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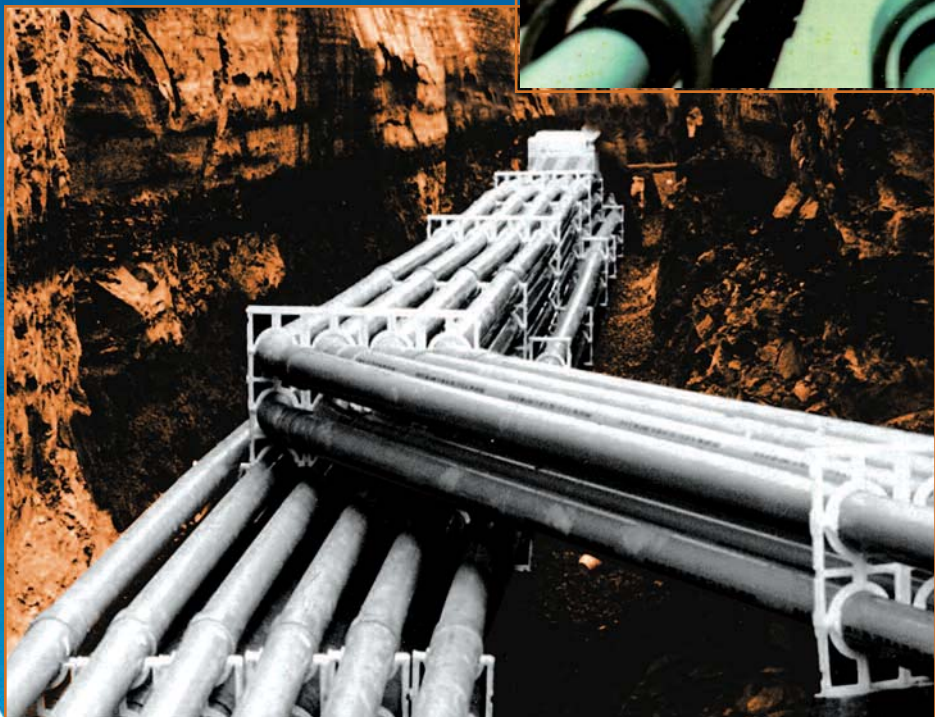
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## Conduits, Fittings and Accessories

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### 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

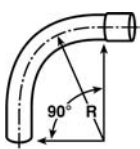
Trade Size of Conduit (in.)	A		B		C	
	At Entrance		At Bottom		Socket Depth	
	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1/2	0.860	0.844	0.844	0.828	1.500	0.652
3/4	1.074	1.054	1.056	1.036	1.500	0.719
1	1.340	1.320	1.320	1.300	1.875	0.875
1-1/4	1.689	1.665	1.667	1.643	2.000	0.938
1-1/2	1.930	1.906	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.

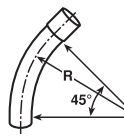
90° Elbow



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

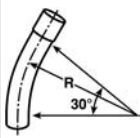
Custom elbows available on request.  
Plain end elbows also available.

45° Elbow



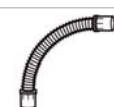
Item	Belled End Cat. No.	Trade Size (in.)	Std Ctn Qty
	UA7ADCB-CTN	1/2	25
	UA7AECB-CTN	3/4	20
	UA7AFCB-CTN	1	14
	UA7AGCB	1-1/4	20
	UA7AHCB	1-1/2	20
	UA7AJCB	2	20
	UA7ALCB	3	5
	UA7AMCB	3-1/2	1
	UA7ANCB	4	1
	UA7APCB	5	1
	UA7ARCB	6	1

30° Elbow



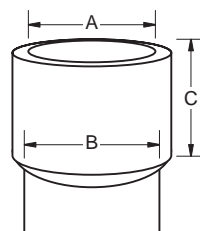
Item	Belled End Cat. No.	Trade Size (in.)	Std Ctn Qty
	UA6ADB	1/2	50
	UA6AEB	3/4	25
	UA6AFB	1	8
	UA6AGB	1-1/4	20
	UA6AHB	1-1/2	1

Flexible Elbows



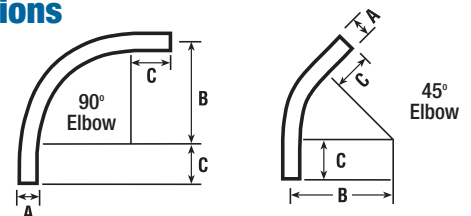
Item	Belled End Cat. No.	Trade Size (in.)	Std Ctn Qty
	UAFAAD	1/2	8
	UAFAE	3/4	6
	UAFAF	1	6

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

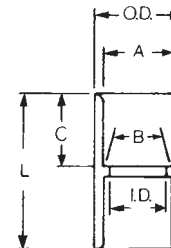
\* Please refer to page 23 for additional information.

### 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

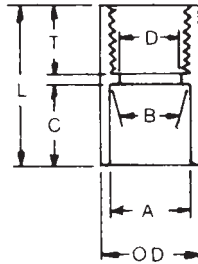
\* Please refer to page 23 for additional information.



## Female Adapters



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

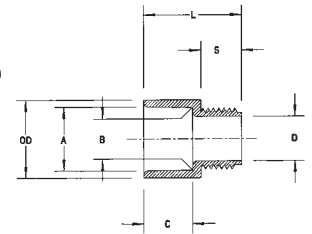


Cat. No.	Size (in.)	Std Ctn Qty	A	B	Min. I.D.	Max. O.D.	C		
			Typical				Typical		
E942D	1/2	150	0.852	0.836	0.620	1-7/64	11/16	3/4	1-9/16
E942E	3/4	100	1.064	1.046	0.822	1-5/16	13/16	3/4	1-5/8
E942F	1	50	1.330	1.310	1.046	1-5/8	15/16	7/8	1-15/16
E942G	1-1/4	30	1.677	1.655	1.377	1-63/64	1	7/8	2
E942H	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.

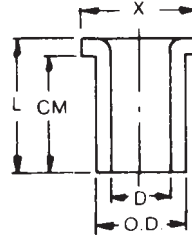


Cat. No.	Size (in.)	Std Ctn Qty	A	B	Min. D	Max. O.D.	C		
			Typical				Typical		
E943D	1/2	150	0.852	0.836	0.594	1.042	0.652	0.545	1.310
E943E	3/4	100	1.064	1.046	0.793	1.290	0.809	0.553	1.470
E943F	1	50	1.330	1.310	1.025	1.580	0.965	0.812	1.902
E943G	1-1/4	30	1.677	1.655	1.345	1.973	1.208	0.816	1.986
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.

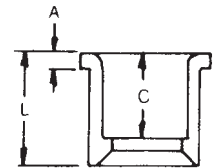


Cat. No.	Size (in.)	Std Ctn Qty	Min. D	O.D. Typical	Max. X	CM	
						Typical	
E996D	1/2	100	0.662	0.840	1-7/64	23/32	27/32
E996E	3/4	100	0.824	1.050	1-21/64	25/32	29/32
E996F	1	100	1.049	1.315	1-5/8	61/64	1-3/32
E996G	1-1/4	50	1.380	1.660	1-31/32	1-1/16	1-1/4
E996H	1-1/2	50	1.610	1.900	2-13/64	1-3/16	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 Wt. (lb)
P258JT	2	60	3
P258LT	3	30	3
P258NT	4	48	8
P258PT	5	30	6
P258RT	6	30	9

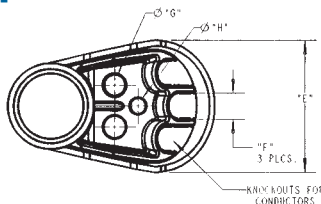
## Threaded Adapters



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

<sup>1</sup> Fits 3/4 in. sockets  
<sup>2</sup> Fits 1 in. sockets

### Service Entrance Caps



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	7.47	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



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

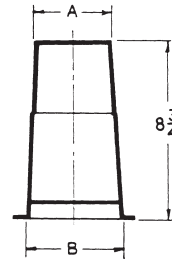
Where a waterproof termination is required into any enclosure (metallic or non-metallic), install the neoprene washer over the threads of a terminal adapter before inserting into the enclosure. Use a standard locknut or threaded bushing to secure the assembly.



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

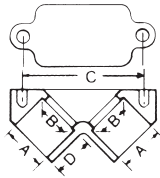
## Holform™ Concrete Sleeves

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

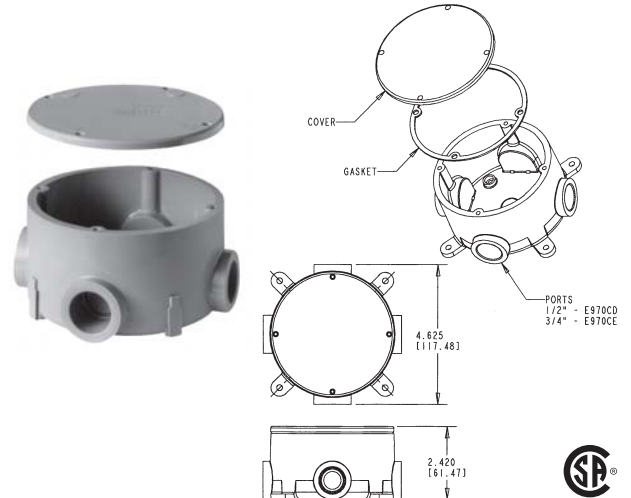


Cat. No.	Size (in.)	Std Ctn Qty	Typical			
			A	B	C	D
E990D	1/2	75	0.852	0.836	2.187	0.718
E990DR-CAR	1/2	25	0.852	0.836	2.187	0.718
E990E	3/4	50	1.064	1.046	2.531	0.781

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.

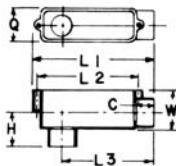


Cat. No.	Size (in.)	Vol. Cu. (in.)	Std Ctn Qty
CE970CDE	1/2	15.16	15
E970CE	3/4	15.16	15

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

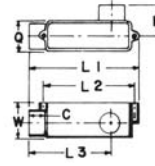
- Hubs are not threaded
- Textured lids
- Foam-in-place gasket



Cat. No.	Size (in.)	Std Ctn Qty	C Typical	Max. L1	L2		L3	Max. H	Max. Q	Max. W	Vol. Cu. in.
					Typical	Max. H					
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

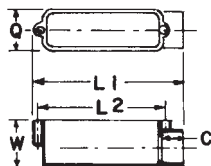
- Hubs are not threaded
- Textured lids
- Foam-in-place gasket



Cat. No.	Size (in.)	Std Ctn Qty	C Typical	Max. L1	L2		L3	Max. H	Max. Q	Max. W	Vol. Cu. in.
					Typical	Max. H					
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

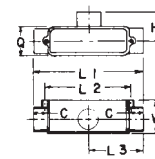
- Hubs are not threaded
- Textured lids
- Foam-in-place gasket



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

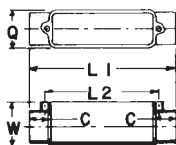
- Hubs are not threaded
- Textured lids
- Foam-in-place gasket



Cat. No.	Size (in.)	Std Ctn Qty	C Typical	Max. L1	L2		L3	Max. H	Max. Q	Max. W	Vol. Cu. in.
					Typical	Max. H					
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

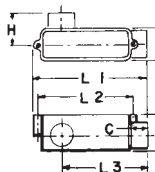
- Hubs are not threaded
- Textured lids
- Foam-in-place gasket



Cat. No.	Size (in.)	Std Ctn Qty	C Typical	Max. L1	L2		Max. Q	Max. W	Vol. Cu. in.
					Typical	Max. Q			
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



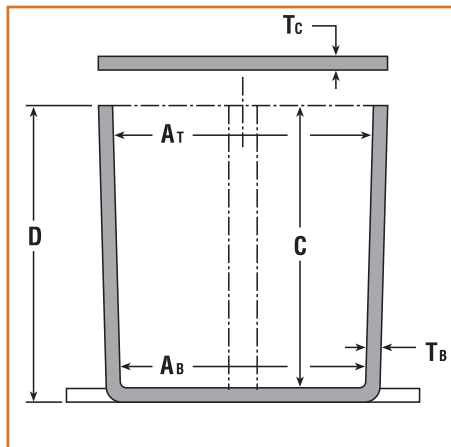
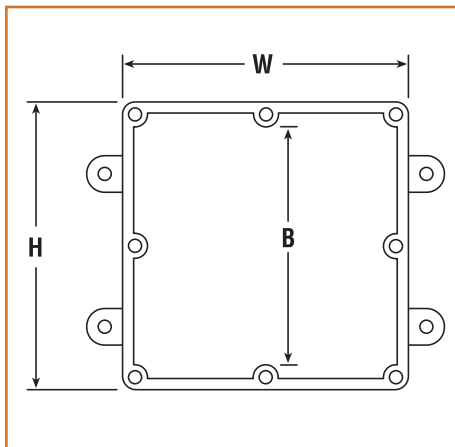
Cat. No.	Size (in.)	Std Ctn Qty	C Typical	Max. L1	L2		L3	Max. H	Max. Q	Max. W	Vol. Cu. in.
					Typical	Max. H					
E984D-CAR	1/2	10	11/16	4-5/16	3-7/32	3-1/16	1-5/16	1-11/32	1-1/2	4.0	
E984E	3/4	20	29/32	6-9/32	5-9/32	4-25/32	1-25/32	1-3/4	2-1/32	12.0	
E984F-CAR	1	10	29/32	6-9/32	5-9/32	4-25/32	1-25/32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

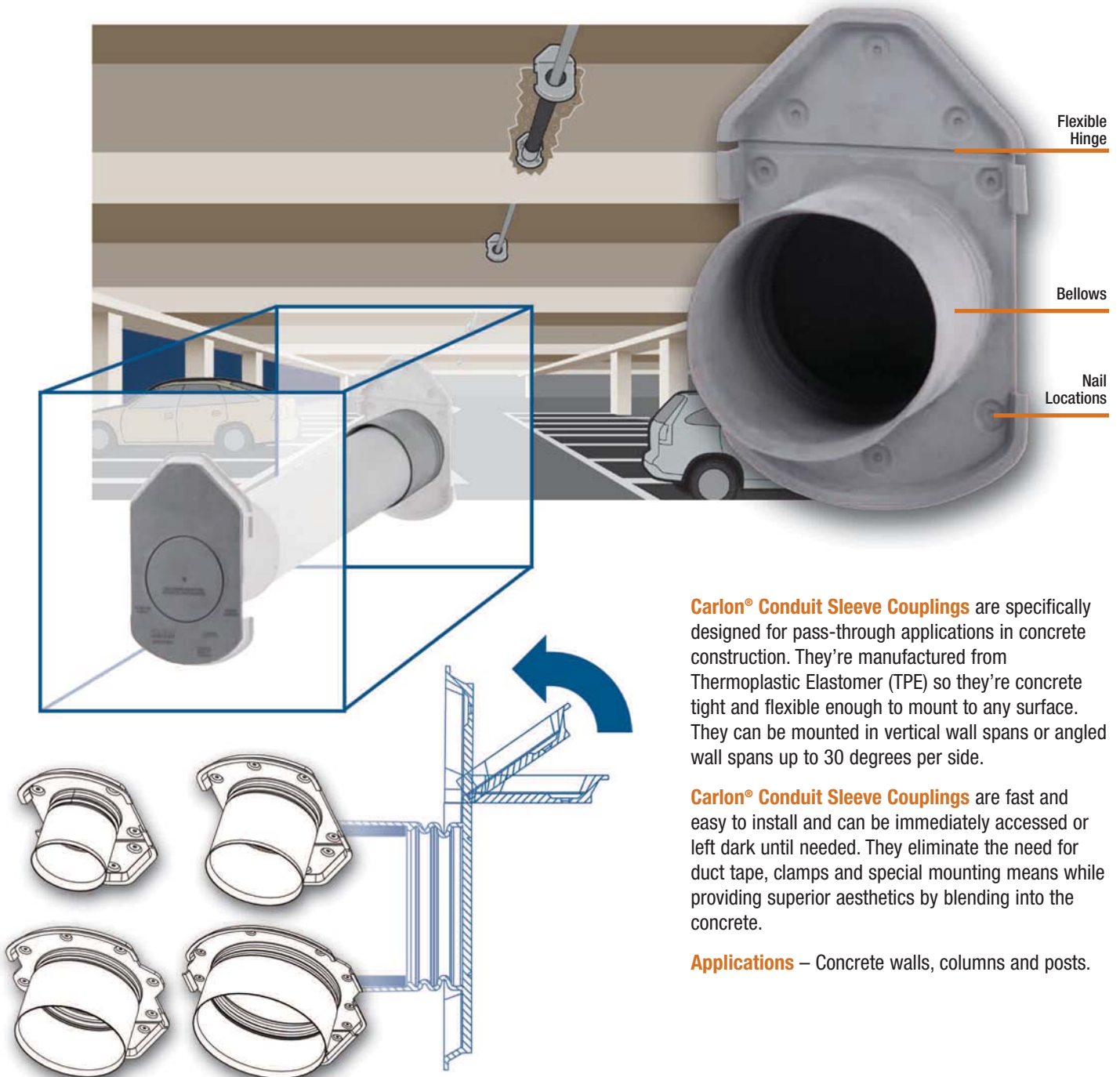


### Specifications

Cat. No.	Size in Inches H x W x D	Std Ctn Qty	Minimum				Typical		Material		Std Ctn Wt. (lb)
			A'	A <sup>ø</sup>	B	C	T <sup>ø</sup>	T <sup>c</sup>	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



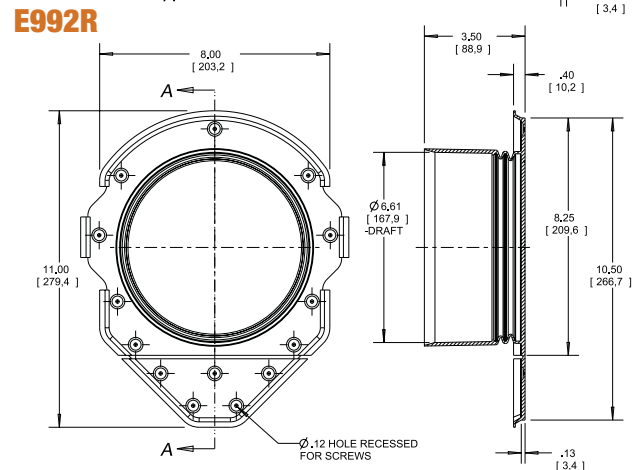
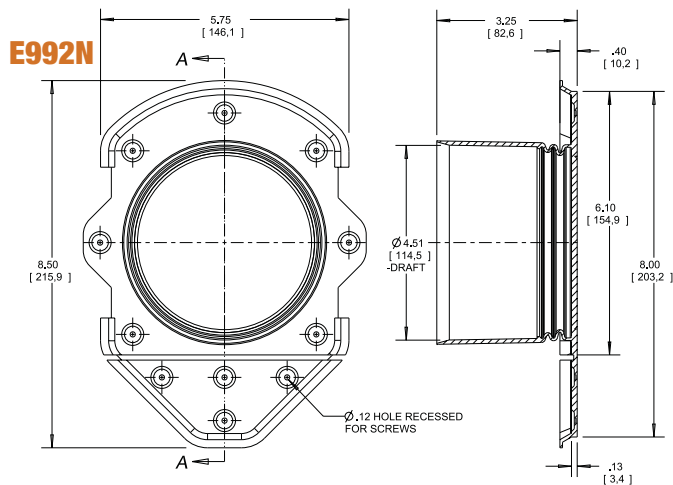
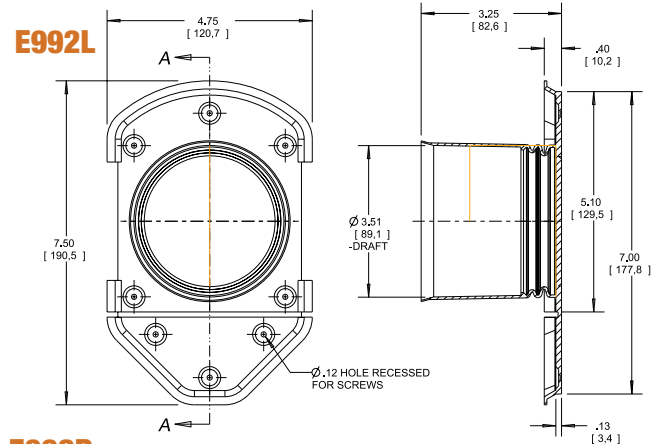
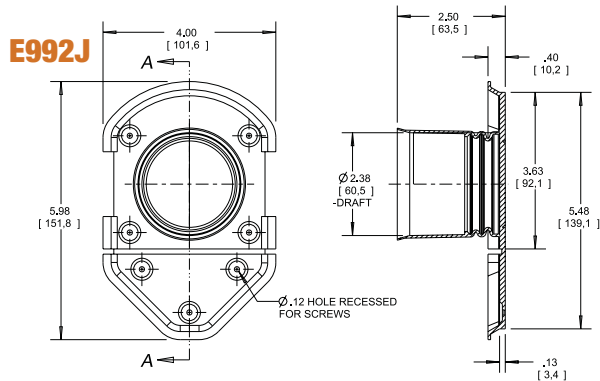
**Carlton® Conduit Sleeve Couplings** are specifically designed for pass-through applications in concrete construction. They're manufactured from Thermoplastic Elastomer (TPE) so they're concrete tight and flexible enough to mount to any surface. They can be mounted in vertical wall spans or angled wall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

## 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



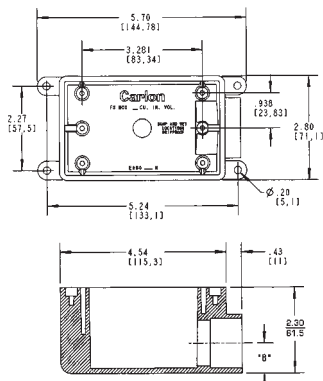
## Specifications

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.

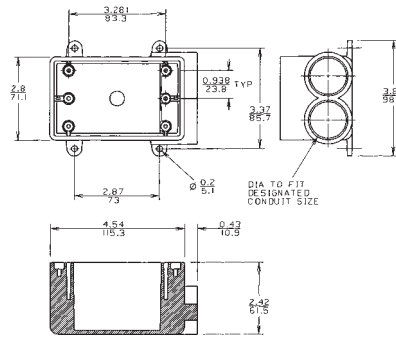
### Type FSE



For dead-end terminations.

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

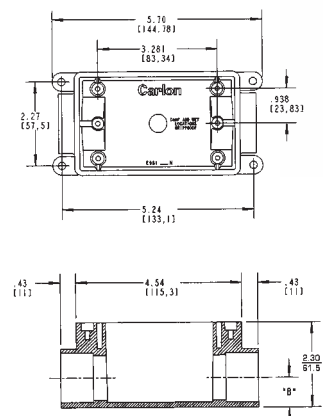
### Type FSS



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
<b>C982DFN-CTN</b>	1/2	18	12
<b>C982EFN-CTN</b>	3/4	18	12
<b>C982FFN-CTN</b>	1	18	8

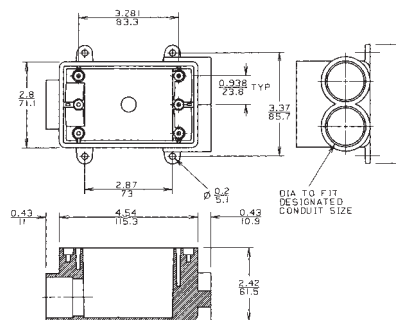
### Type FSC



For through terminations.

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

### Type FSCC



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

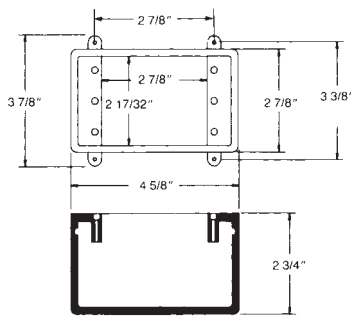
Cat. No.	Size (in.)	Volume Cu. In.	Std Ctn Qty
<b>C979DFN</b>	1/2	18	15
<b>C979EFN</b>	3/4	18	15
<b>C979FFN</b>	1	18	15



## Single Gang FD Deep Device Boxes

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

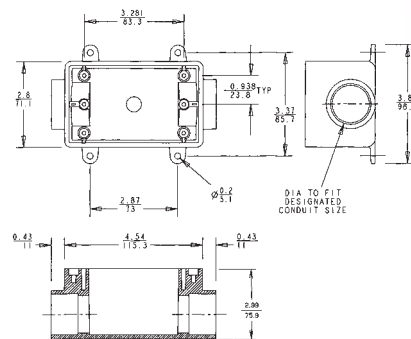
### Type FD



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
<b>C9801-UPC</b>	25	10

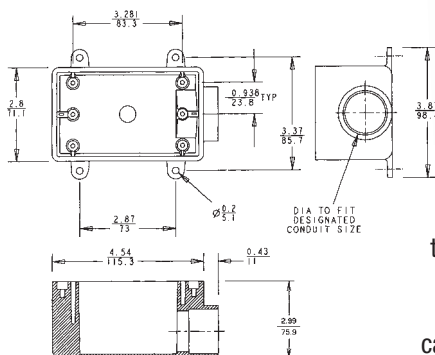
### Type FDC



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

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

### Type FDE



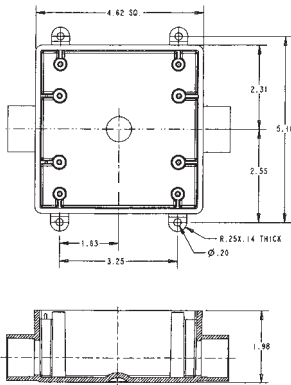
For dead-end terminations where large devices or additional wiring capacity is required.

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

## Two Gang FS Boxes

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

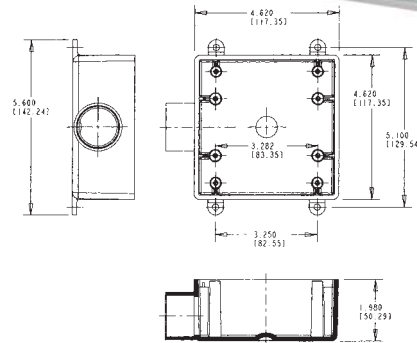
### Type 2FSC



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

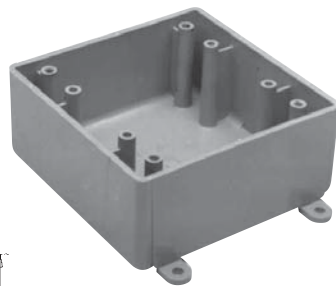
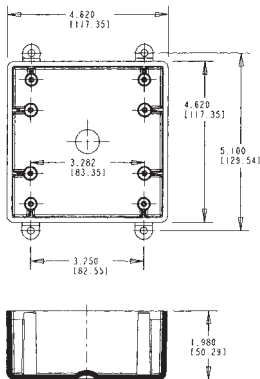
### Type 2FSE



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)
<b>E980CN-CAR</b>	Grey	12	1.60
<b>E980CM-CAR</b>	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)
<b>E9802CN-CAR</b>	Grey	10	2.17
<b>E9802CM-CAR</b>	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)
<b>E98DGDR</b>	Grey	150 / 5	0.75
<b>E98SGDR</b>	Grey	200 / 5	0.45

## Double Switch PVC FS Cover



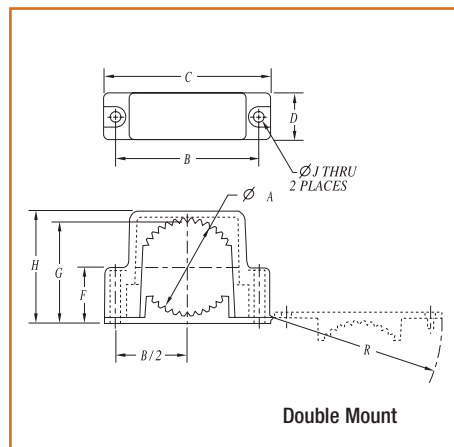
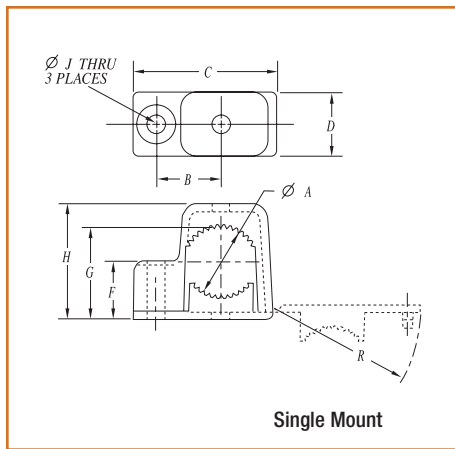
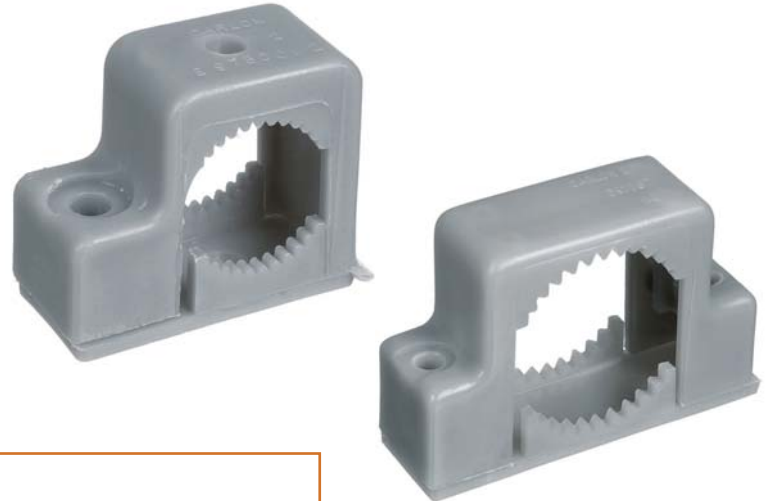
For indoor use only.  
Gasket not included

Cat. No.	Color	Std / Inner Qty	Std Ctn Wt. (lb)
<b>E98DTSCR</b>	Grey	150 / 5	0.90
<b>E98STSCR</b>	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)

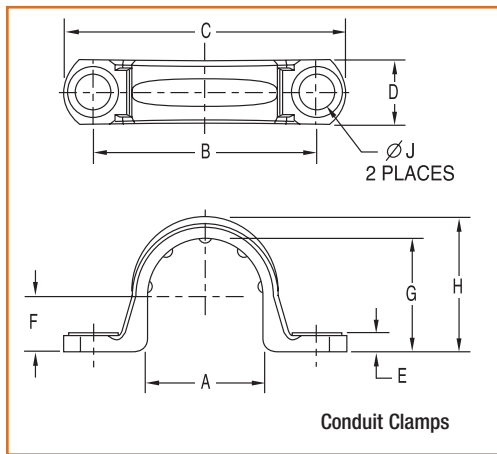


## 2 Hole Non-Metallic Conduit Clamps

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 Mansory 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
<b>E977DC</b>	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)
<b>E977EC</b>	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)
<b>E977FC</b>	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)
<b>E977GC</b>	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)
<b>E977HC</b>	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)
<b>E977JC</b>	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)
<b>E977K*</b>	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)
<b>E977KC-CAR</b>	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)
<b>E977L*</b>	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)
<b>E977LC-CAR</b>	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)
<b>E977N*</b>	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)
<b>E977NC-CAR</b>	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)
<b>E977NDC-CTN**</b>	1/2 (16)	12	1.2	-	-	-	-	-	-	-	-	-
<b>E977NEC-CTN**</b>	3/4 (21)	12	1.3	-	-	-	-	-	-	-	-	-

\* PVC coated steel straps

\*\* Nylon masonry clamp

### Typical Properties of Conduit Raw Material Compound

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

<b>Mechanical</b>	<b>ASTM Test</b>	<b>Typical Values</b>
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

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

<b>Impedance</b> (Volts lost per ampere per 100 feet)	<b>Ø3 90% P.F.</b>	<b>80% P.F.</b>	<b>Ø1 90% P.F.</b>	<b>80% P.F.</b>
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	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	1	3	4	5	7	9	13	22		
	700				1	1	1	1	3	4	5	6	8	11	19		
XHHW	750				1	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	1	3	4	5	7	9	13	22		
	700				1	1	1	1	3	4	5	6	7	11	19		
XHHW	750				1	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  $3.38 \times 10^{-5}$  in./in./°C as compared to  $1.2 \times 10^{-5}$  for aluminum and  $0.6 \times 10^{-5}$  for steel. An expansion fitting is needed whenever the change in length due to temperature variation will be 1/4 in. or greater.

