

Carlton Schedule 40 PVC Rigid Non-Metallic Conduit (Heavy Wall EPC)

Certified for underground applications encased in concrete or direct burial. Also for use in exposed or concealed aboveground applications.

- Sunlight resistant
- Rated for use with 75°C conductors
- Superior weathering characteristics
- Meets CSA Standard C22.2 No. 211.2
- 3/4" – 4" are FT-4 Rated



Schedule 40 Heavy Wall

Cat. No.		Trade Size (in.)	Std Crate Qty		Std Bundle Qty		Wt. Per 100 ft	Dimensions		Wall
10 ft	20 ft		10 ft	20 ft	10 ft	20 ft		O.D.	I.D.	
49005CC-010	–	1/2	6000	12000	100	200	17	0.840	0.622	0.109
49007CC-010	49007CC-020	3/4	4400	8800	100	200	23	1.050	0.824	1.113
49008CC-010	49008CC-020	1	3600	7200	100	200	34	1.315	1.049	0.133
49009CC-010	49009CC-020	1-1/4	3300	6600	50	100	46	1.660	1.380	0.140
49010CC-010	49010CC-020	1-1/2	1800	3600	50	100	55	1.900	1.610	0.145
49011CC-010	49011CC-020	2	1400	2800	50	100	73	2.375	2.067	0.154
49012CC-010	49012CC-020	2-1/2	930	1860	10	20	124	2.875	2.469	0.203
49013CC-010	49013CC-020	3	880	1760	10	20	163	3.500	3.068	0.216
49014CC-010	–	3-1/2	630	–	10	20	196	4.000	3.548	0.226
49015CC-010	49015CC-020	4	570	1140	10	20	232	4.500	4.026	0.237
49016CC-010	–	5	380	760	10	20	315	5.563	5.047	0.258
49017CC-010	49017CC-020	6	260	520	10	20	409	6.625	6.065	0.280

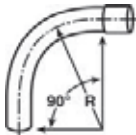
Acceptable Dimension in Inches of CSA Listed Integral Bell

Trade Size of Conduit (in.)	A		B		C	
	At Entrance		At Bottom		Socket Depth	
	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1/2	0.860	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
1-1/4	1.689	1.665	1.667	1.643	2.000	0.938
1-1/2	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
2-1/2	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
3-1/2	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	5.653	5.543	5.583	5.523	3.625	1.937
6	6.708	6.608	6.644	6.584	3.750	2.125

Schedule 40 Elbows Standard Radius

Integral belled end for use with non-metallic solvent weld fittings.

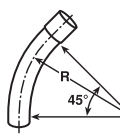
90° Elbow



Item	Belled End Cat. No.	Trade Size (in.)	Std Ctn Qty
	UA9ADCB-CTN	1/2	40
	UA9AECB-CTN	3/4	25
	UA9AFCB-CTN	1	25
	UA9AGCB-UPC	1-1/4	20
	UA9AHCB-UPC	1-1/2	25
	UA9AJCB-UPC	2	20
	UA9AKCB-CTN	2-1/2	10
	UA9ALCB-UPC	3	25
	UA9AMCB	3-1/2	1
	UA9ANCB	4	1
	UA9APCB	5	1
	UA9ARCB	6	1

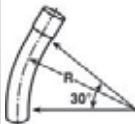
Custom elbows available on request.
Plain end elbows also available.

45° Elbow




Item	Belled End Cat. No.	Trade Size (in.)	Std Ctn Qty
	UA7ADCB-CTN	1/2	25
	UA7AECB-CTN	3/4	20
	UA7AFCB-CTN	1	14
	UA7AGCB	1-1/4	20
	UA7AHCB	1-1/2	20
	UA7AJCB	2	20
	UA7ALCB	3	5
	UA7AMCB	3-1/2	1
	UA7ANCB	4	1
	UA7APCB	5	1
	UA7ARCB	6	1

30° Elbow



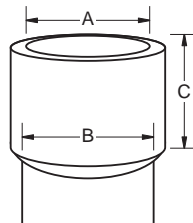
Item	Belled End Cat. No.	Trade Size (in.)	Std Ctn Qty
	UA6ADB	1/2	50
	UA6AEB	3/4	25
	UA6AFB	1	8
	UA6AGB	1-1/4	20
	UA6AHB	1-1/2	1

Flexible Elbows



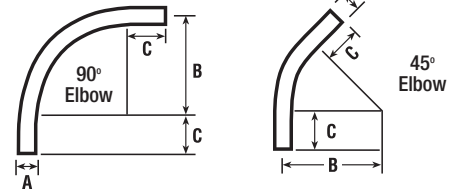
Item	Belled End Cat. No.	Trade Size (in.)	Std Ctn Qty
	UAFAD	1/2	8
	UAFAE	3/4	6
	UAFAF	1	6

Integral Belled End Dimensions



Trade Size of Conduit (in.)	A		B		C	
	At Entrance		At Bottom		Socket Depth	
	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1/2	0.860	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
1-1/4	1.689	1.665	1.667	1.643	2.000	0.938
1-1/2	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
2-1/2	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
3-1/2	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	5.653	5.543	5.583	5.523	3.625	1.937
6	6.708	6.608	6.644	6.584	3.750	2.125

Standard Radius Elbow Dimensions



Trade Size (in.)	A	B	C
		Minimum (Radius)	Minimum
1/2	0.840	4	1-1/2
3/4	1.050	4-1/2	1-1/2
1	1.315	5-3/4	1-7/8
1-1/4	1.660	7-1/4	2
1-1/2	1.900	8-1/4	2
2	2.375	9-1/2	2
2-1/2	2.875	10-1/2	3
3	3.500	13	3-1/8
3-1/2	4.000	15	3-1/4
4	4.500	16	3-3/8
5	5.563	24	3-5/8
6	6.625	30	3-3/4



The new, revolutionary, Carlton PVC Conduit Repair System significantly reduces the time and money associated with repairing broken PVC conduits a.k.a. “stub-ups” in concrete slabs.

The system is a line of couplings, adapters, reamers and plugs designed to allow contractors to quickly and easily repair broken PVC conduits without having to chip away and repour concrete, while still maintaining the inside diameter of the conduit. Simply cut off the broken conduit; ream the I.D. of the conduit; and insert a coupling or adapter, it's that easy.

Features

- C-UL-US Listed
- Non-metallic couplings, adapters and plugs won't rust or corrode
- Available in sizes 1/2" through 2"

Benefits

- Saves time and money
- Maintains inside diameter of conduit
- Metallic Reamers for extra strength, durability and longer life
- Quickly and easily repair broken PVC conduit

Specifications

Couplings

Cat. No.	Trade Size (in.)	Std Ctn Qty
E910D	1/2	25
E910E	3/4	25
E910F	1	15
E910G	1-1/4	10
E910H	1-1/2	10
E910J	2	10



Male Threaded Adapters

Cat. No.	Trade Size (in.)	Std Ctn Qty
E920D	1/2	25
E920E	3/4	25
E920F	1	15
E920G	1-1/4	10
E920H	1-1/2	10
E920J	2	10

Reamers

Cat. No.	Size (in.)	Std Ctn Qty
E910REAMD	1/2	12
E910REAME	3/4	12
E910REAMF	1	10
E910REAMG	1-1/4	10
E910REAMH	1-1/2	10
E910REAMJ	2	10
E910REAMKIT	All sizes – 1/2, 3/4, 1, 1-1/4, 1-1/2 and 2	5



Schedule 40 Plugs

Cat. No.	Size (in.)	Std Ctn Qty
HL-6X*	1/2	1 bag of 50
HL-10*	3/4	1 bag of 50
HL-13A*	1	1 bag of 50
HL-16*	1-1/4	1 bag of 50
HL-18*	1-1/2	1 bag of 50
HL-21*	2	1 bag of 50

* = Suffixe (R: Red, B: Blue, Y: Yellow)

PVC Conduit Repair Fittings



Coupling
E910 Series



Male Threaded
Adapter
E920 Series



Broken conduit on jobsite

Instructions



1. Cut broken conduit off flush.



2. Insert plug to keep conduit clean/dry through balance of rough-in. Once rough-in is complete, remove plug and continue with step 3.

Alternative to Conduit Repairs

Prior to concrete pour, measure and saw cut all conduit stub-ups to the thickness of the concrete pour. Insert plugs. Pour concrete flush to the conduit. When pour is complete, remove plugs and proceed with step 3. This alternative method saves time/money by eliminating the need for transitions or use of metal elbows.



3. With reamer tool and standard 1/2" drill, ream I.D. of conduit. It is recommended to use a variable speed drill. Use slower speed to avoid overheating the conduit.



4. The guide will direct the cutter; the stop will touch when completed.

5. Insert the coupling and cement into place using the cement manufacturer's instructions.

Cementing Instructions

- A. Clean socket I.D. and spigot O.D. of dirt and moisture.
- B. Apply a uniform coat of cement to spigot end and push onto socket bottom, rotating 1/4 turn.
- C. Allow time to set before disturbing. This will depend upon temperature.



Apply a uniform coat of
cement.



Insert fitting.



Rotate 1/4 turn.

Expansion Fittings*

E945 series expansion fittings are designed to compensate for length changes due to temperature variations in exposed conduit runs.

- Exclusive Molded in Mid-point indicator on the piston.
- Exclusive 2" Expansion Fitting with an 8" travel distance.
- Two-piece molded design with lubricated seals for easier movement for the life of the product.
- Ridges on the fitting for easier installation (Sizes 2" through 6" only).
- Male terminal Adapter End design (1/2" – 2" NPT Threads and 2-1/2" – 6" NPSC Threads).
- Two O-Rings to prevent leakage.
- Can be installed vertically or horizontally.



Coupling End Cat. No.	Male Terminal Adapter End Cat. No.	Size (in.)	Std Ctn Qty	Travel Length (in.)
E945D	E945DX	1/2	20	4
E945E	E945EX	3/4	15	4
E945F	E945FX	1	10	4
E945G	E945GX	1-1/4	5	4
E945H	E945HX	1-1/2	5	4
E945J	E945JX	2	15	8
E945K	E945KX	2-1/2	10	8
E945L	E945LX	3	10	8
E945M	E945MX	3-1/2	5	8
E945N	E945NX	4	5	8
E945P	E945PX	5	1	8
E945R	E945RX	6	1	8

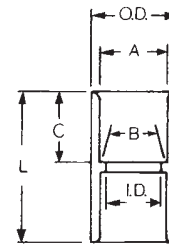
* Please refer to page 23 for additional information.

Standard Couplings

All socket fittings should be attached using Carlton solvent cement. Using Carlton fittings with Carlton non-metallic conduit insures system integrity.



Socket type for joining non-metallic conduit.



Cat. No.	Size (in.)	Std Ctn Qty	Typical		I.D.	O.D.	Typical	
			A	B			C	L
CE940DR-CTN	1/2	75	0.852	0.836	0.728	1-7/64	11-16	1-1/2
CE940ER-CTN	3/4	45	1.064	1.046	0.840	1-5/16	3/4	1-5/8
CE940F-UPC	1	50	1.330	1.310	1.210	1-5/8	15/16	2
E940G	1-1/4	30	1.677	1.655	1.535	1-63/64	1	2-1/8
E940H	1-1/2	25	1.918	1.894	1.755	2-15/64	1-1/8	2-3/8
E940J	2	30	2.393	2.369	2.190	2-47/64	1-3/16	2-1/2
E940K	2-1/2	20	2.890	2.868	2.688	3-5/16	1-33/64	3-3/16
E940L	3	25	3.515	3.492	3.375	3-31/32	1-3/4	3-13/32
E940M	3-1/2	20	4.015	3.992	3.780	4-9/16	1-3/4	3-5/8
E940N	4	15	4.515	4.491	4.265	5-3/32	1-25/32	3-3/4
E940P	5	8	5.593	5.553	5.097	6-1/4	1-5/16	4-1/16
E940R	6	5	6.658	6.614	6.115	7-1/2	2-3/16	4-5/8

Short Expansion Couplings*

(Expands to a maximum of 2 in.)



Cat. No.	Size (in.)	Std Ctn Qty
E955D	1/2	40
E955E	3/4	40
E955F	1	25
E955G	1-1/4	15
E955H	1-1/2	10
E955J	2	6

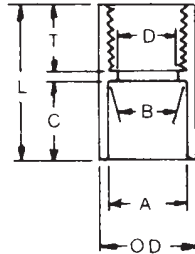
* Please refer to page 23 for additional information.



Female Adapters



For adapting non-metallic conduits to threaded fittings, metallic systems. Female threads on one end, socket end on other.

