	2 = 2 Way Segmented	B = Blue	3A = Black Stripes	B = 1130 lbs. Polyester Tape	(Equals 1500 Feet)
	9 = 1-1/2"		5 = SCH 80		3 = 3 Way Segmented	C = Brown	3B = Blue Stripes	C = 1250 lbs. Polyester Tape	
	13 = 2"		2" - 4"		4 = 4 Way Segmented	D = Buff	3C = Brown Stripes	D = 1500 lbs. Polyester Tape	
	15 = 3"		9 = SDR 13.5		5 = 2 Way Parallel	E = Grey	3D = Buff Stripes	E = 1800 lbs. Polyester Tape	
	16 = 4"		2" - 4"		6 = 3 Way Parallel	F = Green	3E = Grey Stripes	G = 200 lbs. Polyester Tape	
					7 = 4 Way Parallel	G = Lilac	3F = Green Stripes	J = 2500 lbs. Polyester Tape	
					12 = 2 Way Compart	H = Lt. Green	3G = Lilac Stripes	K = 400 lbs. Detect Polyester Tape	
					13 = 3 Way Compart	J = Orange	3H = Lt. Green Stripes	T = 1250 lbs. Poly Metric Tape	
					14 = 4 Way Compart	K = Red	3J = Orange Stripes	V = 1250 lbs. Detectable 22G Poly Tape	
						L = Terra Cotta	3K = Red Stripes		
						M = White	3L = Terra Cotta Stripes		
						N = Yellow	3M = White Stripes		
							3N = Yellow Stripes		

Standard Length - Reels and Coils

	Color	Part No.	Туре	Wall	Pull Tape Polyester Woven	Reel Size	Reel/Coil Length (ft.)	Wt./E a (Ibs.)
	Grey	U5C4N1ENNB250	S/S	Sch 40	1130 lb.	Coil	250	53
1"	Grey	U5C4N1ENNB500	S/S	Sch 40	1130 lb.	Coil	500	106
'	Grey	U5C4N1ENNB1800	S/S	Sch 40	1130 lb.	48 x 30 x 24	1800	461
	Grey	U5C4N1ENNB7000	S/S	Sch 40	1130 lb.	72 x 45 x 24	7000	1647
	Grey	U6C4N1ENNB250	S/S	Sch 40	1130 lb.	Coil	250	72
41/ II	Grey	U6C4N1ENNB500	S/S	Sch 40	1130 lb.	Coil	500	143
1 ¹ / ₄ "	Grey	U6C4N1ENNB1400	S/S	Sch 40	1130 lb.	48 x 45 x 30	1400	401
	Grey	U6C4N1ENNB5000	S/S	Sch 40	1130 lb.	82 x 45 x 30	5000	1641
1 ¹ / ₂ "	Grey	U9C4N1ENNB5000	S/S	Sch 40	1130 lb.	96 x 45 x 30	5000	1948
2"	Grey	U13C6N1ENNA4000	S/S	SDR 13.5	Empty	96 x 45 x 32	4000	2319
3"	Grey	U15C9N1ENNA1000	S/S	SDR 13.5	Empty	96 x 45 x 68	1000	1364
/ 11	Grey	U16C9N1ENNA766	S/S	SDR 13.5	Empty	102 x 45 x 68	766	1727
4"	Grey	U16C9N1ENNA1000	S/S	SDR 13.5	Empty	114 x 45 x 68	1000	2193



Applications: Aerial environments. Used when rocky terrain makes buried duct difficult, or in plant/campus environments expecting frequent changes.

Installation method: Designed to be lashed to existing support strands.

Aerial HDPE is a nonmetallic flexible raceway manufactured from High Density Polyethylene (HDPE) with a carbon black additive to provide U.V. protection in aerial environments.

Aerial duct offers superior cable protection against damage caused by rodents, projectile objects such as rocks and gun pellets, and harsh weather conditions. And because of its strength and durability, it can withstand the expansion and contraction caused by seasonal weather changes.

• HDPE: ASTM 1248 Type III

Grade P34

Category 5 Class C

• Ultraviolet: Minimum 2% carbon black

Aerial Options

• Sizes 1"- 2"

• Wall Type: SDR 13.5 and SDR 11

- Factory installed tape
- Solidwall or corrugated
- Pre-lubricated
- Sequentially marked footage



Aerial Lashing: Aerial Duct is lashed to existing cable support wire using cable lashing equipment.

Custom Orders

- * Custom Orders are not returnable
- * Custom lengths are available in minimum order quantities specified on page 271

How to Build a Part Number:

Product	Size	Туре	Wall	Options	Splits	Color	Stripes	Таре	Length
E = Aerial	5 = 1"	B = Smooth Out/Ribbed In	2 = None - Corr	N = None	1 = 1 Way Single	A = Black	NN = None	A = Empty	1500
	6 = 1-1/4"	C = Smooth/Smooth	6 = SDR 11	D = Lube Duct	2 = 2 Way Partitioned			B = 1130 lbs. Polyester Tape	(Equals 1500 Feet)
	9 = 1-1/2"	D = Corrugated	9 = SDR 13.5		3 = 3 Way Partitioned			C = 1250 lbs. Polyester Tape	
	13 = 2"				4 = 4 Way Partitioned			D = 1500 lbs. Polyester Tape	
					5 = 2 Way Parallel			E = 1800 lbs. Polyester Tape	
					6 = 3 Way Parallel			J = 2500 lbs. Polyester Tape	
					7 = 4 Way Parallel			T = 1250 lbs. Poly Metric Tape	



6.6M 1/4" Extra high strength strand Class A galvanized with flooding compound

10.0M 3/8" Extra high strength strand Class A galvanized with flooding compound

Applications: Aerial environments. Used when rocky terrain makes buried duct difficult, or in plant/campus environments expecting frequent changes.

Installation method: designed for pole-to-pole attachments

HDPE Aerial Figure-8 is a nonmetallic flexible raceway with a Class A galvanized support strand. It's manufactured from High Density Polyethylene (HDPE), which contains a carbon black additive to provide U.V. protection in aerial environments.

Figure-8 duct offers superior cable protection against damage caused by rodents, projectile objects such as rocks and gun pellets, and harsh weather conditions with a one-step installation process. And because of its strength and durability, it can withstand the expansion and contraction caused by seasonal weather changes.

• HDPE: ASTM 1248 Type III

Grade P34

Category 5 Class C

• Ultraviolet: Minimum 2% carbon black

• Product Weight:

6.6M Figure 8 .429 lbs/ft 10.0M Figure 8 .507 lbs/ft

Aerial Figure-8 Options

• Size 11/4"

• Wall Type: SIDR 9 True

- 6.6M or 10.0M strands
- Factory installed tape
- Pre-installed Cable-In-Conduit
- Ribbed or smooth interior walls
- Pre-lubricated
- Sequentially marked footage



Aerial Hanging:
Figure-8 Duct has a choice of two integrated mounting strands that attach directly to poles using 3-bolt mounting clamps, and Carlon stripping/cutting tools.