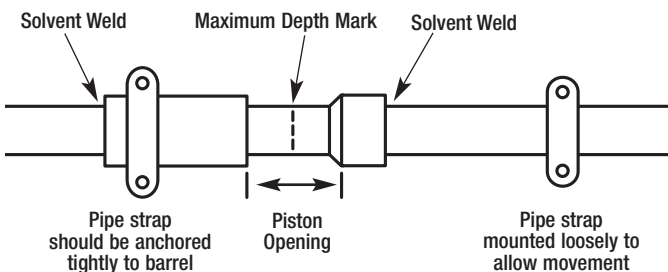
Add 1°C to the estimated temperature range when conduit is installed in direct sunlight to allow for radiant heating.

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 =  $3.38 \times 10^{-5}$  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:

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

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'' x 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'' x 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 Carlon Schedule 40 PVC Conduit and Fittings

Carlon 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, Anhydrous	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	DeminerIALIZED Water	Lime Sulfur	Potassium Nitrate	Vinegar
Beet – Sugar Liquor	Dextrin	Linoleic Acid	Potassium Perborate	Whiskey
Benzene Sulfonic Acid 10%	Dextrose	Linseed Oil	Potassium Perchlorate	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 <sub>2</sub>	Ethylene Glycol	Magnesium Hydroxide	Propane	Zinc Cyanide
Borax	Fatty Acids	Magnesium Nitrate	Propyl Alcohol	Zinc Nitrate
Boric Acid	Ferric Chloride	Magnesium Sulfate	Sillicic Acid	Zinc Sulfate
Brine	Ferric Nitrate	Maleic Acid	Silver Cyanide	
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 <sup>-5</sup>
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)
<a href="#">48811CPD-010</a>	<a href="#">48811CPD-020</a>	2	2460	4920	35	15.9	2.25	57.15	0.070	1.78
<a href="#">48813CPD-010</a>	<a href="#">48813CPD-020</a>	3	1120	2240	58	26.3	3.25	82.55	0.080	2.03
<a href="#">48815CPD-010</a>	<a href="#">48815CPD-020</a>	4	630	1260	100	45.4	4.22	107.08	0.106	2.69
<a href="#">48816CPD-010</a>	<a href="#">48816CPD-020</a>	5	430	860	180	81.6	5.30	134.60	0.150	3.81
<a href="#">48817CPD-010</a>	<a href="#">48817CPD-020</a>	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



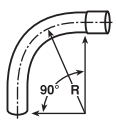
Cat. No.	Size (in.)	Std Ctn Qty
CE942RJ	2	100
CE942RL	3	30
CE942RN	4	20
CE942RP	5	20

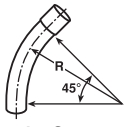
### Cap – Solvent Weld

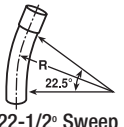


Cat. No.	Size (in.)	Std Ctn Qty
CE935J	2	25
CE935L	3	25
CE935N	4	50
CE935P	5	25
CE935R	6	25

## 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
	CPF9J-PD	2	60	1
	CPF9L-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.

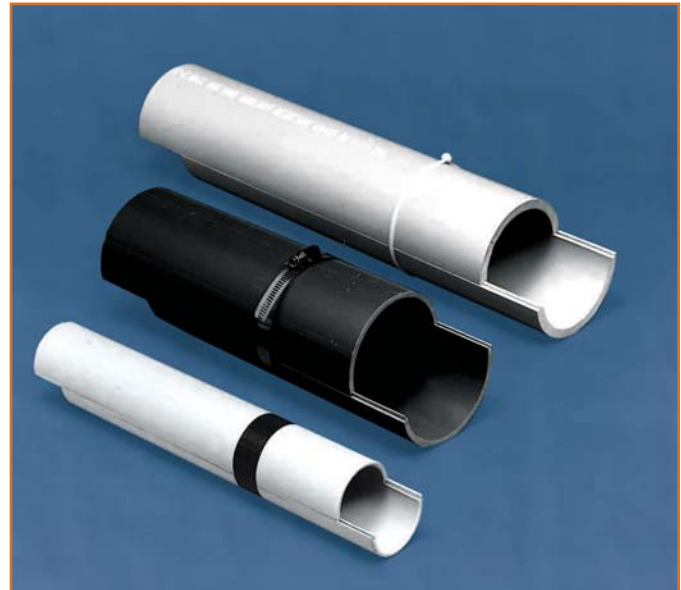
Our unique tongue-and-groove design leads the industry in providing a strong, rigid solution for duct repair situations.

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.

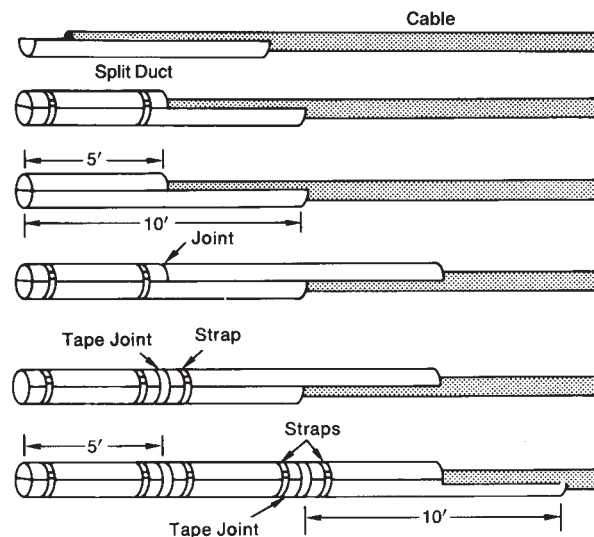
*Verify with local inspection authorities before using.*



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



Cat. No.	Description	Std Ctn Qty	Std Ctn Wt. (lb)	O.D.
<b>Schedule 40</b>				
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
<b>Schedule 80</b>				
49411SD-010	2" Schedule 80 Split Duct	700	702	2.375
49415SD-010	4" Schedule 80 Split Duct	290	890	4.500
<b>C Duct</b>				
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)
<b>Schedule 40 and 80</b>						
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
<b>C Duct</b>						
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	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	1.0
	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.

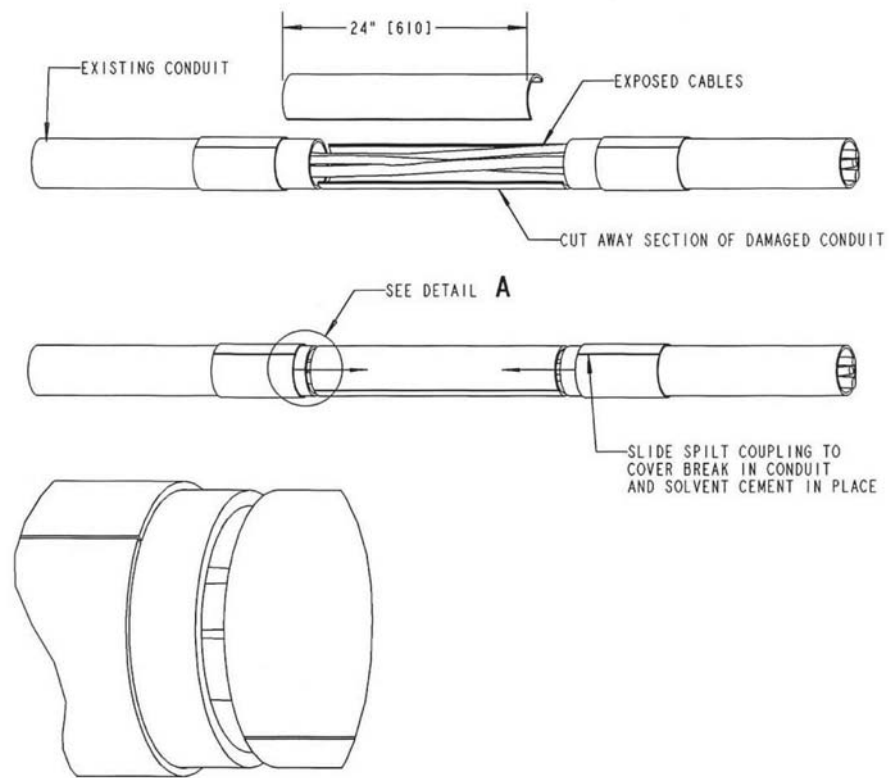
#### Features

- 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



DETAIL **A**  
SCALE 0.500

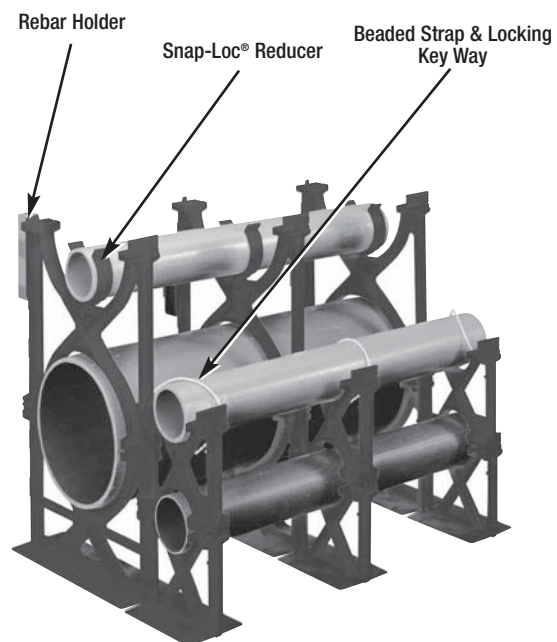
## Product Overview

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

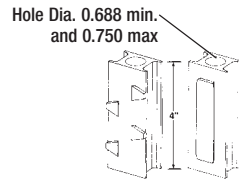
## Accessories

### Snap-Loc® Reducer



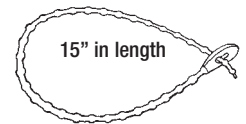
Cat. No.	Size (in.)	Std Ctn Qty
S287F	1	100
S287J	2	100

### Rebar Holder



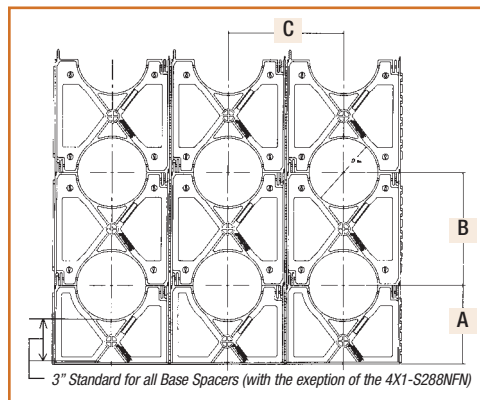
Cat. No.	Std Ctn Qty
S258RH	100

### 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 Feet."



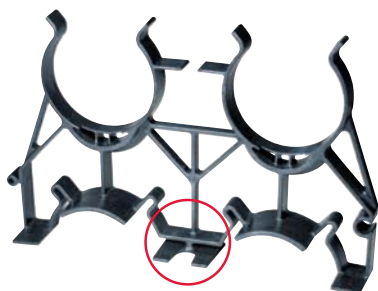
Feet Facing



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.





## 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

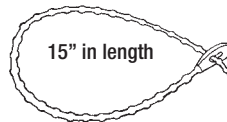
Position 1	Position 2	Position 3	Position 4
Product Type	Duct Size	Duct-to-Duct Spacing Horizontal and Vertical	Horizontal Duct Positions
SP = Spacer	2W = 2" Width	15 = 1-1/2"	-1 = One-Way
	3W = 3" Width	20 = 2"	-2 = Two-Way
	4W = 4" Width	30 = 3"	-3 = Three-Way
	5W = 5" Width		
	6W = 6" Width		

## 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

# Carlton®

## Liquidtight Flexible Tubing and Accessories

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- Carflex® Liquidtight Fittings . . . . .42–45
- Carflex® Liquidtight Flexible  
Non-Metallic Conduit . . . . .40
- Carflex® X-Flex™ Non-Metallic  
Mechanical Protection Tubing . . . . .41



## Product Overview

Liquidtight Flexible Non-metallic Conduit provides superior wire protection in harsh, damp environments. Carflex Conduit is non-conductive, non-corrosive 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

- Non-conductive and non-corrosive
- 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
- CSA Certified as per Section 12-1300 of the Canadian Electrical Code, Part 1.
- Sequentially marked footage
- Suitable for use at conduit temperatures of 80°C dry, 60°C wet and 60°C oil

*Note: Liquidtight flexible conduits, metallic and non-metallic, in contrast to rigid PVC conduit and electrical non-metallic 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.*

## Applications

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

## Coils

Cat. No.	Nom. Size (in.)	Avg. O.D. (in.)	Avg. I.D. (in.)	Length Coil (ft)	Std Coil Wt. (lb)
15004-100	3/8	0.700	0.4890	100	11.70
15005C-025	1/2	0.830	0.6270	25	3.25
15007-100	3/4	1.040	0.8250	100	18.00
15007C-025	3/4	1.040	0.8250	25	4.25
15008-100	1	1.302	1.046	100	28.00
15009-100	1-1/4	1.645	1.385	100	37.60
15010-50	1-1/2	1.882	1.580	50	22.55
15010-100	1-1/2	1.882	1.580	100	47.80
15011-050	2	2.357	2.025	50	34.10

Standard color Grey

## Reels

Cat. No.	Nom. Size (in.)	Avg. O.D. (in.)	Avg. I.D. (in.)	Length Reels (ft)	Std Reel Wt. (lb)
15004-001	3/8	0.700	0.4890	1000	145.0
15005-001	1/2	0.830	0.6270	1000	157.0
15007-001	3/4	1.040	0.8250	1000	212.0
15008-500	1	1.302	1.046	500	155.0
15009-200	1-1/4	1.645	1.385	200	100.0
15010-150	1-1/2	1.882	1.580	150	95.7
15011-100	2	2.357	2.025	100	94.6

Standard color Grey



## Product Overview

Extra Flexible Non-metallic Mechanical Protection Tubing is ideal for applications requiring extra strength and flexibility such as robotics and repetitive flexing arms. Carflex X-Flex is non-conductive, non-corrosive and resistant to oil, acid, ozone and alkaline. It's designed for use with standard Carflex fittings providing a complete non-metallic system. Carflex X-Flex is lightweight for easier handling, transportation and installation.



Where noted by ♦

## Features

- Extra strong and flexible to withstand repetitive motions
- Non-conductive and non-corrosive
- 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 ambient
- Type NMPT-B

## Applications

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

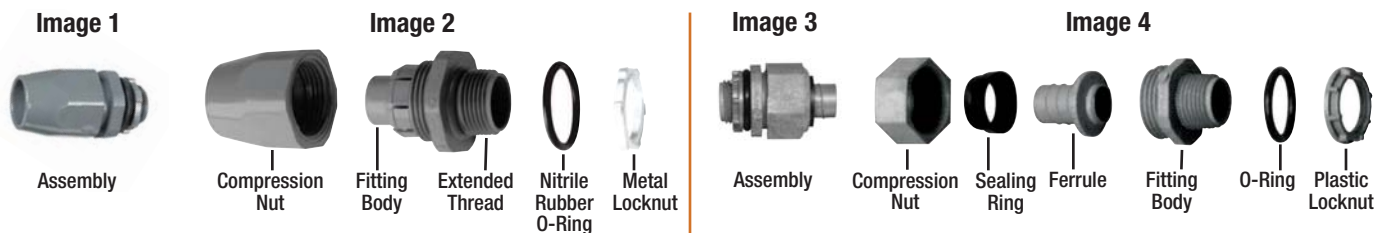
## Specifications

### Coils (Available in Black only)

Cat. No.	Nom. Size (in.)	Avg. O.D. (in.)	Avg. I.D. (in.)	Length Coils (ft)	Std Coil Wt. (lb)
15104-100	3/8	0.700	0.489	100	9.09
♦ 15105-100	1/2	0.830	0.627	100	10.01
♦ 15107-100	3/4	1.040	0.825	100	13.91
♦ 15108-100	1	1.302	1.046	100	18.25
15109-100	1-1/4	1.645	1.385	100	27.65
15110-100	1-1/2	1.882	1.580	100	38.00
15111-050	2	2.357	2.025	50	24.22

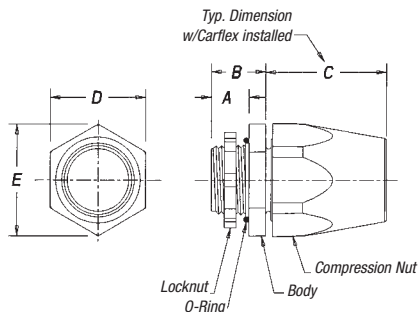
## Straight Fittings

- For Use with Carflex® conduit and Carflex® X-Flex™ conduit

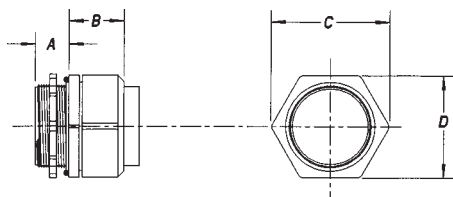


## Features

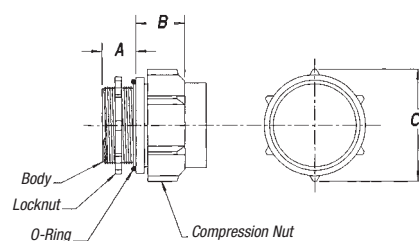
- Non-conductive and non-corrosive
- Easy to install
- Resistant to oil, acid, ozone and alkaline
- Approved for indoor and outdoor locations
- Listed for "Wet locations"
- Nitrile rubber "O" ring for a liquidtight termination
- Temperatures up to 107°C



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



LT43G, LT43H



LT43J

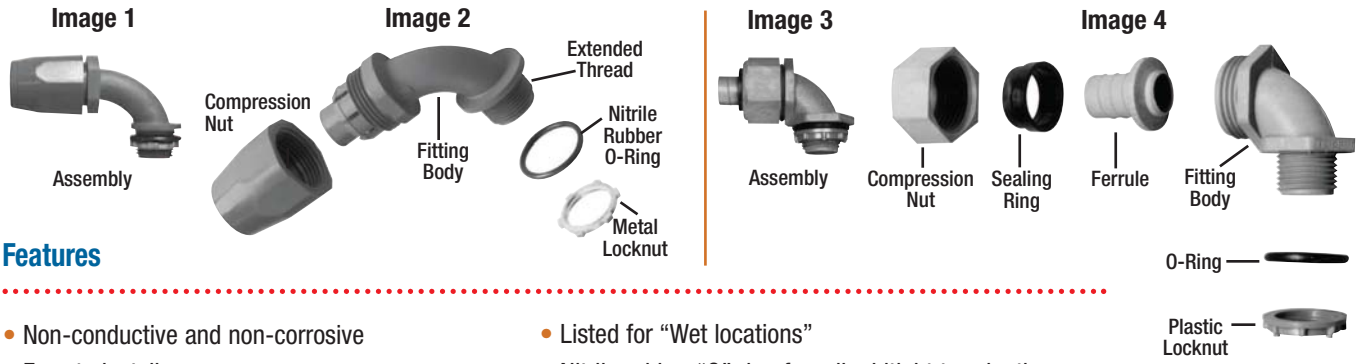
## Specifications



Cat. No.	Size (in.)	Std Ctn Qty	Std Ctn Wt. (lb)	Dimensions (in.)					Refer to Image
				A	B	C	D	E	
LT43C	3/8	50	3.6	0.55	0.75	1.60	1.30	1.40	1-2
LT43D-NEW	1/2	50	4.2	0.56	0.91	1.62	1.30	1.40	1-2
LT43E-NEW	3/4	50	6.6	0.56	0.91	1.88	1.61	1.71	1-2
LT43F-NEW	1	25	5.5	0.70	1.00	2.20	1.90	2.04	1-2
LT43G	1-1/4	5	1.5	0.71	1.16	2.50	2.17	-	3-4
LT43H	1-1/2	5	2.0	0.75	1.36	2.78	2.43	-	3-4
LT43J	2	5	2.5	1.00	1.45	3.33	-	-	3-4

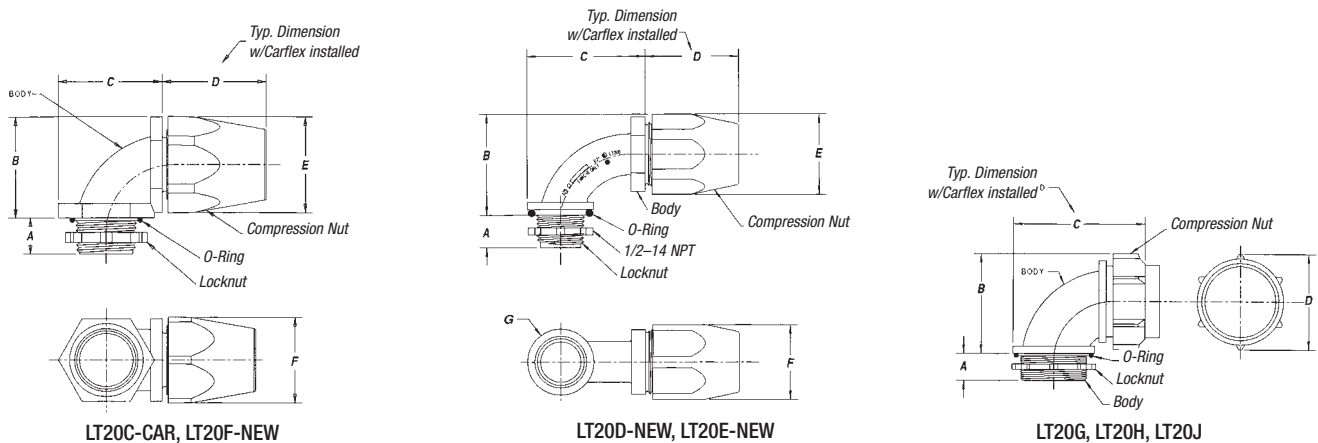
## 90° Fittings

- For Use with Carflex® conduit and Carflex® X-Flex™ conduit



### Features

- Non-conductive and non-corrosive
- Easy to install
- Resistant to oil, acid, ozone and alkaline
- Approved for indoor and outdoor locations
- Listed for "Wet locations"
- Nitrile rubber "O" ring for a liquidtight termination
- Temperatures up to 107°C



### Specifications



Cat. No.	Size (in.)	Std Ctn Qty	Std Ctn Wt. (lb)	Dimensions (in.)							Refer to Image
				A	B	C	D	E	F	G	
LT20C	3/8	50	3.6	0.56	1.44	1.44	1.56	1.39	1.26	-	1-2
LT20D-NEW	1/2	50	4.2	0.56	1.76	2.05	1.62	1.40	1.30	1.15	1-2
LT20E-NEW	3/4	50	6.6	0.56	2.04	2.35	1.88	1.71	1.61	1.50	1-2
LT20F-NEW	1	25	5.5	0.70	2.01	2.01	2.26	2.04	1.90	-	1-2
LT20G	1-1/4	5	1.5	0.75	2.50	3.55	2.48	-	-	-	3-4
LT20H	1-1/2	5	2.0	0.75	2.80	3.98	2.77	-	-	-	3-4
LT20J	2	5	2.5	0.94	3.48	4.56	3.33	-	-	-	3-4

### Product Overview

#### Unique Design

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

#### PVC Construction

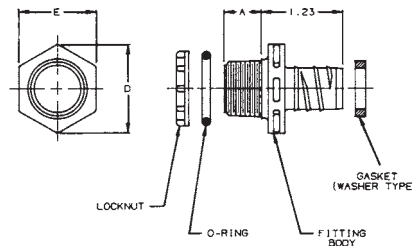
PVC construction of the fitting and locknut provides unparalleled protection from water, oil and dust. Totally non-metallic, the system is non-conductive and will not corrode or rust. Temperatures up to 60°C



#### Features

- Approved for indoor and outdoor locations
- Listed for "Wet Locations"

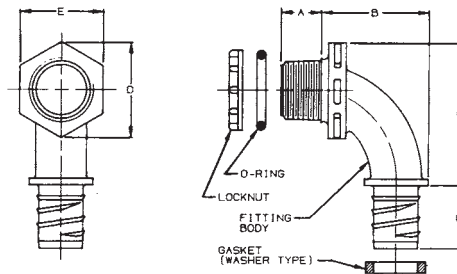
### Straight Fittings



SP®  
LR92248

Cat. No.	Trade Size (in.)	Std Ctn Qty	Std Ctn Wt. (lb)	Thread Size	Dimensions (in.)		
					A	D	E
LN43DA	1/2	100	2.8	14 NPT	0.56	1.34	1.19
LN43EA	3/4	50	2.2	14 NPT	0.56	1.63	1.44
LN43FA	1	25	3	11-1/2 NPT	0.69	1.99	1.75

### 90° Fittings



SP®  
LR92248

Cat. No.	Trade Size (in.)	Std Ctn Qty	Std Ctn Wt. (lb)	Thread Size	Dimensions (in.)				
					A	B	C	D	E
LN20DA	1/2	100	4.3	14 NPT	0.56	1.50	1.99	1.34	1.19
LN20EA	3/4	50	3.1	14 NPT	0.56	1.73	2.25	1.63	1.44
LN20FA	1	25	3.2	11-1/2 NPT	0.69	1.86	2.58	1.99	1.75



## Fittings Installation Instructions

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

1. 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

1. 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.*

## 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:

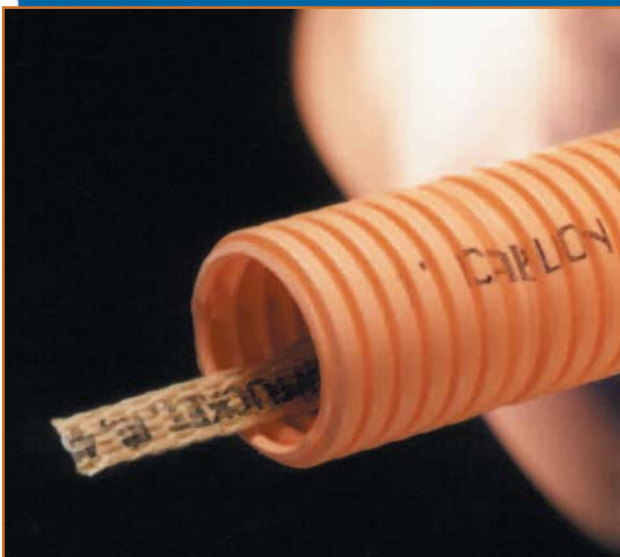
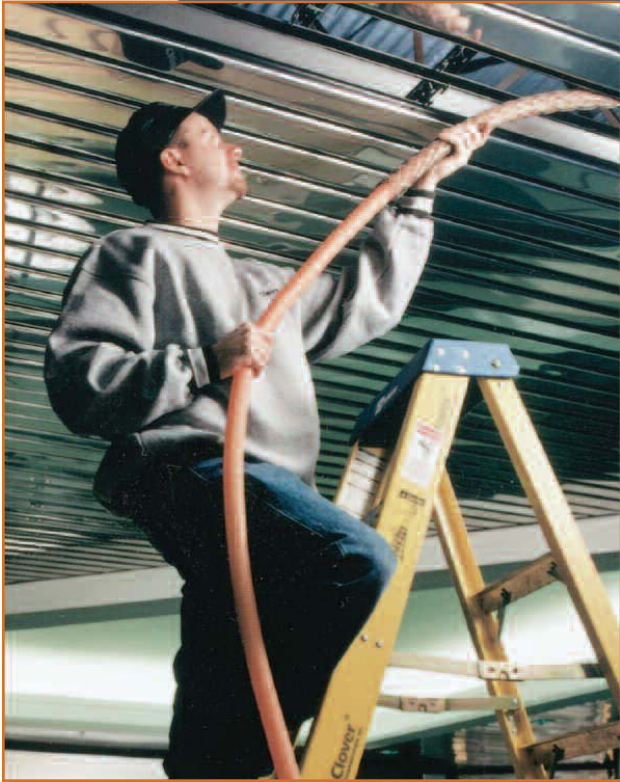
Size of Conduit or Tubing		Radius to Center of Conduit or Tubing	
Inches	mm	Inches	mm
3/8	14	4	101.6
1/2	16	4	101.6
3/4	21	4-1/2	114.3
1	27	5-3/4	146.0
1-1/4	35	7-1/4	184.1
1-1/2	41	8-1/4	209.5
2	53	9-1/2	241.3

# Carlton®

## Flexible Raceway Systems

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- Hal-Free Riser-Gard® .....55
- Micro-Gard™ .....56–57
- Plenum-Gard™ .....48–49
- Resi-Gard™ .....50–54



## Product Overview

Plenum-Gard™ is a non-metallic corrugated flexible conduit for use in Plenum, Riser and General Purpose applications.

Plenum-Gard™ is manufactured from PVDF resin, which is extremely durable and resistant to abrasion and mechanical damage before/after installation.

Plenum-Gard™ is listed for Plenum, Riser, General Purpose and other cabling optical fiber/telecommunication applications.

**Important: Installed cables must be plenum rated.**

### Technical Information:

UL Standard 2024	Value
Maximum Flame Propagation	5 ft
Max. Peak Optical Smoke Density	0.5
Max. Average Optical Smoke Density	0.15

- Storage: -20°C to 70°C (-4°F to 158°F).
- Handling: -20°C to 40°C (-4°F to 104°F).
- No UV protection (not suitable for outdoor use).
- Do NOT store outside.



Applications: Plenum, Riser and General Purpose.