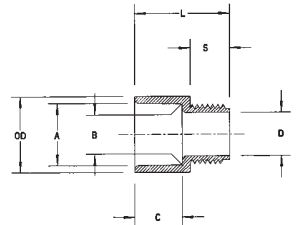


Cat. No.	Size (in.)	Std Ctn Qty	A B		Min. I.D.	Max. O.D.	C T L		
			Typical				Typical		
E942D	1/2	150	0.852	0.836	0.620	1-7/64	11/16	3/4	1-9/16
E942E	3/4	100	1.064	1.046	0.822	1-5/16	13/16	3/4	1-5/8
E942F	1	50	1.330	1.310	1.046	1-5/8	15/16	7/8	1-15/16
E942G	1-1/4	30	1.677	1.655	1.377	1-63/64	1	7/8	2
E942H	1-1/2	25	1.918	1.894	1.607	2-5/32	1-1/8	7/8	2-7/32
E942J	2	30	2.393	2.369	2.064	2-47/64	1-3/16	1	2-5/16
E942K	2-1/2	20	2.890	2.868	2.450	3-11/32	1-5/8	1-1/8	2-15/16
E942L	3	25	3.515	3.492	3.000	3-31/32	1-3/4	1-1/8	3-1/16
E942M	3-1/2	20	4.015	3.992	3.500	4-1/2	1-7/8	1-1/8	3-1/4
E942N	4	15	4.515	4.491	4.000	5-1/64	1-3/4	1-1/16	3-13/64
E942P	5	8	5.593	5.553	5.047	6-1/4	1-15/16	1-1/16	3-3/16
E942R	6	6	6.658	6.614	6.055	7-1/4	2-1/8	1-1/16	3-3/8

Male Terminal Adapters



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

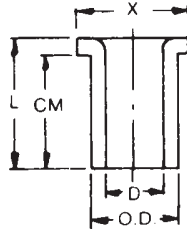


Cat. No.	Size (in.)	Std Ctn Qty	A B		Min. D	Max. O.D.	C S L		
			Typical				Typical		
E943D	1/2	150	0.852	0.836	0.594	1.042	0.652	0.545	1.310
E943E	3/4	100	1.064	1.046	0.793	1.290	0.809	0.553	1.470
E943F	1	50	1.330	1.310	1.025	1.580	0.965	0.812	1.902
E943G	1-1/4	30	1.677	1.655	1.345	1.973	1.208	0.816	1.986
E943H	1-1/2	25	1.918	1.894	1.574	2.188	1.155	0.802	2.105
E943J	2	30	2.393	2.369	1.998	2.713	1.145	0.825	2.093
E943K	2-1/2	20	2.890	2.868	2.400	3.290	1.490	0.812	2.480
E943L	3	25	3.515	3.492	2.989	3.965	1.643	0.797	2.660
E943M	3-1/2	20	4.015	3.992	3.405	4.515	1.720	0.802	2.740
E943N	4	15	4.515	4.491	3.895	5.065	1.788	0.733	2.830
E943P	5	8	5.593	5.553	4.900	6.104	1.935	0.990	3.200
E943R	6	6	6.658	6.614	5.900	7.288	2.128	0.985	3.410

Box Adapters for Enclosures



Adapts non-metallic conduit to all electrical enclosures by inserting adapter through knockout and cementing into Carlton couplings.

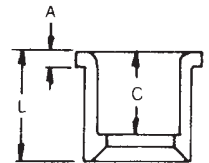


Cat. No.	Size (in.)	Std Ctn Qty	Min. D	O.D. Typical	Max. X	CM L	
						Typical	
E996D	1/2	100	0.662	0.840	1-7/64	23/32	27/32
E996E	3/4	100	0.824	1.050	1-21/64	25/32	29/32
E996F	1	100	1.049	1.315	1-5/8	61/64	1-3/32
E996G	1-1/4	50	1.380	1.660	1-31/32	1-1/16	1-1/4
E996H	1-1/2	50	1.610	1.900	2-13/64	1-3/16	1-3/8
E996J	2	25	2.067	2.375	2-29/32	1-1/4	1-7/16
E996K	2-1/2	15	2.469	2.875	3-7/16	1-7/8	1-15/16
E996L	3	20	3.068	3.500	4-1/8	2	2-1/16
E996N	4	10	4.026	4.500	5-1/8	2-1/2	2-1/4

Reducer Bushings



For connecting different sizes of conduit. Bell x Spigot.



Cat. No.	Size (in.)	Std Ctn Qty	L	A	C
			Typical		
E950ED	3/4 x 1/2	100	1-5/32	13/64	1-1/32
E950FD-CAR	1 x 1/2	25	1-11/32	3/16	57/64
E950FE	1 x 3/4	100	1-11/32	3/16	1-1/64
E950GE-CAR	1-1/4 x 3/4	10	1-15/32	3/16	1-1/64
E950GF	1-1/4 x 1	50	1-15/32	3/16	1-9/64
E950HF-CAR	1-1/2 x 1	10	1-19/32	3/16	1-9/64
E950HG-CAR	1-1/2 x 1-1/4	10	1-19/32	3/16	1-17/64
E950JG-CAR	2 x 1-1/4	10	1-3/4	7/32	1-17/64
E950JH-CAR	2 x 1-1/2	10	1-3/4	7/32	1-25/64
E950KJ-CAR	2-1/2 x 2	10	2-5/32	3/8	1-27/64
E950LJ-CAR	3 x 2	10	2-1/8	1/4	1-7/8
E950LK	3 x 2-1/2	25	1-15/16	1/4	1-11/16
E950NL	4 x 3	25	2-3/4	5/16	1-15/16

Plugs with Pull Tabs (Polyethylene)



Cat. No.	Size (in.)	Std Ctn Qty	Std Ctn Wt. (lb)
P258JT	2	60	3
P258LT	3	30	3
P258NT	4	48	8
P258PT	5	30	6
P258RT	6	30	9

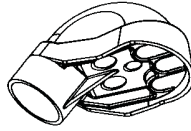
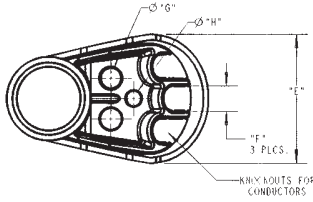
Threaded Adapters



Cat. No.	Size (in.)	Std Ctn Qty
E9842D ¹	1/2	25
E9842E ²	3/4	25

¹ Fits 3/4 in. sockets
² Fits 1 in. sockets

Service Entrance Caps



UL US
LISTED
E145982

Cat. No.	Size (in.)	Std Ctn Qty	Dimensions (in.)			
			E	F	G	H
E998D	1/2	5	1.76	0.45	0.45	—
E998E	3/4	20	1.76	0.45	0.45	—
E998F	1	15	2.26	0.59	0.58	—
E998G	1-1/4	20	3.52	0.74	0.71	0.50
E998H	1-1/2	10	3.52	0.74	0.71	0.50
E998J	2	5	4.26	0.83	0.78	0.56
E998K-UPC	2-1/2	2	7.47	1.70	1.31	1.00
E998L	3	2	77.47	1.70	1.31	1.00
E998N	4	2	10.45	2.25	1.88	1.31

End Caps



Cat. No.	Size (in.)	Std Ctn Qty	Std Ctn Wt. (lb)
E958D	1/2	100	3
E958E	3/4	100	4
E958F	1	75	5
E958G	1-1/4	40	4
E958H	1-1/2	30	4
E958J	2	25	5
E958K	2-1/2	10	4
E958L	3	10	5
E958N	4	5	17
E958P	5	5	11
E958R	6	5	13

Meter Hubs



Cat. No.	Size (in.)	Std Ctn Qty	Std Ctn Wt. (lb)
E991G	1-1/4	20	3.8
E991G-UPC	1-1/4	12	2.3
E991H	1-1/2	25	8.0
E991J	2	6	1.0
E991J-UPC	2	12	2.0

Meter Offset



Cat. No.	Size (in.)	Std Ctn Qty	Offset	A
E995G	1-1/4	15	0.758	4.230
E995J	2	8	0.684	4.270

Offset



Cat. No.	Size (in.)	Std Ctn Qty	Std Ctn Wt. (lb)
E994D	1/2	25	3
E994E	3/4	25	3
E994F	1	50	12

End Bells



SA

LR31146

Cat. No.	Size (in.)	Std Ctn Qty	Std Ctn Wt. (lb)
E997F	1	50	2.6
E997G	1-1/4	35	2.5
E997H	1-1/2	30	2.5
E997J	2	40	5.0
E997K	2-1/2	30	2
E997L	3	50	10
E997M	3-1/2	40	11
E997N	4	30	16
E997P	5	15	8
E997R	6	10	7
E997T	8	3	15

Flat Sealing Washer

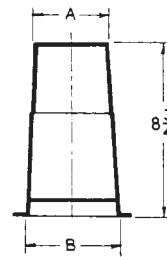
Where a waterproof termination is required into any enclosure (metallic or non-metallic), install the neoprene washer over the threads of a terminal adapter before inserting into the enclosure. Use a standard locknut or threaded bushing to secure the assembly.



Cat. No.	Size (in.)	Std Ctn Qty
E943DW	1/2	125
E943EW	3/4	125
E943FW	1	100
E943GW	1-1/4	50
E943HW	1-1/2	50
E943JW	2	25

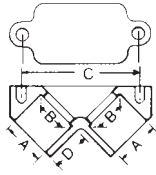
Holform™ Concrete Sleeves

HOLFORM non-metallic 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. (Not CSA applicable)



Cat. No.	Min. O.D. A	B	Std Ctn Qty	Std Ctn Wt. (lb)
E92CSH	1-1/2	1-3/4	20	3
E92CSJ	2	2-13/32	25	6
E92CSL	3	3-13/32	25	8
E92CSN	4	4-13/32	18	8
E92CSP	5	5-13/32	15	8
E92CSR	6	6-13/32	12	8

Access Pull Elbows

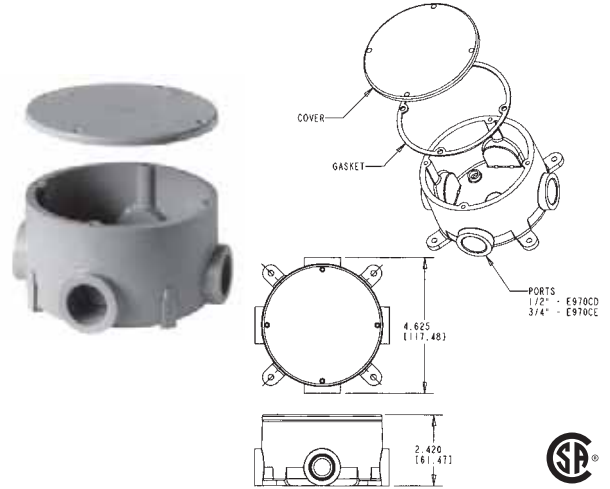


Cat. No.	Size (in.)	Std Ctn Qty	Typical			
			A	B	C	D
E990D	1/2	75	0.852	0.836	2.187	0.718
E990DR-CAR	1/2	25	0.852	0.836	2.187	0.718
E990E	3/4	50	1.064	1.046	2.531	0.781

Gasket included

Conduit Bodies Type X with Cover

Four knockout type socket openings, 90° spacing. Available with 1/2" or 3/4" socket outlets. Includes cover and gasket.

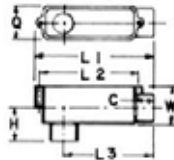


Cat. No.	Size (in.)	Vol. Cu. (in.)	Std Ctn Qty
CE970CDE	1/2	15.16	15
E970CE	3/4	15.16	15

Supplied with 4 stainless steel cover screws. Diameter 4-1/8 in., Thickness 1/4 in. Not designed for use with wiring devices or light fixtures.

Type LB

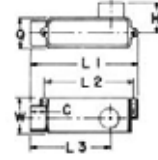
- Hubs are not threaded
- Textured lids
- Foam-in-place gasket



Cat. No.	Size (in.)	Std Ctn Qty	C Typical	Max. L1	L2	L3	Max. H	Max. Q	Max. W	Vol. Cu. in.
					Typical					
E986D	1/2	25	11/16	4-5/16	3-7/32	3-1/16	1-5/16	1-11/32	1-1/2	4.0
E986E	3/4	15	29/32	6-9/32	5-9/32	4-25/32	1-25/32	1-3/4	2-1/32	12.0
E986F	1	10	29/32	6-9/32	5-9/32	4-25/32	1-25/32	1-3/4	2-1/32	12.0
E986G	1-1/4	10	1-3/32	7-31/32	6-13/32	6	2-5/16	2-1/2	2-3/4	32.0
E986H	1-1/2	10	1-3/32	7-31/32	6-13/32	6	2-5/16	2-1/2	2-3/4	32.0
E986J	2	10	1-5/32	9-31/32	8-13/32	7-1/4	2-9/16	3-5/32	3-15/32	63.0
E986K	2-1/2	4	1-5/8	14-7/8	13-1/4	11-31/32	3-3/4	4-11/32	4-5/8	210.0
E986L	3	4	1-5/8	14-7/8	13-1/4	11-31/32	3-3/4	4-11/32	4-5/8	210.0
E986M	3-1/2	4	1-25/32	17-23/32	15-7/8	14-17/64	4-7/16	5-11/32	5-21/32	390.0
E986N	4	4	1-25/32	17-23/32	15-7/8	14-17/64	4-7/16	5-11/32	5-21/32	390.0

Type LR

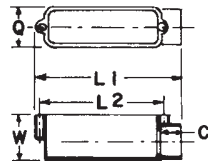
- Hubs are not threaded
- Textured lids
- Foam-in-place gasket



Cat. No.	Size (in.)	Std Ctn Qty	C Typical	Max. L1	L2	L3	Max. H	Max. Q	Max. W	Vol. Cu. in.
					Typical					
E985D-CAR	1/2	10	11/16	4-5/16	3-7/32	3-1/16	1-5/16	1-11/32	1-1/2	4.0
E985E-CAR	3/4	10	29/32	6-9/32	5-9/32	4-25/32	1-25/32	1-3/4	2-1/32	12.0
E985F-CAR	1	10	29/32	6-9/32	5-9/32	4-25/32	1-25/32	1-3/4	2-1/32	12.0
E985G-CAR	1-1/4	5	1-3/32	7-31/32	6-13/32	6	2-5/16	2-1/2	2-3/4	32.0
E985H-CAR	1-1/2	5	1-3/32	7-31/32	6-13/32	6	2-5/16	2-1/2	2-3/4	32.0
E985J-CAR	2	3	1-5/32	9-9/32	8-13/32	7-1/4	2-9/16	3-5/32	3-15/32	63.0

Type E

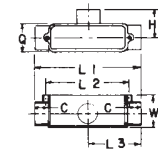
- Hubs are not threaded
- Textured lids
- Foam-in-place gasket



Cat. No.	Size (in.)	Std Ctn Qty	C	L1	L2	Q	W	Vol. Cu. in.
E988E	3/4	15	29/32	6-11/32	5-9/32	1-3/4	2-1/32	12.0
E988F	1	10	29/32	6-11/32	5-9/32	1-3/4	2-1/32	12.0
E988G	1-1/4	10	1-3/32	8	6-13/32	2-1/2	2-3/4	32.0
E988H	1-1/2	10	1-3/32	8	6-13/32	2-1/2	2-3/4	32.0
E988J	2	10	1-5/32	9-15/32	8-13/32	3-5/32	3-15/32	63.0