Custom Orders

- * Custom Orders are not returnable
- * Custom lengths are available in minimum order quantities of 1000 ft. or min. set up charge

How to Build a Part Number:

Product	Size	Туре	Wall	Options	Splits	Color	Stripes	Таре	Length
S = Figure 8 - 6.6mm	6 = 1-1/4"	B = Smooth Out/Ribbed In	37 = SIDR 9 True	N = None	1 = 1 Way	A = Black	NN = None	A = Empty	2500
T = Figure 8 - 10mm		C = Smooth/Smooth		D = Lube Duct	Single			B = 1130 lbs. Polyester Tape	(Equals 2500 Feet)
								C = 1250 lbs. Polyester Tape	
								D = 1500 lbs. Polyester Tape	
								E = 1800 lbs. Polyester Tape	
								J = 2500 lbs. Polyester Tape	
								T = 1250 lbs. Poly Metric Tape	

NOTE: Standard Lengths 2500 ft. and 5000 ft.

Corrugated



Applications: Innerducts **Installation method:** Pulled through existing conduit.

Specifications

Storage: -20°F - 158°F **Handling:** -20°F - 104°F

Corrugated HDPE is manufactured from High Density Polyethylene (HDPE) and is intended for innerduct applications. It's ideal for pulls under 1000 ft. and is designed to reduce surface contact when pulling cable. And because this product is lightweight and offers maximum flexibility, installation in small or restricted locations is made easier. HDPE corrugated duct is available in sizes 1" through 2" and is offered in a variety of colors. Custom options are also available to satisfy the requirements of most installations.

PE Corrugated Options

- Sizes 1" 2"
- Sequentially marked footage
- Multiple colors and stripes
- Factory installed pull tape

Nom. Size	Nom. ID	Nom. OD	Min. Wall	Wt/ 100 Ft.	Stiffness (5%) Ib/in/in	Min Bend Radius	Pull Tensile
1"	1.049	1.340	.035	10.6	65	14"	261 lbs.
1-1/4"	1.250	1.565	.035	11.2	108	5"	319 lbs.
1-1/2"	1.500	1.825	.035	18.0	83	6"	384 lbs.
2"	2.000	2.425	.035	20.8	70	5-1/2"	493 lbs.



Pulled through existing conduits

Standard Length - Reels

	Color	Part No.	Nom. I.D.	Nom. O.D.	Pull Tape	Reel Size	Reel Length (ft.)	Wt. per 100 ft. (lbs.)
	Orange	A5D2S1JNNB1000	1.049	1.340	1130 lb.	48-30-24	1000	12.5
	Orange	A5D2S1JNNB1800	1.049	1.340	1130 lb.	48-30-24	1800	12.5
	Orange	A5D2S1JNNB2000	1.049	1.340	1130 lb.	48-41-24	2000	12.5
1"	Orange	A5D2S1JNNB2700	1.049	1.340	1130 lb.	48-41-24	2700	12.5
•	Orange	A5D2S1JNNB5000	1.049	1.340	1130 lb.	66-41-24	5000	12.5
	Orange	A5D2S1JNNB6500	1.049	1.340	1130 lb.	72-41-24	6500	12.5
	Orange	A5D2S1JNNB7000	1.049	1.340	1130 lb.	72-45-24	7000	12.5
	Orange	A5D2S1JNNB8000	1.049	1.340	1130 lb.	82-41-24	8000	12.5
	Orange	A6D2S1JNNB1000	1.250	1.565	1130 lb.	48-30-24	1000	14.4
	Orange	A6D2S1JNNB1600	1.250	1.565	1130 lb.	48-41-24	1600	14.4
	Orange	A6D2S1JNNB2500	1.250	1.565	1130 lb.	66-41-24	2500	14.4
11/4"	Orange	A6D2S1JNNB4000	1.250	1.565	1130 lb.	66-41-24	4000	14.4
	Orange	A6D2S1JNNB5000	1.250	1.565	1130 lb.	72-41-24	5000	14.4
	Orange	A6D2S1JNNB6000	1.250	1.565	1130 lb.	82-41-24	6000	14.4
	Orange	A6D2S1JNNB7000	1.250	1.565	1130 lb.	84-45-24	7000	14.4
	Orange	A9D2S1JNNB1000	1.500	1.825	1130 lb.	66-41-24	1000	17.8
1 ¹ / ₂ "	Orange	A9D2S1JNNB2200	1.500	1.825	1130 lb.	66-41-24	2200	17.8
1.12	Orange	A9D2S1JNNB2900	1.500	1.825	1130 lb.	72-41-24	2900	17.8
	Orange	A9D2S1JNNB4000	1.500	1.825	1130 lb.	82-41-24	4000	17.8
	Orange	A13D2S1JNNB500	2.000	2.425	1130 lb.	48-30-24	500	25.0
	Orange	A13D2S1JNNB750	2.000	2.425	1130 lb.	48-41-24	750	25.0
2"	Orange	A13D2S1JNNB1000	2.000	2.425	1130 lb.	66-41-24	1000	25.0
2	Orange	A13D2S1JNNB1500	2.000	2.425	1130 lb.	66-41-24	1500	25.0
	Orange	A13D2S1JNNB1800	2.000	2.425	1130 lb.	72-41-24	1800	25.0
	Orange	A13D2S1JNNB2000	2.000	2.425	1130 lb.	82-41-24	2000	25.0

Standard Length - Coils

	Color	Part No.	Nom. I.D.	Nom. O.D.	Pull Tape	Box Size	Reel Length (ft.)	Wt. per 100 ft. (lbs.)
	Orange	A5D2E1JNNA250	1.049	1.340	Empty	COIL	250/Split	12.5
	Orange	A5D2E1JNNA250B	1.049	1.340	Empty	34-14-34	250/Split	12.5
1"	Orange	A5D2S1JNNB250	1.049	1.340	1130 lb.	COIL	250	12.5
'	Orange	A5D2S1JNNB250B	1.049	1.340	1130 lb.	34-14-34	250	12.5
	Orange	A5D2S1JNNB500	1.049	1.340	1130 lb.	COIL	500	12.5
	Orange	A5D2S1JNNB500B	1.049	1.340	1130 lb.	39-15-39	500	12.5
	Orange	A6D2E1JNNA250	1.250	1.565	Empty	COIL	250/Split	14.4
	Orange	A6D2E1JNNA250B	1.250	1.565	Empty	39-15-39	250/Split	14.4
1 ¹ / ₄ "	Orange	A6D2S1JNNB250	1.250	1.565	1130 lb.	COIL	250	14.4
1 /4	Orange	A6D2S1JNNB250B	1.250	1.565	1130 lb.	39-15-39	250	14.4
	Orange	A6D2S1JNNB500	1.250	1.565	1130 lb.	COIL	500	14.4
	Orange	A6D2S1JNNB500B	1.250	1.565	1130 lb.	44-18-44	500	14.4
	Orange	A9D2S1JNNB250	1.500	1.825	1130 lb.	COIL	250	17.8
11/2"	Orange	A9D2S1JNNB250B	1.500	1.825	1130 lb.	44-18-44	250	17.8
	Orange	A9D2S1JNNB500	1.500	1.825	1130 lb.	COIL	500	17.8
2"	Orange	A13D2S1JNNB250	2.000	2.425	1130 lb.	COIL	250	25.0