### Standard Stock - Reels

Size (in.)	Cat. No.	Color	Pull Tape	Reel Size (F x W) (in.)	Reel Type	Length (ft)	Reel Wt. (lb)	Product Wt. per 100 ft (lb)
1/2	<b>CD4X1C-1500</b>	Orange	200 lb	34 x 23	Wood	1500	30	7
3/4	<b>CE4X1-1000</b>	Orange	Empty	34 x 23	Wood	1000	30	8
	<b>CE4X1-1000S</b>		Empty	34 x 23	Wood	1000	30	8
1	<b>CF4X1C-500</b>	Orange	900 lb	34 x 23	Wood	500	30	10
	<b>CF4X1C-1000</b>		900 lb	48 x 28	Wood	1000	79	10
	<b>CF4X1C-1500</b>		900 lb	48 x 28	Wood	1500	79	10
	<b>CF4X1C-5200</b>		900 lb	66 x 41	Wood	5200	250	10
	<b>CF4X1C-6500</b>		900 lb	72 x 41	Wood	6500	310	10
	<b>CF4X1C-8000</b>		900 lb	82 x 41	Wood	8000	365	10
1-1/4	<b>CG4X1C-500</b>	Orange	900 lb	48 x 28	Wood	500	79	14
	<b>CG4X1C-900</b>		900 lb	48 x 45	Wood	900	96	14
	<b>CG4X1C-1600</b>		900 lb	48 x 45	Wood	1600	96	14
	<b>CG4X1C-3200</b>		900 lb	66 x 41	Wood	3200	250	14
	<b>CG4X1C-6500</b>		900 lb	96 x 41	Wood	6500	700	14
	<b>CG4X1C-900S</b>		Empty	48 x 28	Wood	900	79	14
1-1/2	<b>CH4X1C-350</b>	Orange	900 lb	48 x 28	Wood	350	79	16
	<b>CH4X1C-1200</b>		900 lb	48 x 45	Wood	1200	96	16
	<b>CH4X1C-4000</b>		900 lb	82 x 41	Wood	4000	365	16
2	<b>CJ4X1C-225</b>	Orange	900 lb	48 x 28	Wood	225	79	21
	<b>CJ4X1C-700</b>		900 lb	48 x 45	Wood	700	96	21
	<b>CJ4X1C-2000</b>		900 lb	82 x 41	Wood	2000	365	21
	<b>CJ4X1C-2800</b>		900 lb	82 x 41	Wood	2800	365	21
3	<b>CL4X1C-150</b>	Orange	900 lb	48 x 45	Wood	150	96	41



## Features

- Sizes 1/2" through 3"
- Pre-installed pull tape available in sizes 1/2" through 3"
- Outside Diameters meet IPS Dimensions
- Footage sequentially marked

## Standard Stock – Coils

Size (in.)	Color	Cat. No.	Pull Tape	Coil Length (ft)	Product Wt. per 100 ft (lb)
1/2	Orange	CD4X1C-500	900 lb	500	7
3/4	Orange	CE4X1-350	Empty	350	8
	Orange	CE4X1-350S	Empty/Split	350	8
1	Orange	CF4X1C-100	900 lb	100	10
	Orange	CF4X1-100S	Empty/Split	100	10
	Orange	CF4X1C-250	900 lb	250	10
	Orange	CF4X1-250	Empty	250	10
	Orange	CF4X1-250S	Empty/Split	250	10
1-1/4	Orange	CG4X1C-200	900 lb	200	14
	Orange	CG4X1-200S	Empty/Split	200	14
1-1/2	Orange	CH4X1C-150	900 lb	150	16
	Orange	CH4X1-150S	Empty/Split	150	16
2	Orange	CJ4X1C-100	900 lb	100	21
	Orange	CJ4X1-100S	Empty/Split	100	21
3	Orange	CL4X1C-150	920 lb	150	24

## Specifications

Size (in.)	I.D. Min. Ref. (in.)	Min. O.D. (in.)	Max. O.D. (in.)	Min. Bend Radius (in.)
1/2	0.60	0.815	0.835	2
3/4	0.74	1.025	1.045	2
1	1.00	1.292	1.312	3
1-1/4	1.35	1.630	1.650	3
1-1/2	1.50	1.868	1.888	4
2	2.00	2.329	2.439	4
3	3.00	3.422	3.452	4

## Custom Orders

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

- Custom Orders are not returnable
- Custom lengths are available in minimum order quantities of 1,000 ft
- Custom color runs are available in minimum order quantities of 10,000 ft

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



Applications: Riser and General Purpose.

## Technical Information

UL Standard 2024	Maximum Value
Maximum Flame Propagation	6.0 ft
Maximum Air Temperature at 12 ft	189°C (372°F)

- Storage: -20°C to 70°C (-4°F to 158°F).
- No UV protection (not suitable for outdoor use).
- Handling: -20°C to 40°C (-4°F to 104°F).
- Do NOT store outside.

## Standard Stock - Reels

Size (in.)	Cat. No.	Color	Pull Tape	Reel Size (F x W) (in.)	Reel Type	Length (ft)	Reel Wt. (lb)	Product Wt. per 100 ft (lb)
3/4	<a href="#">DE4X1-1000</a>	Orange	Empty	34 x 23	Wood	1000	30	12
1	<a href="#">DF4X1C-500R</a>	Orange	900 lb	43 x 23	Wood	500	56	15
	<a href="#">DF4X1C-1000</a>		900 lb	48 x 28	Wood	1000	79	15
	<a href="#">DF4X1C-1500</a>		900 lb	48 x 28	Wood	1500	79	15
	<a href="#">DF4X1C-2700</a>		900 lb	48 x 45	Wood	2700	96	15
	<a href="#">DF4X1C-5200</a>		900 lb	66 x 41	Wood	5200	250	15
	<a href="#">DF4X1C-6500</a>		900 lb	72 x 41	Wood	6500	310	15
	<a href="#">DF4X1C-7000</a>		900 lb	72 x 45	Steel	7000	148	15
	<a href="#">DF4X1C-9400</a>		900 lb	84 x 45	Steel	9400	199	15
1-1/4	<a href="#">DG4X1C-900</a>	Orange	900 lb	48 x 28	Wood	900	79	17
	<a href="#">DG4X1C-500R</a>		900 lb	48 x 23	Wood	500	56	17
	<a href="#">DG4X1C-1500</a>		900 lb	48 x 45	Wood	1500	96	17
	<a href="#">DG4X1C-1600</a>		900 lb	48 x 45	Wood	1600	96	17
	<a href="#">DG4X1C-3200</a>		900 lb	66 x 41	Wood	3200	250	17
	<a href="#">DG4X1C-4500</a>		900 lb	72 x 45	Steel	4500	148	17
	<a href="#">DG4X1C-5600</a>		900 lb	82 x 41	Wood	5600	365	17
	<a href="#">DG4X1C-6500</a>		900 lb	96 x 41	Steel	6500	700	17
1-1/2	<a href="#">DH4X1C-1200</a>	Orange	900 lb	48 x 45	Wood	1200	96	22
	<a href="#">DH4X1C-4000</a>		900 lb	82 x 45	Steel	4000	193	22
	<a href="#">DH4X1C-4500</a>		900 lb	84 x 45	Steel	4500	199	22
2	<a href="#">DJ4X1C-700</a>	Orange	900 lb	48 x 45	Wood	700	96	27
	<a href="#">DJ4X1C-2000</a>		900 lb	82 x 41	Wood	2000	265	27
	<a href="#">DJ4X1C-2800</a>		900 lb	84 x 45	Steel	2800	199	27
3	<a href="#">DL4X1C-750</a>	Orange	900 lb	72 x 41	Wood	750	310	27

## Product Overview

Riser-Gard™ is a non-metallic flexible raceway for use in Riser and General Purpose applications. Riser-Gard™ is available with tape pre-insatalled.

Riser-Gard™ is listed for Riser applications or optical fiber/telecommunication raceways.

Riser-Gard™ is listed for Riser, General Purpose and other cabling optical fiber/telecommunication applications. Riser-Gard™ is suitable for use in vertical runs in shaft or between floors, as well as areas other than the plenum.

**Important: Installed cables must be of suitable rating for the application.**

- For use in Riser and General Purpose areas.
- Riser-Gard™ is also suitable for direct burial.
- Not approved for exposed applications.
- Available in sizes 3/4" through 3".
- Pull tape can be factory pre-installed in 1" through 3".
- Outside diameters meet IPS dimensions.
- Footage sequentially marked.



## Features

- Riser-Gard is also suitable for direct burial. Not approved for exposed applications.
- Available in sizes 3/4" through 3"
- Pull tape can be factory pre-installed in 1" through 3"
- Outside Diameters meet IPS Dimensions
- Footage sequentially marked

## Standard Stock – Coils

Size (in.)	Color	Cat. No.	Pull Tape	Coil Length (ft)	Product Wt. per 100 ft (lb)
3/4	Orange	DE4X1-350	Empty	350	12
1	Orange	DF4X1C-125	900 lb	125	15
	Orange	DF4X1C-250	900 lb	250	15
	Orange	DF4X1-250	Empty	250	15
	Orange	DF4X1C-500	900 lb	500	15
	Orange	DF4X1-250S	Empty/Split	250	15
1-1/4	Orange	DG4X1-200	Empty	200	17
	Orange	DG4X1-200S	Empty/Split	200	17
	Orange	DG4X1C-200	900 lb	200	17
	Orange	DG4X1C-500	900 lb	500	17
1-1/2	Orange	DH4X1-150S	Empty/Split	150	22
	Orange	DH4X1C-150	900 lb	150	22
2	Orange	DJ4X1-100S	Empty/Split	100	27
	Orange	DJ4X1C-100	900 lb	100	27
3	Orange	DL4X1C-250	900 lb	250	27

## Specifications

Size (in.)	I.D. Min. Ref. (in.)	Min. O.D. (in.)	Max. O.D. (in.)	Min. Bend Radius (in.)
3/4	0.74	1.025	1.075	5
1	0.98	1.290	1.340	6
1-1/4	1.31	1.640	1.690	8
1-1/2	1.54	1.880	1.930	10
2	2.00	2.350	2.400	12
3	3.00	3.422	3.452	18

## Custom Orders

How to Build a Catalogue Number:						
Position 1 Product	Position 2 Size (in.)	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 = 1-1/4 H = 1-1/2 J = 2 L = 3	4 = Corrugated	X = Standard	1 = Orange 2 = Black 3 = Gray 4 = White 5 = Blue 7 = Yellow 8 = Red	C = 900 lb Tape	Example -1000 = Feet -1000S = 1000 Feet Split

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

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

## Non-Metallic Adapters and Couplings

- For use with Riser-Gard™ and General Purpose



### Couplings

Catalogue No.	Size (in.)	Color	Standard Carton Quantity	Standard Carton Weight (lb)
SCA240E	3/4	Orange	25	0.783
SCA240F	1	Orange	20	0.972



### Threaded Adapters

Catalogue No.	Size (in.)	Color	Standard Carton Quantity	Standard Carton Weight (lb)
SCA243E	3/4	Orange	100	2.30
SCA243F	1	Orange	50	2.00



### Snap-In Adapters

Catalogue No.	Size (in.)	Color	Standard Carton Quantity	Standard Carton Weight (lb)
SCA253E	3/4	Orange	100	2.90
SCA253F	1	Orange	50	2.30

## Non-metallic Adapters and Couplings

- For use with Plenum-Gard™



### Coupling

Catalogue No.	Size (in.)	Color	Standard Carton Quantity	Standard Carton Weight (lb)
A340F	1	Orange	50	2.50



### Threaded Adapter

Catalogue No.	Size (in.)	Color	Standard Carton Quantity	Standard Carton Weight (lb)
A343F	1	Orange	50	1.55



### Snap-In Adapter

Catalogue No.	Size (in.)	Color	Standard Carton Quantity	Standard Carton Weight (lb)
A353F	1	Orange	50	3.00



## Resi-Gard™ Flexible Raceway (Approved for low voltage use only)

Ideal for providing a main chase from the main distribution panel to a secondary hub in the attic or basement. Resi-Gard™ non-metallic 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.



### Standard Length Coils

Cat. No.	Size (in.)	Pull Tape	Coil Length	Prod. Wt. (lb) Coil
<b>SCE4X1-100</b>	3/4	Empty	100	11.5
<b>SCF4X1C-100</b>	1	900 lb	100	17.9
<b>SCG4X1C-100</b>	1-1/4	900 lb	100	21.5
<b>SCH4X1C-50</b>	1-1/2	900 lb	50	11.2
<b>SCJ4X1C-50</b>	2	900 lb	50	13.4

### Standard Length Reels

Cat. No.	Size (in.)	Pull Tape	Reel Length	Prod. Wt. (lb) Reel
<b>SCE4X1-1000</b>	3/4	Empty	1000	115.0
<b>SCF4X1C-1500</b>	1	900 lb	1500	268.5
<b>SCJ4X1C-500</b>	2	900 lb	500	133.5

## Resi-Gard™ Fittings

A complete line of Carlton® one-piece quick connect couplings, threaded adapters and snap-in terminator adapters are available for quick, easy professional installation of Resi-Gard™ flexible raceway.

### Quick Connect Couplings



Cat. No.	Size (in.)	Std Ctn Qty	Std Ctn Wt. (lb)
<b>SCA240E</b>	3/4	25	0.783
<b>SCA240F</b>	1	20	0.972

### Male Terminal Adapters\*



Cat. No.	Size (in.)	Std Ctn Qty	Std Ctn Wt. (lb)
<b>SCE943G</b>	1-1/4	50	3.0
<b>SCE943H</b>	1-1/2	25	2.5
<b>SCE943J</b>	2	50	6.8

### Quick Connect Threaded Adapters



Cat. No.	Size (in.)	Std Ctn Qty	Std Ctn Wt. (lb)
<b>SCA243E</b>	3/4	25	0.633
<b>SCA243F</b>	1	20	0.778

### Standard Couplings\*



Cat. No.	Size (in.)	Std Ctn Qty	Std Ctn Wt. (lb)
<b>SCE940G</b>	1-1/4	30	3.5
<b>SCE940H</b>	1-1/2	25	3.9
<b>SCE940J</b>	2	30	5.2

\*Must be cemented to Resi-Gard™ Flexible Raceway using ONLY Resi-Gard™ Solvent Cement.

### Quick Connect Snap-In Adapters



Cat. No.	Size (in.)	Std Ctn Qty	Std Ctn Wt. (lb)
<b>SCA253E</b>	3/4	25	0.783
<b>SCA253F</b>	1	20	0.918

## Flexible Raceway Accessories (Approved for low voltage use only)



### Low Voltage Add-On Bracket

Catalogue No.	Size	Std Carton Quantity	Std Ctn Wt. (lb)
SC100SC	1 gang	24	2.3

### Low Voltage Adjustable Brackets

Catalogue No.	Size	Std Carton Quantity	Std Ctn Wt. (lb)
SC100ADJC	1 gang	24	7.5
SC200ADJC	2 gang	20	6.9



### Low Voltage Brackets

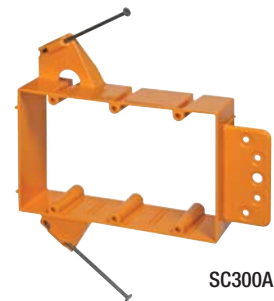
Catalogue No.	Size	Resi-Rings (in.)	Std Carton Quantity	Std Ctn Wt. (lb)
SC100A	1 gang	3/4, 1, 1-1/4	24	5.3
SC200A	2 gang	3/4, 1, 1-1/4	24	7.7
SC300A	3 gang	-	5	1.6



SC100A



SC200A



SC300A

### Cable Clips

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

Catalogue No.	Size (in.)	Standard Order Quantity	Std Ctn Qty	Std Ctn Wt. (lb)
SC14CC	1/4	1 ea. (Equals one bag of 100 clips)	10 bags of 100	2.23
SC12CC	1/2	1 ea. (Equals one bag of 25 clips)	10 bags of 25	2.31
SC34CC	3/4	1 ea. (Equals one bag of 10 clips)	20 bags of 10	2.96



SC34CC



SC12CC



SC14CC



### Conduit Clamps

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



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

Catalogue No.	Size (in.)	Standard Order Quantity	Std Carton Quantity	Std Ctn Wt. (lb)
SCE977EC	3/4	1 ea. (Equals one bag of 5 clamps)	20 bags of 5	1.5
SCE977FC	1	1 ea. (Equals one bag of 5 clamps)	12 bags of 5	1.3
SCE977GC	1-1/4	1 ea. (Equals one bag of 5 clamps)	8 bags of 5	1.1
SCE977HC	1-1/2	1 ea. (Equals one bag of 5 clamps)	6 bags of 5	1.0
SCE977JC	2	1 ea. (Equals one bag of 5 clamps)	6 bags of 5	1.5

## Product Overview

Hal-Free Riser-Gard™ is a halogen free non-metallic 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.

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

### Technical Information:

UL Standard 2024	Maximum Value
Maximum Flame Propagation	3'6"
Maximum Air Temperature	197°C (387°F)

- Storage and Handling: -20°C to 66°C (-4°F to 150°F).
- No UV protection (not suitable for outdoor use).
- Do NOT store outside.



Applications: Riser and General Purpose.

- Free from halogen elements.
- Available in sizes 1" through 2".
- Available in white only.
- Sequentially marked footage.



### Standard Stock - Reels

Cat. No.	Size (in.)	Color	Nom. I.D.	Nom. O.D.	Pull Tape	Reel Size (F x W) (in.)	Reel Type	Reel Length (ft)	Reel Wt. (lb)	Product Wt. per 100 ft (lb)
<b>HF4X4C-5000</b>	1	White	1.049	1.365	900 lb	72 x 41	Wood	5000	310	7.5
<b>HG4X4C-4000</b>	1-1/4	White	1.250	1.550	900 lb	72 x 41	Wood	4000	310	7.5
<b>HH4X4C-2000</b>	1-1/2	White	1.500	1.850	900 lb	66 x 41	Wood	2000	250	12
<b>HJ4X4C-2000</b>	2	White	2.000	2.425	900 lb	82 x 41	Wood	2000	365	21

## Micro-Gard™ Plenum & Micro-Gard™ Riser

Carlton® Micro-Gard™ Plenum and Micro-Gard™ Riser are specifically designed to provide fiber pathways in plenum and riser applications in Multi-Dwelling Units (MDUs) and other premise structures.

The 8/6 and 12/10 mm size conduits can be installed individually or used to optimize space in existing duct structures. And the small size significantly reduces the structural damage caused during pass-throughs.

Micro-Gard™ Plenum and Riser are listed for plenum and riser applications. They're easy to handle, easy to install and easy to conceal, thus making them the ideal MDU cable management system.

***Carlton® Micro-Gard™ Plenum and Micro-Gard™ Riser.  
Small. Slick. Speedy. Ideal for Telecom Installs!***

### Features

- c-UL Listed for Plenum and Riser applications.
- Two Sizes: 8/6 mm and 12/10 mm. The smaller sizes accommodate the size constraints of multi-dwelling units and make installations faster and easier.
- Smooth interior wall eliminates snag points and provides low coefficient of friction regardless of whether jetting or pull-tape is used.
- Superior burn-through resistance for longer cable pulls.
- Pre-installed pull-tape makes installing cable faster and easier (option available for empty duct).
- Sequentially marked footage to easily identify lengths and reduce waste.
- Reel sizes from 1000 to 5000 feet for easy handling on the jobsite.
- Future-proofing raceway system for fast, easy wire/cable upgrades, changes and moves.
- Used in cable bundles.





**Micro-Gard™ Plenum & Micro-Gard™ Riser**



**Specifications**

Catalogue No.	Size	Type	Color	Pre-Installed Tape	Min. Bend Radius (in.)*	Feet/Reel	Reel Size (in.)
MGP08MT-1000	8/6 mm	Plenum	White	200 lb	2	1000	24
MGP08MT-2500	8/6 mm	Plenum	White	200 lb	2	2500	24
MGP08MT-5000	8/6 mm	Plenum	White	200 lb	2	5000	36
MGP12MT-1000	12/10 mm	Plenum	White	200 lb	4	1000	24
MGP12MT-2500	12/10 mm	Plenum	White	200 lb	4	2500	24
MGR08JT-1000	8/6 mm	Riser	Orange	200 lb	2	1000	24
MGR08JT-2500	8/6 mm	Riser	Orange	200 lb	2	2500	24
MGR08JT-5000	8/6 mm	Riser	Orange	200 lb	2	5000	36
MGR12JT-1000	12/10 mm	Riser	Orange	200 lb	4	1000	24
MGR12JT-2500	12/10 mm	Riser	Orange	200 lb	4	2500	24
MGR12JT-5000	12/10 mm	Riser	Orange	200 lb	4	5000	36

\* Important: Do not exceed the minimum bend radius during installation of the product.

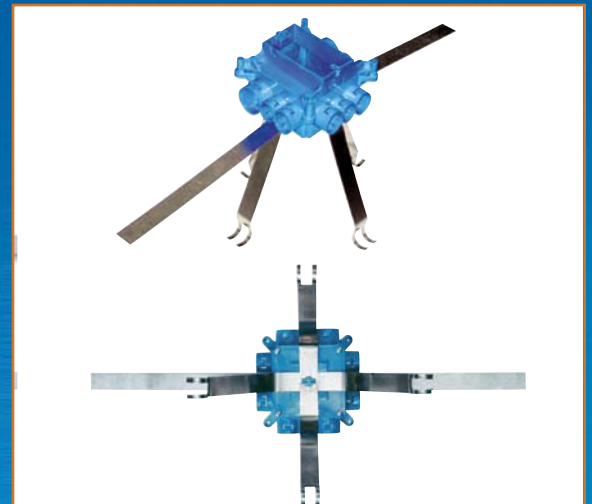
**How to Interpret a Catalogue Number**

Position 1 Product	Position 2 Type	Position 3 Size	Position 4 Color	Position 5 Pull Line	Position 6 Length
MG = Micro-Gard	P = Plenum R = Riser	08 = 8/6 mm 12 = 12/10 mm	J = Orange M = White	T = 200 lb Tape	Example -1000 = 1000 Feet

## Electrical Non-Metallic Conduit Tubing and Accessories

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• ENT Accessories . . . . .	.62–63
• Flex-Plus® Blue ENT . . . . .	.60
• Mounting Brackets and ENT Bridge . . . . .	.66
• Mud Box Assemblies . . . . .	.64–65
• Stub Downs . . . . .	.61
• ENT Technical Information . . . . .	.67



## Flex-Plus® Blue™ ENT

is a non-metallic 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.

- Ideal storage conditions down to -20°C.

(see page 67 for technical information.)

### Options

- Sizes 1/2" through 2"
- Colors can designate different voltages
- Yellow color for communication circuits and signaling cable
- Red color for fire alarm circuits
- Blue color for power circuits



### Standard Stock – Reels

Cat. No.	Size (in.)	Color	Nom. I.D.	Nom. O.D.	Pull Tape	Min. Bend Radius	Reel Type (W=Wood)	Reel Length	Reel Wt. (lb)	Wt. per 100 ft (lb)
1205AKC-001	1/2	Blue	0.56	0.84	Empty	36 x 24	W	1500	40	10
1207AAC-001	3/4	Blue	0.76	1.05	Empty	36 x 24	W	1000	40	14
12008C-750	1	Blue	1.00	1.315	Empty	36 x 24	W	750	40	20
12009C-750	1-1/4	Blue	1.402	1.66	Empty	48 x 32	W	750	90	19
12009C-500	1-1/4	Blue	1.402	1.66	Empty	48 x 32	W	500	90	19
12010C-750	1-1/2	Blue	1.554	1.90	Empty	48 x 32	W	750	90	39
12011C-500	2	Blue	2.030	2.375	Empty	48 x 32	W	500	90	32
12011C-225	2	Blue	2.030	2.375	Empty	48 x 32	W	225	90	32

1-1/4" - 2" available in yellow & red, made to order; contact your Regional Sales Office.

### Standard Stock – Coils

Cat. No.	Size (in.)	Color	Nom. I.D.	Nom. O.D.	Pull Tape	Min. Bend Radius	Coil Length (ft)	Wt. per 100 ft (lb)
12005C-200	1/2	Blue	0.56	0.84	Empty	6	200	10
12005C-370	1/2	Blue	0.56	0.84	Empty	6	370	10
12007C-100	3/4	Blue	0.76	1.05	Empty	6	100	14
12007C-240	3/4	Blue	0.76	1.05	Empty	6	240	14
12008C-160	1	Blue	1.00	1.315	Empty	6	160	22
12009C-500C	1-1/4	Blue	1.402	1.66	Empty	7	500	19
12010C-300C	1-1/2	Blue	1.554	1.90	Empty	8-1/4	300	39
12011C-225C	2	Blue	2.030	2.375	Empty	9-1/2	225	32

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

ENT may show color deterioration in direct sunlight when stored outdoors over an extended period of time. It is suggested that all ENT products not be stored outside.



## Vertical Stub Down

Carlton Vertical Stub Downs are designed to provide a quick, easy connection to a wood deck or transition from slab-to-slab using Carlton's "Quick Connect" snap-in design... simply snap the ENT in place. The integral snaps provide a secure mount – preventing the ENT from pulling out while maintaining the ability for easy removal of the fitting once the deck is removed. All in a concrete tight application. The underside of this fitting provides ample room to attach a Carlton coupling to the ENT to continue the run. Carlton Vertical Stub Downs are manufactured out of a highly engineered thermoplastic material to provide extra strength and durability and are available in sizes 1/2", 3/4" and 1".



Cat. No.	Size (in.)	Std Ctn Qty	Std Ctn Wt. (lb)
A210D	1/2	50	3.8
A210E	3/4	50	3.7
A210F	1	50	4.8

## 45° Stub Down

Carlton 45 Degree Stub Downs are designed to allow a smooth transition from cross deck ENT runs to vertical applications. The integral snaps provide a secure mount – preventing the ENT from slipping or pulling out- but also allow the stub to easily be removed. The underside of this fitting provides ample room to attach a Carlton coupling to the ENT to continue the run. Carlton 45 Degree Stub Downs are manufactured out of a highly engineered thermoplastic material to provide extra strength and durability. They're concrete tight and available in sizes 1/2", 3/4" and 1".



Cat. No.	Size (in.)	Std Ctn Qty	Std Ctn Wt. (lb)
A220D	1/2	25	1.8
A220E	3/4	25	2.0
A220F	1	25	2.6
A220G	1-1/4	25	2.8
A220H	1-1/2	25	3.3
A220J	2	25	4.1

## Vertical Stub Down Transition Adapter

CARLTON NON-METALLIC EXCLUSIVE... Carlton Vertical Stub Down Transition Adapters like our Vertical Stub Downs, provide a means to transition from ENT to another wire management product where code requires other wire management means. The integral snaps provide a secure mount – preventing the ENT from slipping or pulling out, while the deck mount flange has a threaded port allowing connection to other conduit system using a terminal adapter. Carlton Vertical Stub Down Transition Adapters are manufactured out of polycarbonate material to provide extra strength and durability. They're concrete tight and available in sizes 1/2", 3/4" and 1".



Cat. No.	Size (in.)	Std Ctn Qty	Std Ctn Wt. (lb)
A200D	1/2	50	3.8
A200E	3/4	50	3.7
A200F	1	50	4.8



## 90° Stub Down Transition Adapter

CARLTON NON-METALLIC EXCLUSIVE... Carlton 90 Degree Stub Downs are designed to allow a smooth transition from cross deck ENT runs to vertical applications where code requires other wire management means. The integral snaps provide a secure mount – preventing the ENT from slipping or pulling out, while the deck mount flange has a threaded port allowing connection to any conduit system using a terminal adapter. Carlton 90 Degree Stub Downs are manufactured out of polycarbonate material to provide extra strength and durability. They're concrete tight and available in sizes 1/2", 3/4" and 1".



Cat. No.	Size (in.)	Std Ctn Qty	Std Ctn Wt. (lb)
A230D	1/2 Female ENT to NPSC (Female)	25	2.0
A230E	3/4 Female ENT to NPSC (Female)	25	2.4
A230F	1 Female ENT to NPSC (Female)	25	3.3



### Transition Adapters

#### Male ENT to Schedule 40 PVC Conduit

CARLON EXCLUSIVE...Carlton Male ENT to Schedule 40 PVC Conduit Transition Adapters are designed to connect Schedule 40 conduit to Carlton Flex-Plus® Blue™ ENT boxes and fittings. Simply solvent cement the PVC adapter to the Schedule 40 conduit and snap the adapter into the Carlton's "Quick Connect" snap-in connector on the box or fitting. Carlton Male ENT to Schedule 40 Adapters are concrete tight and available in sizes 1/2", 3/4" and 1".



Cat. No.	Size	Std Ctn Qty	Std Ctn Wt. (lb)
A263D	1/2 ENT to 1/2 Sch. 40	100	2.4
A263E	3/4 ENT to 3/4 Sch. 40	100	3.2
A263F	1 ENT to 1 Sch. 40	100	4.5



#### ENT to EMT

Carlton ENT to EMT Transition Adapters are designed to easily transition from Carlton Flex-Plus® Blue™ ENT to EMT using Carlton's "Quick Connect" snap-in design. The EMT is held securely in place using the small screw provided. This helps prevent the EMT from slipping/shifting out of the adapter. All ENT to EMT adapters are manufactured out of polycarbonate material to provide extra strength and durability. They're concrete tight and available in sizes 1/2", 3/4" and 1".



Cat. No.	Size	Std Ctn Qty	Std Ctn Wt. (lb)
A245D	1/2 ENT to 1/2 EMT	100	3.4
A245E	3/4 ENT to 3/4 EMT	100	4.1
A245F	1 ENT to 1 EMT	100	5.4



#### Reducer

CARLON EXCLUSIVE...Carlton ENT Reducers are designed to provide an easy transition from 1" Carlton ENT to 3/4" ENT or from 3/4" Carlton ENT to 1/2" ENT. They're concrete tight and manufactured out of polycarbonate material to provide extra strength and durability. Carlton ENT Reducers provide flexibility while on the jobsite by minimizing the need to carry size specific boxes and fittings. Carlton ENT Reducers provide the versatility to convert Carlton fittings and boxes to many different sizes and configurations.



Cat. No.	Size	Std Ctn Qty	Std Ctn Wt. (lb)
A273DE	3/4 to 1/2	100	3.2
A273EF	1 to 3/4	100	2.4





## Quick Connect Adapters and Couplings

- Carlton 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 Carlton ENT.
- All sizes of rigid non-metallic conduit fittings are compatible with ENT when using ENT cement.
- Rigid non-metallic conduit fittings are recommended for use with Carlton 1-1/4" – 2" Flex-Plus Blue ENT.
- Use of ENT Blue Quick-Set Cement is required. See page 77 for details.
- When One Piece Quick Connect Snap-In Terminator Adapters are installed in a concrete application, Carlton's flat sealing washers must be used on the box connection ends

### Couplings

Cat. No.	Size (in.)	Std Ctn Qty	Std Ctn Wt. (lb)
A240D	1/2	150	2.90
A240E	3/4	100	3.00
A240F	1	50	2.30



### Threaded Adapters

Cat. No.	Size (in.)	Std Ctn Qty	Std Ctn Wt. (lb)
A243DC	1/2	150	2.55
A243EC	3/4	100	2.30
A243FC	1	50	2.00



### Snap-In Adapters

Cat. No.	Size (in.)	Std Ctn Qty	Std Ctn Wt. (lb)
A253D	1/2	150	2.70
A253E	3/4	100	2.90
A253F	1	50	2.30



## Rigid Non-Metallic Conduit Adapters and Couplings

### Standard Couplings

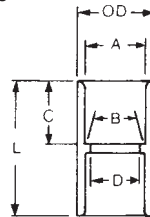


All socket fittings should be attached using Carlton solvent cement. Using Carlton fittings with Carlton non-metallic conduit insures system integrity.