Type T

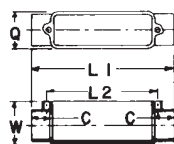
- Hubs are not threaded
- Textured lids
- Foam-in-place gasket



Cat. No.	Size (in.)	Std Ctn Qty	C Typical	Max. L1	L2	L3	Max. H	Max. Q	Max. W	Vol. Cu. in.
					Typical					
E983D-CAR	1/2	10	11/16	4-11/16	3-7/32	2-11/32	1-5/16	1-11/32	1-1/2	4.0
E983E	3/4	15	29/32	6-7/8	5-9/32	4-7/16	1-25/32	1-3/4	2-1/32	12.0
E983F	1	20	29/32	6-7/8	5-9/32	3-7/16	1-25/32	1-3/4	2-1/32	12.0
E983G	1-1/4	10	1-3/32	8-21/32	6-13/32	4-21/64	2-5/16	2-1/2	2-3/4	32.0
E983H	1-1/2	4	1-3/32	8-21/32	6-13/32	4-21/64	2-5/16	2-1/2	2-3/4	32.0
E983J	2	10	1-5/32	10-5/16	8-13/32	5-5/32	2-9/16	3-5/32	3-15/16	63.0

Type C

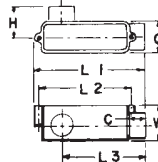
- Hubs are not threaded
- Textured lids
- Foam-in-place gasket



Cat. No.	Size (in.)	Std Ctn Qty	C Typical	Max. L1	L2	Max. Q	Max. W	Vol. Cu. in.
					Typical			
E987D-CTN	1/2	8	11/16	4-11/16	3-1/2	1-11/32	1-1/2	4.0
E987E-CAR	3/4	10	29/32	6-7/8	5-32/64	1-3/4	2-1/32	12.0
E987F-CAR	1	10	29/32	6-7/8	5-9/32	1-3/4	2-1/32	12.0
E987G-CAR	1-1/4	5	1-3/32	8-21/32	6-13/32	2-1/2	2-3/4	32.0
E987H-CAR	1-1/2	4	1-3/32	8-21/32	6-13/32	2-1/2	2-3/4	32.0
E987J	2	15	1-5/32	10-5/16	8-13/32	3-5/32	3-15/32	63.0

Type LL

- Hubs are not threaded
- Textured lids
- Foam-in-place gasket



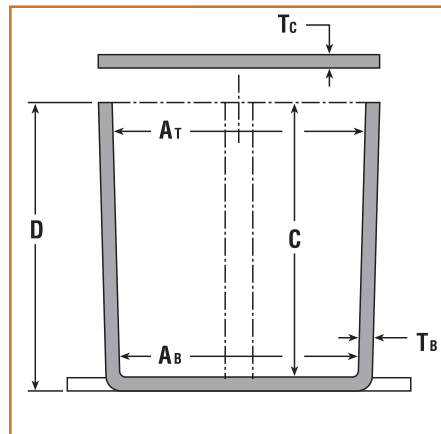
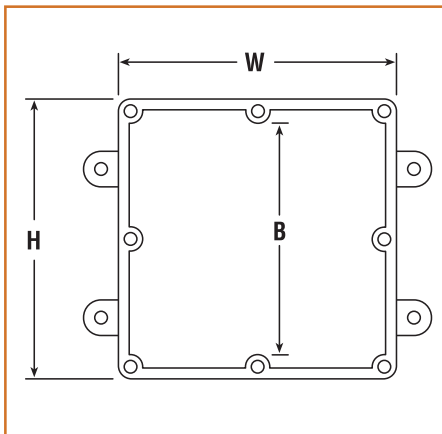
Cat. No.	Size (in.)	Std Ctn Qty	C Typical	Max. L1	L2	L3	Max. H	Max. Q	Max. W	Vol. Cu. in.
					Typical					
E984D-CAR	1/2	10	11/16	4-5/16	3-7/32	3-1/16	1-5/16	1-11/32	1-1/2	4.0
E984E	3/4	20	29/32	6-9/32	5-9/32	4-25/32	1-25/32	1-3/4	2-1/32	12.0
E984F-CAR	1	10	29/32	6-9/32	5-9/32	4-25/32	1-25/32	1-3/4	2-1/32	12.0
E984G	1-1/4	10	1-3/32	7-31/32	6-13/32	6	2-5/16	2-1/2	2-3/4	32.0
E984H	1-1/2	10	1-3/32	7-31/32	6-13/32	6	2-5/16	2-1/2	2-3/4	32.0
E984J	2	10	1-5/32	9-9/32	8-13/32	7-1/4	2-9/16	3-5/32	3-15/32	63.0

Molded Non-Metallic Junction Boxes 6P Rated



Non-metallic junction boxes are CSA Certified. Manufactured from PVC or PPO thermoplastic molding compound and featuring foam-in-place gasketed lids attached with stainless steel screws.

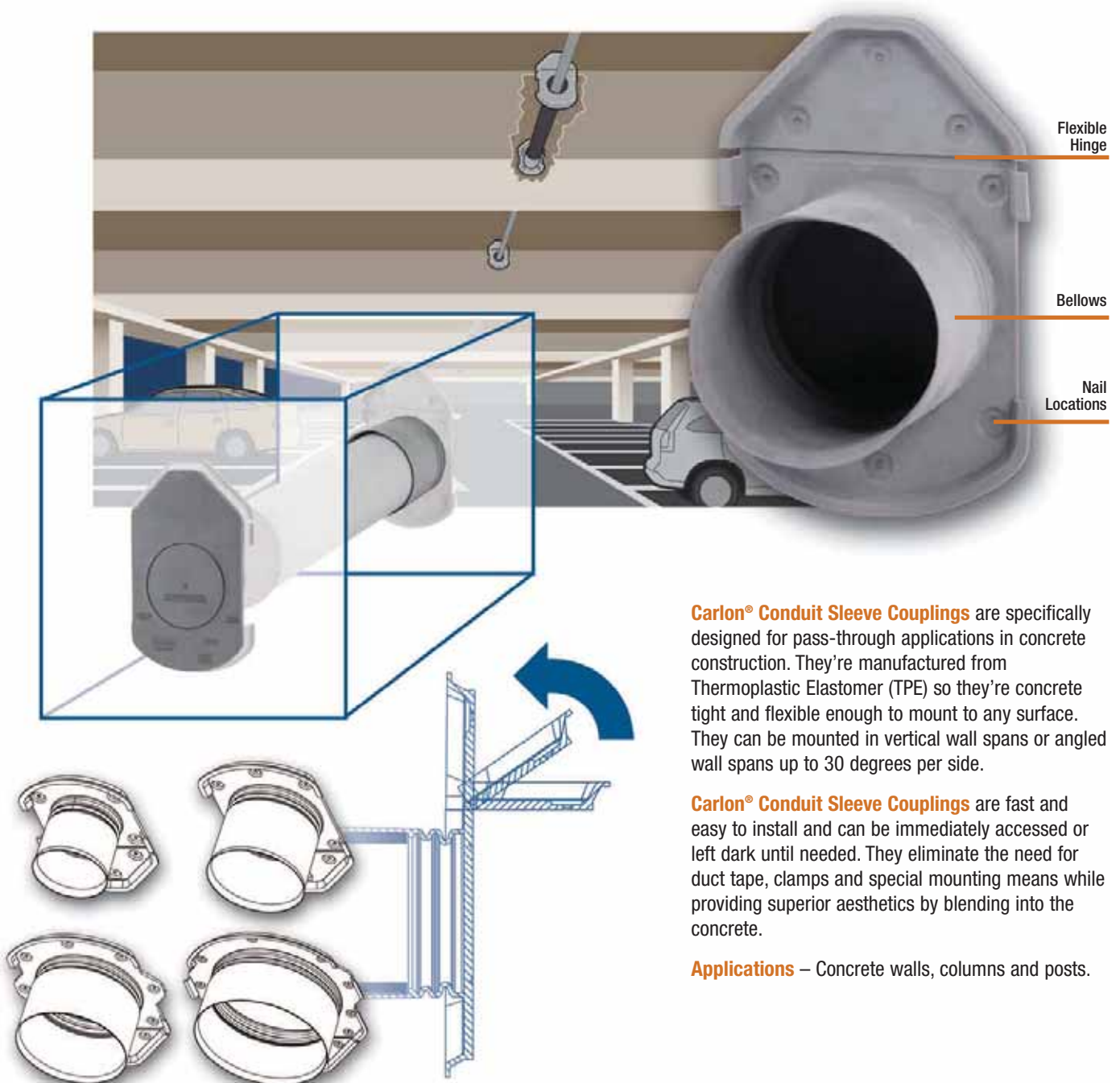
These rugged enclosures offer all the corrosion resistance and physical properties you need for direct burial applications. These enclosures are Nema 4-4x-6P Rated (see page 157 for definitions).



Specifications

Cat. No.	Size in Inches H x W x D	Std Ctn Qty	Minimum				Typical		Material		Std Ctn Wt. (lb)
			A'	A ^ø	B	C	T ^ø	T ^c	PVC	Thermoplastic	
E989NNJ	4 x 4 x 2	10	3-11/16	3-5/8	—	2	0.160	0.155	X		3
E989NNJ-CAR	4 x 4 x 2	8	3-11/16	3-5/8	—	2	0.160	0.155	X		3
E987N-CAR	4 x 4 x 4	10	3-11/16	3-1/2	—	4	0.160	0.155		X	4
E989PPJ	5 x 5 x 2	10	4-11/16	4-1/2	—	2	0.110	0.150		X	3
E987R	6 x 6 x 4	10	6	5-5/8	—	4	0.190	0.190		X	3
E989RRR-UPC	6 x 6 x 6	8	5-5/8	5-3/8	—	6	0.160	0.150		X	14
E989N-CAR	8 x 8 x 4	1	8	8	—	4	0.185	0.190		X	2
E989SSX-UPC	8 x 8 x 7	2	7-21/32	7-5/16	—	7	0.160	0.150		X	6
E989UUN	12 x 12 x 4	3	11-5/8	11-1/2	11-1/8	4	0.160	0.150		X	12
E989R-UPC	12 x 12 x 6	2	11-15/16	11-7/8	11-7/16	6	0.265	0.185		X	10

Pass-through for concrete walls, columns and posts



Carlton® Conduit Sleeve Couplings are specifically designed for pass-through applications in concrete construction. They're manufactured from Thermoplastic Elastomer (TPE) so they're concrete tight and flexible enough to mount to any surface. They can be mounted in vertical wall spans or angled wall spans up to 30 degrees per side.

Carlton® Conduit Sleeve Couplings are fast and easy to install and can be immediately accessed or left dark until needed. They eliminate the need for duct tape, clamps and special mounting means while providing superior aesthetics by blending into the concrete.

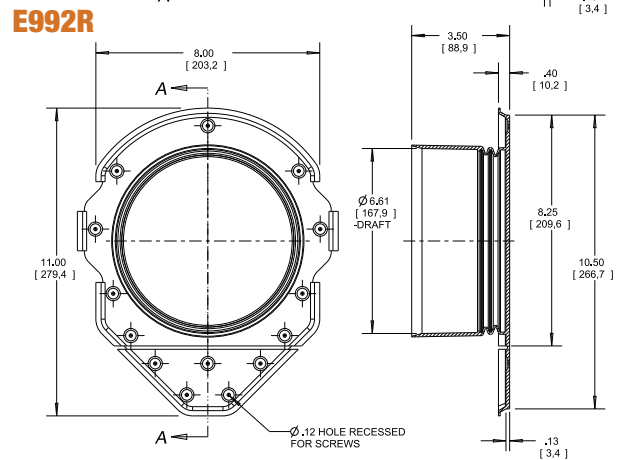
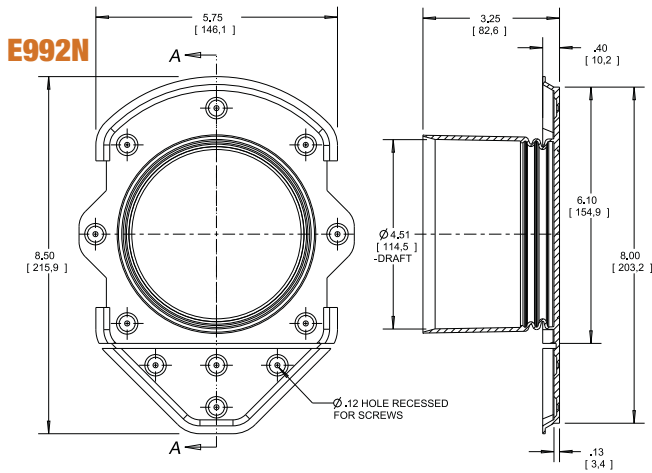
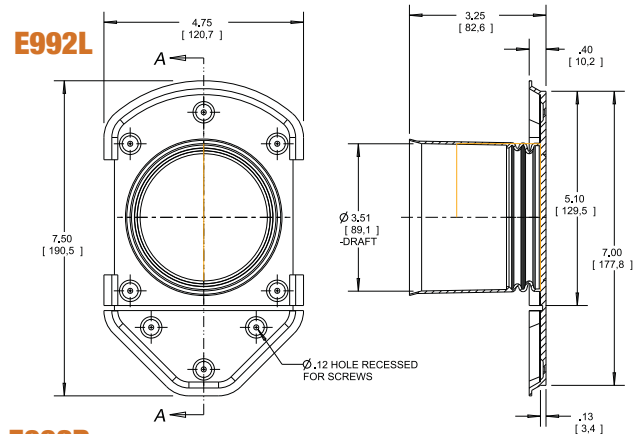
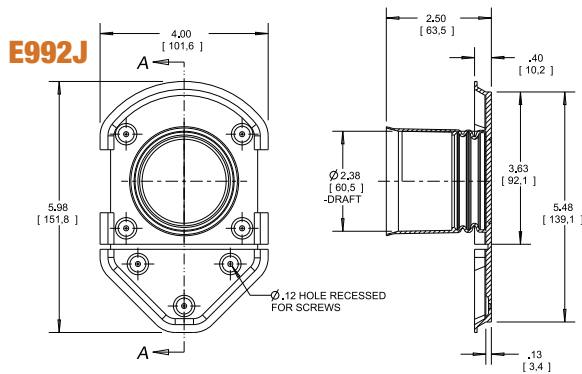
Applications – Concrete walls, columns and posts.