Custom Orders

- * Custom Orders are not returnable
- * Custom lengths are available in minimum order quantities of 1000 ft. or min. set up charge

How to Build a Part Number:

Product	Size	Туре	Wall	Options	Splits	Color	Stripes	Таре	Length
A = HDPE	5 = 1"	D = Corrugated	2 = None - Corr	N = None - Custom	1 = 1 Way Single	A = Black	NN = None	A = Empty	1500
	6 = 1-1/4"			E = Slit	2 = 2 Way Segmented	B = Blue	1A = Black Stripe	B = 1130 lb. Polyester Tape	(Equals 1500 Feet)
	9 = 1-1/2"			S = Standard Length	3 = 3 Way Segmented	C = Brown	1B = Blue Stripe	C = 1250 lb. Polyester Tape	
	13 = 2"				4 = 4 Way Segmented	D = Buff	1C = Brown Stripe	D = 1500 Polyester lbs.	
					5 = 2 Way Parallel	E = Grey	1D = Buff Stripe	E = 1800 lb. Polyester Tape	
					6 = 3 Way Parallel	F = Green	1E = Grey Stripe	G = 200 lbs. Polyester Tape	
					7 = 4 Way Parallel	G = Lilac	1F = Green Stripe	J = 2500 lbs. Polyester Tape	
					12 = 2 Way Compart	H = Lt. Green	1G = Lilac Stripe	T = 1250 lbs. Poly Metric Tape	
					13 = 3 Way Compart	J = Orange	1H = Lt. Green Stripe		
					14 = 4 Way Compart	K = Red	1J = Orange Stripe		
						L = Terra Cotta	1K = Red Stripe		
						M = White	1L = Terra Cotta Stripe		
						N = Yellow	1M = White Stripe		
							1N = Yellow Stripe		

Specifications

1.0 General

1.1 Carlon HDPE duct is manufactured to the following various industry standards and specifications for dimensional requirements.

ASTM F 2160 Solid Wall High Density Polyethylene (HDPE) Conduit Based on Controlled Outside Diameter (OD).

ASTM D 2239 Polyethylene (PE) Plastic Pipe (SIDR) Based on Controlled Inside Diameter.

ASTM D 3035 Polyethylene (PE) Plastic Pipe (SDR) Based on Controlled Outside Diameter.

NEMA TC-7 Smooth Wall Coilable Polyethylene Electrical Plastic Conduit.

2.0 Material

Carlon duct is manufactured from a suitable thermoplastic polymer conforming to the minimum standard of PE334470E/C as defined in ASTM D3350. (see table 1)

Carlon® High Density Polyethylene

duct is manufactured in the following configurations:

Smoothwall – Smooth Interior and Smooth Exterior wall.

Rib/Smooth – Ribbed Interior and Smooth Exterior wall.

3.0 Product Description

Polyethylene duct and innerduct is an extruded coilable tubing for use as a single or multiple raceway.

The conduit may be direct buried, encased in concrete and used as innerducts.

Innerducts are used primarily to provide multiple raceways within an existing conduit system.

Table 1 - Resin Properties

The resin properties shall meet or exceed the values listed below for HDPE.

ASTM Test	Description	Values HDPE
D-1505	Density g/CM ³	.941955
D-1238	Melt Index, g/10 min Condition E	.0550
D-790	Flexural Modulus, MPa (PSI)	80,000 min.
D-638	Tensile strength at yield (psi)	3000 min.
D-1693	Environmental Stress Crack Resistance Condition B,F ₁₀	96 hrs. min.
D-746	Brittleness Temperature	-75°C

Requests for certifications must be requested at time of quote

Min. Wall

Wt/

Nom. OD

Pull

Tensile

Specifications

Nom. Size	Nom. ID	Nom. OD OD	Min. Wall Wall	Wt/ 100 Ft.	Tensile Safe lbs.					
SDR 7 - ASTN	SDR 7 - ASTM D3035									
1"	0.939	1.315	0.188	28.552	743					
1-1/4"	1.186	1.660	0.237	45.448	1183					
1-1/2'	1.358	1.900	0.271	59.491	1549					
2"	1.697	2.375	0.339	93.012	2421					
3"	2.500	3.500	0.500	202.140	5262					
4"	3.214	4.500	0.643	334.212	8700					
5"	3.972	5.562	0.795	510.709	13295					
6"	4.733	6.625	0.946	723.976	18847					
8"	6.161	8.625	1.232	1227.418	31953					
10	7.678	10.750	1.536	1907.218	49649					
12	9.108	12.750	1.821	2681.954	69818					
14	10.000	14.000	2.000	3234.240	84195					
16	11.428	16.000	2.286	4224.753	109980					
SDR 9 - ASTIV	1 D3035 / F2	160								
1"	1.023	1.315	0.146	23.000	599					
1-1/4"	1.292	1.660	0.184	36.599	953					
1-1/2"	1.478	1.900	0.211	48.026	1250					
2"	1.847	2.375	0.264	75.102	1955					
3"	2.722	3.500	0.389	163.084	4245					
4"	3.500	4.500	0.500	269.520	7016					
5"	4.326	5.562	0.618	411.745	10719					
6"	5.153	6.625	0.736	584.091	15205					
8"	6.709	8.625	0.958	989.810	25767					
10"	8.362	10.750	1.194	1537.593	40027					
12"	9.916	12.750	1.417	2164.092	56336					
14"	10.888	14.000	1.556	2609.340	67927					
16"	12.444	16.000	1.778	3407.638	88709					