*Socket type for joining non-metallic conduit.*



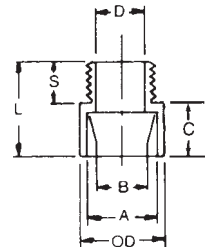
90813



### Male Terminal Adapter



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	L	Std Ctn Wt. (lb)
			Typical				Typical		
CE940DR-CTN	1/2	150	0.852	0.836	0.728	1-7/64	11/16	1-1/2	4.1
CE940ER-CTN	3/4	100	1.064	1.046	0.840	1-5/16	3/4	1-5/8	4.4
CE940F-UPC	1	50	1.330	1.310	1.210	1-5/8	15/16	2	3.5
E940G	1-1/4	30	1.677	1.655	1.535	1-63/64	1	2-1/8	3.5
E940H	1-1/2	25	1.918	1.894	1.755	2-15/64	1-1/8	2-3/8	3.9
E940J	2	30	2.393	2.369	2.190	2-47/64	1-3/16	2-1/2	5.3

Cat. No.	Size (in.)	Std Ctn Qty	A	B	Min. D	Max. O.D.	C	S	L	Std Ctn Wt. (lb)
			Typical				Typical			
E943D	1/2	150	0.852	0.836	0.597	1-1/8	5/8	9/16	1-5/16	2.8
E943E	3/4	100	1.064	1.046	0.800	1-11/32	3/4	9/16	1-3/8	3.5
E943F	1	50	1.330	1.310	1.018	1-5/8	1	11/16	1-25/32	3
E943G	1-1/4	30	1.677	1.655	1.332	2-1/32	1	3/4	1-15/16	4
E943H	1-1/2	25	1.918	1.894	1.566	2-5/32	1-3/16	3/4	2-1/16	2.5
E943J	2	30	2.393	2.369	2.000	2-21/32	1-3/16	3/4	2-1/8	7

### Mud Box Assemblies

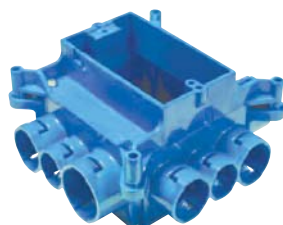
Carlton Mud Box Assemblies are available in three unique styles... ceiling ring, one-gang and two-gang. All Mud Box Assemblies are manufactured out of polycarbonate material to provide extra strength and durability, are concrete tight and have twelve integral connectors...two-1", six-3/4" and four-1/2". Using our new ENT Reducers (see page 50), this product will meet ANY jobsite application.



#### Mud Box with Ceiling Ring

- Threaded brass inserts for fan (#10-32 screws and fixture (#8-32 screws) mountings
- Listed for fixture support up to 50 lb
- Listed for ceiling fans up to 35 lb

Cat. No.	Description	Std Ctn Qty	Std Ctn Wt. (lb)
A863CFG	Mud Box w/Ceiling Ring & Ground Lug	24	16.1

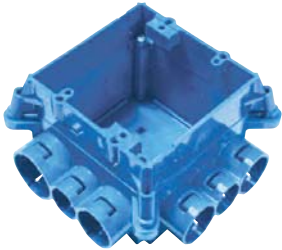


#### Mud Box with One-Gang Ring

Cat. No.	Description	Std Ctn Qty	Std Ctn Wt. (lb)
A863SG	Mud Box w/One-Gang Ring and Ground Lug	24	16.2



## Mud Box Assemblies



### Mud Box with Two-Gang Ring

Cat. No.	Description	Std Ctn Qty	Std Ctn Wt. (lb)
<b>A863DG</b>	Mud Box w/Two-Gang Ring and Ground Lug	24	16.6

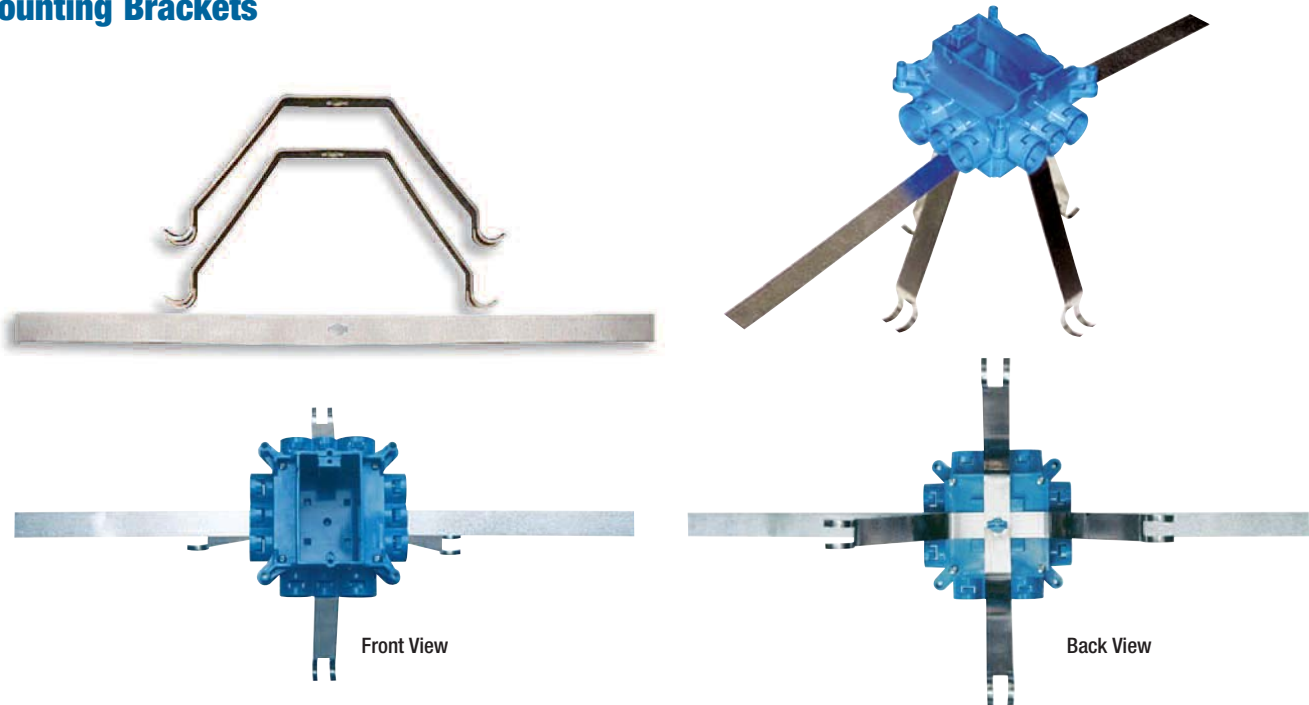


### Mud Box Assemblies with Mounting Feet

Carlton Mud Box Assemblies with Mounting Feet are specifically engineered and designed for use in Tunnel Form applications. The mounting feet are located on all four corners and allow the box to attach directly to the wall of the form using pop rivets. The pop rivets help keep the box in position during the pour and provide a safe, secure, and rust resistant mount.

Cat. No.	Description	Std Ctn Qty	Std Ctn Wt. (lb)
<b>A863CFGF</b>	Ceiling Ring and Ground Lug	24	17.46
<b>A863DGF</b>	Double Gang and Ground Lug	24	17.99
<b>A863SGF</b>	Single Gang and Ground Lug	24	17.44

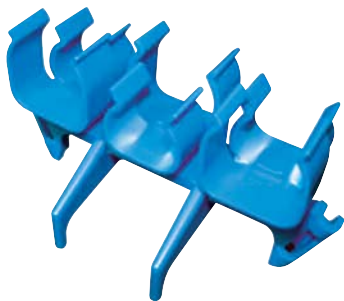
### Mounting Brackets



CARLON EXCLUSIVE...The Carlon ENT Mounting Bracket is specifically designed for use with Carlon ENT Mud Box Assemblies in vertical concrete walls where one- or two-gang boxes are needed. The stainless steel spring-loaded mechanism provides a secure outlet box between concrete forms while the soft steel strap allows for the outlet box to be secured to rebar. The bracket combination assures a straight box opening and a concrete tight fit. Mud Box not included.

Cat. No.	Description	Std Ctn Qty	Std Ctn Wt. (lb)
A863MB	Mud Box Mounting Kit	1	0.98

### ENT Bridge



CARLON EXCLUSIVE...The Carlon ENT Bridge is designed to support long ENT runs in concrete pour applications. This makes pulling wire/cable a snap. Installation is easy... simply mount the ENT bridge, using nails or screws, to the wood deck mounting and snap the ENT into place. The bridge is designed to hold the conduit in place while minimizing dips in the conduit over long runs. The Carlon ENT Bridge is manufactured out of a highly engineered thermoplastic material to provide extra strength and durability and can accommodate ENT sizes 1/2", 3/4" and 1". (The Carlon ENT bridge can be used with rigid non-metallic conduit too.)

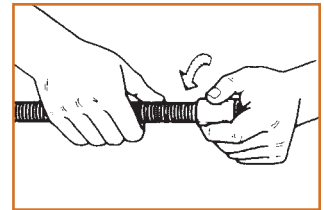
Cat. No.	Description	Std Ctn Qty	Std Ctn Wt. (lb)
A293DEF	ENT Bridge	50	9.0

## 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, cable ties and tape.
4. When using rigid non-metallic conduit fittings for concrete tight performance:



- 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.
- 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.



## Features

- ENT rated for 75°C Canada (90°C conductors US)
- Recognized for use with PVC rigid non-metallic conduit fittings with all sizes of ENT
- One piece ENT Coupling, Threaded Terminator and RNC Transition Fitting are rated concrete tight without tape
- Recognized for use in 2-hour fire resistive nonload bearing and load bearing wall assemblies
- Recognized for use in 1-hour fire resistive nonload bearing wall assemblies
- Recognized for use in a fire resistive ceiling assembly (up to 3 hours)
- Conductors easily push through the raceway (up to approximately 50 feet)
- For use in buildings in accordance with CEC Section 12-1500
- Outside Diameters meet IPS Dimensions
- Storage                -20°C to 70°C
- Handling              -20°C to 40°C

## Typical Applications

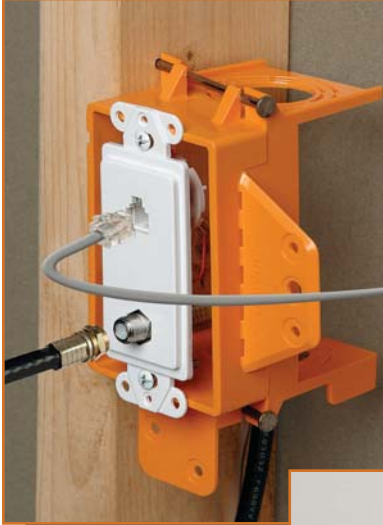
- Residential: Low or high rise – multi or single family
- Commercial: Low or high rise – office, retail, hotel/motel, restaurant, etc.
- Schools, classrooms, dormitories, offices
- Fire Alarm Systems
- Recreational vehicles and parks
- Solar Photovoltaic systems
- Marinas and boatyards
- Other uses per the current CEC

## Low Voltage Brackets and Kits

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- Low Voltage Kit . . . . .70
- Low Voltage Brackets . . . . .71
- Recessed 3-Gang Recessed Plate . . . . .72-73





### Low Voltage Kit

The Carlton Low Voltage Adjustable Floor Bracket is specifically designed for the low voltage, structured cabling market... the floor box is industry standard orange to identify low voltage applications, the open design provides the space needed for low voltage bend radius requirements and the Leviton QuickPort® Quad 106® Insert provides up to four low voltage outlets ports. The Carlton Low Voltage Adjustable Floor Bracket is ideal for any residential or commercial low voltage application.

The floor bracket also features a patented screw design allowing it to be adjusted to most finished floor heights by simply turning the screw clockwise or counterclockwise and adjusting flush to the floor.

The floor bracket kit comes complete with a non-metallic (white or ivory) or brass cover, a Leviton QuickPort® Quad 106® Insert, new work and old work metal mounting brackets and mounting screws.

- White, Ivory or Brass Cover
- Orange – Identifies Low Voltage Installations
- Open Design Floor Bracket – Accommodates Low Voltage Bend Radius Requirements
- Bracket Adjusts to Most Finished Floor Depths
- Leviton QuickPort® Quad 106® Insert – Install up to 4 Low Voltage Inserts
- Two-Door Design

Cat. No.	Cover	Std Ctn Qty	Std Ctn Wt. (lb)
<b>SC100FBWC</b>	Non-metallic – White	8	5.62
<b>SC100FBVC</b>	Non-metallic – Ivory	8	5.62
<b>SC100FBBC</b>	Brass	8	13.78



### Installation



Install clip over subfloor.



Screw in to adjust to height of flooring or carpet.



Beautiful flush fit every time!

## One-Gang and Two Gang – Low Voltage



SC100ADJC

Cat. No.	Description	Size W x H (in.)	Std Ctn Qty	Std Ctn Wt. (lb)
SC100ADJC	One-Gang Adjustable Backless Bracket	3-7/8 x 3-3/4	24	7.5
SC200ADJC	Two-Gang Adjustable Backless Bracket	5-5/8 x 3-5/8	20	6.9

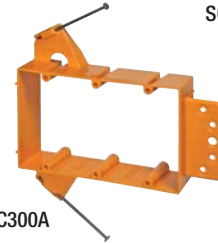
## Low Voltage Backless Bracket



SC100A



SC200A



SC300A

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. Resi-Rings accept 3/4", 1" and 1-1/4" Resi-Gard.

Cat. No.	Description	Size W x H (in.)	Std Ctn Qty	Std Ctn Wt. (lb)
SC100A	One-Gang Backless Bracket	2.32 x 3.73	24	7.5
SC200A	Two Gang Backless Bracket	5.35 x 3.81	24	7.7
SC300A	Three Gang Backless Bracket	8.69 x 7.20	5	1.6

## Old Work Backless Brackets



One-Gang

Cat. No.	Description	Size (in.)	Std Ctn Qty	Std Ctn Wt. (lb)
SC100RR	One-Gang Backless Old Work Bracket with swing clamps	2-1/4 x 3-1/4	12	1.4



One-Gang

Cat. No.	Description	Size (in.)	Std Ctn Qty	Std Ctn Wt. (lb)
B100R-CRD	One-Gang Backless Old Work Bracket with swing clamps	2-1/4 x 3	12	1.4



Two-Gang

Cat. No.	Description	Size (in.)	Std Ctn Qty	Std Ctn Wt. (lb)
SC200RR	Two-Gang Backless Old Work Bracket with swing clamps	3.92 x 4.00	6	0.9

## 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

Cat. No.	Description	Size W x L (in.)	Std Ctn Qty	Std Ctn Wt. (lb)
SC100SC	One-Gang Add-On Bracket	1.80 x 3.68	24	2.3



### 3-Gang Recessed Plate



The New Carlon RDV 3-Gang Old Work Plate, Cat. No. CSC300PR, has been developed to simplify today's in-home entertainment/networking needs. The box is designed to accommodate the wires, cables and cords used with flat panel display installations.

It features a two-gang low voltage opening and a one-gang opening complete with device box (devices and plates not included).

The hi-gloss, recessed design eliminates unsightly wires, cables and cords and blends with any décor. The RDV Old Work Plate makes installing flat panel displays faster and easier!





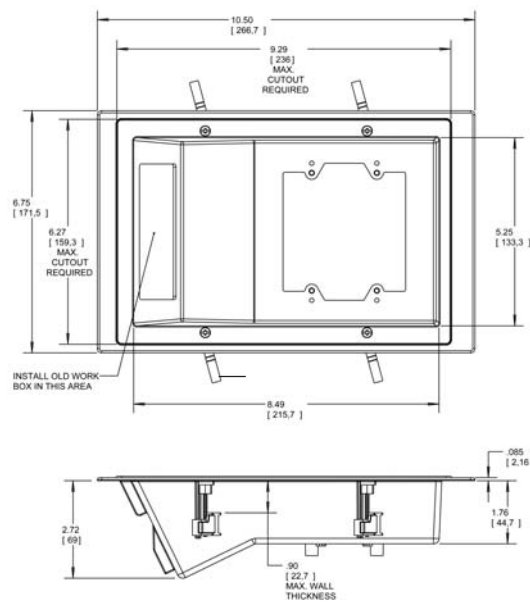
## 3-Gang Recessed Plate

### Features

- 3-Gang dual service capability: Accommodates (1) high and (2) low voltage services using one plate (boxes, devices and plates not included)
- Recessed low profile design: Eliminates unsightly wires and plug heads
- Universal 1-gang outlet / switch opening: Including the box you need
- Pre-assembled box and frame: Reduces labor time and saves money
- Shallow design: Provides ample room behind the dry wall and between the studs and accommodates cable bend requirements
- 4 Swing out clamps: Locks the plate securely to the wall – horizontal or vertical mount
- Superior hi-gloss, paintable finish: Professional appearance. Blends with any décor
- Non-metallic, ABS material: Lightweight and easy to handle

### Specifications

Cat. No.	Description	Std Carton Qty	Std Carton Wt. (lb)
CSC300PR	RDV 3-Gang Old Work Plate with Outlet Box	6	4.84



### Installed



Low voltage devices and receptacle not included



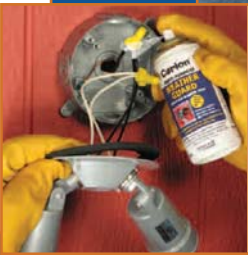
Top view showing ample room between drywall and studs

# Carlton®

## Cement and Cutters

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- Cements .....76–77
- Conduit Cutters .....81
- Installation Instructions .....80
- Primers .....78
- Sealers .....79



## Medium – Clear



Recommended pipe application and sizes	Set-up time (Evaporation Rate)	Recommended installation temp.	Lap Shear @ 23°C	Viscosity at 24°C as manufactured
Recommended for all grades and types of Carlton PVC conduit, duct, wireway and fittings, except Flex-Plus® Blue™ ENT (Electrical Non-metallic Tubing.) Up through 6" diameter.	Under -12°C not recommended -1 to 10°C 5-6 minutes 10 to 21°C 3-4 minutes 21 to 32°C 1-2 minutes	5 to 37.7°C	2 hrs. 350 psi 16 hrs. 800 psi 72 hrs. 1,500 psi	500-900 cps

Cat. No.	Size	Applicator	Description	Ctn Qty	Ctn Wt. (lb)
VC9963C	473 ml	Dauber	PVC Medium Clear	24	29.0

## Regular – Clear



Recommended pipe application and sizes	Set-up time (Evaporation Rate)	Recommended installation temp.	Lap Shear @ 23°C	Viscosity at 24°C as manufactured
Recommended for all grades and types of Carlton PVC conduit, duct, wireway and fittings, except Flex-Plus® Blue™ ENT (Electrical Non-metallic Tubing.) Up through 6" diameter.	Under -12°C not recommended -1 to 10°C 5-6 minutes 10 to 21°C 3-4 minutes 21 to 32°C 1-2 minutes	5 to 37.7°C	2 hrs. 350 psi 16 hrs. 800 psi 72 hrs. 1,500 psi	500-900 cps

Cat. No.	Size	Applicator	Description	Ctn Qty	Ctn Wt. (lb)
VC9965C	118 ml	Dauber	PVC Regular Clear	24	8.4



## All Weather – “Quick-Set” Cement



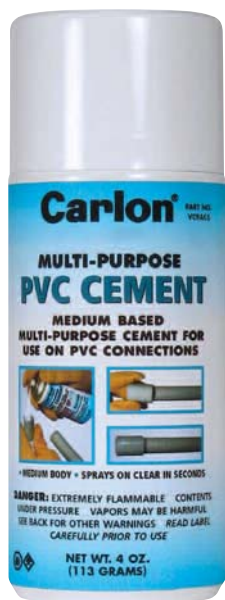
Recommended pipe application and sizes	Set-up time (Evaporation Rate)	Recommended installation temperature	Lap Shear @ 23°C	Viscosity at 24°C as manufactured
Recommended for all grades and types of Carlton PVC conduit, duct, wireway and fittings, except Flex-Plus® Blue™ ENT (Electrical Non-metallic Tubing.) Up through 6" diameter.	-20 to -12°C 6-8 minutes -12 to -1°C 4-5 minutes -1 to 10°C 3-4 minutes 10 to 21°C 1-2 minutes 21 to 32°C 1/2-1 1/2 minutes	-20 to 37.7°C	2 hrs. 350 psi 16 hrs. 800 psi 72 hrs. 1,500 psi	400-700 cps

Cat. No.	Size	Applicator	Ctn Qty	Ctn Wt. (lb)
<b>VC9983C</b>	473 ml	Dauber	24	30.0
<b>VC9985C</b>	118 ml	Dauber	24	7.5

Meets ASTM D-2564

### Multi-Purpose Spray-On PVC Cement

No Waste • Sprays on in seconds • Fast setting



- Equivalent to a medium bodied low-VOC, quick setting clear cement
- No more spills
- Reuse can until empty
- Installation: 10 to 26°C Storage: 1 to 48°C
- Meets ASTM D-2564
- 3 year shelf life
- One 120 ml can is equivalent to 120 ml of non-aerosol PVC cement\*

\*Equivalence is subject to usage and will vary

#### Applications

- For use up to 4" dia. Sch 40 PVC electrical conduit
- For use with PVC Raceways only. Not recommended for use on water, sewer, natural gas, compressed gas or air connections.



Temperature Range	Recommended Set Time		
	Pipe Sizes 1/2" to 1-1/4"	Pipe Sizes 1-1/2" to 2"	Pipe Sizes 2-1/2" to 4"
15 to 37.7°C	2 min.	5 min.	30 min.
4 to 15°C	5 min.	10 min.	2 hrs.
-17 to 4°C	10 min.	15 min.	12 hrs.

Recommended set time may vary depending on humidity

Cat. No.	Size	Ctn Qty	Ctn Wt. (lb)
VC9AC5C	120 ml	12	5.6

## Multi-Purpose Weather-Gard™ Spray-On Rubber Film

No Waste • Sprays on in seconds • Fast setting



- Weatherproof
- Forms a protective weatherproof seal on electrical connections
- Dries in minutes to crystal clear rubber film
- Prevents corrosion on electrical connections
- Recommended installation temperatures 10 to 26°C
- Can be used on wood and plastic
- 2 year shelf life

### Applications

- Electrical connections
- Outdoor lighting
- Panel boxes
- Pool motors and timers
- Water valves and connections
- Sprinkler connections and control box
- Marine applications



Cat. No.	Size	Ctn Qty	Ctn Wt. (lb)
VC9WG5C	120 ml	12	5.6

## Multi-Purpose Spray-On Rubber Thread Gasket

No Waste • Sprays on in seconds • Fast setting



- Dries to rubber gasket to seal pipe threads
- Seals out leaks
- Protects against rust and corrosion
- UV Resistant
- Weatherproof
- 2 year shelf life



### Applications

- PVC
- Iron
- Copper
- Brass

Cat. No.	Size	Ctn Qty	Ctn Wt. (lb)
VC9TS5C	120 ml	12	5.6

## Cement Joints

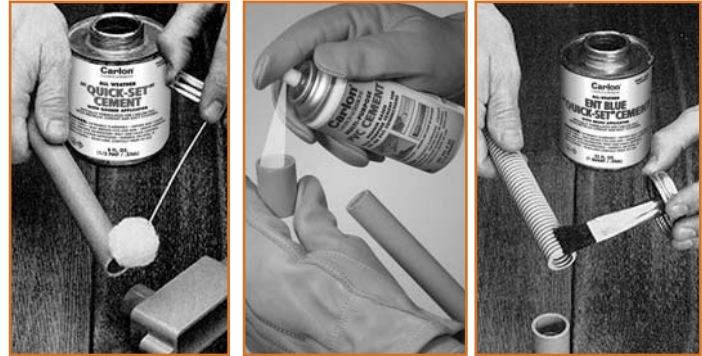


Carlton non-metallic products are joined by means of solvent cement joints. Sizes 1/2" through 1-1/2" should be cut square (using a fine tooth handsaw) and deburred. For sizes 2" through 6" a miter box or similar saw guide should be utilized to keep the material steady. After cutting and deburring, wipe ends clean of dust, dirt and shavings.

Joining process as follows: Be sure that conduit end is clean and dry. Apply coat of Carlton 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.

Carlton recommends the use of Carlton 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) Carlton All Weather Quick-Set Cement is recommended. Standard grade clear cement is recommended for non-critical utility applications where gap filling and leak testing are not required.



### 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 outlined above 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 Carlton 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 ENT.
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.

#### Average number of joints per can

Trade Size	237 ml	473 ml	946 ml	3.78 L	120 ml	480 ml
1/2	140	275	550	2,200	70	275
3/4	90	180	360	1,440	45	180
1	70	140	280	1,120	35	140
1-1/4	50	100	200	800	25	100
1-1/2	37	75	150	600	18.5	75
2	20	40	80	320	10	40
2-1/2	17	35	70	280	8.5	35
3	15	30	60	240	7.5	30
3-1/2	13	27	54	216	6.5	27
4	12	25	50	200	6	25
5	9	19	38	150	N/A	N/A
6	6	12	24	95	N/A	N/A

CAN: Average shelf-life of all Carlton cement is 24 months (unopened cans stored below 26°C.)

SPRAY: Average shelf-life of all Carlton Spray PVC Cement is 3 years.

All Carlton cements are specially formulated to be used with Carlton PVC products, and do not require primers when parts are clean of dirt and moisture.



## Kwikcut Cutter



For fast, smooth field cuts of 1/2 in. through 1 in. Innerduct.

Cat. No.	Size (in.)	Std Ctn Qty
CC120B	8	10



## Medium Cutter



Hand held cutter makes fast square, smooth field cuts on Innerduct sizes 1/2 in. through 1-1/4 in.

Cat. No.	Size (in.)	Std Ctn Qty
CC125	9	1

## Large Cutter



For clean cuts of Innerduct sizes 1/2 in. through 2 in.

Cat. No.	Size (in.)	Std Ctn Qty
CC122	17- 1/2	1

# Carlton®

## Wire Handling Equipment

---

- Caddies .....86–87
- EZ-Bend™ .....84
- Karts .....85





For field bending of small and large diameter non-metallic conduit, the easy answer is Carlton 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 is a registered Trademark of Bradshaw Manufacturing, Inc.

### EZ BEND™ Conduit Bender, Jr.

A practical, convenient portable conduit bender for 1/2" through 2" diameter non-metallic 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: 7-1/2" x 8-1/2" x 31"  
Operating Temperature: 82° - 93°C



Carlton'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 Carlton's EZ BEND Conduit Bending Equipment ensures that it will last for years to come.

Cat. No.	Std Ctn Qty	Std Ctn Wt. (lb)
G280J	1	10

\*EZ BEND is a registered trademark of Bradshaw Manufacturing, Inc.

## Field Bending Rigid Non-Metallic Conduit

### 1. Heating

Conduit section to be bent must be heated evenly over the entire length of the curve. Carlton 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 1-1/2" 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: Carlton does not offer bending plugs.)



Minimum practice is required to master the three steps in bending non-metallic 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.

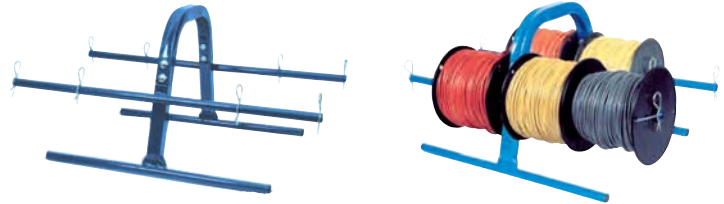
### Special Bends

For "blind" bends or for compound turns in a conduit run, the heated conduit may be solvent cemented in place while still flexible.



## Wire Kaddy™

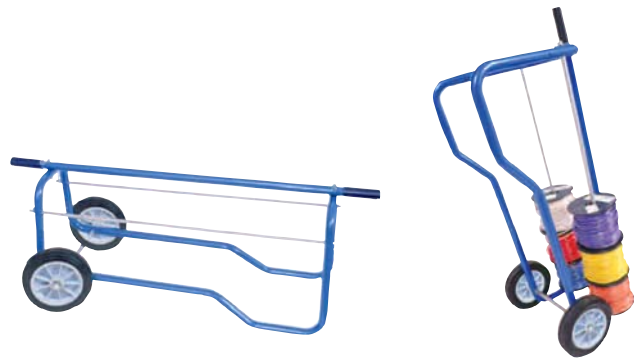
- Dispense Small quantities of spooled wire.
- Convenient hand carrying design.
- Constructed of steel tubing with premium powder coat finish.
- 3/8" hitch pin clip allows easy spool changes.



Cat. No.	Dimensions	Std Ctn Qty	Std Ctn Wt. (lb)	Capacity	
				Qty of Spools	Spool Dimensions
WK7001	22.75" L x 14" W x 11" H	4	25	8	7" Diameter x 5" wide
				4	7" Diameter x 6" – 10" wide

## Wire Handling Kart

- Dispense quantities of spooled wire.
- Constructed of steel tubing with premium powder coat finish.
- 3/8" hitch pin clip allows easy spool changes.



Cat. No.	Dimensions	Std Ctn Qty	Std Ctn Wt. (lb)	Capacity	
				Qty of Spools	Spool Dimensions
WK7101	44.25" L x 16" W x 17.5" H	2	47	12	7" Diameter x 5" wide
				6	7" Diameter x 6" – 10" wide

## Multi-Purpose Wire Kart

- Dispense quantities of spooled wire.
- Heavy-duty construction with premium powder coat finish.
- 5 wire spool axles.
- 3/8" hitch pin clip allows easy spool changes.
- Built-in wire guide on handle allows horizontal dispensing.
- Large 8" heavy-duty wheels with adjustable axle position.
- Designed to pass through a 28" opening.



Cat. No.	Dimensions	Std Ctn Qty	Std Ctn Wt. (lb)	Capacity	
				Qty of Spools	Spool Dimensions
WK7103	25" L x 28" W x 55" H	1	58.6	6	2500' – up to 16" diameter
				15	500' – 7" diameter x 5" wide

### Cable Dispenser

- Two mounting styles in one product vs competitive offering
- Floor, or stud mount
- Smoothly dispense coils of armored cable or NM-B.
- Swivel eyelet prevents tangles while paying out.
- Wide base for stability.
- Easy assembly, no tools required.



Cat. No.	Dimensions	Std Ctn Qty	Std Ctn Wt. (lb)	Capacity	
				Qty of Spools	Spool Dimensions
WK7203	15.5" H x 19" W	3	45.5	Inside	5.50" min, inside coil dia.
				Outside	17" max. outside coil dia.
				Max. Weight	50 lb



Stud mount

## 6 Reel Wire Dispenser

- Dispense large quantities of spool wire.
- Heavy-duty construction with premium powder coat finish.
- 6 angled spindles keep reels in place without locking.
- Built in wire guide.
- 2 fixed wheels, 1 locking swivel wheel.
- Designed to pass through a 30" opening.