Conduit Sleeve Couplings

Carlton®

Features

- EXCLUSIVE
- Manufactured from TPE, concrete tight
- Flexible hinge provides alignment of pass-through with ceiling
- Bellows – mounts to vertical walls and angled walls up to 30°
- Quick and easy installation
- Eliminates the use of duct tape and clamps
- Manufactured to IPS dimensions for use with most conduit types
- Superior aesthetics (blends in to the concrete)
- Trade sizes: 2", 3", 4" and 6"
- Future-proofs the structure. Pass-through remains dark and protected until needed
- Note: Firestop (where needed) and conduit NOT INCLUDED



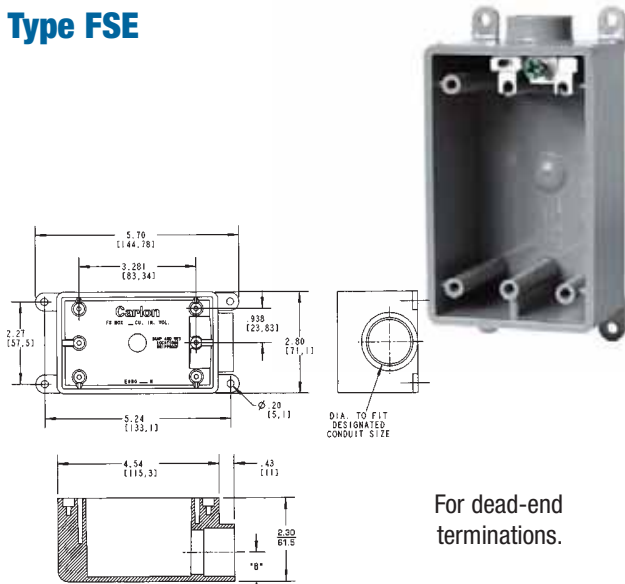
Specifications

Cat. No.	Size (in.)	Std Ctn Qty	Std Ctn Wt. (lb)
E992J	2	84	13.0
E992L	3	30	8.3
E992N	4	22	8.6
E992R	6	18	13.0

Single Gang FS Boxes

All sizes take standard covers and accessories or devices. Integral mounting feet provide easy mounting. Grounding lugs included.

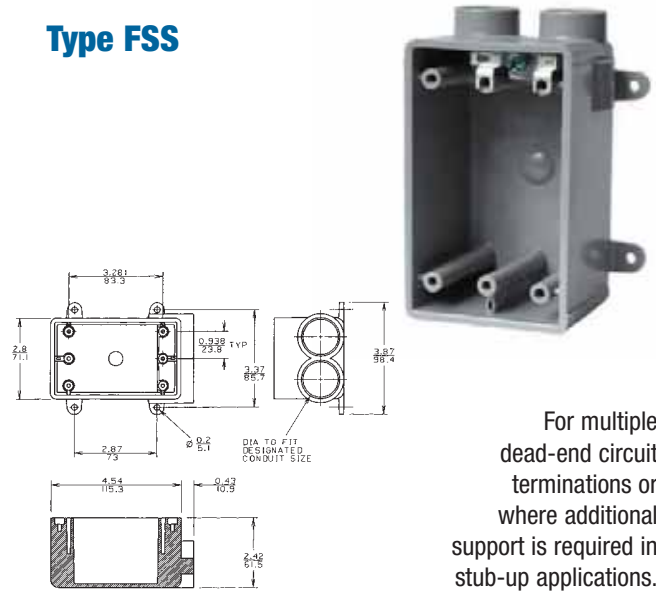
Type FSE



For dead-end terminations.

Cat. No.	Size (in.)	Volume Cu. In.	Std Ctn Qty
C980DFN-CTN	1/2	18	12
C980EFN-CTN	3/4	18	12
C980FFN-CTN	1	18	8

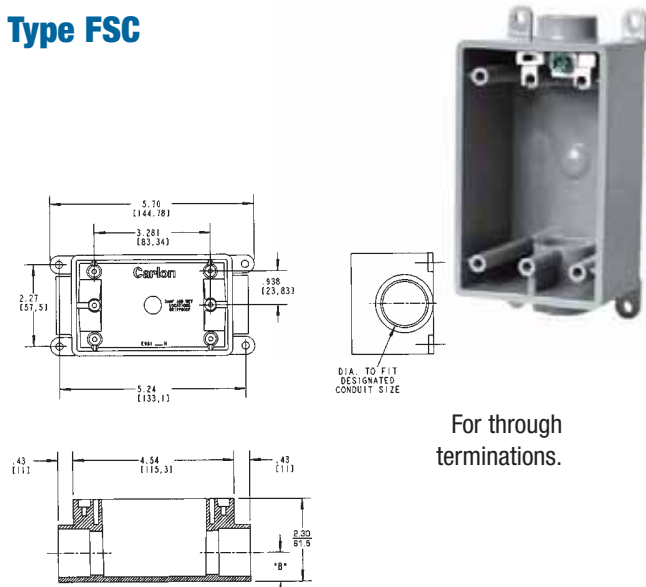
Type FSS



For multiple dead-end circuit terminations or where additional support is required in stub-up applications.

Cat. No.	Size (in.)	Volume Cu. In.	Std Ctn Qty
C982DFN-CTN	1/2	18	12
C982EFN-CTN	3/4	18	12
C982FFN-CTN	1	18	8

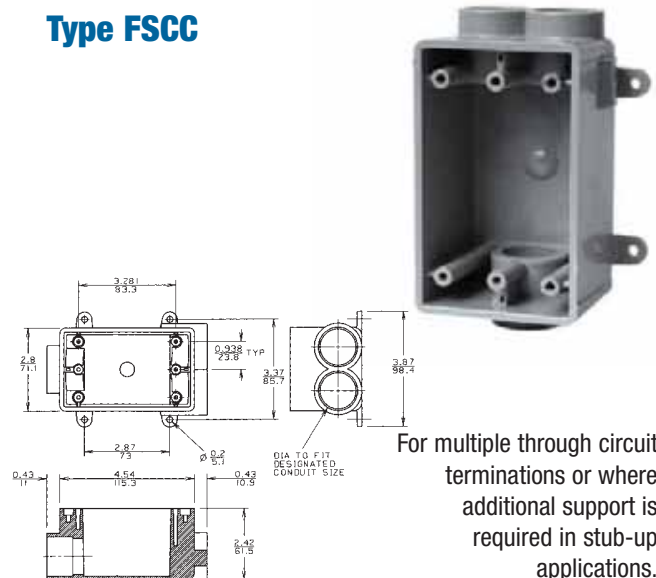
Type FSC



For through terminations.

Cat. No.	Size (in.)	Volume Cu. In.	Std Ctn Qty
C981DFN-CTN	1/2	18	12
C981EFN-CTN	3/4	18	12
C981FFN-CTN	1	18	8

Type FSCC



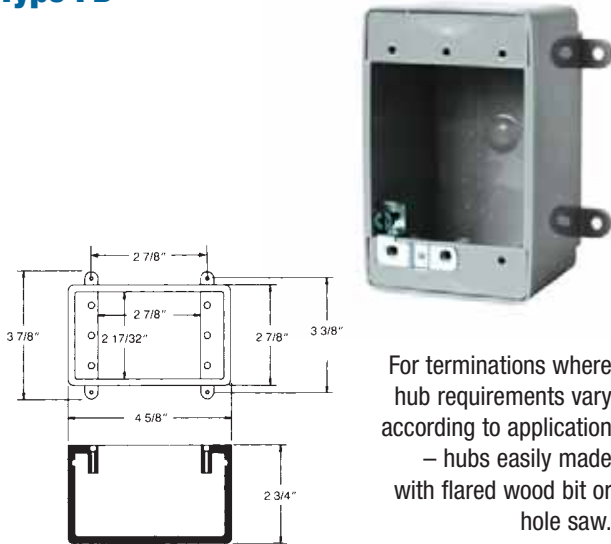
For multiple through circuit terminations or where additional support is required in stub-up applications.

Cat. No.	Size (in.)	Volume Cu. In.	Std Ctn Qty
C979DFN	1/2	18	15
C979EFN	3/4	18	15
C979FFN	1	18	15

Single Gang FD Deep Device Boxes

All sizes take standard covers and accessories or devices. Integral mounting feet provide easy mounting. Grounding lugs included.

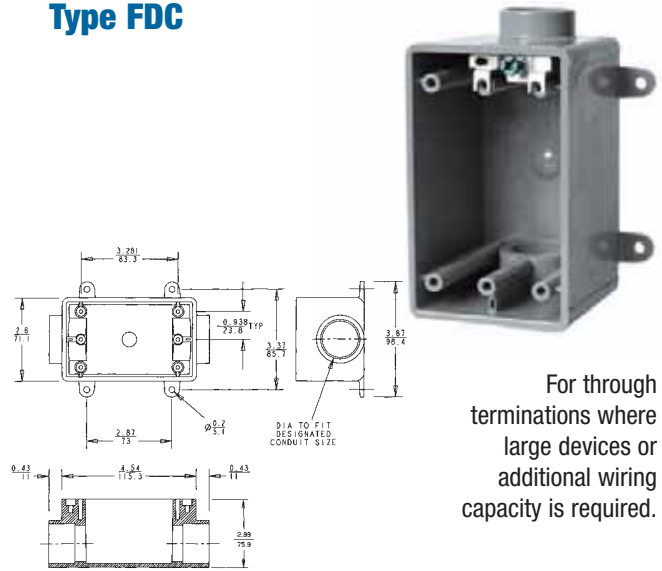
Type FD



For terminations where hub requirements vary according to application – hubs easily made with flared wood bit or hole saw.

Cat. No.	Volume Cu. In.	Std Ctn Qty
CE9801-UPC	25	10

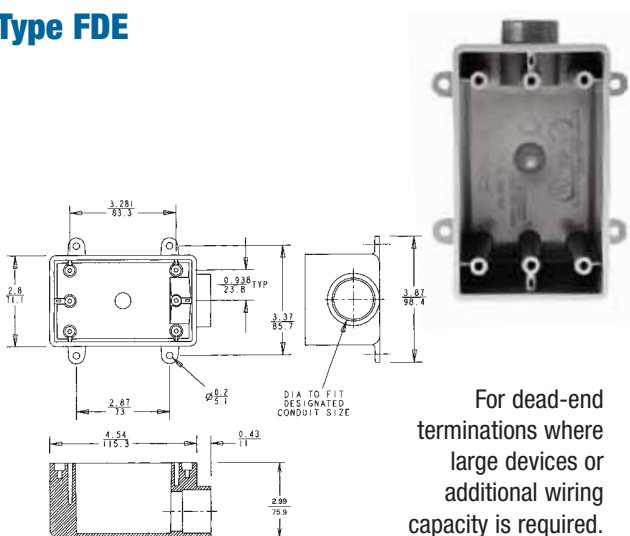
Type FDC



For through terminations where large devices or additional wiring capacity is required.

Cat. No.	Size (in.)	Volume Cu. In.	Std Ctn Qty
C9811EN	3/4	25	10
C9811FN	1	25	10

Type FDE



For dead-end terminations where large devices or additional wiring capacity is required.

Cat. No.	Size (in.)	Volume Cu. In.	Std Ctn Qty
C9801DN	1/2	25	10
C9801EN	3/4	25	10
C9801FN	1	25	10

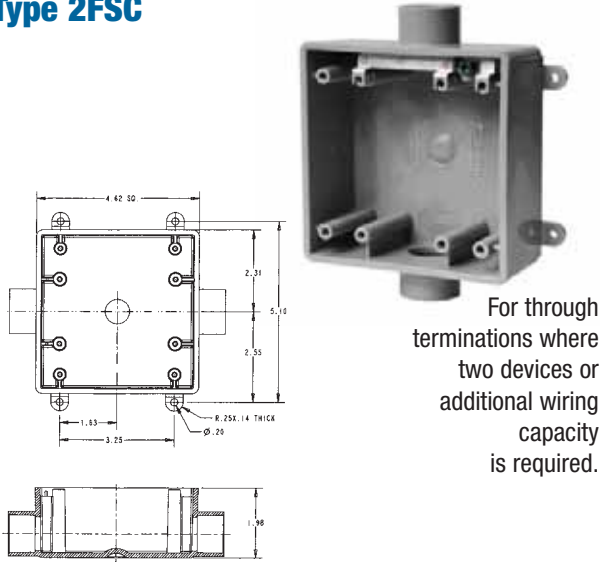


LR31146

Two Gang FS Boxes

All sizes take standard covers and accessories or devices. Integral mounting feet provide easy mounting. Grounding screws are included.

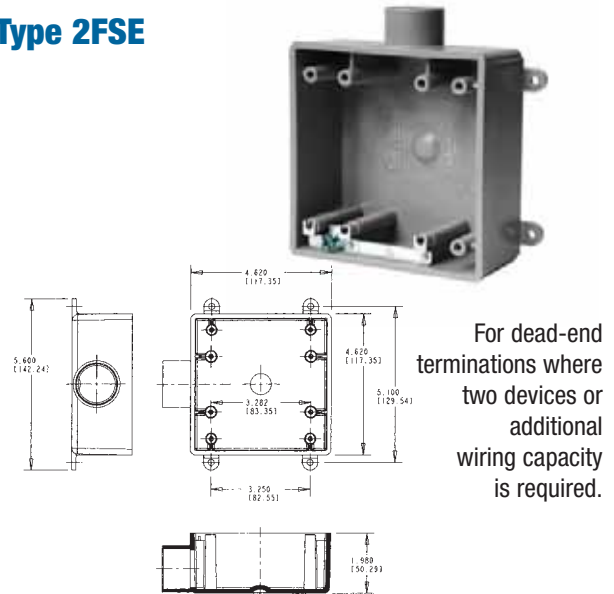
Type 2FSC



For through terminations where two devices or additional wiring capacity is required.