Size	ID	OD	Wall	100 Ft.	Safe lbs.
DR 11 - AST	M D3035 / F	2160			
1/2"	0.688	0.840	0.076	7.825	204
3/4"	0.860	1.050	0.095	12.226	318
1"	1.075	1.315	0.120	19.325	503
1-1/4"	1.358	1.660	0.151	30.706	799
1-1/2"	1.554	1.900	0.173	40.262	1048
2"	1.943	2.375	0.216	62.845	1636
3"	2.864	3.500	0.318	136.360	3550
4"	3.682	4.500	0.409	225.483	5870
5"	4.550	5.562	0.506	344.761	8975
6"	5.421	6.625	0.602	488.619	12720
8"	7.057	8.625	0.784	828.416	21566
10"	8.796	10.750	0.977	1286,718	33496
12"	10.432	12.750	1.159	1810.362	47128
14"	11.454	14.000	1.273	2183.310	56837
16"	13.090	16.000	1.455	2851.923	74242
		F2160 / NEM			7 12 12
1/2"	0.716	0.84	0.062	6.500	169
3/4"	0.894	1.050	0.078	10.217	266
1"	1.121	1.315	0.097	15.921	414
1-1/4"	1.414	1.660	0.123	25,477	663
1-1/2"	1.618	1.900	0.141	33.423	870
2"	2.023	2.375	0.176	52.155	1358
2-1/2"	2.449	2.875	0.213	76.410	1989
3"	2.982	3.500	0.259	113.120	2945
4"	3.834	4.500	0.333	186.994	4868
4-3/4"	4.084	4.750	0.333	198.213	5160
5"	4.738	5.562	0.412	285.934	7444
6"	5.643	6.625	0.491	405.869	10566
8"	7.347	8.625	0.639	687.688	17902
10"	9.158	10.750	0.796	1067.755	27796
12"	10.862	12.750	0.944	1501.882	39098
14"	11.926	14.000	1.037	1811.529	47158
16"	13.630	16.000	1.185	2365.816	61588

Specifications

Nom. Size	Nom. ID	Nom. OD OD	Min. Wall Wall	Wt/ 100 Ft.	Pull Tensile Safe Ibs.	Nom. Size	Nom. ID	Nom. OD OD	Min. Wall Wall	Wt/ 100 Ft.	Pull Tensile Safe Ibs.
SDR 15.5 - AS	TM D3035					SIDR 11.5 TRU	JE				
1"	1.147	1.315	0.084	13.935	363	1"	1.020	1.194	0.087	12.979	338
1-1/4"	1.446	1.660	0.107	22.393	583	1-1/4"	1.270	1.488	0.109	20.256	527
1-1/2"	1.654	1.900	0.123	29.455	767	1-1/2"	1.520	1.780	0.130	28.906	752
2"	2.069	2.375	0.153	45.814	1193	2"	1.995	2.343	0.178	50.859	1352
3"	3.048	3.500	0.226	99.712	2596	4"	4.050	4.700	0.325	191.612	4988
4"	3.920	4.500	0.290	164.528	4283	6"	6.050	7.000	0.475	417.672	10873
5"	4.844	5.562	0.359	251.715	6553	SIDR 15 - AST	M D2239				
6"	5.771	6.625	0.427	356.649	9284	1"	1.049	1.189	0.070	10.556	275
8"	7.513	8.625	0.556	604.582	15739	1-1/4"	1.380	1.564	0.092	18.250	475
10"	9.362	10.750	0.694	940.472	24483	1-1/2"	1.610	1.824	0.107	24.758	645
12"	11.104	12.750	0.823	1322.794	34435	2"	2.067	2.343	0.138	41.006	1067
14"	12.194	14.000	0.903	1593.751	41489	4"	4.026	4.562	0.268	155.081	4037
16"	13.936	16.000	1.032	2081.634	54190	6"	6.065	6.873	0.404	352.192	9168
SDR 17 - ASTI	M D3035					TRUE 9 - ASTI	/I F2160				
1"	1.161	1.315	0.077	12.846	334	1"	1.024	1.259	0.111	18.075	447
1-1/4"	1.464	1.660	0.098	20.629	537	1-1/4"	1.274	1.569	0.139	28.255	697
1-1/2"	1.676	1.900	0.112	26.986	703	1-1/2"	1.529	1.883	0.167	40.692	1005
2"	2.095	2.375	0.140	42.166	1098	2"	2.039	2.510	0.222	72.183	1782
2-1/2"	2.537	2.875	0.169	61.628	1604	TRUE 11 - AST	1	2.010	0.222	72.100	1702
3"	3.088	3.500	0.206	91.443	2380	1"	1.024	1.217	0.091	14.571	359
4"	3.970	4.500	0.265	151.238	3937	1-1/4"	1.024			22.747	561
5"	4.908	5.562	0.327	230.688	6005			1.516	0.114		
6"	5.845	6.625	0.390	327.689	8531	1-1/2"	1.529	1.817	0.136	32.465	802
8"	7.611	8.625	0.507	554.649	14439		2.039	2.425	0.182	58.051	1432
10"	9.486	10.750	0.632	861.733	22433		1		IEMA TC-7 EPE		
12"	11,250	12.750	0.750	1212.840	31573	1/2"	0.622	0.84	0.109	10.738	280
14"	12.352	14.000	0.824	1463.093	38088	3/4"	0.824	1.05	0.113	14.269	371
16"	14.118	16.000	0.941	1909.619	49712	1"	1.049	1.315	0.133	21.185	551
SDR 21 - ASTI		10.000	0.741	1707.017	47/12	1-1/4"	1.380	1.660	0.140	28.677	747
1"	1.189	1 215	0.063	10.420	277	1-1/2"	1.610	1.900	0.145	34.293	893
		1.315		10.629	277	2"	2.067	2.375	0.154	46.093	1200
1-1/4"	1.502	1.660	0.079	16.831	438	2-1/2"	2.469	2.875	0.203	73.096	1903
1-1/2'	1.720	1.900	0.090	21.952	571	3"	3.068	3.500	0.216	95.591	2488
2"	2.149	2.375	0.113	34.445	897	4"	4.026	4.500	0.237	136.152	3544
3"	3.166	3.500	0.167	75.009	1953	5"	5.046	5.562	0.258	184.410	4801
4"	4.072	4.500	0.214	123.602	3218	6"	6.065	6.625	0.280	239.415	6233
5"	5.032	5.562	0.265	189.163	4924	8"	7.981	8.625	0.322	360.290	9379
6"	5.995	6.625	0.315	267.856	6973	10"	10.020	10.750	0.365	510.811	13298
8"	7.803	8.625	0.411	454.944	11843	12"	11.938	12.750	0.406	675.372	17582
10	9.726	10.750	0.512	706.393	18389	SCHEDULE 80	- ASTM D2	147 / F2160 / N	IEMA TC-7 EPE	C-80	
12	11.536	12.750	0.607	993.289	25858	1/2"	0.546	0.84	0.147	13.728	357
14	12.666	14.000	0.667	1198.436	31198	3/4"	0.742	1.05	0.154	18.595	484
16	14.476	16.000	0.762	1564.746	40734	1"	0.957	1.315	0.179	27.403	713
SIDR 7 - ASTN	/I D2239					1-1/4"	1.278	1.660	0.191	37.811	984
1"	1.049	1.349	0.150	24.237	631	1-1/2"	1.500	1.900	0.200	45.818	1193
1-1/4'	1.380	1.774	0.197	41.866	1090	2"	1.939	2.375	0.218	63.368	1650
1-1/2"	1.610	2.070	0.230	57.030	1485	2-1/2"	2.323	2.875	0.276	96.667	2516
2"	2.067	2.658	0.295	94.002	2447	3"	2.900	3.500	0.300	129.370	3368
4"	4.026	5.176	0.575	356.617	9283	4"	3.826	4.500	0.337	189.059	4922
6"	6.065	7.798	0.866	809.388	21069	5"	4.812	5.562	0.375	262.125	6824
SIDR 9 - ASTN	/I D2239					6"	5.761	6.625	0.432	360.534	9386
1"	1.049	1.283	0.117	18.384	479	NEMA TC-7 E		0.020	0.102	000.001	7000
1-1/4"	1.380	1.686	0.153	31.608	823	1/2"	1	0.84	0.06	6.307	144
1-1/2"	1.610	1.968	0.179	43.154	1123		0.546				164
2"	2.067	2.527	0.230	71.195	1853	3/4"	0.93	1.05	0.06	8.005	208
4"	4.026	4.921	0.447	269.664	7021	1"	1.165	1.315	0.075	12.533	326
6"	6.065	7.143	0.674	612.092	15932	1-1/4"	1.460	1.660	0.100	21.023	547
	0.003	7.143	0.074	012.072	13732	1-1/2"	1.670	1.900	0.115	27.663	720
SIDR 9 TRUE	1 000	1 0 4 0	0.444	1/ 040	110	2	2.085	2.375	0.145	43.575	1134
1"	1.020	1.242	0.111	16.918	440	2-1/2"	2.469	2.875	0.203	73.096	1903
1-1/4"	1.270	1.546	0.138	26.184	682	3"	3.068	3.500	0.216	95.591	2488
SIDR 11.5 - A						4"	4.026	4.500	0.237	136.152	3544
1"	1.049	1.231	0.091	13.980	364	5"	5.046	5.562	0.258	184.410	4801
1-1/4"	1.380	1.620	0.120	24.257	631	6"	6.065	6.625	0.280	239.415	6233
1-1/2"	1.610	1.890	0.140	33.016	859						
2"	2.067	2.427	0.180	54.505	1419						
4"	4.026	4.726	0.350	206.398	5373						
6"	6.065	7.119	0.527	468.154	12187						