Cat. No.	Dimensions	Std Ctn Qty	Std Ctn Wt. (lb)	Capacity	
				Qty of Spools	Spool Dimensions
WK7201	44" L x 29" W x 33" H	1	80	6	2500' – up to 18" diameter

## 10 Reel Wire Dispenser

- All-steel construction.
- Premium powder coated finish.
- Easy loading, dispensing and changing of spooled wire.
- Adjustable wire guide.
- Two fixed and two swivel locking casters for stability.
- Angled spindles keep spools in place during use
- 360° rotating reel frame
- Fits through a 36" door opening
- Heavy duty
- Easy assembly



Cat. No.	Dimensions	Std Ctn Qty	Std Ctn Wt. (lb)	Capacity	
				Qty of Spools	Spool Dimensions
WK7202	50" L x 32" W x 57.5" H	1	190	10	2500' – up to 18" diameter

# Carlton®

## Carlton® Door Chimes

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- Transformers . . . . .91
- Wired Chimes . . . . .90
- Wireless Chimes . . . . .90

*Note: For a complete listing of our Carlton® Door Chimes offering, please contact our regional office closest to you.*





### Two Button Chime Kits



- Two lighted buttons - one gold, one white
- 16V transformer
- One or two door operation - two notes for front door and one note for back



- Two unlighted buttons - white
- 16V transformer
- One or two door operation - two notes for front door and one note for back

Cat. No.	Finish	Push Buttons	Dimensions (in.) H x W x D	Std Ctn Qty	Std Ctn Wt. (lb)
<b>CK225</b>	White	1 Gold - lighted 1 White - lighted	7-1/2 x 3-7/8 x 2	12	24.1

Cat. No.	Finish	Push Buttons	Dimensions (in.) H x W x D	Std Ctn Qty	Std Ctn Wt. (lb)
<b>CK221RP</b>	White	2 White unlighted	7-1/2 x 3-7/8 x 2	9	18.1

### Plug-In Chimes

#### Extend-A-Chime®

- Extends existing wired bell system
- 6 sound options
- 2.25" Speaker
- 32 selectable codes block interference
- Up to 150 foot operating range



Cat. No.	Push Buttons	Dimensions (in.) H x W x D	Std Ctn Qty	Std Ctn Wt. (lb)
<b>RC3200</b>	—	5 x 3-1/16 x 2-1/8	3	2.1

#### Entrance Alert Chime

- Perfect for business/office to announce visitors
- 13 sound options and alarm
- 32 selectable codes block interference
- Up to 150 foot operating range



Cat. No.	Push Buttons	Dimensions (in.) H x W x D	Std Ctn Qty	Std Ctn Wt. (lb)
<b>RC3260</b>	1 White	5 x 3-1/16 x 2-1/8	3	2.8

## Wire



- 20 AWG wire
- 48 volt maximum
- Low voltage load 65 feet



Cat. No.	Std Ctn Qty	Std Ctn Wt. (lb)
DH965	1	0.5

## Electrical Door Strike



- Brass plated
- For use with lock sets having up to 1/2" throw
- For use in new or replacement installations in wood or metal jambs
- Voltage class: 8-16V AC, 4-6V DC, 0.9 - 2.5 amps, 2.2 ohms
- Sound:  
AC - buzz DC - silent



Cat. No.	Std Ctn Qty	Std Ctn Wt. (lb)
DH970	1	1.1

## Transformers



- For a single chime, bell or buzzer
- 16 volt, 10 VA (watts) transformer
- Dimensions: 2-1/2" x 2" x 2-1/4"



- For up to 2 chimes, bells or buzzers
- 8, 16 or 24 volt AC, 10-20 VA (watts) transformer
- Dimensions: 2-1/2" x 2" x 2-1/4"



- For up to 3 chimes, bells or buzzers
- 24 volt AC, 40 VA (watts) transformer
- Dimensions: 2-1/2" x 2" x 2-7/8"

Cat. No.	Description	Std Ctn Qty	Std Ctn Wt. (lb)
DH905	Wired 16V transformer	1	1.0

Cat. No.	Description	Std Ctn Qty	Std Ctn Wt. (lb)
DH910	Wired tri-volt transformer	1	1.1

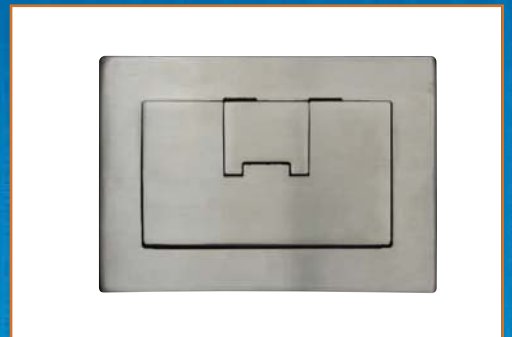
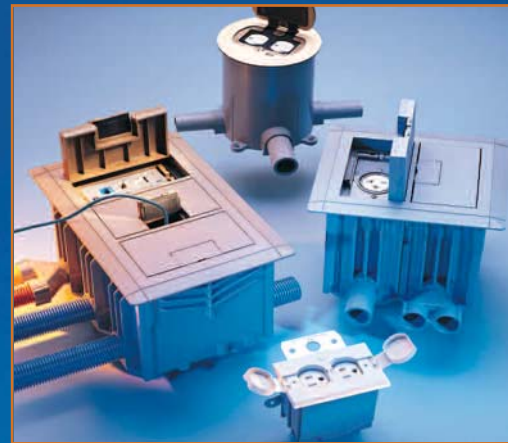
Cat. No.	Description	Std Ctn Qty	Std Ctn Wt. (lb)
DH915	Wired 24V transformer	1	1.9

## Floor Boxes and Covers

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- Drop-In Floor Box . . . . .94 – 95
- Rectangular Floor Boxes,. . . . .98 – 99
- Rectangular Floor Box Covers  
Brass and Stainless Steel . . . . .101
- Residential Slab Floor Box Assembly . . . . .96 – 97
- Round Floor Boxes . . . . .102 – 103
- Round Floor Box Covers  
Brass and Stainless Steel . . . . .104 – 105







### Product Overview

The Carlton Drop-In Floor Box with Brass Cover combines many of the same features in our existing Floor Box line with the strength, durability and style necessary to accommodate today's residential electrical/telecommunication needs.

The Carlton Drop-In Floor Box is the fastest easiest way for contractors to put a floor socket anywhere they need it! It's designed to accommodate high and low voltage applications and comes complete with everything needed for installation - Floor box, Brass Cover, hole saw, wired receptacle, two-hole low voltage plate, blank plate, mounting screws and Marrettes.

*Note: The Drop-In Floor Box is available with or without a hole saw.*

### Features

- Single hole installation
- Fast, easy installation
- Solid brass cover has a light lacquer finish to resist wear - Ideal for high traffic areas
- Accommodates high and low voltage applications
- Includes single gang grounded receptacle, low voltage telephone/cable plate (data jacks not included) and blank plate for custom installations
- Available with or without a hole saw
- 11.8 inch cubic capacity
- For wood floor installations
- Ideal for residential and home offices
- Eliminates the need for extension cords
- Superior aesthetics - Ideal for home offices and entertainment rooms
- C-UL-US Listed floor box
- 2.25" installation hole diameter





## Installation



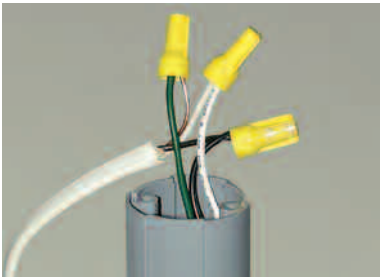
1. Cut 2-3/8" hole through carpeting before using hole saw.



2. Drill hole in floor using hole saw.



3. Pull cable through floor.



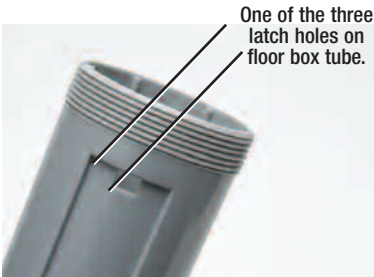
4. Connect receptacle wires to cable. Be sure to match wire color(s).



5. Secure wire clamp on bottom of tube.



6. Brass cover snaps into place. Use a small screwdriver to pry open brass cover to plug in appliance.

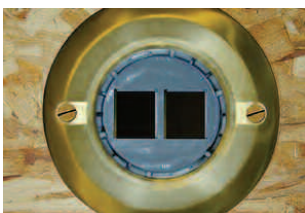


7. Align the three latches on the low voltage receptacle with the three latch holes in the round floor box tube.



8. Remove receptacle by pressing three tabs located on side of tube.

## Installed



## Specifications

Cat. No.	Cover	Description	Std Ctn Qty	Std Ctn Wt. (lb)
<b>E971FBDI-2</b>	Brass	Drop-In Floor Box with Hole Saw	5	6.5
<b>E971FBDIB-2</b>	Brass	Drop-In Floor Box without Hole Saw	20	17.6

### Product Overview

The Carlton Residential Slab Floor Box makes installing floor outlets in concrete slabs faster and easier. The box/extension sleeve is designed to be saw-cut to accommodate any concrete floor thickness up to six inches with no leveling required. It features a divider for dual voltage service and comes with a mud cap to keep out cement during the pour.

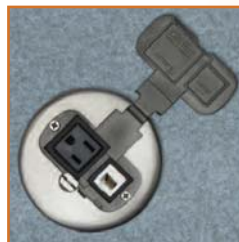
The cover has a single hinged door that lies flat when open and accommodates a single electrical outlet (provided) and a low voltage port (data jack not included).

It has a light lacquer finish for extra strength and durability in high traffic areas and is UL scrub water tested.



### Features

- Dual service divider (included) to allow dual service in one box.
- Saw-cut to finished concrete pour. No leveling required.
- Single receptacle chamber: 17.25 cu.in. Data jack chamber: 15.06 cu. in. for easier wiring. (Cubic inches based on 6" box/sleeve depth).
- Cover options include: Brass and Stainless Steel.
- Pre-assembled Solid brass cover for superior aesthetics and durability. Single electrical receptacle included. Data jack NOT included.
- C-UL-US Listed
- UL 514C scrub water tested.



Data Jack not included





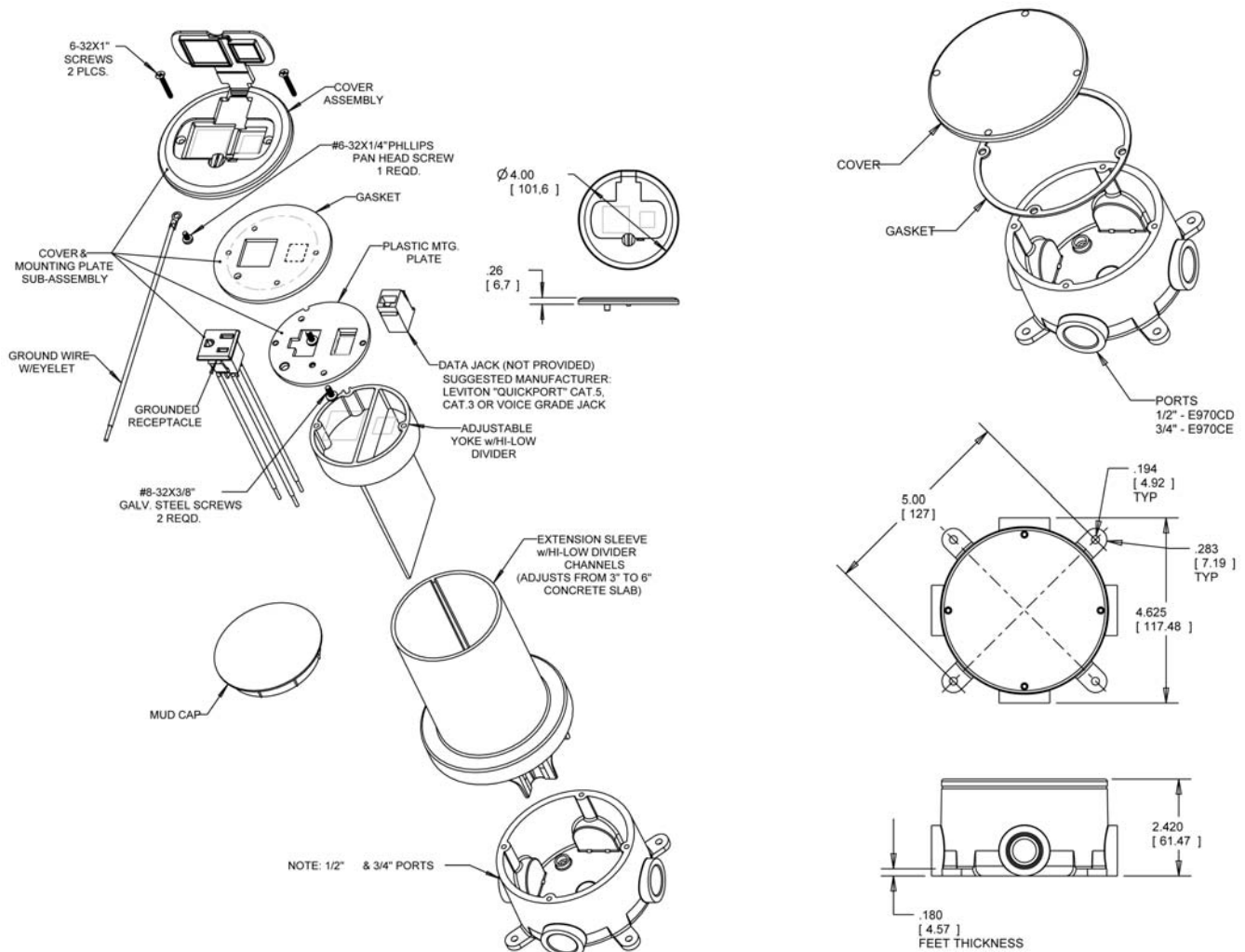
# Residential Slab Floor Box Assembly

# Carlton®



## Specifications

Catalogue Number	Description	Std Carton Qty	Std Carton Wt. (lb)
<b>Boxes</b>			
E970CDX	Box with 1/2" Hubs	24	12.0
E970CEX	Box with 3/4" Hubs	24	11.0
<b>Extension Sleeve</b>			
E970CES	Extension Sleeve with Mud Cap	24	20.0
<b>Covers</b>			
E970CEC	Brass Cover Assembly	24	28.0
E970CECS	Stainless Steel Cover Assembly	24	26.0



Single Receptacle (Larger Chamber)			Data Jack (Smaller Chamber)		
Depth (in.)	Material Fill (ml)	Volume (cu. in.)	Depth (in.)	Material Fill (ml)	Volume (cu. in.)
3	133	8.10	3	93	5.67
4	182	11.09	4	145	8.84
5	216	13.17	5	200	12.19
6	283	17.25	6	247	15.06

### 1-, 2- and 3-Gang



*Carlton® Rectangular Floor Box Systems – two-way, data and communications plus easy double or triple ganging, too.*

Two-in-one, 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 non-metallic 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.
- Non-metallic 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 hubs 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, stainless steel and non-metallic (brown, slate and caramel).
- UL scrub water tested, approved for all types of finish flooring.



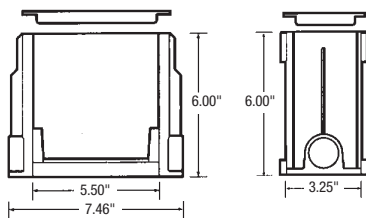
## Installation

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



Cat. No.	Material	Size	Internal Volume (cu. in.)	Min. Concrete Depth	Hubs	Reducer Plugs	Std Ctn Qty	Std Ctn Wt. lb
<b>E976RFB</b>	PVC	1 Gang	9.74 (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

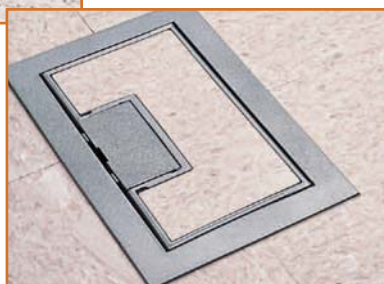
### Activation Kit



Activation kit provides components to accommodate all data and communications devices plus a divider.

Cat. No.	Material	Std Ctn Qty	Std Ctn Wt. lb
<b>E976AK2</b>	PVC	3	2.47

### 1-, 2- and 3-Gang Non-Metallic



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. Non-metallic covers are even field reversible for tile or carpet. Double door feature allows easy access to the device and helps keep stray cords organized.

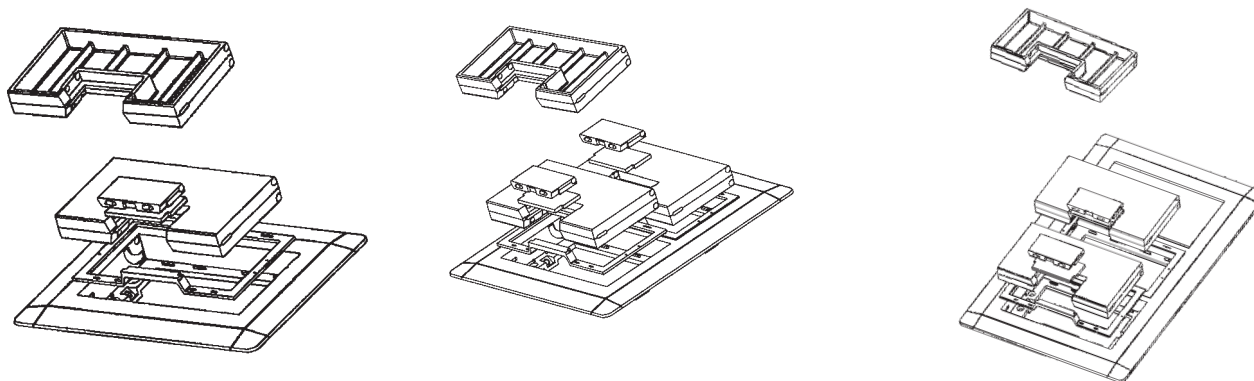


Carlton Rectangular Floor box covers do not require a separate carpet flange. The carpet flange is part of the cover and may be removed for tile application.

### 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



Cat. No.	Size	Color	Carpet Flange	Dimensions (W x L) (in.)	Std Ctn Qty	Std Ctn Wt. (lb)
E9761B	One-Gang	Brown	Included	7.13 x 5.00	3	1.7
E9762B	Two-Gang	Brown	Included	7.13 x 8.25	9	8.5
E9763B	Three-Gang	Brown	Included	7.13 x 11.50	6	7.5
E9761C	One-Gang	Caramel	Included	7.13 x 5.00	3	1.7
E9762C	Two-Gang	Caramel	Included	7.13 x 8.25	9	8.5
E9763C	Three-Gang	Caramel	Included	7.13 x 11.50	6	7.5
E9761S	One-Gang	Slate	Included	7.13 x 5.00	3	1.7
E9762S	Two-Gang	Slate	Included	7.13 x 8.25	9	8.5
E9763S	Three-Gang	Slate	Included	7.13 x 11.50	6	7.5

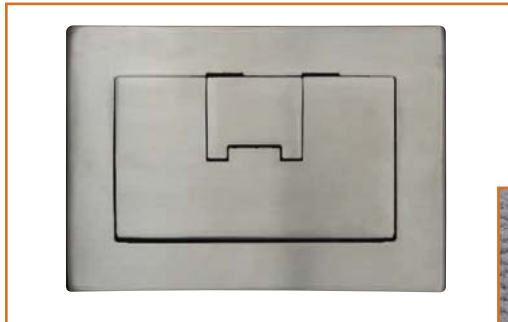


# Rectangular Floor Box Covers Brass and Stainless Steel

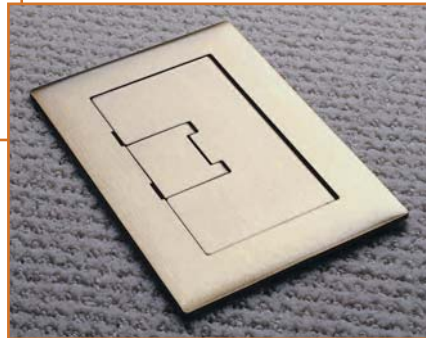
# Carlton®



## 1-, 2- and 3-Gang Solid Brass & Stainless Steel



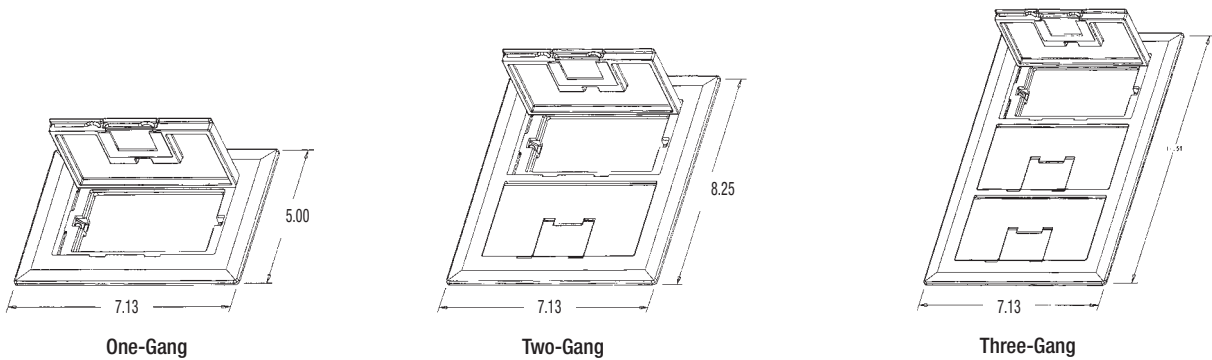
Carlton® Brass and Stainless Steel rectangular Floor Box Covers add a classic touch to all floor box installations and are particularly suited for use in high-traffic areas because of the resistance to wear. The gasket gives a watertight seal and the light lacquer finish provides extra protection.



### Features

- Rugged construction.
- Coated with a light lacquer finish for extra protection.
- Covers include a cord door.
- Gasketed for watertight applications.
- For tile and carpet applications.
- UL scrub water tested.

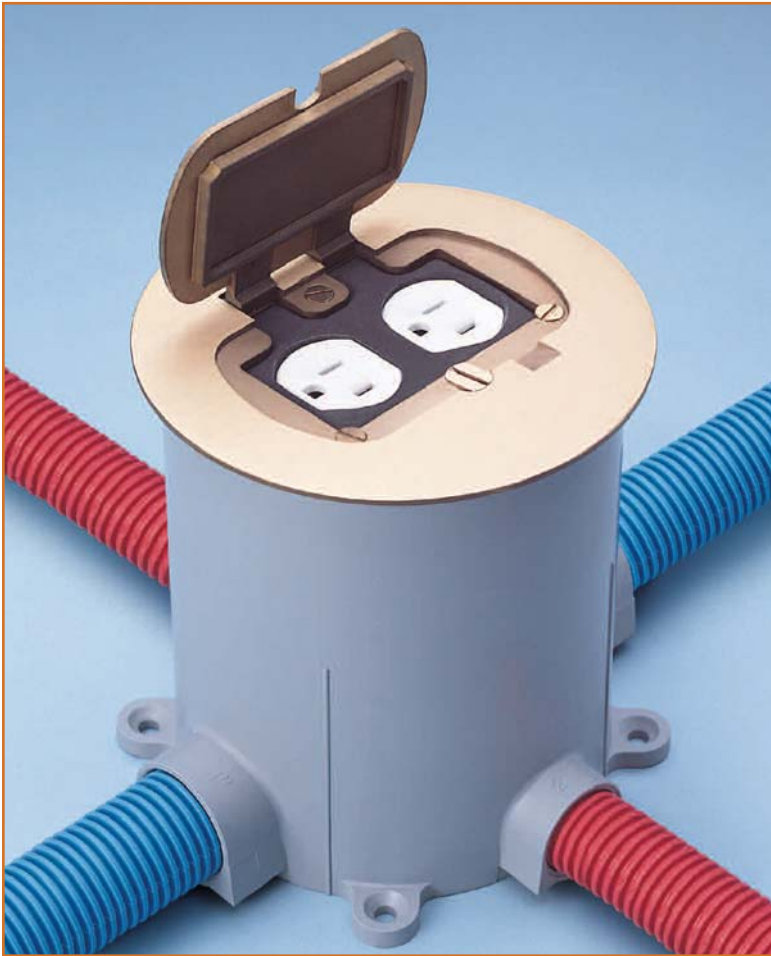
### Specifications



Cat. No.	Size	Material	Std Ctn Qty	Std Ctn Wt. (lb)
E9761BR	One-Gang	Brass	3	6.8
E9762BR	Two-Gang	Brass	3	9.9
E9763BR	Three-Gang	Brass	3	12.1
E9761SS	One-Gang	Stainless Steel	3	7.4
E9762SS	Two-Gang	Stainless Steel	3	11.6
E9763SS	Three-Gang	Stainless Steel	3	17.2

Cat. No.	Description	Std Ctn Qty	Std Ctn Wt. (lb)
E976AK2	Rectangular Floor Box Activation Kit	3	2.47



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

Carlton 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 non-metallic boxes.

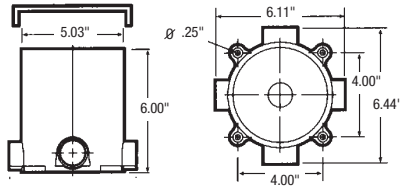
In addition, multi-use covers mean fewer SKUs to deal with and greater jobsite flexibility to increase your savings further. Take a closer look at all their advantages for yourself.

### Features

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- Non-metallic PVC construction, watertight gasket and corrosion-resistant hardware assure long life and reliable performance even in harsh and/or corrosive environments.
- Covers are available for a variety of applications.
- The same box depth simplifies ordering and reduces inventory.
- For tile and carpet applications.
- Cover options include: Brass, Stainless Steel, and Non-metallic (Ivory, Caramel, Taupe, Slate and Brown).
- 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 hubs and reducer plugs included.
- Accepts 1/2", 3/4" and 1" conduit tubing or raceway.
- UL scrub water tested, approved for all types of finish flooring.

## Specifications



Carlton 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. Carlton leveling ring guarantees a level top every time, even if the box is tipped slightly during the pouring process.

Cat. No.	Internal Volume (cu. in.)	Min. Concrete Depth (in.)	Hubs	Reducer Plugs	Std Ctn Qty	Std Ctn Wt. lb
<b>E971FB</b>	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 non-metallic boxes only.

Cat. No.	Std Ctn Qty	Std Ctn Wt. lb
<b>E973K</b>	10	3

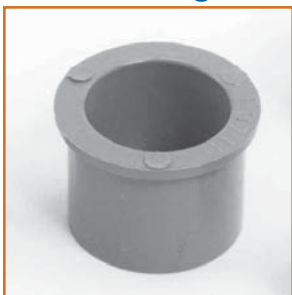
### 3/4" Y Fitting



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.

Cat. No.	Std Ctn Qty	Std Ctn Wt. lb
<b>E972Y</b>	10	2.1

### Reducer Plugs



Cat. No.	Size (in.)	Std Ctn Qty	Std Ctn Wt. lb
<b>E971C</b>	3/4 x 1/2	100	2.1
<b>E971D</b>	1 x 3/4	100	3.2

### Features

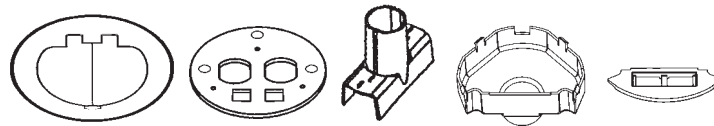


- Screws concealed under doors
- Rugged construction
- Coated with a light lacquer finish for extra protection
- Resistance to wear – suited for high traffic areas
- Gasketed for watertight applications
- Available in four styles – Single Door, Two Door, NPS Opening and Two Door Dual Service
- For tile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



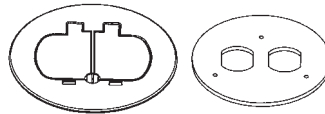
### Two Door Dual Service

(Divider Kit included)



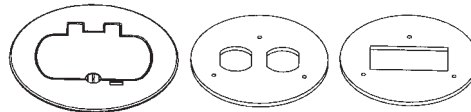
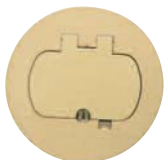
Cat. No.	Cover	Devices	Std Ctn Qty	Std Ctn Wt. (lb)
<b>E97BR2D</b>	Brass	Duplex and Two Data Ports	5	9.2
<b>E97SS2D</b>	Stainless Steel	Duplex and Two Data Ports	5	9.1

### Two Door



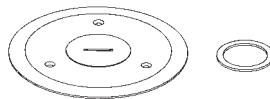
Cat. No.	Cover	Devices	Std Ctn Qty	Std Ctn Wt. (lb)
<b>E97BR2</b>	Brass	Duplex	5	7
<b>E97SS2</b>	Stainless Steel	Duplex	5	7.7

### Single Door



Cat. No.	Cover	Devices	Std Ctn Qty	Std Ctn Wt. (lb)
<b>E97BR</b>	Brass	GFCI and Duplex	5	7
<b>E97SS</b>	Stainless Steel	GFCI and Duplex	5	7.9

### NPS Opening



Cat. No.	Cover	Devices	Std Ctn Qty	Std Ctn Wt. (lb)
<b>E97BRG</b>	Brass	1-1/4" Outlet and Single Receptacle	5	7.5
<b>E97SSG</b>	Stainless Steel	1-1/4" Outlet and Single Receptacle	5	8.1

### Metal Cover Adapter Ring



Cat. No.	Devices	Std Ctn Qty	Std Ctn Wt. (lb)
<b>E97ABR2</b>	One-Piece Metal Cover Adapter	10	3.3

NOTE: Carlton metal cover adapter ring (E97ABR2) is required with these covers (sold separately)



## Installation Instructions

### Carlton Floor Box E971FB, E97BR, E97BR2, E97BRG and E97BR2D

When used with Carlton Brass Covers

**Note:** Carlton metal cover adapter ring E97ABR2 is required for installation.

1. Remove poly cap from Floor Box (E971FB). Determine type and thickness of floor covering to be used. Cover E97BR may be installed in carpeted, tiled or other floor covering. Scribe a line around box, 1/8" below desired final installed height of brass covers's top surface.