Cat. No.	Size (in.)	Volume Cu. In.	Std Ctn Qty
CE9812DR	1/2	32	4
CE9812E-CTN	3/4	32	10
CE9812FR	1	32	10

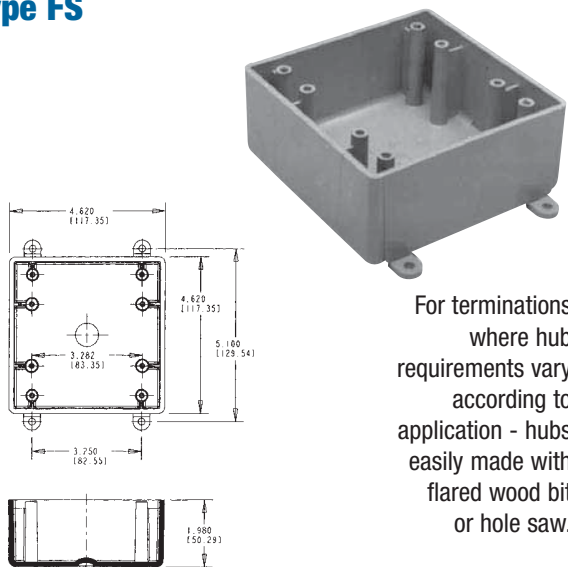
Type 2FSE



For dead-end terminations where two devices or additional wiring capacity is required.

Cat. No.	Size (in.)	Volume Cu. In.	Std Ctn Qty
CE9802D-CTN	1/2	32	10
CE9802E-CTN	3/4	32	10
CE9802FR	1	32	1

Type FS



For terminations where hub requirements vary according to application - hubs easily made with flared wood bit or hole saw.

Cat. No.	Size (in.)	Volume Cu. In.	Std Ctn Qty
CE9802	N/A	32	10

Single Gang

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



Cat. No.	Color	Std Ctn Qty	Std Ctn Wt. (lb)
E980CN-CAR	Grey	12	1.60
E980CM-CAR	White	12	1.60

Two Gang

Fits two gang FS boxes, other non-metallic and metallic FS boxes. Supplied with stainless steel mounting screws and gasket.



Cat. No.	Color	Std Ctn Qty	Std Ctn Wt. (lb)
E9802CN-CAR	Grey	10	2.17
E9802CM-CAR	White	10	2.17

Single Duplex Receptacle and Single Switch PVC FS Cover



For indoor use only.
Gasket not included

Cat. No.	Color	Std / Inner Qty	Std Ctn Wt. (lb)
E98DGDR	Grey	150 / 5	0.75
E98SGDR	Grey	200 / 5	0.45

Double Switch PVC FS Cover



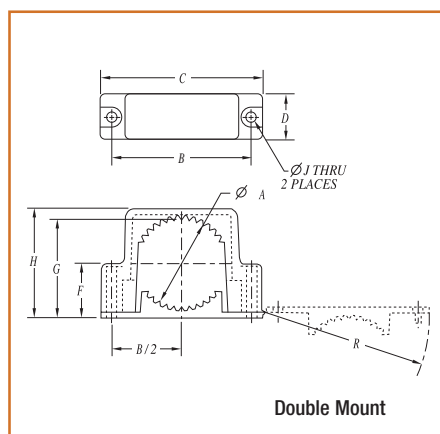
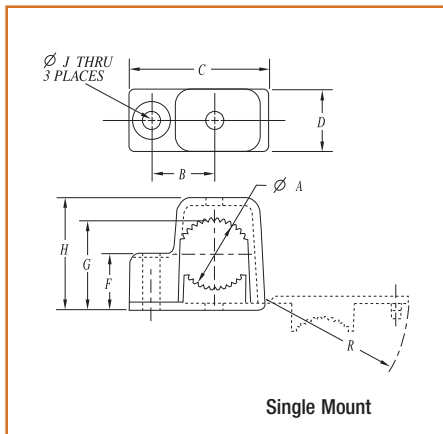
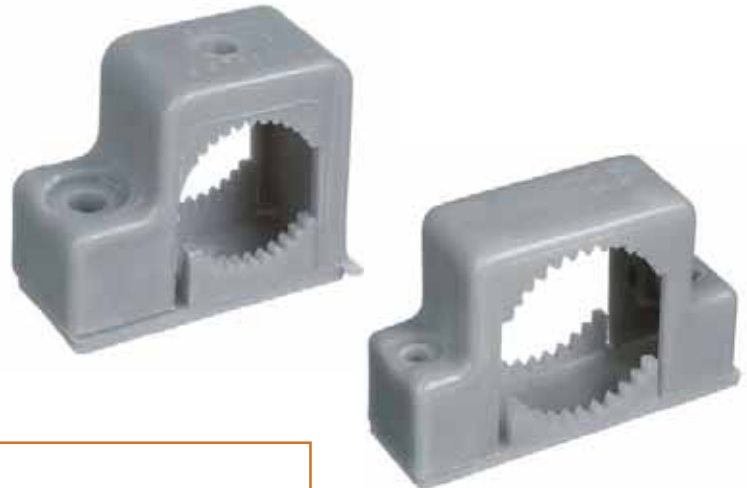
For indoor use only.
Gasket not included

Cat. No.	Color	Std / Inner Qty	Std Ctn Wt. (lb)
E98DTSCR	Grey	150 / 5	0.90
E98STSCR	Grey	200 / 5	0.55

Snap Strap® Conduit – Support Straps

Carlton's Snap Strap® offers a unique support strap designed especially for the installation of PVC conduit. Also suitable for installations of rigid steel. This high strength, non-metallic 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 Section 12-1114 of the CEC. This part is not supplied with screws.

- UV inhibited for use in direct sunlight



Single Mount

Cat. No.	Size in. (mm)	Std Ctn Qty	Std Ctn Wt. (lb)	Dimensions in. (mm)								
				A	B	C	D	F	G	H	J	R
E978DC-CAR	1/2 (16)	40	1	0.80 (20.3)	0.75 (1.90)	1.63 (41.4)	0.75 (19.1)	0.59 (14.9)	0.99 (25.1)	1.36 (34.5)	0.21 (5.33)	1.67 (42.4)
E978EC-CAR	3/4 (21)	40	3	1.00 (25.4)	0.88 (22.4)	1.92 (48.7)	0.75 (19.1)	0.70 (17.8)	1.20 (30.4)	1.57 (39.9)	0.21 (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)	0.83 (21.1)	1.43 (36.3)	1.84 (46.7)	0.21 (5.33)	2.22 (56.3)

Double Mount

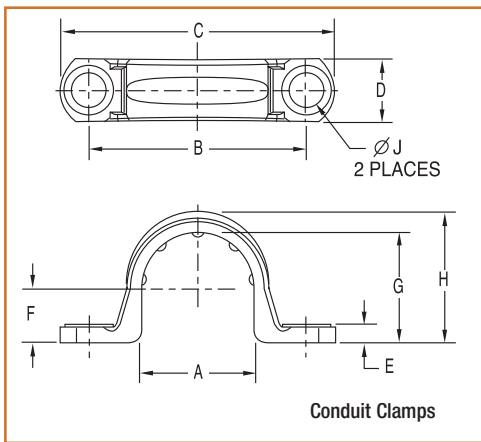
Cat. No.	Size in. (mm)	Std Ctn Qty	Std Ctn Wt. (lb)	Dimensions in. (mm)								
				A	B	C	D	F	G	H	J	R
E978GC-CAR	1-1/4 (35)	15	4	1.66 (42.16)	2.75 (69.9)	3.23 (82.0)	1.00 (25.4)	0.95 (24.1)	1.78 (45.2)	2.15 (54.61)	0.218 (5.54)	3.28 (83.3)
E978HC-CAR	1-1/2 (41)	15	5	1.92 (48.77)	3.05 (77.5)	3.53 (89.7)	1.00 (25.4)	1.08 (27.4)	2.04 (51.8)	2.40 (60.96)	0.218 (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)	0.218 (5.54)	4.06 (103.1)

2 Hole Non-Metallic Conduit Clamps

Non-metallic clamps offer the same chemical resistance as Carlton non-metallic conduits for a complete, corrosion resistant system.

To be used in accordance with conduit spacing requirements per Section 12-1114 of the CEC.

- UV inhibited for use in direct sunlight



Nylon Masonry Clamp



Conduit Clamps

Cat. No.	Size in. (mm)	Std Ctn Qty	Std Ctn Wt. (lb)	Dimensions in. (mm)								
				A	B	C	D	E	F	G	H	J
E977DC	1/2 (16)	100	1.2	0.892 (22.6)	1.71 (43.4)	2.16 (54.8)	0.50 (12.7)	0.14 (3.5)	0.42 (10.6)	0.866 (21.9)	1.04 (26.4)	0.260 (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)	0.14 (3.5)	0.525 (13.3)	1.076 (27.3)	1.255 (31.8)	0.260 (6.6)
E977FC	1 (27)	100	2	1.39 (35.3)	2.25 (57.1)	2.81 (71.3)	0.594 (15.0)	0.14 (3.5)	0.658 (16.7)	1.342 (34.0)	1.574 (39.9)	0.260 (6.6)
E977GC	1-1/4 (35)	50	5	1.714 (43.5)	2.68 (68.0)	3.28 (83.3)	0.64 (16.2)	0.15 (3.8)	0.83 (21.0)	1.687 (42.8)	1.89 (48.0)	0.320 (8.1)
E977HC	1-1/2 (41)	50	6	1.92 (48.7)	2.82 (71.6)	3.44 (87.3)	0.70 (17.7)	0.15 (3.8)	0.97 (24.6)	1.93 (49.0)	2.12 (53.8)	0.312 (7.9)
E977JC	2 (53)	25	4.5	2.54 (64.5)	3.54 (89.9)	4.18 (106.1)	0.76 (19.3)	0.16 (4.0)	1.05 (26.6)	2.29 (58.1)	2.49 (63.2)	0.315 (8.0)
E977K*	2-1/2 (63)	50	10	2.88 (73.0)	4.88 (123.8)	5.81 (147.7)	1.00 (25.4)	0.05 (1.3)	1.44 (36.5)	2.88 (73.0)	3.00 (76.1)	0.38 (9.5)
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)	0.20 (5.08)	1.43 (36.3)	2.86 (72.6)	3.12 (79.2)	0.36 (9.14)
E977L*	3 (78)	25	5.0	3.38 (85.7)	5.72 (145.3)	6.88 (174.6)	1.00 (25.4)	0.05 (1.3)	1.66 (41.7)	3.34 (84.9)	3.47 (88.0)	0.38 (9.5)
E977LC-CAR	3 (78)	20	1.4	3.47 (88.2)	5.00 (127.0)	6.00 (152.4)	1.00 (25.4)	0.20 (5.08)	1.74 (44.3)	3.48 (88.4)	3.70 (94.0)	0.36 (9.14)
E977N*	4 (103)	15	3.0	4.75 (120.7)	7.52 (190.9)	8.77 (222.7)	1.25 (31.7)	0.12 (3.1)	1.94 (49.2)	4.38 (111.1)	4.50 (114.2)	0.50 (12.7)
E977NC-CAR	4 (103)	15	12.2	4.366 (110.9)	6.15 (156.2)	7.20 (182.9)	1.00 (25.4)	0.20 (5.08)	2.32 (58.8)	4.50 (114.3)	4.70 (119.4)	0.36 (9.14)
E977NDC-CTN**	1/2 (16)	12	1.2	-	-	-	-	-	-	-	-	-
E977NEC-CTN**	3/4 (21)	12	1.3	-	-	-	-	-	-	-	-	-

* PVC coated steel straps
** Nylon masonry clamp

Typical Properties of Conduit Raw Material Compound

Thermal	ASTM Test	Typical Values
Coefficient of Thermal Expansion-inch/inch/°C (properties at 23°C)	D696	3.38 x 10 ⁻⁵
Heat Distortion °C at 264 psi	D648	71°C
Thermal Conductivity BTU (hr.) (ft) (°C/in.)	N/A	1.3

Mechanical	ASTM Test	Typical Values
Specific Gravity	D792	1.43 – 1.6
Tensile Strength (psi) @ 23°C	D638	5,000 – 6,500
Izod Impact ft lb./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

Electrical	ASTM Test	Typical Values
Dielectrical Strength volts/mil	D149	1100
Dielectric Constant 60 Hz @ 30°C	D150	4.00
Power Factor 60 Hz @ 30°C	D150	1.93

Impedance (Volts lost per ampere per 100 feet)	Ø₃ 90% P.F.	80% P.F.	Ø₁ 90% P.F.	80% P.F.
Steel Conduit	0.0118	0.0123	0.0136	0.0142
Schedule 40®	0.0105	0.0106	0.0121	0.0122

Using 250 kcmil copper conductor comparable values for other conductor sizes.

Wire Fill

Maximum number of conductors in Schedule 40 PVC conduit
(Based on Table 1, Chapter 9 of the NEC)

Type Letters	Conductor Size AWG, kcmil	Conduit Trade Size															
		1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	3-1/2	4	4-1/4	5	6	8		
THWN	14	13	24	39	69	94	154										
	12	10	18	29	51	79	114	164									
THHN	10	6	11	18	32	44	73	194	160								
	8	3	5	9	19	22	36	51	71	106	136						
FEP (14 thru 2)	6	1	4	6	11	15	26	37	57	76	98	125	154				
	4	1	2	4	7	9	16	22	35	47	60	75	94	137	236		
FEPB (14 thru 4/0)	3	1	1	3	6	8	13	19	29	39	51	64	90	116	201		
	2	1	1	3	5	7	11	16	25	33	43	54	67	97	169		
PFA (14 thru 8)	1	1	1	3	5	9	12	18	25	32	49	59	72	125			
	1/0	1	1	3	4	7	10	15	21	27	33	42	61	105			
PFAH (14 thru 4/0)	2/0	1	1	2	3	6	8	13	17	22	29	35	51	88			
	3/0	1	1	1	3	5	7	11	14	18	23	29	42	73			
Z (14 thru 4/0)	4/050	1	1	1	2	4	6	9	12	15	19	24	35	61			
	250			1	1	1	3	4	7	10	12	16	20	28	49		
XHHW (4 thru 500)	300			1	1	1	3	4	6	8	11	13	17	24	42		
	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			
	500				1	1	1	2	4	5	7	9	11	16	27		
XHHW	600				1	1	1	3	4	5	7	9	13	22			
	700				1	1	1	3	4	5	6	8	11	19			
XHHW	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		
XHHW	600				1	1	1	3	4	5	7	9	13	22			
	700				1	1	1	3	4	5	6	7	11	19			
XHHW	750				1	1	1	2	3	4	6	7	10	18			

Weight Comparison

Carlton Schedule 40 rigid non-metallic conduit compared to other rigid conduit in pounds per 100 feet (approx.)