Internal Rib – Add .04 to Nom. ID (1/2" through 6") Not available in all wall types - consult factory.

Pull Tensile Safe = Based on Plastic Pipe Institute tensile calculations and maximum tensile stress recommendations of 1/3 yield tensile for pulls of 30 to 60 minutes or less in directional drilling applications and pulling as innerduct into conduit.

Packaging Options & Truckload Quantities

Packaging Options

Reels



Segmented (3/4" - 2")

Physically segmenting different colors into one, two, three or four separate segments allowing independent pulling of ducts.



Paralleled (3/4" through 2") 1" – 1 ¹/4" diameter recommended

Extruding each color onto a single reel and then simultaneously pulling onto one reel. Ideal for using all ducts at one time.



Compartmentalized (3/4" through 2") 1 1/2" – 2" diameter recommended

Physically compartmentalizing different colors into one, two, three or four separate segments allowing independent pulling of ducts. Full rings help align duct during pull.

Coils



Standard length and custom coils available 1" - 6".
Call for quantity and dimensions available.

Truckload Quantities

Reels

Flatbed (48 ft.)

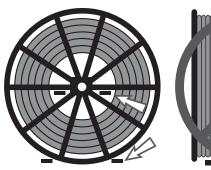
Reel Size	Number of Reels per Truckload
48''	24
66"	18
72''	16
82"	14
84''	14
96"	12
102"	12

Step Deck Flatbed

Reel Size	Number of Reels per Truckload
114"	8
120"	8

NOTE: Two additional reels, 96" or smaller, can fit on the upper deck.

Loading Reels





Reels must be lifted from the side with lift truck forks inserted through the spokes of the reel, or at the bottom with entry from the side of the reel. Reels should NEVER be lifted from the front of the reel or contact innerduct.

Bundles 40 ft / 50 ft Lengths

Size	# of Lengths per Bundle	Ft. per Bundle 40 ft. Lengths	Ft. per Bundle 50 ft. Lengths	Bundles per Truck	Total Feet per Truck 40 ft. Lengths	Total Feet per Truck 50 ft. Lengths
4''	57	2280	2850	8	18240	22800
6"	26	1040	1300	8	8320	10400
8"	14	560	700	8	4480	5600
10''	4	160	200	18	2880	3600
12''	4	160	200	14	2240	2800
14''	3	120	150	14	1680	2100
16"	3	120	150	12	1440	1800



Couplings

Standard "E-Loc"®

Designed for use with smoothwall OD controlled innerduct (ASTM 3035), Sch. 40 and Sch. 80 innerduct, and is pressure tight to internal pressures above 200 psi when restrained or buried. Ideal for joining PE to PVC or threaded steel conduit.

Part No.	Size	Nom. O.D. (of Duct)	Std. Ctn. Qty.	Std. Ctn. Wt.
EL1.050	3/4"	1.050"	50	19
EL1.315	1"	1.315"	50	46
EL1.660	11/4"	1.660"	50	34
EL1.900	11/2"	1.900"	25	28
EL2.375	2"	2.375"	25	40
EL3.500	3"	3.500"	25	48
EL4.500	4"	4.500"	25	67
EL5.563	5"	5.563"	16	44
EL6.00	6"	6.625"	12	40

Double "E-Loc"® Standard Couplings

Designed to join both smoothwall and ribbed OD wall innerduct and are used when air and water-tight integrity is imperative. Internal pressures above 200 psi are maintained when the conduit is unrestrained.

Part No.	Size	Nom. O.D. (of Duct)	Std. Ctn. Qty.	Std. Ctn. Wt.
DEL131	1"	1.315"	50	63
DEL150	1 ¹ / ₄ " True	1.500"	50	58
DEL154	1 ¹ /4"	1.540"	50	58
DEL166	11/4"	1.660"	50	53
DEL190	11/2"	1.900"	24	43
DEL237	2"	2.375"	25	57

Transition Couplings

Part No.	Size	Nom. O.D. (of Duct)	Std. Ctn. Qty.	Std. Ctn. Wt.
DEL150-154	1 ¹ / ₄ ''	1.500" - 1.540"	50	58
DEL150-166	11/4"	1.500" - 1.660"	50	58
DEL154-166	11/4"	1.540" - 1.660"	50	58

[&]quot;E-Loc" is a registered trademark of ETCO Specialty Products, Inc.