2. Using a saw, cut off box at scribed line.

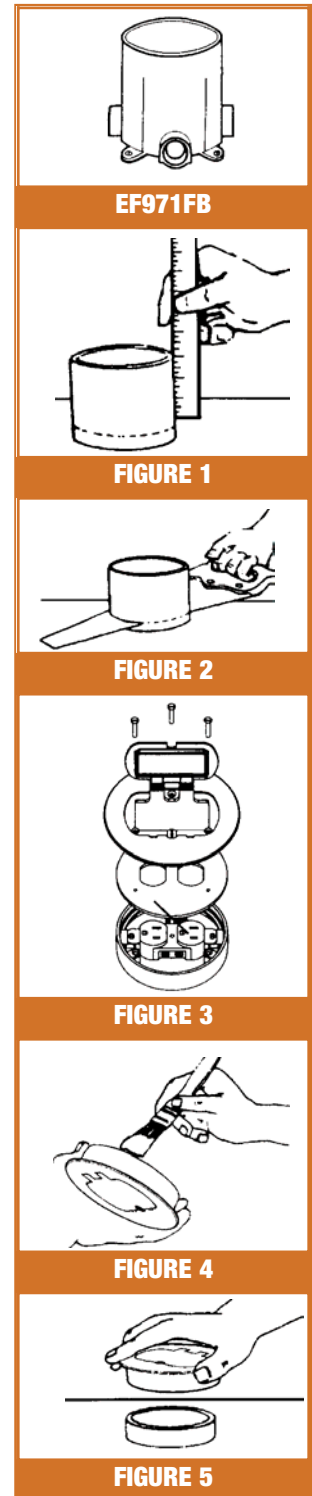
**Note:** Remember to check height of finish floor covering to be installed.

3. Attach receptacle, gasket backing plate, gasket and brass floor plate to adapter ring E97ABR2 following detail instructions for brass floor plate.

4. Apply PVC cement to metal cover adapter ring O.D. and to top inside 1/2" of floor box.

5. Press metal cover and adapter assembly into Floor Box. Making sure cover assembly is at desired final installed height.

**Note:** it is necessary to ground metal cover using designated grounding lug.



# Carlton®

## Weatherproof Covers, Lampholders and Fixtures

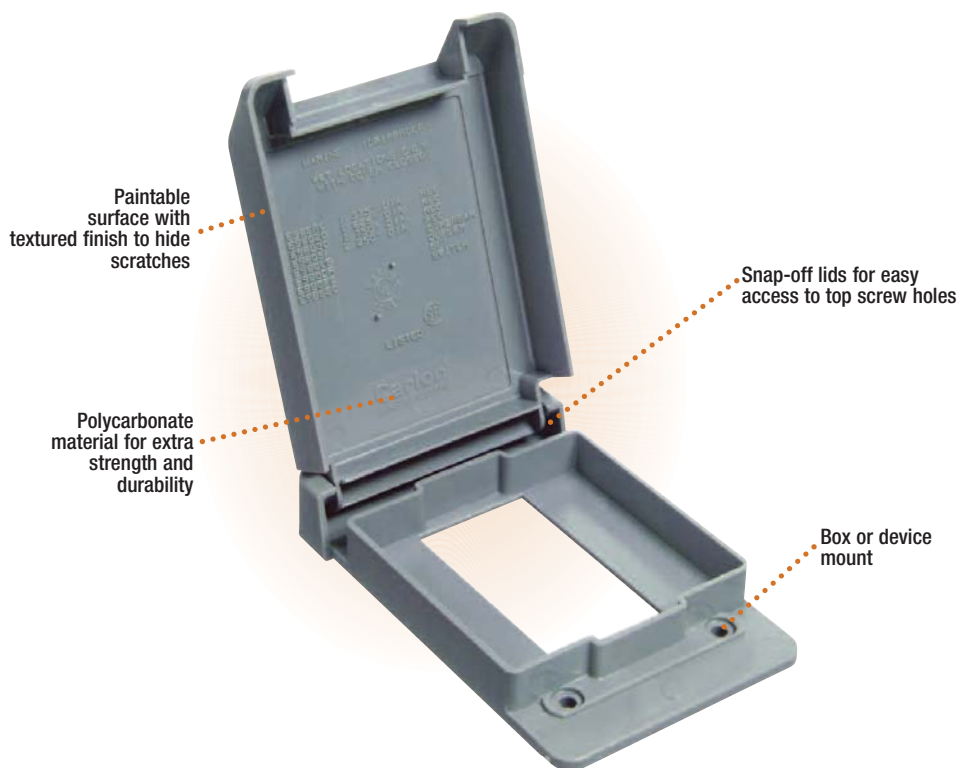
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- Lampholders .....114–115
- Weatherproof Covers .....108–110
- Weatherproof Fixture .....113
- While-In-Use  
Weatherproof Covers .....111–112



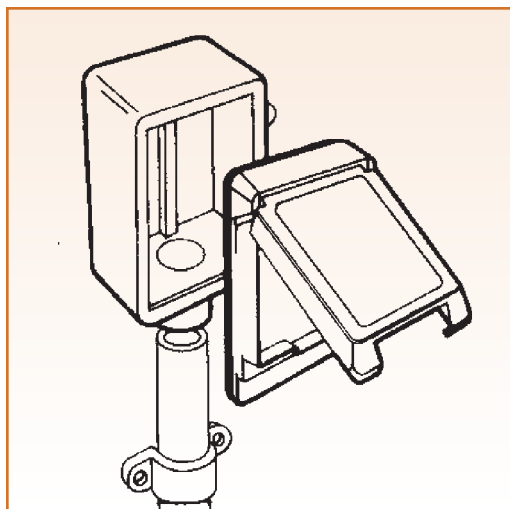
### Product Overview

- UV Resistant – Suitable for outdoor use
- Fits all standard receptacles
- Non-metallic/Non-corrosive
- UL Marine Listed
- CSA Certified



### Installation

Includes base, cover, gasket and mounting screws



### Box Mounting

1. TURN OFF POWER.
2. Place gasket on top of outlet box.
3. Attach the device to the box.
4. Fasten cover to outlet box.

*Note: These covers must be mounted in accordance with all local and CEC requirements.*

### Device Mounting

1. TURN OFF POWER.
2. Place gasket on top of outlet box.
3. Fasten cover to outlet box.
4. To ensure a weatherproof seal, use a 1/4" minimum bead of RTV type silicone, neoprene, urethane, or polyurethane caulking between gasket and mounting surface.

*Note: These covers must be mounted in accordance with all local and CEC requirements.*





## Single Gang – Vertical Mount

- For use in wet/damp locations
- Mounts to a box or device
- Non-metallic. Won't rust or fade
- Paintable
- Easy to install

### 15 AMP Receptacle



Cat. No.	Color	Std Ctn Qty	Std Ctn Wt. (lb)
<b>E98SRCN-CAR</b>	Grey	10	2.1

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

### 20 AMP Receptacle



Cat. No.	Color	Std Ctn Qty	Std Ctn Wt. (lb)
<b>E98G20N</b>	Grey	20	4.1

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

### 30 AMP Receptacle



Cat. No.	Color	Std Ctn Qty	Std Ctn Wt. (lb)
<b>E98G30N-CAR</b>	Grey	10	2.1

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

### Single Switch



Cat. No.	Color	Std Ctn Qty	Std Ctn Wt. (lb)
<b>E98SSCM-CAR</b>	White	10	2.1
<b>E98SSCN-CAR</b>	Grey	10	2.1

### 50 AMP Receptacle



Cat. No.	Color	Std Ctn Qty	Std Ctn Wt. (lb)
<b>E98G5FN-CAR</b>	Grey	10	2

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

### Duplex Receptacle



Cat. No.	Color	Std Ctn Qty	Std Ctn Wt. (lb)
<b>E98GDRM-CAR</b>	White	10	2
<b>E98GDRN-CAR</b>	Grey	10	2

### GFI Receptacle



Cat. No.	Color	Std Ctn Qty	Std Ctn Wt. (lb)
<b>E98GFCB-CAR</b>	Bronze	10	2
<b>E98GFCM-CAR</b>	White	10	2
<b>E98GFCN-CAR</b>	Grey	10	2

*Device opening dimensions: 2.63" H x 1.31" W.*

### Toggle Switch



Cat. No.	Color	Std Ctn Qty	Std Ctn Wt. (lb)
<b>E98TSCM-CAR</b>	White	5	1.1
<b>E98TSCN</b>	Grey	10	1.1
<b>E98TSCN-CAR</b>	Grey	8	0.8

### Blank



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

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

### Plunger Style



Cat. No.	Color	Std Ctn Qty	Std Ctn Wt. (lb)
<b>E98PSC</b>	Grey	20	5.0



### Single Gang – Horizontal Mount

#### Duplex Receptacle



Cat. No.	Color	Std Ctn Qty	Std Ctn Wt. (lb)
<b>E98DHGB-CAR</b>	Bronze	10	3.9
<b>E98DHGM-CAR</b>	White	10	3.9
<b>E98DHGN-CAR</b>	Grey	10	3.9

#### GFI Horizontal



Cat. No.	Color	Std Ctn Qty	Std Ctn Wt. (lb)
<b>E98GHGB-CAR</b>	Bronze	10	1.9
<b>E98GHGM-CAR</b>	White	10	1.9
<b>E98GHGN-CAR</b>	Grey	10	1.9

Device opening dimensions: 2.63" W x 1.31" H.

### Double Gang

- For use in wet/damp locations
- Mounts to a box or device
- Non-metallic. Won't rust or fade
- Paintable
- Easy to install

#### Double Duplex



Cat. No.	Color	Std Ctn Qty	Std Ctn Wt. (lb)
<b>E9G2DDM-CAR</b>	White	10	2.3
<b>E9G2DDN-CAR</b>	Grey	10	2.3

#### Combination Toggle/GFI



Cat. No.	Color	Std Ctn Qty	Std Ctn Wt. (lb)
<b>E9G2GTN-CAR</b>	Grey	5	1.3

#### Double Toggle



Cat. No.	Color	Std Ctn Qty	Std Ctn Wt. (lb)
<b>E9G2SSN</b>	Grey	6	3.2

#### Combination Toggle/Duplex Receptacle



Cat. No.	Color	Std Ctn Qty	Std Ctn Wt. (lb)
<b>E9G2DSN-CAR</b>	Grey	10	1.3

### Two Gang

Fits Carlton® two gang FS boxes and 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)
<b>E9802CM-CAR</b>	White	10	2.17
<b>E9802CN-CAR</b>	Grey	10	2.17

### Vertical – For Indoor use only – Not Weatherproof

#### Single Toggle



Cat. No.	Color	Std Ctn Qty	Std Ctn Wt. (lb)
<b>E98STSC</b>	Grey	100	11.0

#### Single Duplex Receptacle



Cat. No.	Color	Std Ctn Qty	Std Ctn Wt. (lb)
<b>E98SGD</b>	Grey	20	5.0

#### Single 15 AMP Receptacle



Cat. No.	Color	Std Ctn Qty	Std Ctn Wt. (lb)
<b>E98SG15</b>	Grey	100	8.0

## Product Overview

- NEMA Type 3R Rated
- Meets CEC Subrule 26-702
- UV Resistant – suitable for outdoor use
- Fits all standard receptacles
- Non-metallic/Non-corrosive
- CSA Certified

Paintable surface with textured finish to hide scratches

Polycarbonate/PVC material for extra strength and durability

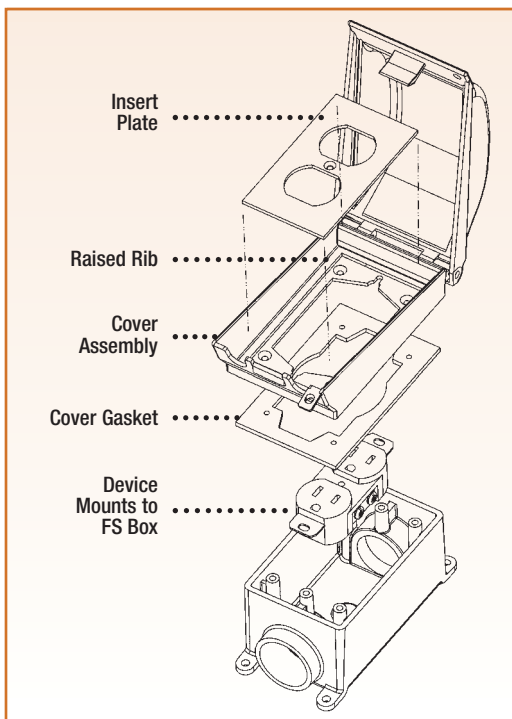
Raised Rib

Lockable: drill a 7/32" hole



## Installation

Includes base, cover, device plates, gasket and mounting hardware



## Box Mounting

1. TURN OFF POWER.
2. Mount electrical device to outlet box.
3. Place gasket on top of outlet box.
4. Fasten cover to outlet box.
5. Secure insert plate to cover.
6. Lockable feature – Drill a 7/32" hole in cover – starting point provided.

*Note: These covers must be mounted in accordance with all local and CEC requirements.*

# Carlton® In-Use Weatherproof Covers – Non-Metallic



## Single Gang

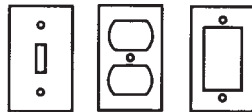
- For use in wet/damp locations
- Weatherproof while in use
- Mounts to a box or device
- Non-metallic. Won't rust or fade
- Paintable
- Easy to install

### Standard Covers – 2.64" Depth

#### Vertical Mount



Inserts



Cat. No.	Color	Std Ctn Qty	Std Ctn Wt. (lb)
<b>E9UVCRN2</b>	Clear	12	5.0
<b>E9UVGRN2</b>	Grey	12	5.2
<b>E9UVWRN2</b>	White	12	5.3

### Standard Covers – 2.53" Depth

#### Horizontal Mount



Inserts



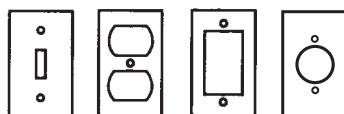
Cat. No.	Color	Std Ctn Qty	Std Ctn Wt. (lb)
<b>E9UHCRN2</b>	Clear	4	2.0
<b>E9UHGRN2</b>	Grey	4	2.1
<b>E9UHWRN2</b>	White	4	2.2

### Deep Covers – 4.14" Depth

#### Vertical Mount



Inserts



Cat. No.	Color	Std Ctn Qty	Std Ctn Wt. (lb)
<b>E9UDVCRN2</b>	Clear	8	8.6
<b>E9UDVGRN2</b>	Grey	8	5.8
<b>E9UDVWRN2</b>	White	8	5.8

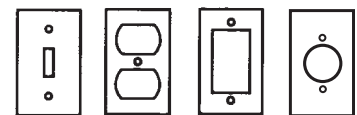
## Double Gang

- For use in wet/damp locations
- Weatherproof while in use
- Mounts to a box or device
- Non-metallic. Won't rust or fade
- Paintable
- Easy to install

### Standard Covers – 2.64" Depth



Inserts



Cat. No.	Color	Std Ctn Qty	Std Ctn Wt. (lb)
<b>E9U2CRN2</b>	Clear	6	4.1
<b>E9U2GRN2</b>	Grey	6	4.2
<b>E9U2WRN2</b>	White	6	4.3





## Carlton® Metallic Weatherproof Fixtures

- Low maintenance indoor/outdoor lighting where moisture, dirt or corrosion are problems
- Heavy-duty die cast aluminum housing
- Durable polyester powder coating
- One piece die cast aluminum guards
- Medium base porcelain socket
- Screw in glass globe
- 120V 150 watt maximum incandescent bulbs only
- Suitable for wet applications
- cULus Listed

### Kit includes

- Aluminum housing
- Junction box
- Globe
- Guard assembly

### Ceiling Mount



Cat. No.	Std Ctn Qty	Std Ctn Wt. (lb)	Case Cube (Cu. ft.)
<b>MCL150C</b>	6	13.8	0.81

Fixture can be surface mounted or mounted to a junction box and is listed for through branch wiring

### Wall Mount



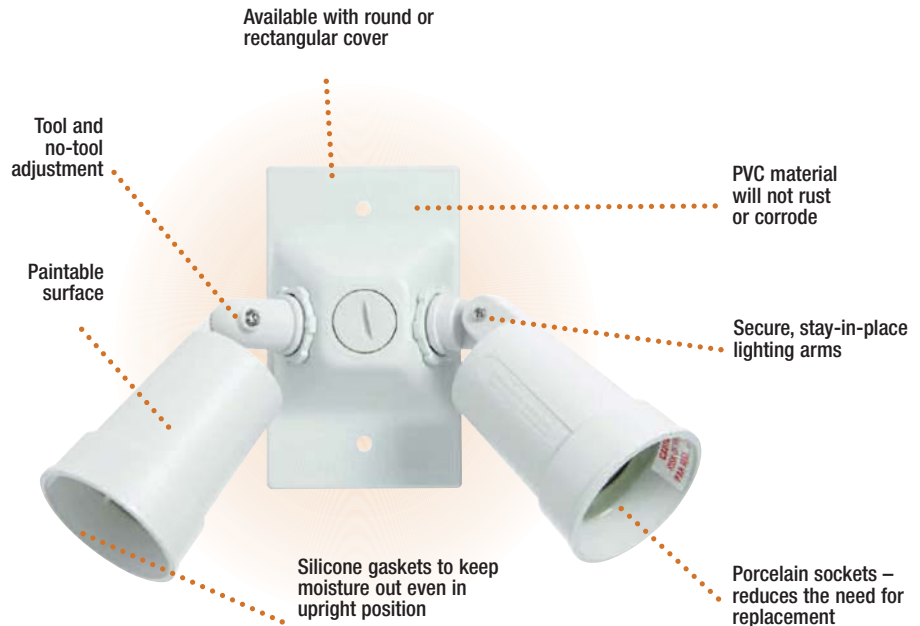
Cat. No.	Std Ctn Qty	Std Ctn Wt. (lb)	Case Cube (Cu. ft.)
<b>MCL150W</b>	6	17.8	1.05

Fixture can be mounted in a vertical position (globe pointing down only).

# Carlton® Weatherproof Lampholders – Non-Metallic

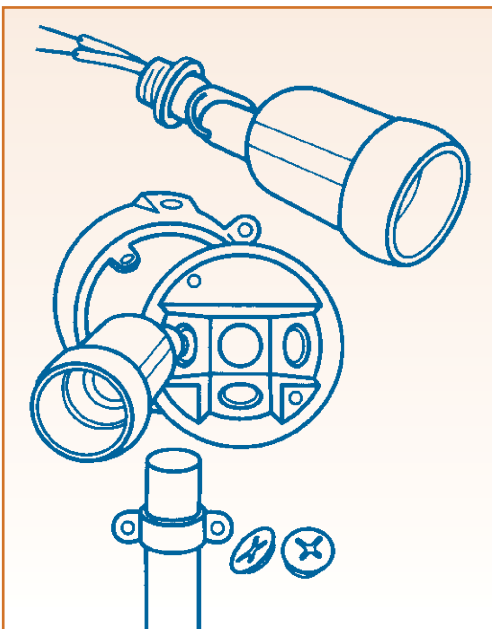
## Product Overview

- UV Resistant – Suitable for outdoor use
- Accepts 150 watts max. or 300 watts (incandescent only)
- Non-metallic/Non-corrosive
- c-UL Listed
- Approved for upward use in wet locations



## Installation instructions

Includes gasket, wire connectors and two mounting screws



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.



E51763  
E77360  
Except where noted by ♦

## Lampholders

- For use in wet/damp locations
- Ideal for residential or commercial applications – security/landscape
- Mounts to a device box
- Non-metallic. Won't rust or fade
- Paintable
- Easy to install
- Stay-in-place lighting arms

### Lampholder with Round Cover



Cat. No.	Color	Std Ctn Qty	Std Ctn Wt. (lb)
<b>P8010W-CAR</b>	White	6	3.9

### Lampholder with Rectangular Cover



Cat. No.	Color	Std Ctn Qty	Std Ctn Wt. (lb)
<b>P8005W-CAR</b>	White	6	3.8

### No-Tool Lampholder with Round Cover



Cat. No.	Color	Std Ctn Qty	Std Ctn Wt. (lb)
<b>P8060G-CAR</b>	Grey	6	5.8
<b>P8060W-CAR</b>	White	6	5.8

### Round Box

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



Cat. No.	Color	Size (in.)	Std Ctn Qty	Std Ctn Wt. (lb)
♦ <b>CE365D-CTN</b>	Grey	1/2	10	1.2
♦ <b>CE365DW-CTN</b>	White	1/2	10	1.2

## Weatherproof "T" Boxes

### Single Gang "T" Boxes

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



Cat. No.	Color	Size (in.)	Std Ctn Qty	Std Ctn Wt. (lb)
♦ <b>CE381D-CTN</b>	Grey	1/2	10	2.3
♦ <b>CE381DW-CTN</b>	White	1/2	10	1.8

### Double Gang "T" Boxes

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



Cat. No.	Color	Size (in.)	Std Ctn Qty	Std Ctn Wt. (lb)
♦ <b>CE382DE</b>	Grey	1/2	6	3.6
♦ <b>CE382DEW</b>	White	1/2	6	3.6

## Covers

### Rectangular



Cat. No.	Color	Std Ctn Qty	Std Ctn Wt. (lb)
<b>P7901W-CAR</b>	White	18	0.9

### Round



Cat. No.	Color	Std Ctn Qty	Std Ctn Wt. (lb)
<b>P7801W-CAR</b>	White	16	1.6

## Accessories

### No-Tool-Lampholder with Gasket



Cat. No.	Color	Std Ctn Qty	Std Ctn Wt. (lb)
<b>P8001W-CAR</b>	White	24	5.5

### Closure Plugs



Cat. No.	Color	Std Ctn Qty	Std Ctn Wt. (lb)
♦ <b>P7701W-CAR</b>	White	30	1.3

## Enclosures

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  - Accessories .....137 – 139
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Circuit Safe NEMA Enclosures are the flagship product of the Carlton Enclosure offering. Molded in tough, durable polycarbonate resin, these enclosures lead the market in terms of design, durability, aesthetics and economy of use.

Ranging in size from 6" x 4" x 4" to 16" x 14" x 6", all Circuit Safe NEMA products meet Types 4X, 12 and 13. These enclosures utilize recognized materials that carry an ultraviolet rating of F1, ensuring a very long, stable service life when installed outdoors. In addition, the use of polycarbonate material means that these enclosures enjoy an extremely high impact resistance rating... almost three times more impact resistant than traditional fiberglass enclosures.

Installation of components is made easy, too, with the Panel Adjuster Kits and Swing Out Panel Kits. Sub-panels can be stacked or suspended at any depth within the enclosure, maximizing the space available for component mounting. Machining polycarbonate is also safe and easy. There are no splintering problems or airborne fibers typical when machining traditional fiberglass products.

Lighter, stronger, easier and safer to use and better-looking. Check out Carlton's Circuit Safe NEMA line today.

### Features and Benefits

- 100% non-metallic construction, including hinges
- Sturdy SS latches install without penetration of the enclosure base
- Clear covers are available which eliminates the need for window kits
- All cover screws are captive
- Panel suspension system allows the installation of panels at any depth, including stacking of multiple panels
- Swing panels are also available
- Available in junction boxes, external hinge and hidden hinge versions
- Subpanels are available in steel, PVC, or aluminum
- Non-metallic mounting rails for easy installation
- Less than half the weight of metal enclosures, 25% lighter than fiberglass, easier to handle and less expensive to ship
- Full modification services are available



### Applications

- Any outdoor applications especially where sunlight resistance is an issue
- Applications where water is present
- Applications where damage during shipment or installation or use is an issue
- Any applications where it is necessary to view internal components through a clear cover
- Applications where weight is an issue
- Applications where the ability to pass wireless signals is needed
- Applications where rust and corrosion are an issue

### Examples

- Septic and pump controls
- Wireless system component protection
- Marina and sea side installations
- Controls that require through-cover viewing of read outs and dials
- Machine controls/process controls
- Food and beverage process controls
- Security system controls

### Standards

- Meets or exceeds NEMA Types 4X, 12 and 13

## 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, Carlton has a Circuit Safe NEMA enclosure to meet your application-specific need.

### Styles

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- Screw Cover
- External Hinge
- Hidden Hinge

### Cover Color Options

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- Opaque
- Clear

### Material

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- Polycarbonate (Bases and Lids)



Screw Cover



External Hinge Cover



Hidden Hinge Cover



## Screw-On Covers

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



Opaque Cover



Clear Cover

## Assembled Enclosures

Opaque Cover* Cat. No.	Clear Cover* Cat. No.	Size	Back Panels** Steel/PVC	Std Ctn Qty	Std Ctn Wt. (lb) Opaque/Clear
<b>NS644</b>	<b>NV644</b>	6 x 4 x 4	JP64 / JP64P	1	Opa. 1.8 / Clr 1.9
<b>NS664</b>	<b>NV664</b>	6 x 6 x 4	JP66 / JP66P	1	Opa. 2.4 / Clr 2.4
<b>NS864</b>	<b>NV864</b>	8 x 6 x 4	JP86 / JP86P	1	Opa. 2.9 / Clr 2.8
<b>NS884</b>	<b>NV884</b>	8 x 8 x 4	JP88 / JP88P	1	Opa. 3.2 / Clr 3.3
<b>NS1084</b>	<b>NV1084</b>	10 x 8 x 4	JP108 / JP108P	1	Opa. 4.0 / Clr 3.9
<b>NS1086</b>	<b>NV1086</b>	10 x 8 x 6	JP108 / JP108P	1	Opa. 4.6 / Clr 4.5
<b>NS10106</b>	<b>NV10106</b>	10 x 10 x 6	JP1010 / JP1010P	1	Opa. 5.3 / Clr 4.9
<b>NS12106</b>	<b>NV12106</b>	12 x 10 x 6	JP1210 / JP1210P	1	Opa. 6.1 / Clr 5.2
<b>NS12126</b>	<b>NV12126</b>	12 x 12 x 6	JP1212 / JP1212P	1	Opa. 6.8 / Clr 6.1
<b>NS14126</b>	<b>NV14126</b>	14 x 12 x 6	JP1412 / JP1412P	1	Opa. 7.4 / Clr 7.0
<b>NS16146</b>	<b>NV16146</b>	16 x 14 x 6	JP1614 / JP1614P	1	Opa. 9.2 / Clr 8.1

\* Assembled Enclosures include body, lid and mounting rail kit.  
\*\* Order back panels separately.

## Individual Components

Cat. No.	Enclosure Base*			Enclosure Lids				Back Panels**	
	Enclosure Size	Std Ctn Qty	Std Ctn Wt. (lb)	Opaque Lids	Clear Lids	Std Ctn Qty	Std Ctn Wt. (lb)	Steel/PVC Cat. No.	Std Ctn Qty
<b>NP644B</b>	6 x 4 x 4	18	21	NS64L	NV64L	16	Opa. 6.4 / Clr 5.7	JP64 / JP64P	1
<b>NP664B</b>	6 x 6 x 4	12	17	NS66L	NV66L	12	Opa. 6.2 / Clr 5.7	JP66 / JP66P	1
<b>NP864B</b>	8 x 6 x 4	12	18	NS86L	NV86L	9	Opa. 6 / Clr 2.8	JP86 / JP86P	1
<b>NP884B</b>	8 x 8 x 4	14	28	NS88L	NV88L	189	Opa. 14 / Clr 11.2	JP88 / JP88P	1
<b>NP1084B</b>	10 x 8 x 4	12	26	NS108L	NV108L	12	Opa. 13 / Clr 11	JP108 / JP108P	1
<b>NP1086B</b>	10 x 8 x 6	8	23	NS1086L	NV1086L	12	Opa. 13 / Clr 11	JP108 / JP108P	1
<b>NP1010B</b>	10 x 10 x 6	6	20	NS1010L	NV1010L	11	Opa. 14 / Clr 12	JP1010 / JP1010P	1
<b>NP1210B</b>	12 x 10 x 6	6	23	NS1210L	NV1210L	12	Opa. 15 / Clr 15	JP1210 / JP1210P	1
<b>NP1212B</b>	12 x 12 x 6	5	22	NS1212L	NV1212L	10	Opa. 15 / Clr 14	JP1212 / JP1212P	1
<b>NP1412B</b>	14 x 12 x 6	5	24	NS1412L	NV1412L	5	Opa. 9 / Clr 9	JP1412 / JP1412P	1
<b>NP1614B</b>	16 x 14 x 6	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.

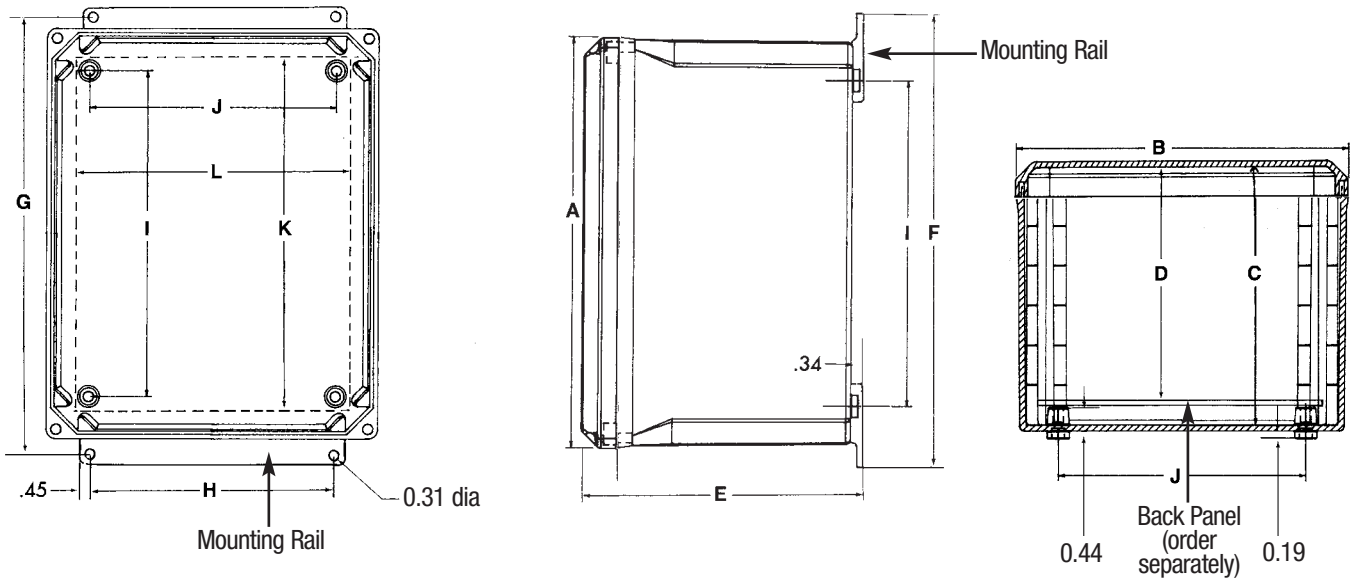


## Screw-On Covers

Opaque Lid Cat. No.	Clear Lid Cat. No.	Enclosure Size (in.)						Enclosure Mounting Hole Spacing (in.)		Panel Mounting Hole Spacing (in.)		Back Panel Size (in.)		Back Panel** Cat. No.	
		A	B	C	D	E	F	G	H	I	J	K	L	Steel	PVC
NS644	NV644	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
NS664	NV664	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
NS864	NV864	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
NS884	NV884	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
NS1084	NV1084	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
NS1086	NV1086	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
NS10106	NV10106	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
NS12106	NV12106	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
NS12126	NV12126	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
NS14126	NV14126	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
NS16146	NV16146	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

\* Assembled Enclosures include body, lid and mounting rail kit.

\*\* Order back panels separately. (10/32 – 3/8 Back Panel screws not supplied.)