Nom. Size	Carlton Schedule 40® Rigid Non-metallic Conduit	Carlton Schedule 80® Rigid Non-metallic Conduit	Aluminum	Electrical Metallic Tubing (EMT)	Intermediate 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	43	66	112	153
1-1/4	48	60	70	96	114	201
1-1/2	57	72	86	112	176	246
2	76	100	116	142	230	334
2-1/2	125	153	183	230	393	527
3	164	212	239	270	483	690
3-1/2	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

Expansion and Contraction

Temperature Considerations for Rigid Non-Metallic 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./°C as compared to 1.2×10^{-5} for aluminum and 0.6×10^{-5} for steel. An expansion fitting is needed whenever the change in length due to temperature variation will be 1/4 in. or greater.

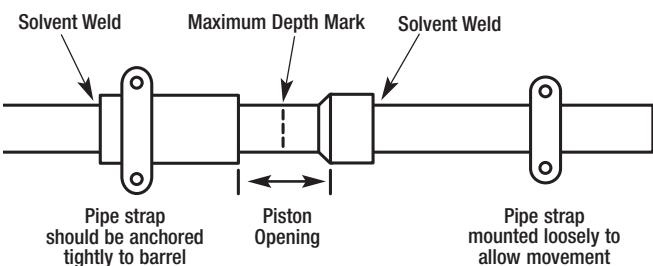
Add 1°C to the estimated temperature range when conduit is installed in direct sunlight to allow for radiant heating.

An expansion fitting consists of two sections, one telescoping inside another. When installing expansion fittings, alignment of piston and barrel is important. Be sure to mount expansion fitting level for best performance.

For a vertical run, the expansion fitting 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 Non-Metallic Conduit
Coefficient of Thermal Expansion = 3.38×10^{-5} in./in./°C

Temp. Change in Degrees F	Length Change in inches per 100 ft of PVC Conduit	Temp. Change in Degrees C	Length Change in inches per 100 ft of PVC Conduit	Temp. Change in Degrees C	Length Change in inches per 100 ft of PVC Conduit	Temp. Change in Degrees C	Length Change in inches per 100 ft of PVC Conduit
5	0.2	12.8	2.2	40.5	4.2	68.3	6.3
10	0.4	15.6	2.4	43.3	4.5	71.1	6.5
15	0.6	18.3	2.6	46.0	4.7	73.9	6.7
20	0.8	21.1	2.8	48.9	4.9	76.7	6.9
25	1.0	23.9	3.0	51.6	5.1	79.4	7.1
30	1.2	26.7	3.2	54.4	5.3	82.2	7.3
35	1.4	29.4	3.4	57.2	5.5	85.0	7.5
40	1.6	32.2	3.6	60.0	5.7	87.8	7.7
45	1.8	35.0	3.8	62.7	5.9	90.6	7.9
50	2.0	37.8	4.1	65.5	6.1	93.3	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:

$$O = \left[\frac{T_{\max} - T_{\text{installed}}}{\Delta T} \right] E$$

Where:

- O = Piston opening (in.)
- T max = Maximum anticipated temperature of conduit (°C)
- T inst. = Temperature of conduit at time of installation (°C)
- Δ T = Total change in temperature of conduit (°C)
- E = Expansion allowance built into each expansion fitting (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 -17°C in the winter to 60°C in the summer (this includes the -1°C for radiant heating from the sun). The installation is to be made at a conduit temperature of 32°C. From the table, a 60°C temperature change will cause a 5.7 in. length change in 100 ft of conduit. The total change for this example is $5.7 \times 3.8 = 21.67$ " which should be rounded to 22". The number of expansion fittings will be $22 \times$ fitting range (4" for Carlton trade sizes 1/2" through 1-1/2" and 8" for sizes 2" through 6"). If the E945D fitting is used, the number will be $22 \times 4 = 5.50$ which should be rounded to 6. The fitting should be placed at 62 ft intervals (380 x 6). The proper piston setting at the time of installation is calculated as explained above.

$$O = \left[\frac{60^\circ\text{C} - 32^\circ\text{C}}{60^\circ\text{C}} \right] 4.0 = 1.4 \text{ in.}$$

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 fitting when length change due to temperature variation will be 1/4" or greater.
3. PVC conduit expands 4.1" for each 100 feet of run and a 37.8°C temperature change.
4. Align expansion fitting 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 fitting 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 Carlton Schedule 40 PVC Conduit and Fittings

Carlton Schedule 40 is 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 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 0-20%	Butyl Phenol	Fluoroboric Acid	Methyl Sulfate	Sodium Bicarbonate
Acetic Acid 20-30%	Butylene	Fluorosilicic Acid	Methylene Chloride	Sodium Bisulfate
Acetic Acid 30-60%	Butyric Acid	Formaldehyde	Mineral Oils	Sodium Bisulfite
Acetic Acid 80%	Calcium Bisulfite	Formic Acid	Naphthalene	Sodium Bromide
Acetic Acid – Glacial	Calcium Carbonate	Fructose	Nickel Chloride	Sodium Chlorate
Acetic Acid Vapors	Calcium Chlorate	Gallic Acid	Nickel Nitrate	Sodium Chloride
Acetylene	Calcium Chloride	Gas – Coke Oven	Nitric Acid, Anydrous	Sodium Cyanide
Adipic Acid	Calcium Hydroxide	Gas – Natural (Dry)	Nitric Acid 20%	Sodium Dichromate
Alum	Calcium Hypochlorite	Gas – Natural (Wet)	Nitric Acid 40%	Sodium Ferricyanide
Aluminum Chloride	Calcium Nitrate	Gasoline – Sour	Nitric Acid 60%	Sodium Ferrocyanide
Aluminum Fluoride	Calcium Sulfate	Gasoline – Refined	Nitrobenzene	Sodium Fluoride
Aluminum Hydroxide	Carbonic Acid	Glucose	Nitrous Oxide	Sodium Hydroxide
Aluminum Oxychloride	Carbon Dioxide Gas – Wet	Glycerine (Glycerol)	Oils and Fats	Sodium Hypochlorite
Aluminum Nitrate	Carbon Dioxide – Aqueous Solution	Glycol	Oils – Petroleum – (See Type)	Sodium Nitrate
Aluminum Sulfate	Carbon Monoxide	Glycolic Acid	Oleic Acid	Sodium Nitrite
Ammonia-Dry Gas	Caustic Potash	Green Liquor (Paper Industry)	Oxalic Acid	Sodium Sulfate
Ammonium Bifluoride	Caustic Soda	Heptane	Palmitic Acid 10%	Sodium Sulfide
Ammonium Carbonate	Chloroacetic Acid	Hexanol, Tertiary	Perchloric Acid 10%	Sodium Sulfite
Ammonium Chloride	Chloral Hydrate	Hydrobromic Acid 20%	Phenylhydrazine Hydrochloride	Sodium Thiosulfate (Hypo)
Ammonium Hydroxide 28%	Chlorine Gas (Dry)	Hydrochloric Acid 0% - 25%	Phosgene, Gas	Stannic Chloride
Ammonium Metaphosphate	Chlorine Gas (Moist)	Hydrochloric Acid 25% - 40%	Phosphoric Acid – 0-25%	Stannous Chloride
Ammonium Nitrate	Chlorine Water	Hydrocyanic Acid or	Phosphoric Acid – 25-50%	Stearic Acid
Ammonium Persulfate	Chlorosulfonic Acid	Hydrogen Cyanide	Phosphoric Acid – 50-85%	Sulfur
Ammonium Phosphate – Neutral	Chrome Alum	Hydrofluoric Acid 10%	Photographic Chemicals	Sulfur Dioxide – Gas Dry
Ammonium Sulfate	Chromic Acid 10%	Hydrofluorosilicic Acid	Plating Solutions	Sulfur Trioxide
Ammonium Sulfide	Chromic Acid 30%	Hydrogen Phosphide	Potassium Bicarbonate	Sulfuric Acid – 0-10%
Ammonium Thiocyanate	Chromic Acid 40%	Hydrogen Sulfide – Dry	Potassium Bichromate	Sulfuric Acid – 10-75%
Amyl Alcohol	Chromic Acid 50%	Hydrogen Sulfide –	Potassium Borate	Sulfuric Acid – 75-90%
Anthraquinone	Citric Acid	Aqueous Solution	Potassium Bromide	Sulfurous Acid
Anthraquinonesulfonic Acid	Copper Chloride	Hydroquinone	Potassium Carbonate	Tannic Acid
Antimony Trichloride	Copper Cyanide	Hydroxylamine Sulfate	Potassium Chloride	Tanning Liquors
Aqua Regia	Copper Fluoride	Iodine	Potassium Chromate	Tartaric Acid
Arsenic Acid 80%	Copper Nitrate	Kerosene	Potassium Cyanide	Titanium Tetrachloride
Arylsulfonic Acid	Copper Sulfate	Lactic Acid 28%	Potassium Dichromate	Triethanolamine
Barium Carbonate	Cottonseed Oil	Lauric Acid	Potassium Ferricyanide	Trimethyl Propane
Barium Chloride	Cresylic Acid 50%	Lauryl Chloride	Potassium Ferrocyanide	Trisodium Phosphate
Barium Hydroxide	Crude Oil – Sour	Lauryl Sulfate	Potassium Fluoride	Turpentine
Barium Sulfate	Crude Oil – Sweet	Lead Acetate	Potassium Hydroxide	Urea
Barium Sulfide	Deminerlized Water	Lime Sulfur	Potassium Nitrate	Vinegar
Beet – Sugar Liquor	Dextrin	Linoleic Acid	Potassium Perborate	Whiskey
Benzine Sulfonic Acid 10%	Dextrose	Linseed Oil	Potassium Perchlorite	White Liquor (Paper Industry)
Benzoic Acid	Diglycolic Acid	Lubricating Oils	Potassium Permanganate 10%	Wines
Bismuth Carbonate	Disodium Phosphate	Magnesium Carbonate	Potassium Persulfate	Zinc Chloride
Black Liquor (Paper Industry)	Ethyl Alcohol	Magnesium Chloride	Potassium Sulfate	Zinc Chromate
Bleach – 12.5% Active Cl ₂	Ethylene Glycol	Magnesium Hydroxide	Propane	Zinc Cyanide
Borax	Fatty Acids	Magnesium Nitrate	Propyl Alcohol	Zinc Nitrate
Boric Acid	Ferric Chloride	Magnesium Sulfate	Silicic Acid	Zinc Sulfate
Brine	Ferric Nitrate	Maleic Acid	Silver Acid	
Bromic Acid	Ferric Sulfate	Malic Acid	Silver Nitrate	
Bromine – Water	Ferrous Chloride	Mercuric Chloride	Silver Plating Solutions	
Butadiene	Ferrous Sulfate	Mercuric Cyanide	Sodium Acetate	
Butane	Fluorine Gas – Wet	Mercurous Nitrate	Sodium Arsenite	
Butyl Alcohol	Fluorine Gas – Dry	Mercury	Sodium Benzoate	

Rigid Type DB/2 PVC Conduit

Carlton® Type DB/2 PVC Conduit is designed for use in concrete encased or masonry and direct burial applications. Type DB/2 PVC is CSA Certified, tested to CSA Standard C22.2 No. 211.1

Physical Properties by ASTM Test Methods

	ASTM No.	Typical Values Type DB/2 Conduit
Tensile Strength, psi	D638	4,800
Modulus of Elasticity in tension, psi	D638	500,000
Flexural Strength, psi	D790	11,000
Deflection Temp under load at 265 psi deg. C	D648	72°C
Coefficient of Thermal Expansion in./in./°C	D696	3.30 X 10 ⁻⁵
Maximum Coefficient of Static Friction		0.20

Performance Properties of Type DB/2 Conduit

as Indicated Under CSA Standard C22.2 No. 211.1

Pipe Stiffness kPA	
Conduit Series	Minimum Pipe Stiffness (F Δy), all sizes
DB/2	200

Minimum Impact Resistance (J)		
Conduit Series	-18°C	23°C
DB/2	34	61



LR244897

Cat. No. 10'	Cat. No. 20'	Nom. Size	Std Crate Only		Approx. Wt. per 100 ft		Average Outside Diameter		Average Wall Thickness	
			10'	20'	(lb)	(kg)	(in.)	(mm)	(in.)	(mm)
48811CPD-010	48811CPD-020	2	2460	4920	35	15.9	2.25	57.15	0.070	1.78
48813CPD-010	48813CPD-020	3	1120	2240	58	26.3	3.25	82.55	0.080	2.03
48815CPD-010	48815CPD-020	4	630	1260	100	45.4	4.22	107.08	0.106	2.69
48816CPD-010	48816CPD-020	5	430	860	180	81.6	5.30	134.60	0.150	3.81
48817CPD-010	48817CPD-020	6	280	560	220	99.8	6.27	159.38	0.155	3.94

Also available in orange, add OG after CPD to the cat. no.