Universal Aluminum Couplings

Self-threading, which draws each end of the conduit into the center of the coupler.



Part No.	Nom. O.D. Size (Duct Range)		Std. Ctn. Qty.	Std. Ctn. Wt.
P75	3/4"	.91 – 1.08	10	12
P100	1"	1.21 – 1.41	100	25
P125	1 1/4"	1.44 – 1.68	100	28
P150CPLR	1 1/2"	1.80 – 2.02	100	35
P200	2"	2.31 – 2.48	50	19
P300	3"	3.495 – 3.505	12	10
P400	4''	4.41 – 4.65	12	12

Barbed Couplings Press-On/Screw-On



Aluminum

Part No.	Size	Nom. O.D. (of Duct)	Std. Ctn. Qty.	Std. Ctn. Wt.		
BS1.315	BS1.315 1" SDR		100	16		
BS1.194	1" True 11	1.194"	100	16		
BS1.488	BS1.488 11/4" True 11 BS1.660 11/4" SDR BS1.900 11/2" SDR		100	16		
BS1.660			100	16		
BS1.900			100	24		
BS2.375	2" SDR	2.375"	100	34		

Nonmetallic Clamshell Couplings

For use with Corrugated HDPE



Part No.	Size	Nom. O.D. (of Duct)	Std. Ctn. Qty.	Std. Ctn. Wt.	
E144F	1"	1.34"	30	1.7	
E144GT	11/4"	1.565"	25	2	

Couplings

Electrofusion Coupling

Provides an airtight duct system and is used to join HDPE to PVC or threaded steel conduit. Ideal for directional bore applications.



Part No.	Nom. O.D. (of Duct)	Std. Ctn. Qty.	Std. Ctn. Wt.
575-4075	1.488"	40	12.96
575-4049	1.526"	40	12.44
575-0640	1.660"	40	12
575-0641	1.900"	140	55.3
575-0642	2.375"	30	17.46
575-0643	3.500"	36	45.47
575-0644	4.500"	10	18.77

Toneable Pressure Coupling

Designed to join Carlon® Toneable Duct System



150 PSI at 73°F

Part No.	Nom. O.D. of Duct	Nom. O.D.	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
TDC100	1"	1.315	60	34
TDC125	1 1/4"	1.66	36	28
TDC150	1 ¹ /2"	1.90	30	31
TDC200	2"	2.375	12	18

Threaded Plugs For use with Toneable Coupling



Part No.	Nom. O.D. of Duct	Nom. O.D.	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
TPLG100	1"	1.315	50	4
TPLG125	1 ¹ /4"	1.66	25	3
TPLG150	1 1/2"	1.90	25	3.5
TPLG200	2"	2.375	10	2.7

Nonmetallic **Internal Couplings**

Nonmetallic, self-threading and are recommended for use with corrugated duct.



Part No.	Size	Nom. I.D. Range	Std. Ctn. Qty.	Std. Ctn. Wt.
PIC100	1"	1.05	100	24
PIC125	1 1/4"	1.25	100	26



Terminating Connector

			-	
Part No.	Size	Nom. O.D. Range	Std. Ctn. Qty.	Std. Ctn. Wt.
TC100	1"	.91 – 1.08	12	50
TC125	11/4"	1.495 – 1.70	12	52
TC150	1 ¹ /2"	1.80 – 2.00	12	56
TC200	2"	2.31 – 2.52	12	58

Reel Return Policy

The Carlon Reel Return Policy

The Carlon Reel Return Policy offers our customers the opportunity to dispose of empty steel reels used to ship Carlon High Density Polyethylene. A credit will be issued for each reel returned to Lamson & Sessions in good condition. Details outlining the program are listed below:

Reel Shipment: Reels may be returned broken down into flanges and staves or fully assembled. Only Carlon Lamson & Sessions reels will be accepted. All broken down reel flanges and staves should be banded onto pallet for forklift off loading and safe transport.

Freight: The customer is responsible for choosing a carrier and paying all freight charges associated with the return of Carlon Reels (Class 55 freight is recommended). Reels must be shipped "Prepaid". Reels shipped collect will be refused. A 24-hour notice to receiving plant is needed before the truck arrives. It is Lamson & Sessions policy to honor appointments and unload in an efficient manner. Lamson & Sessions will not pay any detention incurred by carriers.

Returned Goods Authorization (RGA) Required: Contact a local Carlon Sales Representative to request a Returned Goods Authorization number. The RGA number needs to be included in the packing slip for the reel to be accepted as a return.

Reel Quality Requirements: The reel must be undamaged, in full working condition, and include all components. This includes but is not limited to warping, flattening, or any structural damage to the reel or its components. Reel acceptability will be determined by receiving plant using quality inspection criteria.

Credit: A credit for each reel meeting the above requirements will be issued to the customer's account. If the reel does not meet the quality requirements, a credit will not be issued and a \$20 disposal fee for each non-returnable reel will be deducted from total credit.

Credit Amount:

Pick-up: Choose your own carrier, or use one from the list below.

J&J Trucking	800-397-1874
TEI	800-471-4654
ICS	800-877-7875
Dynasty Trans.	800-318-9550
ICCI	800-958-9253

Ship to Address:

Lamson & Sessions Lamson & Sessions 1422 Irwin Drive 1776 F. Beamer Woodland, CA 95685 Erie, PA 16505 814-455-7587 530-669-0160 Lamson & Sessions Lamson & Sessions 11119 Business 90 9000 Joiner Rd. Mountain Grove, MO 65711 Tennille, GA 31089 478-553-0024 417-926-1846