## Hidden Hinge Cover

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



Opaque Cover



Clear Cover

### Assembled Enclosures

Opaque Cover* Cat. No.	Clear Cover* Cat. No.	Size	Back Panels** Steel/PVC	Std Ctn Qty	Std Ctn Wt. (lb) Opaque/Clear
NH644	NI644	6 x 4 x 5 (y)	JP64 / JP64P	1	Opa. 2.2 / Clr 2.8
NH664	NI664	6 x 6 x 5	JP66 / JP66P	1	Opa. 2.7 / Clr 3.2
NH864	NI864	8 x 6 x 5	JP86 / JP86P	1	Opa. 3.3 / Clr 3.8
NH884	NI884	8 x 8 x 5	JP88 / JP88P	1	Opa. 3.8 / Clr 3.8
NH1084	NI1084	10 x 8 x 5	JP108 / JP108P	1	Opa. 4.0 / Clr 4.5
NH1086	NI1086	10 x 8 x 7	JP108 / JP108P	1	Opa. 5.2 / Clr 5.1
NH10106	NI10106	10 x 10 x 7	JP1010 / JP1010P	1	Opa. 5.7 / Clr 5.8
NH12106	NI12106	12 x 10 x 7	JP1210 / JP1210P	1	Opa. 6.9 / Clr 6.1
NH12126	NI12126	12 x 12 x 7	JP1212 / JP1212P	1	Opa. 7.7 / Clr 7.2
NH14126	NI14126	14 x 12 x 7	JP1412 / JP1412P	1	Opa. 8.3 / Clr 7.9
NH16146	NI16146	16 x 14 x 7	JP1614 / JP1614P	1	Opa. 10.1 / Clr 9.6

\* Assembled Enclosures include body, lid and mounting rail kit.  
 \*\* Order back panels separately.  
 (y) 6 x 4 x 5 size not available with quick-release latches.

### Individual Components

Cat. No.	Enclosure Base*			Enclosure Lids				Collars			Back Panels**	
	Enclosure Size	Std Ctn Qty	Std Ctn Wt. (lb)	Opaque Lids	Clear Lids	Std Ctn Qty	Std Ctn Wt. (lb)	Cat. No.	Std Ctn Qty	Std Ctn Wt. (lb)	Steel/PVC Cat. No.	Std Ctn Qty
NP644B	6 x 4 x 5 (y)	18	21	NH644	NI644	16	Opa. 6.8 / Clr 6.3	NH64C	1	SSLS	JP64 / JP64P	1
NP664B	6 x 6 x 5	12	17	NH664	NI664	12	Opa. 6.8 / Clr 6.3	NH66C	1	SSLS	JP66 / JP66P	1
NP864B	8 x 6 x 5	12	18	NH864	NI864	9	Opa. 6.3 / Clr 5.7	NH86C	1	SSLS	JP86 / JP86P	1
NP884B	8 x 8 x 5	14	28	NH884	NI884	189	Opa. 16 / Clr 15	NH88C	1	SSLS	JP88 / JP88P	1
NP1084B	10 x 8 x 5	12	26	NH1084	NI1084	12	Opa. 13 / Clr 12	NH108C	1	SSLS	JP108 / JP108P	1
NP1086B	10 x 8 x 7	8	23	NH1086	NI1086	12	Opa. 13 / Clr 12	NH108C	1	SSLS	JP108 / JP108P	1
NP1010B	10 x 10 x 7 (z)	6	20	NH10106	NI10106	11	Opa. 14 / Clr 13	NH1010C	1	SSLS	JP1010 / JP1010P	1
NP1210B	12 x 10 x 7 (z)	6	23	NH12106	NI12106	12	Opa. 17 / Clr 6	NH1210C	1	SSLS	JP1210 / JP1210P	1
NP1212B	12 x 12 x 7 (z)	5	22	NH12126	NI12126	10	Opa. 17 / Clr 16	NH1212C	1	SSLS	JP1212 / JP1212P	1
NP1412B	14 x 12 x 7 (z)	5	24	NH14126	NI14126	5	Opa. 10 / Clr 10	NH1412C	1	SSLS	JP1412 / JP1412P	1
NP1614B	16 x 14 x 7 (z)	4	31	NH16146	NI16146	5	Opa. 13 / Clr 12	NH1614C	1	SSLS	JP1614 / JP1614P	1

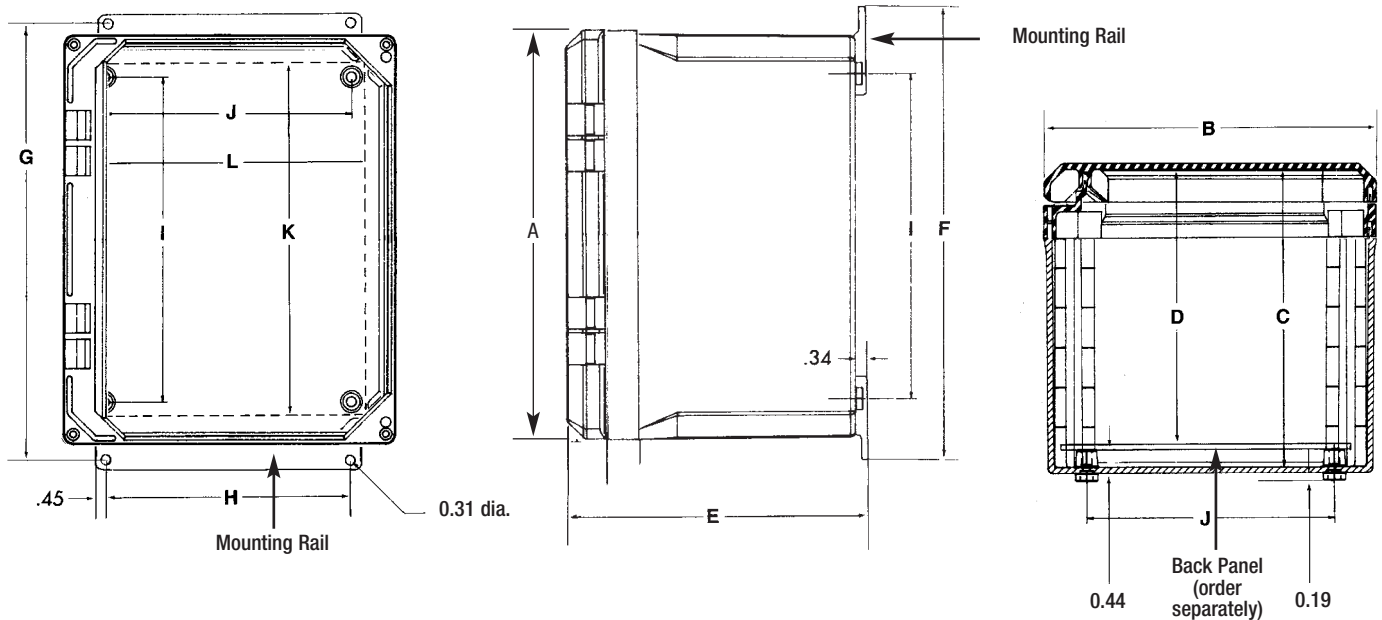
\* Mounting rails are not included. See "Mounting Rails" listed in the Enclosure Accessories section.  
 \*\* Order back panels separately.  
 (y) 6 x 4 x 5 enclosures are not available with quick-release latches.  
 (z) Sizes 12 x 10 and larger require two (2) latches per enclosure.

## Hidden Hinge Cover

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

Opaque Lid Cat. No.	Clear Lid Cat. No.	Enclosure Size (in.)						Enclosure Mounting Hole Spacing (in.)		Panel Mounting Hole Spacing (in.)		Back Panel Size (in.)		Back Panel** Cat. No.	
		A	B	C	D	E	F	G	H	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	11.69	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	JP1614P

\* Assembled Enclosures (except NI1084) include body, lid and mounting rail kit.  
 \*\* Order back panels separately. (10/32 - 3/8 Back Panel screws not supplied.)



## External Hinge Cover

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



### Assembled Enclosures



Opaque Cover



Clear Cover

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

\* Assembled Enclosures include body, lid and mounting rail kit.

\*\* Order back panels separately.

### Individual Components

Cat. No.	Enclosure Base*			Enclosure Lids				Back Panels**		Latches		
	Enclosure Size (in.)	Std Ctn Qty	Std Ctn Wt. (lb)	Opaque Lids Cat. No.	Clear Lids Cat. No.	Std Ctn Qty	Std Ctn Wt. (lb)	Steel/PVC Cat. No.	Std Ctn Qty	Steel Latch Cat. No.	Non-metallic Latch Cat. No.	Std Ctn Qty
<b>NL664B</b>	6 x 6 x 4	12	18	NJ66L	NC66L	12	Opa 5.0 / Clr 5.9	JP66 / JP66P	1	SSLS	NPLIS	1
<b>NL864B</b>	8 x 6 x 4	8	14	NJ86L	NC86L	9	Opa 6 / Clr 5.3	JP86 / JP86P	1	SSLS	NPLIS	1
<b>NL884B</b>	8 x 8 x 4	14	28	NJ88L	NC88L	18	Opa 15 / Clr 13.5	JP88 / JP88P	1	SSLS	NPLIS	1
<b>NL1084B</b>	10 x 8 x 4	12	32	NJ108L	NC108L	12	Opa 13 / Clr 11.7	JP108 / JP108P	1	SSLS	NPLIS	1
<b>NL1086B</b>	10 x 8 x 6	8	15	NJ108L	NC108L	12	Opa 13 / Clr 11.7	JP108 / JP108P	1	SSLS	NPLIS	1
<b>NL1010B</b>	10 x 10 x 6	6	20	NJ1010L	NC1010L	11	Opa 14 / Clr 13	JP1010 / JP1010P	1	SSLS	NPLIS	1
<b>NL1210B</b>	12 x 10 x 6(z)	6	24	NJ1210L	NC1210L	12	Opa 14 / Clr 15	JP1210 / JP1210P	1	SSLS	NPLIS	1
<b>NL1212B</b>	12 x 12 x 6(z)	5	21.8	NJ1212L	NC1212L	10	Opa 16 / Clr 14	JP1212 / JP1212P	1	SSLS	NPLIS	1
<b>NL1412B</b>	14 x 12 x 6(z)	4	19	NJ1412L	NC1412L	5	Opa 10 / Clr 9	JP1412 / JP1412P	1	SSLS	NPLIS	1
<b>NL1614B</b>	16 x 14 x (z)	4	31	NJ1614L	NC1614L	5	Opa 13.5 / Clr 12	JP1614 / JP1614P	1	SSLS	NPLIS	1

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

\*\* Order back panels separately.

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



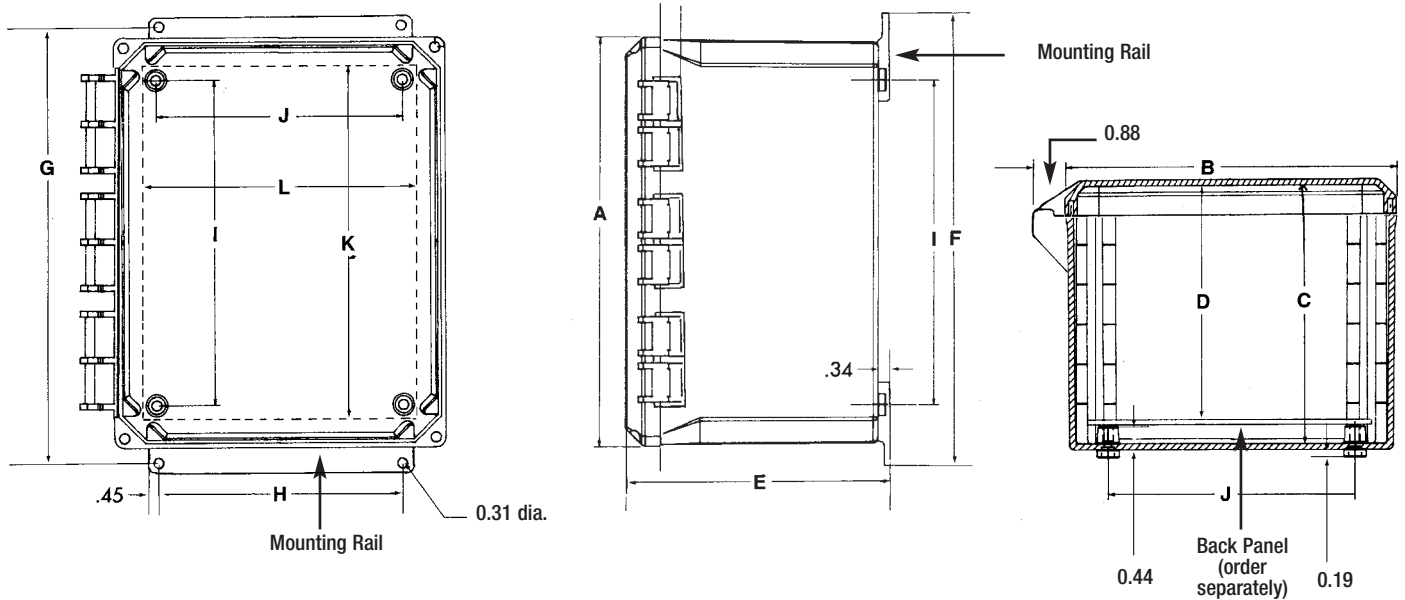
## External Hinge Cover

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

Opaque Lid Cat. No.	Clear Lid Cat. No.	Enclosure Size (in.)						Enclosure Mounting Hole Spacing (in.)		Panel Mounting Hole Spacing (in.)		Back Panel Size (in.)		Back Panel** Cat. No.	
		A	B	C	D	E	F	G	H	I	J	K	L	Steel	PVC
<b>NJ644</b>	<b>NC644</b>	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
<b>NJ664</b>	<b>NC664</b>	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
<b>NJ864</b>	<b>NC864</b>	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
<b>NJ884</b>	<b>NC884</b>	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
<b>NJ1084</b>	<b>NC1084</b>	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
<b>NJ1086</b>	<b>NC1086</b>	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
<b>NJ10106</b>	<b>NC10106</b>	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
<b>NJ12106</b>	<b>NC12106</b>	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
<b>NJ12126</b>	<b>NC12126</b>	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
<b>NJ14126</b>	<b>NC14126</b>	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
<b>7NJ16146</b>	<b>NC16146</b>	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

\* Assembled Enclosures; include body, lid and mounting rail kit.

\*\* Order back panels separately. (10/32 - 3/8 Back Panel screws not supplied.)



## Quick Reference

### Screw-On Cover Style

Assembled Enclosures (no Panel or Latches)		Individual Components			Latches Back Panels	
Opaque Lid	Clear Lid	Body	Lid	Mtg. Rails	Steel	PVC
NS644		NP644B	NS64L	NMK4V	JP64	JP64P
	NV644	NP644B	NV64L	NMK4V	JP64	JP64P
NS664		NP664B	NS66L	NMK6V	JP66	JP66P
	NV664	NP664B	NV66L	NMK6V	JP66	JP66P
NS864		NP864B	NS86L	NMK6V	JP86	JP86P
	NV864	NP864B	NV86L	NMK6V	JP86	JP86P
NS884		NP884B	NS88L	NMK8V	JP88	JP88P
	NV884	NP884B	NV88L	NMK8V	JP88	JP88P
NS1084		NP1084B	NS108L	NMK8V	JP108	JP108P
	NV1084	NP1084B	NV108L	NMK8V	JP108	JP108P
NS1086		NP1086B	NS108L	NMK8V	JP108	JP108P
	NV1086	NP1086B	NV108L	NMK8V	JP108	JP108P
NS10106		NP1010B	NS1010L	NMK10V	JP1010	JP1010P
	NV10106	NP1010B	NV1010L	NMK10V	JP1010	JP1010P
NS12106		NP1210B	NS1210L	NMK10V	JP1210	JP1210P
	NV12106	NP1210B	NV1210L	NMK10V	JP1210	JP1210P
NS12126		NP1212B	NS1212L	NMK12V	JP1212	JP1212P
	NV12126	NP1212B	NV1212L	NMK12V	JP1212	JP1212P
NS1426		NP1412B	NS1412L	NMK12V	JP1412	JP1412P
	NV14126	NP1412B	NV1412L	NMK12V	JP1412	JP1412P
NS16146		NP1614B	NS1614L	NMK14V	JP1614	JP1614P
	NV16146	NP1614B	NV1614L	NMK14V	JP1614	JP1614P

### External Hinge Cover Style

Assembled Enclosures (no Panel or Latches)		Individual Components			Latches Back Panels		Latches – Qty Needed	
Opaque Lid	Clear Lid	Body	Lid	Mtg. Rails	Steel	PVC	Steel	Non-Metallic
NJ644		NL644B	NJ64L	NMK4V	JP64	JP64P	SSLS (1)	NPL1S (1)
	NC644	NL644B	NC64L	NMK4V	JP64	JP64P	SSLS (1)	NPL1S (1)
NJ664		NL664B	NJ66L	NMK6V	JP66	JP66P	SSLS (1)	NPL1S (1)
	NC664	NL664B	NC66L	NMK6V	JP66	JP66P	SSLS (1)	NPL1S (1)
NJ864		NL864B	NJ86L	NMK6V	JP86	JP86P	SSLS (1)	NPL1S (1)
	NC864	NL864B	NC86L	NMK6V	JP86	JP86P	SSLS (1)	NPL1S (1)
NJ884		NL884B	NJ88L	NMK8V	JP88	JP88P	SSLS (1)	NPL1S (1)
	NC884	NL884B	NC88L	NMK8V	JP88	JP88P	SSLS (1)	NPL1S (1)
NJ1084		NL1084B	NJ108L	NMK8V	JP108	JP108P	SSLS (1)	NPL1S (1)
	NC1084	NL1084B	NC108L	NMK8V	JP108	JP108P	SSLS (1)	NPL1S (1)
NJ1086		NL1086B	NJ108L	NMK8V	JP108	JP108P	SSLS (1)	NPL1S (1)
	NC1086	NL1086B	NC108L	NMK8V	JP108	JP108P	SSLS (1)	NPL1S (1)
NJ10106		NL1010B	NJ1010L	NMK10V	JP1010	JP1010P	SSLS (1)	NPL1S (1)
	NC10106	NL1010B	NC1010L	NMK10V	JP1010	JP1010P	SSLS (1)	NPL1S (1)
NJ12106		NL1210B	NJ1210L	NMK10V	JP1210	JP1210P	SSLS (2)	NPL1S (2)
	NC12106	NL1210B	NC1210L	NMK10V	JP1210	JP1210P	SSLS (2)	NPL1S (2)
NJ12126		NL1212B	NJ1212L	NMK12V	JP1212	JP1212P	SSLS (2)	NPL1S (2)
	NC12126	NL1212B	NC1212L	NMK12V	JP1212	JP1212P	SSLS (2)	NPL1S (2)
NJ1426		NL1412B	NJ1412L	NMK12V	JP1412	JP1412P	SSLS (2)	NPL1S (2)
	NC14126	NL1412B	NC1412L	NMK12V	JP1412	JP1412P	SSLS (2)	NPL1S (2)
NJ16146		NL1614B	NJ1614L	NMK14V	JP1614	JP1614P	SSLS (2)	NPL1S (2)
	NC16146	NL1614B	NC1614L	NMK14V	JP1614	JP1614P	SSLS (2)	NPL1S (2)

## Quick Reference

### Hidden Hinge Cover Style

Assembled Enclosures (no Panel or Latches)		Individual Components			Latches Back Panels		Latches – (Qty needed)	
Opaque Lid	Clear Lid	Body	Lid	Mtg. Rails	Steel	PVC	Steel	Non-Metallic
NH644		NP644B	NH64L	NMK4V	JP64	JP64P	SSLS (1)	NPL1S (1)
	NI644	NP644B	NI64L	NMK4V	JP64	JP64P	SSLS (1)	NPL1S (1)
NH664		NP664B	NH66L	NMK6V	JP66	JP66P	SSLS (1)	NPL1S (1)
	NI664	NP664B	NI66L	NMK6V	JP66	JP66P	SSLS (1)	NPL1S (1)
NH864		NP864B	NH86L	NMK6V	JP86	JP86P	SSLS (1)	NPL1S (1)
	NI864	NP864B	NI86L	NMK6V	JP86	JP86P	SSLS (1)	NPL1S (1)
NH884		NP884B	NH88L	NMK8V	JP88	JP88P	SSLS (1)	NPL1S (1)
	NI884	NP884B	NI88L	NMK8V	JP88	JP88P	SSLS (1)	NPL1S (1)
NH1084		NP1084B	NH108L	NMK8V	JP108	JP108P	SSLS (1)	NPL1S (1)
	NI1084	NP1084B	NI108L	NMK8V	JP108	JP108P	SSLS (1)	NPL1S (1)
NH1086		NP1086B	NH108L	NMK8V	JP108	JP108P	SSLS (1)	NPL1S (1)
	NI1086	NP1086B	NI108L	NMK8V	JP108	JP108P	SSLS (1)	NPL1S (1)
NH10106		NP1010B	NH1010L	NMK10V	JP1010	JP1010P	SSLS (1)	NPL1S (1)
	NI10106	NP1010B	NI1010L	NMK10V	JP1010	JP1010P	SSLS (1)	NPL1S (1)
NH12106		NP1210B	NH1210L	NMK10V	JP1210	JP1210P	SSLS (2)	NPL1S (2)
	NI12106	NP1210B	NI1210L	NMK10V	JP1210	JP1210P	SSLS (2)	NPL1S (2)
NH12126		NP1212B	NH1212L	NMK12V	JP1212	JP1212P	SSLS (2)	NPL1S (2)
	NI12126	NP1212B	NI1212L	NMK12V	JP1212	JP1212P	SSLS (2)	NPL1S (2)
NH1426		NP1412B	NH1412L	NMK12V	JP1412	JP1412P	SSLS (2)	NPL1S (2)
	NI14126	NP1412B	NI1412L	NMK12V	JP1412	JP1412P	SSLS (2)	NPL1S (2)
NH16146		NP1614B	NH1614L	NMK14V	JP1614	JP1614P	SSLS (2)	NPL1S (2)
	NI16146	NP1614B	NI1614L	NMK14V	JP1614	JP1614P	SSLS (2)	NPL1S (2)



Manufactured from structural foam thermoplastic, Carlton® 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 CSA recognized enclosures also withstand wet and dirty environments, while their thick wall construction 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, Carlton 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.
- Non-metallic molded-in hinges on hinged models.
- No rough corners, sharp edges, or burrs.
- Non-conductive — 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.

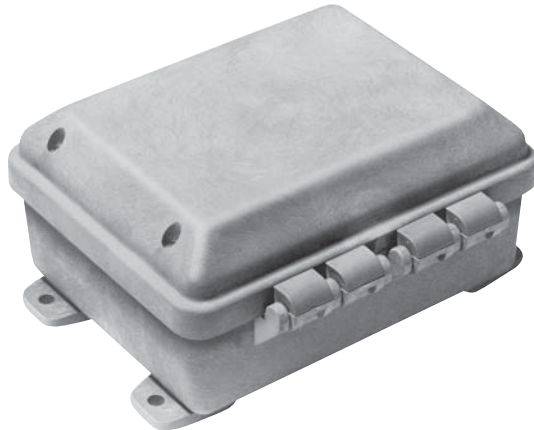
### Standards

- Meets NEMA Types 1, 3, 3S, 3X, 3SX, 4, 4X, 12 and 13 as indicated.
- CSA certified.
- JIC compliance.



## Hinged Covers

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



### Features

- Non-metallic mounting feet and all mounting hardware included.
- White painted 14 gauge steel or 1/4" PVC back panel (order separately).
- 304 (18-8) stainless steel screws (10-32 x 1-1/8").
- Lid design provides greater usable internal volume.
- Completely non-metallic hinges.
- Brass screw inserts.
- Temperature Range: -34° to 110°C
- Material: polycarbonate molded base and cover.

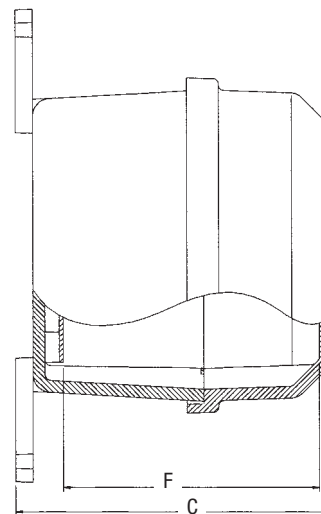
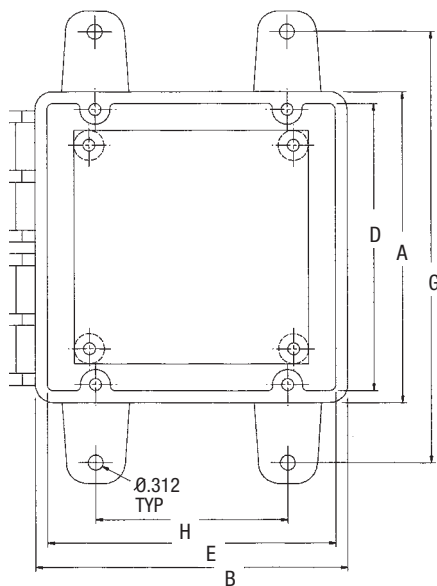
### Factory Assembled

Opaque Lid Cat. No.	Clear Lid Cat. No.	External			Internal			Mounting (in.)		Std Ctn Qty (lb) Opaque/Clear	Back Panel* Cat. No. Steel / PVC	Panel Size	Std Ctn Qty (lb) Steel / PVC
		A	B	C	D	E	F	G	H				
<b>CJ665</b>	<b>CC665</b>	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)
<b>CJ863</b>	<b>CC863</b>	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)
<b>CJ1085</b>	<b>CC1085</b>	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)
<b>CJ12106</b>	<b>CC12106</b>	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)
<b>CJ14126</b>	<b>CC14126</b>	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)
<b>CJ16147</b>	<b>CC16147</b>	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 latch (Cat. No. CJTL), contact your Regional Sales Office for price and delivery.



## Screw-On Covers

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



### Features

- Non-metallic mounting feet and all mounting hardware included.
- 304 (18-8) stainless steel screws (10-32 x 1-1/8").
- 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.
- Temperature Range: -34° to 110°C
- Material: polycarbonate molded base and cover.

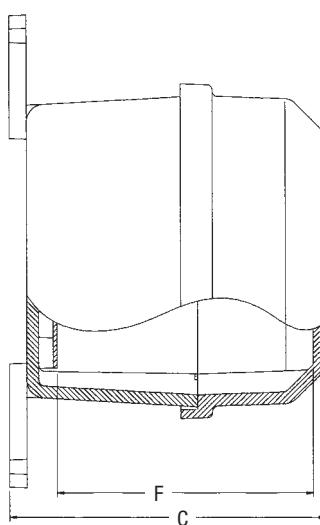
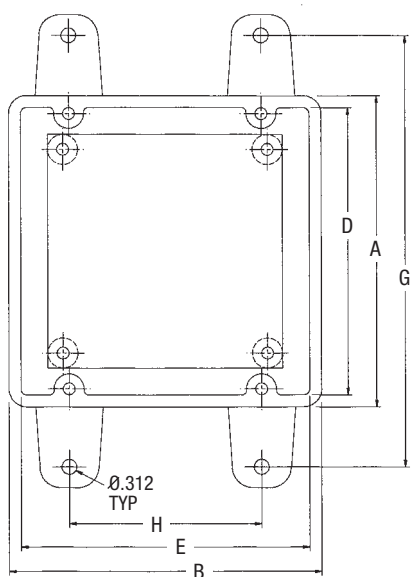


### Factory Assembled

Opaque Lid Cat. No.	Clear Lid Cat. No.	External			Internal			Mounting (in.)		Std Ctn Qty (lb) Opaque/Clear	Back Panel* Cat. No. Steel / PVC	Panel Size	Std Ctn Qty (lb) Steel / PVC
		A	B	C	D	E	F	G	H				
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 (0.78)
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 Covers

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



### Features

- Non-metallic mounting feet and all mounting hardware included.
- White painted 14 gauge steel or 1/4" PVC back panel (order separately).
- 304 (18-8) stainless steel screws (10-32 x 1-1/8").
- Completely non-metallic hinges.
- Brass screw inserts.
- Temperature Range: -40° to 85°C
- Material: NORYL base and cover.

### Factory Assembled

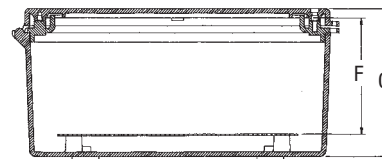
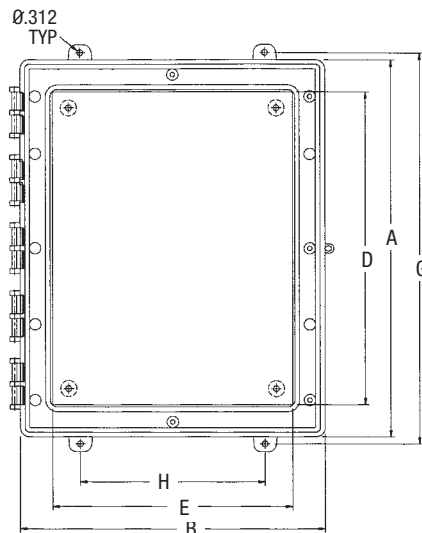
Cat. No.	External			Internal			Mounting (in.)		Std Ctn Qty (lb)	Back Panel* Cat. No. Steel / PVC	Panel Size	Std Ctn Qty (lb) Steel / PVC
	A	B	C	D	E	F	G	H				
<b>C2016A4</b>	20.50	16.50	8.36	17.25	13.25	6.28	21.26	10.00	1 (15.1)	NP2016/NP2016P	17 x 13.25	1 (7.0) / 1 (6.1)
<b>C2016B4</b>	20.50	16.50	10.36	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)
<b>C2016C4</b>	20.50	16.50	12.36	17.25	13.25	10.25	21.26	10.00	1 (19.7)	NP2016/NP2016P	17 x 13.25	1 (7.0) / 1 (6.1)
<b>C2420A4</b>	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)
<b>C2420B4</b>	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)
<b>C2420C4</b>	24.50	20.50	12.36	21.25	17.25	10.28	31.26	14.00	1 (24.9)	NP2420/NP2420P	21 x 17	1 (10.4) / 1 (4.7)
<b>C3024A4</b>	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)
<b>C3024B4</b>	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)
<b>C3024C4</b>	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.

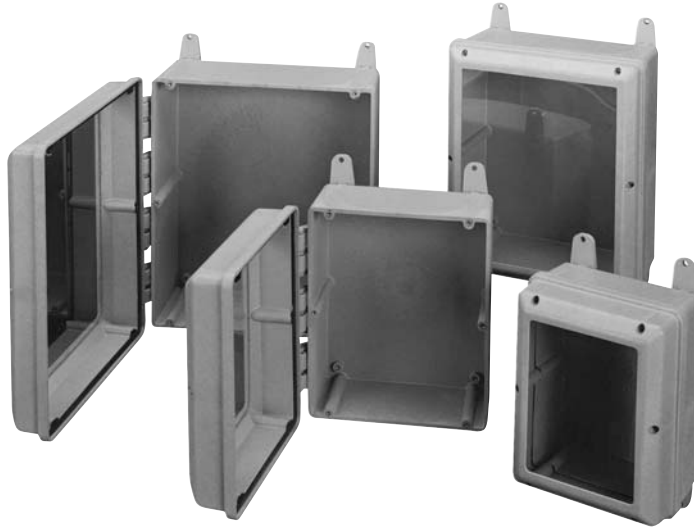
\*Order back panels separately.