PVC 5° Coupling BxB – Solvent Weld



Cat. No.	Size (in.)	Std Ctn Qty
CE245J	2	30
CE245L	3	15
CE245N	4	15
CE245P	5	20
CE245R	6	1

PE Coupling – Push Fit



Cat. No.	Size (in.)	Std Ctn Qty
CE242J	2	24
CE242L	3	100
CE242N	4	25
CE242P	5	12
CE242R	6	6

PVC 5° Coupling – Push Fit



Cat. No.	Size (in.)	Std Ctn Qty
CE2440L	3	100
CE2440N	4	100
CE2440P	5	45

PVC Coupling – Solvent Weld



Cat. No.	Size (in.)	Std Ctn Qty
CE240J	2	50
CE240L	3	20
CE240N	4	25
CE240P	5	20
CE240R	6	6

Plugs with Pull Tab



Cat. No.	Size (in.)	Std Ctn Qty
P258JT	2	60
P258LT	3	30
P258NT	4	48
P258PT	5	30
P258RT	6	30

PVC Female Adapter – I.P.S. Solvent Weld Duct



Cat. No.	Size (in.)	Std Ctn Qty
CE942DJ	2	25
CE942DL	3	30
CE942DN	4	50
CE942DP	5	15
CE942DR	6	6

End Bells

(For use with DB/2 Duct Only)



Cat. No.	Size (in.)	Std Ctn Qty
CE297J	2	40
CE297L	3	30
CE297N	4	20
CE297P	5	15
CE297R	6	1

PVC Conduit to DB/2 Duct Adapter



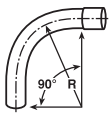
Cat. No.	Size (in.)	Std Ctn Qty
CE942RJ	2	100
CE942RL	3	30
CE942RN	4	20
CE942RP	5	20

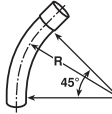
Cap – Solvent Weld

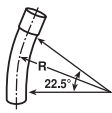


Cat. No.	Size (in.)	Std Ctn Qty
CE935J	2	25
CE935L	3	25
CE935N	4	50
CE935P	5	25
CE935R	6	25

DB/2 Sweeps

Item	Cat. No.	Size (in.)	Radius (in.)	Std Ctn Qty
 <p>90° Sweep</p>	CPF9DJ-PD	2	24	1
	CPF9DL-PD	3	24	1
	CPF9DN-PD	4	24	1
	CPF9DP-PD	5	24	1
	CPF9FJ-PD	2	36	1
	CPF9FL-PD	3	36	1
	CPF9FN-PD	4	36	1
	CPF9FP-PD	5	36	1
	CPF9FR-PD	6	36	1
	CPF9GP-PD	5	42	1
	CPF9IJ-PD	2	60	1
	CPF9IL-PD	3	60	1
	CPF9IN-PD	4	60	1
	CPF9IP-PD	5	60	1
	CPF9IR-PD	6	60	1
	CPF9BJO-PD	2	12	1
	CPF9FJO-PD	2	36	1
CPF9FLO-PD	3	36	1	
CPF9FNO-PD	4	36	1	

Item	Cat. No.	Size (in.)	Radius (in.)	Std Ctn Qty
 <p>45° Sweep</p>	CPF7DJ-PD	2	24	1
	CPF7DL-PD	3	24	1
	CPF7DN-PD	4	24	1
	CPF7FJ-PD	2	36	1
	CPF7FL-PD	3	36	1
	CPF7FN-PD	4	36	1
	CPF7FR-PD	6	36	1
	CPF7GP-PD	5	42	1
	CPF7IN-PD	4	60	1
	CPF7IP-PD	5	60	1
	CPF7IR-PD	6	60	1

Item	Cat. No.	Size (in.)	Radius (in.)	Std Ctn Qty
 <p>22-1/2° Sweep</p>	CPF5DJ-PD	2	24	1
	CPF5DL-PD	3	24	1
	CPF5DN-PD	4	24	1
	CPF5FL-PD	3	36	1
	CPF5FN-PD	4	36	1
	CPF5GP-PD	5	42	1
	CPF5IN-PD	4	60	1

Product Overview

Split Duct is the fast and easy way to repair broken ductwork without the costly cutting and resplicing of your conductors.

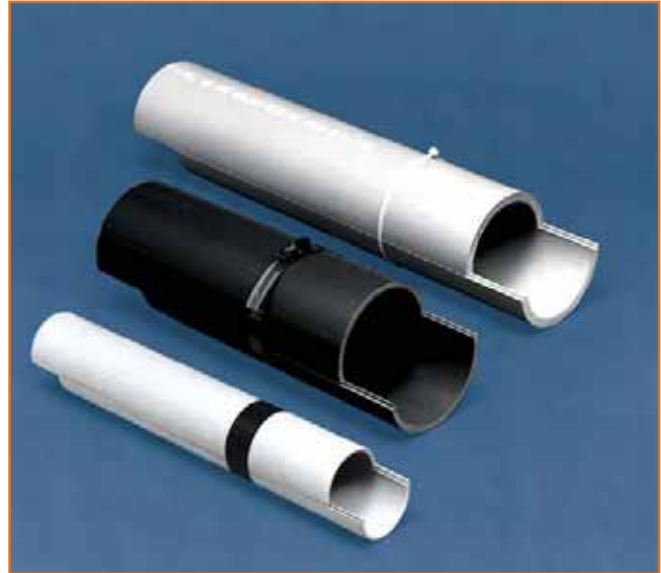
Our unique tongue-and-groove design leads the industry in providing a strong, rigid solution for duct repair situations.

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, Split Duct exhibits superior impact strength.

Available in 2" through 6" diameters, this product line also contains couplings and sweeps necessary to complete the system.

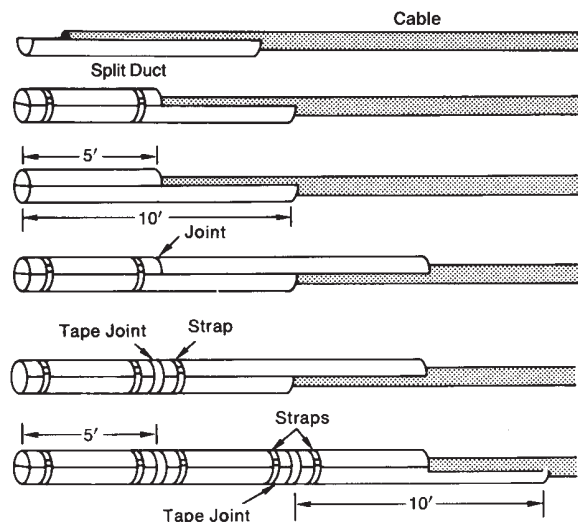
Verify with local inspection authorities before using.



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

Carlton®

Split Duct



Cat. No.	Description	Std Ctn Qty	Std Ctn Wt. (lb)	O.D.
Schedule 40				
49011SD-010	2" Schedule 40 Split Duct	700	523	2.375
49012SD-010	2-1/2" Schedule 40 Split Duct	460	562	2.875
49013SD-010	3" Schedule 40 Split Duct	500	802	3.500
49014SD-010	3-1/2" Schedule 40 Split Duct	290	560	4.000
49015SD-010	4" Schedule 40 Split Duct	290	662	4.500
49016SD-010	5" Schedule 40 Split Duct	130	718	5.563
49017SD-010	6" Schedule 40 Split Duct	130	523	6.625
Schedule 80				
49411SD-010	2" Schedule 80 Split Duct	700	702	2.375
49415SD-010	4" Schedule 80 Split Duct	290	890	4.500
C Duct				
68515SD-010	4" C Duct Split Duct	320	614	4.350

Split Sleeve Coupling



Cat. No.	Size (in.)	Description	Length (in.)	Split	Std Ctn Qty	Std Ctn Wt. (lb)
Schedule 40 and 80						
E200JS6	2	Split Coupling	6	1	25	6.1
E200KS7	2-1/2	Split Coupling	7	1	25	21
E200LS7	3	Split Coupling	7	1	25	15.5
E200LSS	3	Split Coupling	6-1/2	1	25	10
E200MS8	3-1/2	Split Coupling	8	1	25	41.2
E200NS8	4	Split Coupling	8	1	15	16
E200NSS	4	Split Coupling	6	1	25	17
E200PS8	5	Split Coupling	8	1	15	25
E200PS9	5	Split Coupling	9	1	8	16.4
E200RS1	6	Split Coupling	10	1	6	24.2
C Duct						
E900NS8 (white)	4	C Duct Split Coupling	8	1	15	19
E900NSW (white)	4	C Duct Split Coupling	6	1	25	22

Split Sleeve Sweeps



Item	Cat. No.	Nom. Size (in.)	Radius (in.)	Std Ctn Qty	Std Ctn Wt. (lb)
45° Sweep	UA7D.JSD	2	24	1	1.4
	UA7F.JSD	2	36	1	2.1
	UA7FLSD	3	36	1	4.7
	UA7H.JSD	2	48	1	2.7
	UA7HLSD	3	48	1	6.1
	UA7I.JSD	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	UA3I.JSD	2	60	1	1.0
	UA3ILSD	3	60	1	3.6
	UA3INSD	4	60	1	5.1

Two 45° Elbows may be segmented for 90°.

Product Overview

Split Kits are specifically designed to make Schedule-40 and Type-C conduit repairs faster and easier! Damaged conduit can be repaired without disturbing the installed wire/cable system. Split Kits come in handy 2 foot lengths with 7 inch split couplings on each end. UV-resistant for outdoor use, Split Kits feature the same durable tongue-and-groove design as our Split Duct product.

Split Kits are manufactured from extra rugged PVC material. The unique design maintains the same physical performance and dimensional characteristics as the PVC pipe it is repairing! No other repair product can make this offer!

The reason is in the interlocking/tongue-and-groove design that holds the true dimensions of the product, both I.D. and O.D., while maintaining the pipe's physical performance characteristics too.

Verify with local inspection authorities before using.



Split Kits... Conduit Repairs made Faster and Easier.



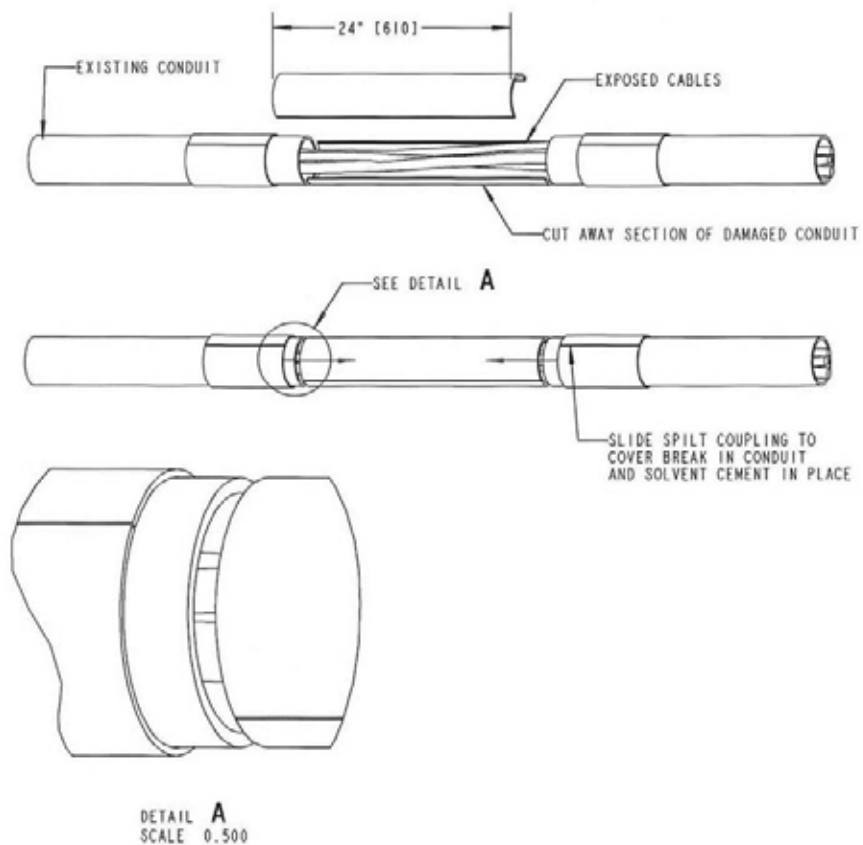
Features

- Interlocking/tongue-and-groove design to assure dimensional pipe characteristics.
- Convenient and handy for easy handling, transport and storage.
- 2 ft lengths for fast/easy conduits repairs. Eliminates the need of cutting standard 10 ft lengths to size. Get off the jobsite FASTER!
- Two 7" split couplings for a secure fit. Allows the product to be coupled together for longer repairs. Solvent cementable = water-resistant.
- Available in two wall types – Schedule 40 (Sizes 2" through 6"), and Type-C (4")
- Manufactured from extra rugged PVC – lightweight, solvent cementable and compatible with all standard pipe fittings.

Split Kits

Specifications

Cat. No.	Size (in.)	Wall Type	Std Ctn Qty	Std Ctn Wt. (lb)
SK4020	2	Schedule 40	10	24.3
SK4025	2-1/2	Schedule 40	10	49.2
SK4030	3	Schedule 40	8	43.6
SK4040	4	Schedule 40	5	40.5
SK4050	5	Schedule 40	3	34.6
SK4060	6	Schedule 40	2	36.4
SKC40	4	Type C	5	36.2



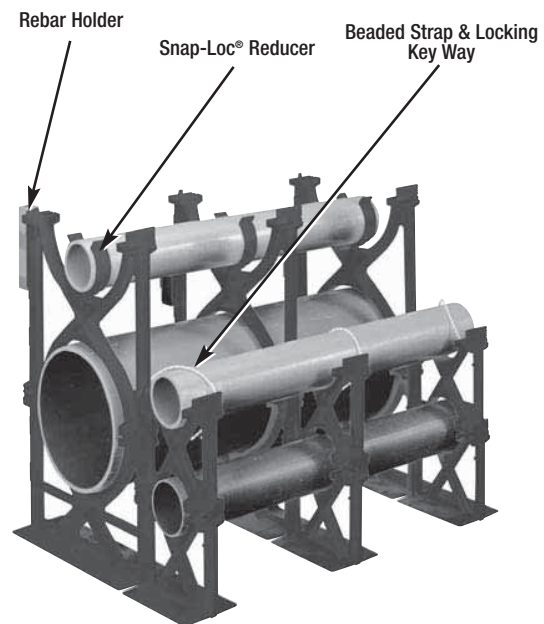
Product Overview

Carlton Snap-Loc duct spacers provide stability, consistent separation and relieve direct stress for duct materials encased in concrete and direct burial applications.