Carlon® HDPE Quote Request

Date:	Needed By:		Destination:	
Customer:	Account Number:		Application:	
Rep Agency:	Market: Po	owerTelecommunicat	ionElectricalCATV	
1. PRODUCT TYPE A HDPE E Aerial HDPE S Aerial Figure 8 - 6.6M T Aerial Figure 8 - 10M U UL Listed HDPE Certification Required Specification 2. SIZE	4. WALL TYPE 2 None - Corr 4 SCH 40 5 SCH 80 6 SDR 11 9 SDR 13.5 13 SDR 15.5 14 SDR 17 16 SDR 21 22 SDR 7 24 SDR 9	☐ 26 SIDR 11.5 ☐ 27 SIDR 11.5 True ☐ 29 SIDR 15 ☐ 34 SIDR 7 ☐ 36 SIDR 9 ☐ 37 SIDR 9 True ☐ 42 TC-7-A ☐ 45 True 11 ☐ 46 True 9	9. PULL LINE A Empty B 1130 lbs. Polyester Tape C 1250 lbs. Polyester Tape D 1500 lbs. Polyester Tape E 1800 lbs. Polyester Tape G 200 lbs. Polyester Tape J 2500 lbs. Polyester Tape J 400 lbs. Polyester Tape K 400 lbs. Detectable Poly Tape 22 Ga T 1250 lbs. Poly Metric Tape V 1250 lbs. Detectable Poly Tape 22 Ga	
☐ 2 1/2"	5. OPTIONS	6. REEL SPLITS	10. Quantity	
3 3/4" 5 1" 6 1-1/4" 9 1-1/2" 13 2" 14 2-1/2" 15 3" 16 4" 17 4.75" 18 5"	N Standard/No Options B Supplied Cable D Lube Duct E Slit - Corr F Toneable/18G G Toneable/22G	1 1- Way Single 2 2- Part Segmented 3 3- Part Segmented 4 4- Part Segmented 5 2- Way Parallel 6 3- Way Parallel 7 4- Way Parallel 12 2- Way Compart 13 3- Way Compart 14 4- Way Compart	Total Length Feet Max Reel Size Target Price (if Avail.)	
☐ 22 6"			Project Stage Bid/Buy	
☐ 23 7" ☐ 24 8" ☐ 25 10" ☐ 26 12" ☐ 27 14" ☐ 28 16"	7. COLOR A Black B Blue C Brown D Buff E Grey F Green	P Co-Ex Blue R Co-Ex Brown S Co-Ex Buff T Co-Ex Grey V Co-Ex Green W Co-Ex Lilac	Competitors	
	G Lilac H Lt. Green	X Co-Ex Lt. Green Y Co-Ex Orange	Carlon Quote #	
3. CONFIGURATION B Smooth Out/Ribbed In C Smooth Out/Smooth In D Corrugated	☐ J Orange ☐ K Red ☐ L Terra Cotta ☐ M White ☐ N Yellow	Z Co-Ex Red AA Co-Ex Terra BB Co-Ex White CC Co-Ex Yellow (available in Solidwall 1" - 2")	Pricing Specialist	
	8. STRIPE		Minimum Custom Run	
	□ NN NONE □ 3A 3 Black Stripes □ 3B 3 Blue Stripes □ 3C 3 Brown Stripes □ 3D 3 Buff Stripes □ 3E 3 Grey Stripes □ 3F 3 Green Stripes (Single Stripe only of	3G 3 Lilac Stripes 3H 3 Lt. Green 3J 3 Orange Stripes 3K 3 Red Stripes 3L 3 Terra Cotta Stripes 3M 3 White Stripes 3N 3 Yellow Stripes on Toneable)	Quantities: 1/2" - 2" 1000 Ft. 2 1/2" - 6" 600 Ft. 8" 560 Ft. 10" - 14" 480 Ft. 16" 360 Ft.	

Fax completed Quote Request to your Local Carlon Representative Visit www.carlon.com to locate a Carlon Representative

- Terms: Net 30 days unless other terms previously agreed.
- Pricing valid for 30 days unless otherwise specified.
- Freight quoted F.O.B., origin (freight additional) from plant specified.
- Custom product non-cancelable 24 hours after order acknowledgement or production has started.

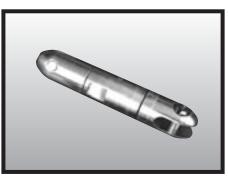
Carlon® Cable and Installation Accessories













Cable and Installation Accessories

Duct Plugs



Blank

Part No.	Size	Duct I.D. Range	Std. Ctn. Qty.	Std. Ctn. Wt.
MAEPG2	1"	.96" - 1.16"	50	4.5
MAEPG4	1 ¹ /4" 1.14" - 1.48"		50	5.5
MAEPG3	11/2"	1.49" - 1.83"	50	7.5
MAEPG5	2"	1.83" - 2.36"	50	12.5
MAEPG55	3"	2.99" - 3.46"	50	19.5
MAEPG6	31/2"	3.42" - 4.00"	25	13
MAEPG7	4"	3.94" - 4.33"	50	32.5
MAEPG8	5"	5.00" - 5.35"	25	24.5

Multi-Access



Part No.	Туре	Duct I.D. Range	Innerduct I.D. Range	Std. Ctn. Qty.	Std. Ctn. Wt.	
MATPG2	3-Hole	3.92" - 4.21"	1.31" - 1.42"	24	27	
MATPG3	3-Hole	3.92" - 4.21"	1.53" - 1.67"	24	24	
MAQPG2	4-Hole	3.92" - 4.21"	1.19" - 1.36"	24	23	
MAQPG4	4-Hole	4.16" - 4.34"	1.19" - 1.36"	24	34	

Split Plugs for Sealing Innerduct and Cable



Part No.	Size	Duct I.D. Range	Cable O.D. Range	Std. Ctn. Qty.	Std. Ctn. Wt.
MAFPG2	1"	1.00" - 1.10"	0.35" - 0.57"	50	8
MAFPG21	1"	1.00" - 1.10"	0.43" - 0.57"	50	8
MAFPG22	1"	1.00" - 1.10"	0.57" - 0.70"	50	8
MAFPG3	11/4"	1.22" - 1.36"	0.35" - 0.57"	50	10
MAFPG4	11/4"	1.22" - 1.36"	0.57" - 0.70"	50	10
MAFPG41	1 ¹ /4"	1.22" - 1.34"	0.70" - 0.90"	50	10
MAFPG5	11/2"	1.50" - 1.65"	0.35" - 0.57"	50	15
MAFPG6	1 ¹ /2"	1.50" - 1.65"	0.50" - 0.70"	50	15
MAFPG9	2"	1.98" - 1.97"	0.35" - 0.57"	50	22

Multiple Innerduct Pulling Harness



For use with Pulling Innerducts into a 4" Conduit

Part No.	Description	Working Load Per Leg (lbs.)	Working Load Combined (lbs.)	Std. Ctn. Qty.	Wt./Ea. (lbs.)
МАРН3	3-Way ¹ /4" Cable	1400	2900	1	14
MAPH4	4-Way 1/4" Cable	1400	4200	1	15

Innerduct Pulling Eyes



Part No.	Size	Range	Std. Ctn. Qty.	Wt./Ea. (lbs.)
MAPE3	1"	1.00 - 1.25	1	2
MAPE6	1 ¹ /4"	1.21 - 1.41	1	4.0
MAPE8	11/2"	1.42 - 1.62	1	5.0
MAPE9	2"	1.78 - 2.03	1	6.0

Swivels - Ball Bearing



Part No.	Description	Work/Break Load (lbs.)	Dimensions	Wt./Ea. (lbs.)
MASV4	Non-Breakaway	1800	7/8"x 41/2"	.53
MASV5	Non-Breakaway	600	5/8"x 4"	1.00