Carlton 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.

Non-metallic Snap-Loc Spacers are designed specifically for use with non-metallic 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. Thomas & Betts is not responsible for Snap-Loc Spacers used in direct burial applications... design engineers and contractors are responsible for the design of the installation.

Dimensions – Base Spacers

Cat. No.	Size* (in.)	A	C	D (Dia.)	Std Ctn Qty
S288JHN	2 X 1-1/2	4.25	4.12	2.50	100
S288JJN	2 x 2	4.25	4.62	2.50	100
S288JLN	2 x 3	4.25	5.62	2.50	100
S288LHN	3 x 1-1/2	4.81	5.25	3.63	90
S288LJN	3 x 2	4.81	5.75	3.63	80
S288LLN	3 x 3	4.81	6.75	4.63	60
S288NFN	4 x 1	4.50	6.75	4.63	70
S288NHN	4 x 1-1/2	5.31	6.25	4.63	50
S288NJN	4 x 2	5.31	6.75	4.63	50
S288NLN	4 x 3	5.31	7.75	5.69	60
S288PHN	5 x 1-1/2	5.84	7.31	5.69	50
S288PJN	5 x 2	5.84	7.81	5.69	60
S288PLN	5 x 3	5.84	8.81	6.75	50
S288RHN	6 x 1-1/2	6.38	8.38	6.75	50
S288RJN	6 x 2	6.38	8.88	6.75	50
S288RLN	6 x 3	6.38	9.88	6.75	40
S288SHN	8 x 1-1/2	7.38	10.30	8.75	30
S288SJN	8 x 2	7.38	10.76	8.75	30

*First number indicates trade size of duct, second number indicates separation between conduits or ducts.

Dimensions – Intermediate Spacers

Cat. No.	Size* (in.)	A	C	D (Dia.)	Std Ctn Qty
S289JHN	2 X 1-1/2	3.88	4.12	2.50	100
S289JJN	2 x 2	4.38	4.62	2.50	100
S289JLN	2 x 3	5.38	5.62	2.50	100
S289LHN	3 x 1-1/2	5.01	5.25	3.63	90
S289LJN	3 x 2	5.51	5.75	3.63	80
S289LLN	3 x 3	6.51	6.75	4.63	60
S289NFN	4 x 1	5.51	6.75	4.63	70
S289NHN	4 x 1-1/2	6.01	6.25	4.63	50
S289NJN	4 x 2	6.51	6.75	4.63	50
S289NLN	4 x 3	7.51	7.75	5.69	60
S289PHN	5 x 1-1/2	7.07	7.31	5.69	50
S289PJN	5 x 2	7.57	7.81	5.69	60
S289PLN	5 x 3	8.57	8.81	6.75	50
S289RHN	6 x 1-1/2	8.14	8.38	6.75	50
S289RJN	6 x 2	8.64	8.88	6.75	50
S289RLN	6 x 3	9.64	9.88	6.75	40
S289SHN	8 x 1-1/2	10.14	10.30	8.75	30
S289SJN	8 x 2	10.64	10.76	8.75	30

Accessories

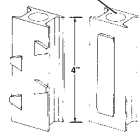
Snap-Loc® Reducer



Cat. No.	Size (in.)	Std Ctn Qty
S287F	1	100
S287J	2	100

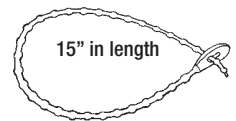
Rebar Holder

Hole Dia. 0.688 min. and 0.750 max



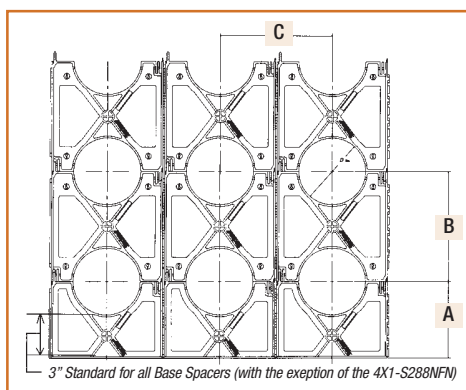
Cat. No.	Std Ctn Qty
S258RH	100

Beaded Strap



Cat. No.	Std Ctn Qty
S28612	1 Bag of 250

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 of * inches shall be maintained by installing Carlton high impact spacers with horizontal and vertical locking intervals of **feet.

*Standard Separations of 1", 1-1/2", 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 Carlton 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. Thomas & Betts is not responsible for Snap-Loc Spacers used in direct bury applications... design engineers and contractors are responsible for the design of the installation.

Product Overview

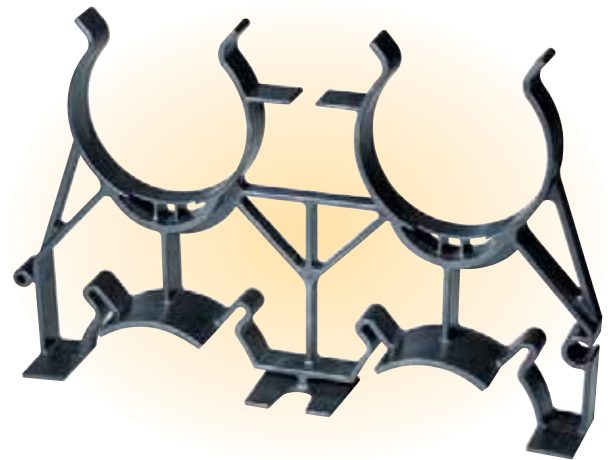
Carlton® Snap-N-Stac™ Combo Duct Spacers are specifically designed to replace the two-piece base and intermediate spacer system, by combining the conventional base and intermediate spacer into a single unit!

Manufactured out of highly engineered thermoplastic material, Snap-N-Stac Spacers are strong, durable and able to withstand the rigors of concrete construction. They feature an innovative horizontal and EXCLUSIVE vertical locking system and can be used as either a base or intermediate spacer.

Snap-N-Stac Spacers are available in one-way, two-way and three-way configurations (one-way and three-way only available in sizes 2" and 4"). They accept 2", 3", 4", 5", and 6" pipe and can be installed horizontally, vertically or turned upright for unique duct bank configurations.

This NEW one-piece design makes underground duct bank installations faster and easier than the conventional two-piece system— saving material and labor costs.

Carlton® Snap-N-Stac Combo Spacers...The ideal Solution for Underground Duct Bank Installations.



One-Way

Three-Way

Features

- Conventional base and intermediate spacer in a single unit!
- Less inventory required
- EXCLUSIVE vertical locking system
- Horizontal locking system
- Installs horizontally or turned upright
- Molded-in rebar holder on two-way and three-way
- One-, two- and three-way configurations (one-way and three-way only available in sizes 2" and 4")
- 5 sizes: 2", 3", 4", 5" and 6"
- Reducer to accommodate smaller duct sizes
- Can be used as either an intermediate or base spacer
- Spacers interlock horizontally regardless of size
- Non-metallic, non-corrosive, non-conductive
- Strong and durable
- Easy to handle
- Fast installation

Installations



Horizontal Locking



Vertical Interlocking



With Reducer

Installation Instructions

IMPORTANT

1. Snap-N-Stac Spacers are recommended for concrete encased applications only.
2. 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.
3. Thomas & Betts is NOT responsible for Snap-N-Stac Spacers used in direct burial applications... design engineers and contractors are responsible for the design of the installation.

Vertical Interlocking Slide spacers together "Feet Facing Foot."



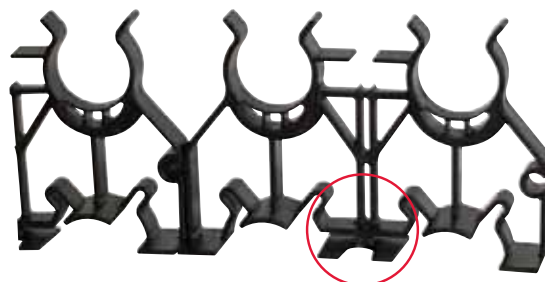
Feet Facing



Feet Opposite



Molded-In Rebar Holder



Installation Instructions (continued)

Vertical Free Standing

If spacers are installed using free standing method, it is recommended to install the spacer on the upper row mid-way between the two spacers on the bottom row.

Reducer

1" & 2" Snap-Loc Reducers allow fixturing of 1" and 2" conduit inside of larger spacers.



Transition To Various Duct Sizes

Install spacers side-by-side by inserting the male adapter into the female adapter.
Note: All Snap-N-Stack spacers are designed to interlock horizontally, regardless of size.



Odd Number of Ducts

Two-way spacers, size 2" and 4" only, can easily be cut apart to produce two one-way spacers. Create three-way and five-way spacers using the one-way spacer. Install spacers side-by-side by inserting the male adapter into the female adapter.



Snap-N-Stac™ Combo Spacers

Carlton®

Specifications

Cat. No.	Description	Size (in.)	Separation (in.)	Std Ctn Qty	Std Ctn Wt. (lb)
SP2W20-1	1-Way Spacers	2	2	56	15.0
SP2W30-1	1-Way Spacers	2	3	40	13.0
SP4W15-1	1-Way Spacers	4	1-1/2	26	9.6
SP4W20-1	1-Way Spacers	4	2	20	10.0
SP4W30-1	1-Way Spacers	4	3	20	9.4
SP2W20-2	2-Way Spacers	2	2	56	28.5
SP2W30-2	2-Way Spacers	2	3	40	23.8
SP3W20-2	2-Way Spacers	3	2	40	24.0
SP3W30-2	2-Way Spacers	3	3	24	17.9
SP4W15-2*	2-Way Spacers	4	1-1/2	26	18.3
SP4W20-2*	2-Way Spacers	4	2	24	18.8
SP4W30-2*	2-Way Spacers	4	3	20	17.6
SP5W20-2*	2-Way Spacers	5	2	20	17.2
SP5W30-2*	2-Way Spacers	5	3	14	15.5
SP6W20-2*	2-Way Spacers	6	2	12	12.8
SP6W30-2*	2-Way Spacers	6	3	12	14.1
SP2W20-3	3-Way Spacers	2	2	36	28.5
SP2W30-3	3-Way Spacers	2	3	18	17.8
SP4W15-3	3-Way Spacers	4	1-1/2	18	19.4
SP4W20-3	3-Way Spacers	4	2	16	19.3
SP4W30-3	3-Way Spacers	4	3	14	19.1

*Can be cut apart to make (2) one-way spacers

How to Interpret the Catalogue Number

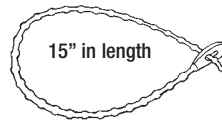
Position 1	Position 2	Position 3	Position 4
Product Type	Duct Size	Duct-to-Duct Spacing Horizontal and Vertical	Horizontal Duct Positions
SP = Spacer	2W = 2" Width	15 = 1-1/2"	-1 = One-Way
	3W = 3" Width	20 = 2"	-2 = Two-Way
	4W = 4" Width	30 = 3"	-3 = Three-Way
	5W = 5" Width		
	6W = 6" Width		

Accessories



Snap-Loc® Reducer

Cat. No.	Size (in.)	Std Ctn Qty
S287F	1	100
S287J	2	100



Beaded Strap

Cat. No.	Std Ctn Qty
S28612	1 Bag of 250

Technical Information

Cat. No.	Duct Size (in.)	Duct OD	Horizontal Duct Positions	Duct-to-Duct Spacing		Center-to-Center Spacing		Bottom of Trench to Bottom of Duct	Bottom of Trench to Center of Bottom Duct	Overall Length
				Vertical (in.)	Horizontal (in.)	Vertical	Horizontal			
SP2W20-1	2	2.375	1	2	2	2.19	2.19	3.13	4.25	4.38
SP2W30-1	2	2.375	1	3	3	2.69	2.69	4.13	5.25	5.38
SP4W15-1	4	4.500	1	1.5	1.5	3.00	3.00	3.38	5.56	6.00
SP4W20-1	4	4.500	1	2	2	3.25	3.25	3.88	6.06	6.50
SP4W30-1	4	4.500	1	3	3	3.75	3.75	4.88	7.06	7.50
SP2W20-2	2	2.375	2	2	2	4.38	4.38	3.13	4.25	8.75
SP2W30-2	2	2.375	2	3	3	5.38	5.38	4.13	5.25	10.75
SP3W20-2	3	3.500	2	2	2	5.50	5.50	3.63	5.38	11.00
SP3W30-2	3	3.500	2	3	3	6.50	6.50	4.63	6.38	13.00
SP4W15-2	4	4.500	2	1.5	1.5	6.00	6.00	3.38	5.56	12.00
SP4W20-2	4	4.500	2	2	2	6.50	6.50	3.88	6.06	13.00
SP4W30-2	4	4.500	2	3	3	7.50	7.50	4.88	7.06	15.00
SP5W20-2	5	5.500	2	2	2	7.56	7.56	4.38	7.25	15.12
SP5W30-2	5	5.500	2	3	3	8.56	8.56	5.38	8.25	17.14
SP6W20-2	6	6.625	2	2	2	8.62	8.62	4.13	7.38	17.25
SP6W30-2	6	6.625	2	3	3	9.62	9.62	5.13	8.38	19.25
SP2W20-3	2	2.375	3	2	2	6.57	6.57	3.13	4.25	13.13
SP2W30-3	2	2.375	3	3	3	8.07	8.07	4.13	5.25	16.13
SP4W15-3	4	4.500	3	1.5	1.5	9.00	9.00	3.38	5.56	18.00
SP4W20-3	4	4.500	3	2	2	9.75	9.75	3.88	6.06	19.50
SP4W30-3	4	4.500	3	3	3	11.25	11.25	4.88	7.06	22.50