Swivels - Breakaway and Replacement Pins



Part No.	Description	Work/Break Load (lbs.)	Dimensions	Std. Ctn. Qty.	Wt./Ea. (lbs.)	Pin Part No.	Description
MASV6	Breakaway	600	⁷ /8"x 4 ¹ /2"	1	.55	MASVP6	⁷ /8" Replacement Pin for MASV6
MASV7	Breakaway	600	5/8"x 31/2"	1	.19	MASVP7	5/8" Replacement Pin for MASV7
MASV8	Breakaway	450	5/8"x 3 ¹ /2"	1	.19	MASVP8	5/8" Replacement Pin for MASV8

Line Missiles



Part No.	Description	Std. Ctn. Qty.	Std. Ctn. Wt.
MAPRO3	3-Way for 1 ¹ /4" Duct	25	25
MAPRO4	4-Way for 1" Duct	25	18

Pass-Through Kits

Pass-through kits allow innerducts to be traversed across handhole or manhole using pass-through and jet-through terminators for PVC Multi-Gard.

Part No.	Description	Std. Pkg. Qty.	Wt. Ea. lbs.
48808DK	4-way pass-through kit 20' x 4	1	17
48809DK	3-way pass-through kit 20' x 3	1	17

Underground Warning Tape – Orange

CAUTION TELEPHONE CABLE BURIED BELOW

Part No.	Туре	Width	Ft. per Spool	Wt. ea. lbs.
MAT3T21	Standard	3"	1000'	7
MAT3T61	Detectable	3"	1000'	8

CAUTION FIBER OPTIC CABLE BURIED BELOW

Part No.	Туре	Width	Ft. per Spool	Wt. ea. lbs.
MAT3021	Standard	3"	1000'	7
MAT6021	Standard	6"	1000'	13
MAT3051	Extra Stretch	3"	1000'	7
MAT3061	Detectable	3"	1000'	8
MAT6061	Detectable	6"	1000'	16



End Caps

Part No.	Size	Nom. O.D.	Std. Ctn. Qty.
EC1.315	1"	1.315"	1
EC1.488	11/4"	1.488"	1
EC1.660	1 ¹ /4"	1.660"	1
EC1.900	11/2"	1.900"	1
EC2.375	2"	2.375"	1
EC4.500	4"	4.500"	1



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Rope (Conduit Pulling Lines for Conductors or Fiber Optics)

White Diamond Braid Rope

This rope is constructed of polyethylene over polyester, designed specifically for fiber-optic pulling. The polyethylene jacket gives the "slippery" feel that gives less drag in pulling through conduit.

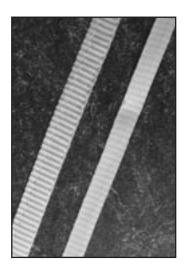
Part	No.	Reel Lengths	Diameter	Recommended Working Load (lbs.)	Approximate Avg. Tensile (lbs.)	Std. Ctn. Wt. (lbs.)
	105	5,000 ft.	1/⊿"	260	1700	1000



Tape

Prelubricated, woven polyester tape made from low friction, high abrasion resistant yarns providing a low coefficient of friction. Tape is printed with sequential footage markings for accurate measurements.

Part No.	Size	Tensile Strength (lbs.)	Reel Lengths
TL14203	1/2"	1130	3,000 ft.
TL14205	1/2"	1130	5,000 ft.
TL14505	1/2"	1250	5,000 ft.
TL14510	1/2"	1250	10,000 ft.
TL38203	5/8"	1800	3,000 ft.
TL38265	5/8"	1800	6,500 ft.
TL38210	5/8"	1800	10,000 ft.



Cable and Installation Accessories

Conduit Cutters

Kwikcut Cutter



For fast, smooth field cuts of 1/2" through 1" Innerduct.

Part No.	Size	Std. Ctn. Qty.
CC120B	8"	10

Medium Cutter

Hand held cutter makes fast square, smooth field cuts on Innerduct sizes 1/2" through 11/4".

Part No.	Size	Std. Ctn. Qty.
CC125	9"	1



For clean cuts of Innerduct sizes 1/2" through 2".

Part No.	Size	Std Ctn. Qty.
CC122	17 ¹ /2"	1

Figure-8 Web Slitter



Part No.	Size	Std. Ctn. Qty.
3056MW	6.6M	1
30510MW	10M	1

Figure-8 Jacket Slitter



Part No.	Size	Std. Ctn. Qty.
3056MJ	6.6M	1
30510MJ	10M	1

Notes

LIMITED WARRANTY/DEFECTIVE PRODUCTS/SHORT COUNTS

Carlon warrants to its distributors that its products conform to all product specifications contained in the contract of sale and, using Carlon product specifications as a standard, are free from defects in material and manufacture as of the date they are shipped by Carlon. This warranty covers Carlon distributors only.

IF A DISTRIBUTOR BELIEVES THAT IT HAS DISCOVERED A DEFECT IN MATERIAL OR MANUFACTURE IN ANY PRODUCT COVERED BY THIS WARRANTY OR IF THE DISTRIBUTOR DISCOVERS A SHORT COUNT IN ANY SHIPMENT, THE DISTRIBUTOR MUST NOTIFY CARLON, IN WRITING, WITHIN SIXTY (60) DAYS OF RECEIPT OF THE GOODS TO WHICH THE CLAIM RELATES, OR IN ANY EVENT WITHIN SEVENTY (70) DAYS OF THE DATE THAT THE GOODS WERE SHIPPED BY Carlon. Carlon will provide replacement goods to meet any short count for which it receives timely notice, but may require verification of any such claim. Defective goods should be shipped to Carlon, freight prepaid, and be in accordance with Carlon defective goods policy which requires prior approval by an authorized Carlon Manager. Carlon liability for breach of this warranty shall be limited to replacement of any goods that Carlon finds to be defective with an equivalent amount of goods, or at Carlon sole option, refund of the purchase price. Claims that are not made within the warranty period (i.e., within seventy (70) days of shipment) shall be deemed waived.

CARLON SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES CAUSED BY BREACH OF THIS WARRANTY. THIS EXCLUSION APPLIES WHETHER SUCH DAMAGES ARE SOUGHT BASED ON BREACH OF WARRANTY BREACH OF CONTRACT, NEGLIGENCE, STRICT LIABILITY IN TORT OR ANY OTHER LEGAL THEORY. THIS WARRANTY DOES NOT APPLY TO CLAIMS FOR PERSONAL INJURY BY A THIRD PARTY. THIS WARRANTY DOES NOT COVER DAMAGE IN SHIPMENT. CLAIMS FOR DAMAGE IN SHIPMENT SHOULD BE MADE TO THE CARRIER IN ACCORDANCE WITH THE TERMS OF THE SHIPPING AGREEMENTS.

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