For factory installed pad lockable latch (Cat. No. CJTL), contact your Regional Sales Office for price and delivery.



## Hinged Window Cover

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



### Features

- Non-metallic mounting feet and all mounting hardware included.
- 304 (18-8) stainless steel screw (10-32 x 1-1/8").
- White painted 14 gauge steel or 1/4" PVC back panel (order separately).
- Completely non-metallic hinges.
- Lid design provides greater usable internal volume.
- Brass screw inserts.
- Material: polycarbonate molded base and cover.

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

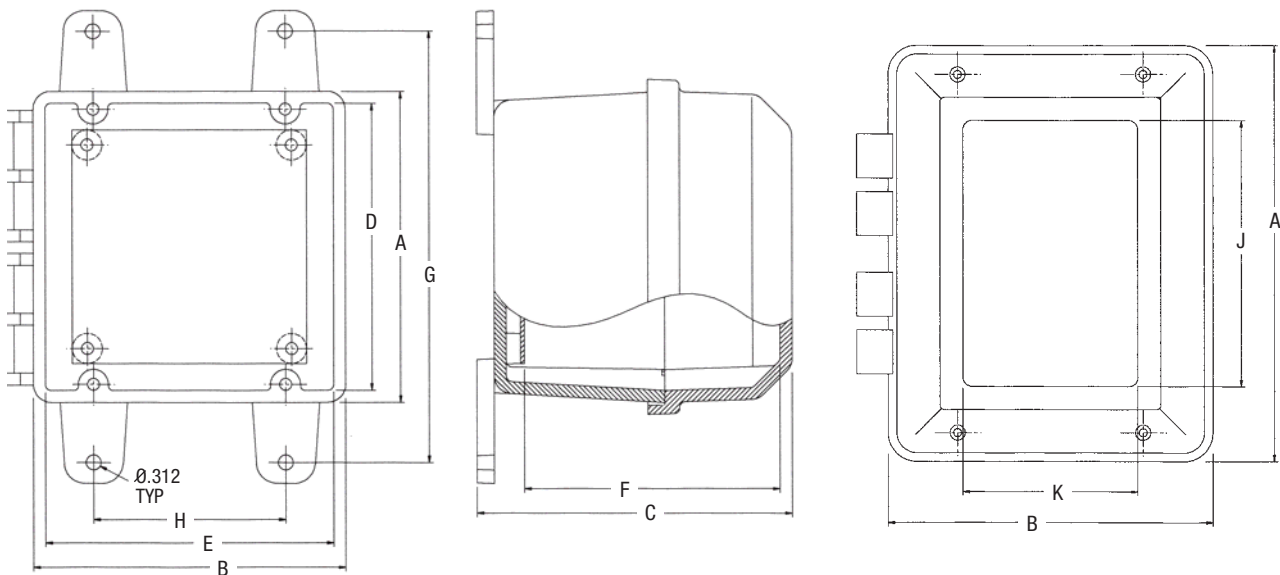
### Factory Assembled

Cat. No.	External				Internal			Mounting (in.)			Std Ctn Qty (lb)	Back Panel* Cat. No. Steel / PVC	Panel Size	Std Ctn Qty (lb) Steel / PVC
	A	B	C	D	E	F	G	H	J	K				
J665W	6.50	6.50	6.69	6.00	6.00	5.45	9.00	4.00	3.75	3.75	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	3.75	3.75	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	7.75	5.75	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	6.75	7.75	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	11.75	9.75	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	13.75	11.75	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.

\*Order back panels separately.

For factory installed pad lockable quick-release latch (Cat. No. CJTL), contact your Regional Sales Office for price and delivery.







## Product Overview

Circuit Safe® non-metallic 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, Carlton'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 to 85°C.

### Applications

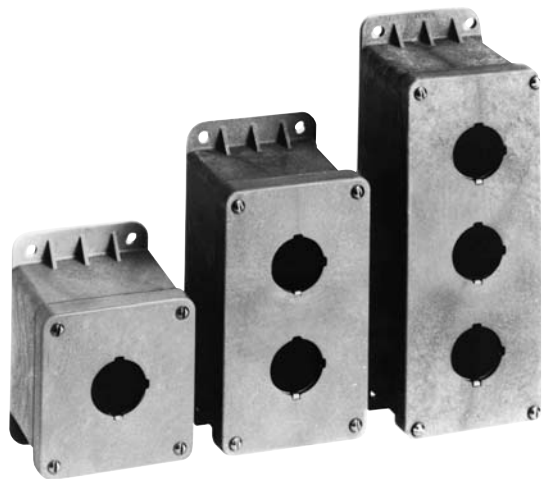
- Standard oil-tight pushbuttons, switches and pilot lights.
- Conduit entries.
- Junction boxes.
- MRO and OEM applications.

### Standards

- Standards vary by product.
- Narrow profile blank screw cover enclosure meet NEMA Type 1, 3, 3S, 3X, 3SX, 4, 4X, 12 and 13.
- Non-metallic hinged cover enclosures with multiple hole openings are CSA Certified.

## Screw Cover Enclosures with 1-2-3 Hole Openings

SP®  
LR31146



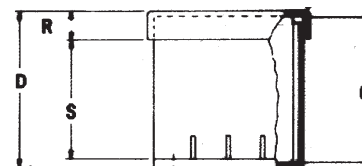
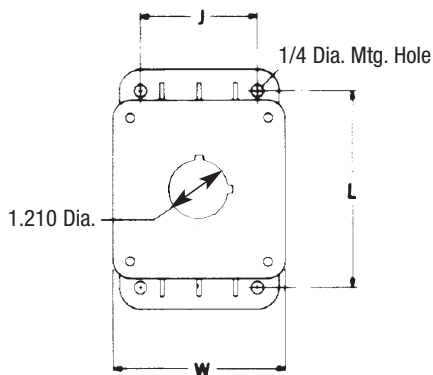
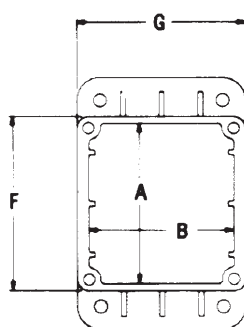
Wall mount pushbutton enclosures are molded from grey engineered thermoplastic material that is resistant to most corrosive agents. Universal pushbutton holes are designed to accommodate all standard oil-tight pushbuttons, switches and pilot lights. A grounding plate is included on the cover. Auxiliary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

### Features

- 30.5 mm keyed pushbutton holes.\*
- Material: nylon base and cover.
- Integrally molded mounting flange.
- Brass screw inserts.
- 304 (18-8) stainless screws (8-32 x 3/8").
- Temperature range from - 40° to 85°C.

### 30.5 mm Pushbutton Enclosures

Cat. No.	Style	Inside Box Size A x B x C	Mounting L x J	Overall Outside Including Mounting Bracket H x W x D	Dimensions (in.)				Std Ctn Qty	Std Ctn Wt. (lb)
					F	G	R	S		
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	0.63	2.5	12	9
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	0.63	2.5	8	8
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	0.63	2.5	6	7.60



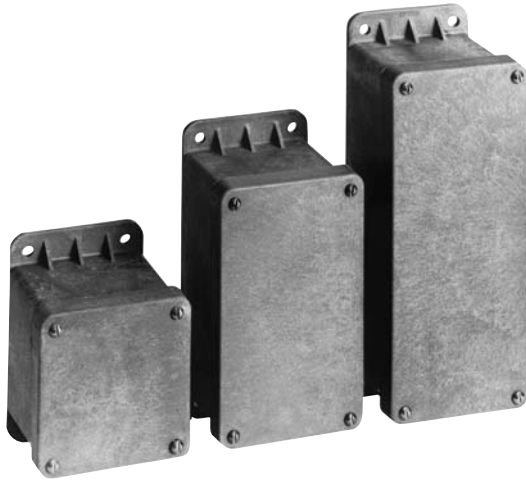
### 22 mm Pushbutton Enclosures \*

Cat. No.	Style	Inside Box Size A x B x C	Mounting L x J	Overall Outside Including Mounting Bracket H x W x D	Dimensions (in.)				Std Ctn Qty	Std Ctn Wt. (lb)
					F	G	R	S		
PX0010	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	0.63	2.5	10	8.26
PX0007	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	0.63	2.5	1	1.31
PX0011	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	0.63	2.5	6	9.43
PX0008	Four 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	0.63	2.5	1	1.60

\* All Circuit Safe pushbutton enclosures are furnished with standard hole dimensions: 1-7/32" 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

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



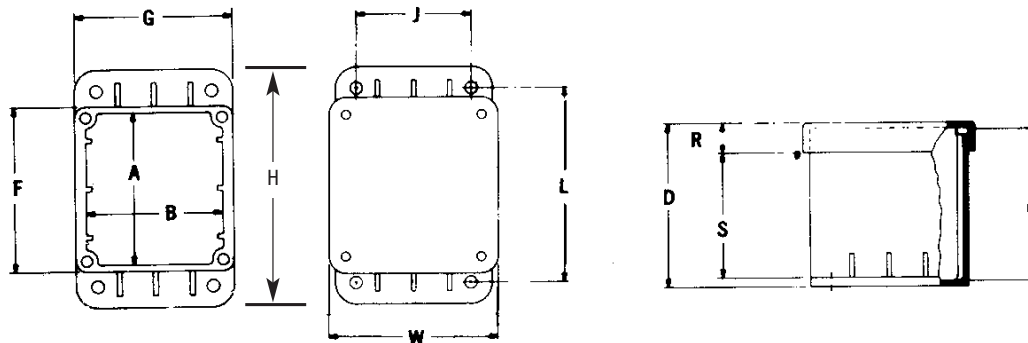
Blank cover enclosures can be easily drilled with a standard hole saw for conduit entries and pushbuttons. Wall mount enclosures are molded from grey engineered thermoplastic material and are resistant to most corrosive agents.

### Features

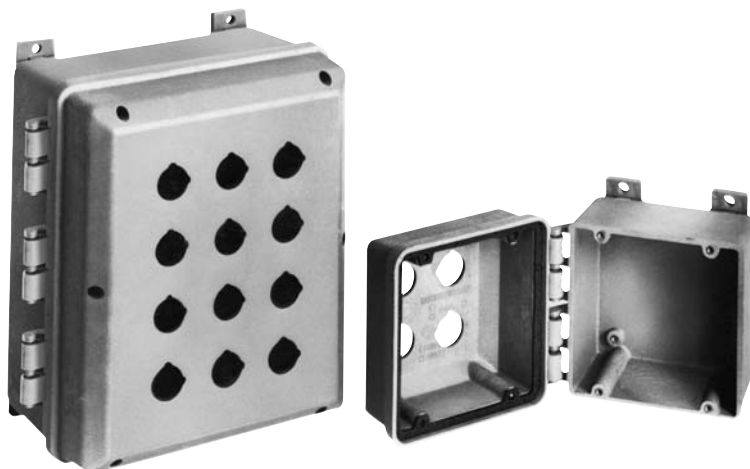
- Brass screw inserts.
- Material: engineered thermoplastic.
- Integrally molded mounting flange.
- 304 (18-8) stainless screws (10-32 x 3/8").
- Temperature range from - 40 to 85°C.

### Blank Screw Cover Enclosures

Cat. No.	Style	Inside Box Size A x B x C	Mounting L x J	Overall Outside Including Mounting Bracket H x W x D	Dimensions (in.)				Std Ctn Qty	Std Ctn Wt. (lb)
					F	G	R	S		
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	0.63	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	0.63	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	0.63	2.5	6	8.20



## 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. Non-metallic 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

- Non-metallic mounting feet and all mounting hardware included.
- White painted 14 gauge steel or 1-1/8" PVC back panel (order separately).
- Material: engineered thermoplastic base and cover.
- 304 stainless steel screws.
- Brass screw inserts.
- Lid design provides greater usable volume.
- Completely non-metallic hinges.
- Temperature range from - 40 to 85°C.

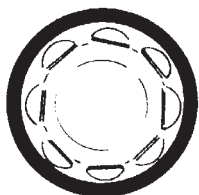
### Hinged Cover Pushbutton Enclosures With Multiple 30.5 mm Openings\*

Cat. No.	Openings	Inside Box Size	Weight	Qty	Panel Cat. No. Steel / PVC	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

\*All Circuit Safe pushbutton enclosures are furnished with standard hole dimensions: 1-7/32" diameter with keyways at 12 o'clock and 3 o'clock.

## Accessories

### Gasketed Pushbutton Hole Plug

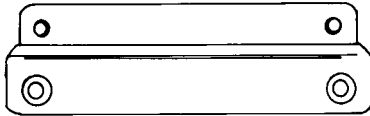


Cat. No.	Size	Std Ctn Qty	Std Wt. (lb)
CP900	Standard PB hole	100	2.0



## NEMA Accessories

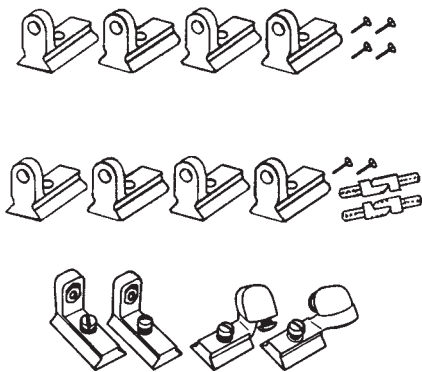
### Mounting Rails\*



Cat. No.	Size	Std Ctn Qty	Std Wt. (lb)
<b>NMK4V</b>	4	25	5
<b>NMK6V</b>	6	24	7.7
<b>NMK8V</b>	8	24	10.25
<b>NMK10V</b>	10	20	13.26
<b>NMK12V</b>	12	20	11.4
<b>NMK14V</b>	14	25	17.76

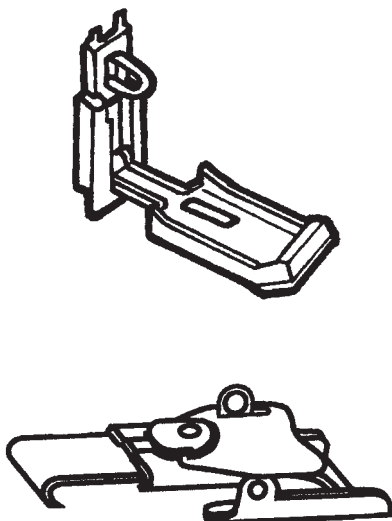
\*Mounting Rails include 2 rails and 4 stainless steel screws.  
Mounting Rails can be mounted on long or short side of enclosure.  
Does not apply to 16" enclosure.

### Panel Adjuster Kits



Cat. No.	Product	Description	Std Ctn Qty	Std Wt. (lb)
<b>NBPADJ2</b>	Panel Adjuster kit	4 panel adjusters 4 #10-32 screws to mount panel	10 kits	2.07
<b>NBPSWG</b>	180° Swing Out Panel kit	4 panel adjusters 2 hinges 2 #10-32 screws to mount panel	10 kits	2.68
<b>NBPSWG2</b>	Swing Out Panel Adjuster kit	2 hinged adjusters 2 panel adjusters 4 #10-32 screws	10 kits	1.80

### Latch Kits for NEMA hinged enclosures.

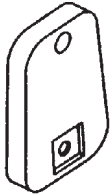


Cat. No.	Product	Description	Std Ctn Qty	Std Wt. (lb)
<b>NPL1L</b>	Non-metallic Quick-release Latch kit	Quick-Release Latch kit for use with hidden hinge enclosure for NH and NI series	25	2.00
<b>NPL1S</b>	Non-metallic Quick-release Latch kit	Quick-Release Latch kit for use with external hinge enclosure for NJ and NC series	25	2.00
<b>SSL</b>	304 Stainless steel Quick-Release Latch kit	Quick-Release Latch kit for use with hidden hinge enclosure for NH and NI series	25	4.27
<b>SSLS</b>	304 Stainless steel Quick-Release Latch kit	Quick-Release Latch kit for use with external hinge enclosure for NJ and NC series	25	3.41

## NEMA and JIC Accessories

### Mounting Feet

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



Cat. No.	Std Ctn Qty	Std Ctn Wt. (lb)
<b>CJB159*</b>	As required	0.04

\*CJB159 non-metallic 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.

### JIC\* Latch Kits

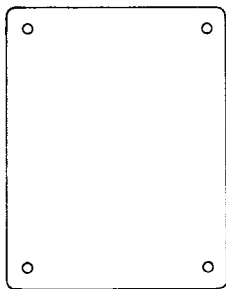


Cat. No.	Std Ctn Qty	Std Ctn Wt. (lb)
<b>CJTL</b>	1 kit	0.04

\*Stainless steel kit includes latch and keeper.  
\*Factory installed. Contact your Regional Sales Office for price and delivery.

### PVC back panels†

PVC back panels are made from 1/4" PVC and meet UL94 V-0.



Cat. No.	Size (in.)	Std Ctn Qty	Std Ctn Wt. (lb)
<b>JP64P</b>	4.88 x 2.88	1	0.3
<b>JP66P</b>	4.88 x 4.88	1	0.3
<b>JP86P</b>	6.75 x 4.88	1	0.4
<b>JP88P</b>	6.75 x 6.88	1	0.5
<b>JP108P</b>	8.75 x 6.88	1	0.7
<b>JP1010P</b>	8.75 x 8.88	1	0.9
<b>JP1210P</b>	10.75 x 8.88	1	1.2
<b>JP1212P</b>	10.75 x 10.88	1	1.5
<b>JP1412P</b>	12.75 x 10.88	1	1.7
<b>JP1614P</b>	14.75 x 12.88	1	2.3

### Air Vents

NEMA 1 Rated only



Cat. No.	Style	Std Ctn Qty
<b>HPVM25</b>	For fitting outside of all enclosures	1
<b>HPVM35</b>	For fitting inside of all enclosures	1

† Circuit Safe NEMA enclosures are not shipped with back panels which must be ordered separately.

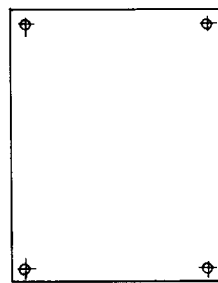
### JIC Installation Kits\*

Cat. No.	Std Ctn Qty	Std Ctn Wt. (lb)
<b>CH208</b>	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.

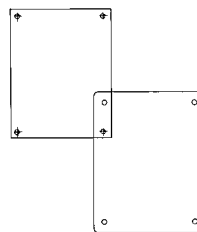
### Steel back panels

Steel back panels are white painted 14 gauge steel.



Cat. No.	Size (in.)	Std Ctn Qty	Std Ctn Wt. (lb)
<b>JP64</b>	4.88 x 2.88	1	0.6
<b>JP66</b>	4.88 x 4.88	1	1.0
<b>JP86</b>	6.75 x 4.88	1	1.0
<b>JP88</b>	6.75 x 6.88	1	1.2
<b>JP108</b>	8.75 x 6.88	1	1.5
<b>JP1010</b>	8.75 x 8.88	1	2.3
<b>JP1210</b>	10.75 x 8.88	1	2.7
<b>JP1212</b>	10.75 x 10.88	1	3.58
<b>JP1412</b>	12.75 x 10.88	1	3.8
<b>JP1614</b>	14.75 x 12.88	1	4.7

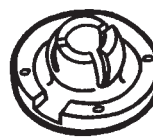
### Medium NEMA Back Panels†



Cat. No. Steel / PVC	Size (in.)	Std Ctn Qty	Std Ctn Wt. (lb)
<b>NP2016/NP2016P</b>	17 x 13	1	7.0/6.125
<b>NP2420/NP2420P</b>	21 x 17	1	10.4/4.71
<b>NP3024/NP3024P</b>	27 x 21	1	18.0/9.781

### Draining Device

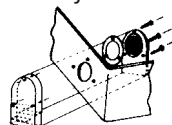
For 3R Rating and condensation build-up.



Cat. No.	Std Ctn Qty
<b>HPVEA9</b>	1

### Enclosure Ventilator

Allows any size enclosure to breathe, yet remains watertight.



Cat. No.	Std Ctn Qty
<b>HVM27</b>	1



## Window Kits

### NEMA 4X Rated

Carlton hinged window kits are used to create a NEMA 4X environment on electronic control panels. Polycarbonate construction and double gaskets ensure environmental integrity.

Cat. No.	Size (in.)	Std Ctn Qty	Std Ctn Wt. (lb)
NI64W	6 x 4	1	0.8
NI66W	6 x 6	1	0.9
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

\* Non-stock factory order only – contact your Regional Sales Office.

### Features

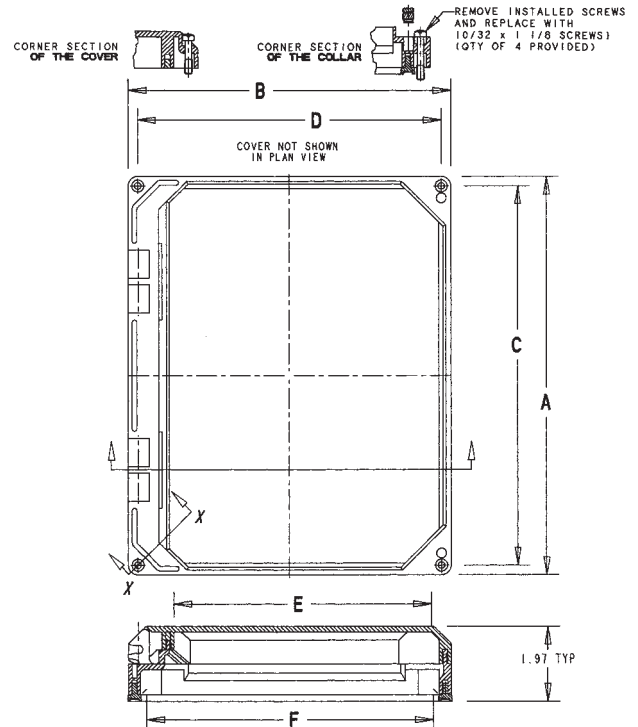
- High-impact strength.
- High dielectric strength.
- Suitable for indoor and outdoor use.
- Fully gasketed.

### Standards

- NEMA Type 4X with the exception of NI1614W. All sizes are NEMA Type 1 & 12 rated.

### Applications

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



Cat. No.	Dimensions in. (mm)					
	A	B	C	D	E	F
NI64W	6.42 (163.1)	4.41 (112.0)	5.92 (150.4)	3.94 (100.0)	2.72 (69.1)	3.80 (96.5)
NI66W	6.42 (163.1)	6.42 (163.1)	5.94 (150.9)	5.94 (150.9)	4.72 (119.9)	5.80 (147.3)
NI86W	8.44 (214.4)	6.42 (163.1)	7.92 (201.2)	5.94 (150.9)	4.72 (119.9)	5.80 (147.3)
NI88W	8.44 (214.4)	8.43 (214.1)	7.95 (201.9)	7.95 (201.9)	6.72 (170.7)	7.80 (198.1)
NI108W	10.46 (265.7)	8.45 (214.6)	9.95 (253.5)	7.96 (202.2)	6.72 (170.7)	7.80 (198.1)
NI1010W	10.45 (265.4)	10.45 (265.4)	9.97 (253.2)	9.97 (253.2)	8.72 (221.5)	9.80 (248.9)
NI1210W	12.46 (316.5)	10.45 (265.4)	11.99 (304.5)	9.97 (253.2)	8.72 (221.5)	9.80 (248.9)
NI1212W	12.50 (317.5)	12.50 (317.5)	12.00 (304.8)	12.00 (304.8)	10.72 (272.3)	11.80 (299.7)
NI1412W	14.50 (368.3)	12.50 (317.5)	14.01 (355.9)	12.00 (304.8)	10.72 (272.3)	11.80 (299.7)
NI1614W	16.52 (419.6)	14.48 (367.8)	16.03 (407.2)	14.02 (356.1)	12.72 (323.1)	13.80 (350.5)

### HS, HP and HLA/HLS Series



#### 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.

Carlton® 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 three series (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.



## HS Series Screw-On Fastened and Hinged Cover Enclosures

- Meets NEMA 1, 3, 3S, 4, 4X, 12 and 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

- 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.
- Indoor or outdoor use.
- Sunlight resistant.

### Standards

- Meets NEMA 1, 3, 3S, 4, 4X, 12 and 13 standards as indicated.
- Meets IP 65.
- cULus Listed (E108856).

### Material

- Opaque/Clear Lid – Polycarbonate
- Base – Fiberglass Reinforced Polyester

## HS Series Screw-On Fastened and Hinged Cover Enclosures



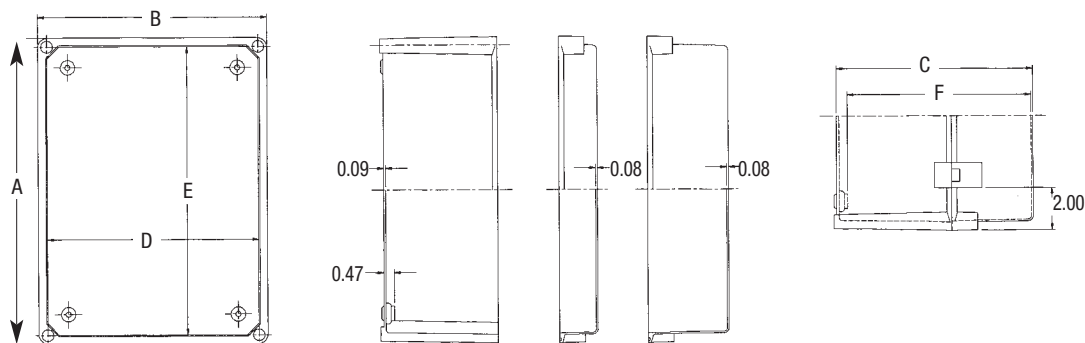
### Features

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

### Specifications

Opaque Screw-On Cover Cat. No.	Clear Screw-On Cover Cat. No.	Opaque Hinged Cover Cat. No.	Clear Hinged Cover Cat. No.	External			Internal			Opaque Wt. (lb) each Screw/Hinged	Clear Wt. (lb) each Screw/Hinged	Std Pkg.	Back Panel Cat. No.	Dimensions H x W	Thickness	Wt. (lb)	Std Ctn Qty
				A	B	C	D	E	F								
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	0.08	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	0.08	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	0.08	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	0.08	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	0.08	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	0.08	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	0.08	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	0.08	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	0.08	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	0.08	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	0.08	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	0.10	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	0.10	15.5	1

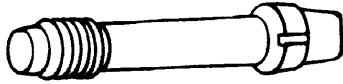
Back panels and mounting feet must be ordered separately.  
Contact your Regional Sales Office for availability and delivery.



## Accessories

### Thumb Screws

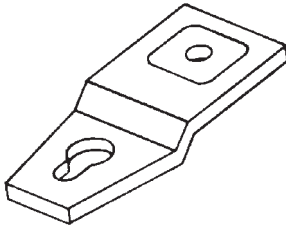
For Himeline HS Enclosures



Cat. No.	Std Ctn Qty	Std Ctn Wt. (lb)
<b>HSTS4</b>	4	0.10
<b>HSTS6</b>	6	0.15

### Mounting Feet

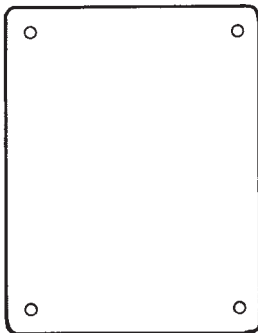
For Himeline HS Enclosures



Cat. No.	Description	Std Ctn Qty	Std Ctn Wt. (lb)
<b>HSMFZ</b>	Zinc dichromated Steel	4/set	0.2
<b>HSMFSS</b>	304 Stainless Steel	4/set	0.2

### Back Panels

For Himeline HS Enclosures\* Metal back panels are white painted 14 gauge steel.

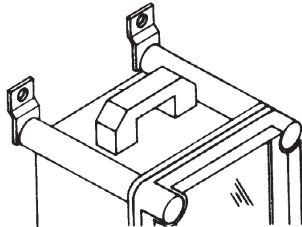


Cat. No.	Size (in.)	Std Ctn Qty	Std Ctn Wt. (lb)
<b>HS7ABP</b>	5.51 x 9.05	1	1.2
<b>HS11ABP</b>	9.05 x 9.05	1	2.0
<b>HA11BBP</b>	9.05 x 12.60	1	2.7
<b>HS11CBP</b>	9.05 x 19.68	1	4.3
<b>HS15CBP</b>	12.60 x 19.68	1	7.1
<b>HS21CBP</b>	19.68 x 19.68	1	9.6
<b>HS15DBP</b>	12.60 x 26.77	1	10.2
<b>HS21DBP</b>	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.*

### Non-metallic Carrying Handle

Converts enclosures to portable units for meters and portable power.

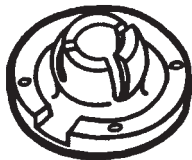


Cat. No.	Std Ctn Qty	Std Ctn Wt. (lb)
<b>HSCH</b>	1	0.2

### Accessories

#### Draining Device

For 3R Rating and condensation build-up.



Cat. No.	Std Ctn Qty
HPVEA9	1

#### Air Vents

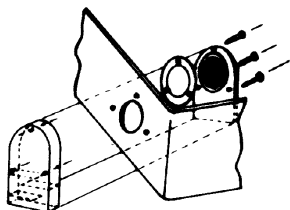
NEMA 1 Rated only.



Cat. No.	Description	Std Ctn Qty	Std Ctn Qty
HPVM25	For fitting outside of all enclosures	4/set	1
HPVM35	For fitting inside of all enclosures	4/set	1

#### Enclosure Ventilator

Allows any size enclosure to breathe, yet remains watertight.



Cat. No.	Std Ctn Qty
HVM27	1



## HP Series Enclosures with Hinged Quick-Release Cover

- Meets NEMA 1, 3, 3S, 4, 4X, 12 and 13
- Meets IP 66



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 -50°C to 160°C.

### 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.
- Single piece construction.
- Opaque or tempered glass window option.
- Steel, non-metallic & slotted back panels available.
- External & internal venting available.
- Hinged variable height inner panel option.
- Quick 1/4-turn lock.
- Underside grid pattern on inner door panel.
- Self-positioning panel depth adjusters.
- Pole mounting kit.
- Pedestal mounting capability.
- Sunlight resistant.

### Applications

- Junction boxes.
- Terminal wiring boxes.
- Instrument and control housing.
- Indoor or outdoor use.

### Standards

- NEMA Type 1, 3, 3S, 4, 4X, 12 and 13.
- Meets IP 66.

### Material

- Lids/Bases – Fiberglass reinforced polyester.

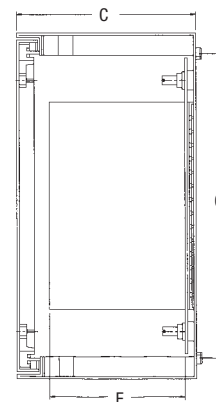
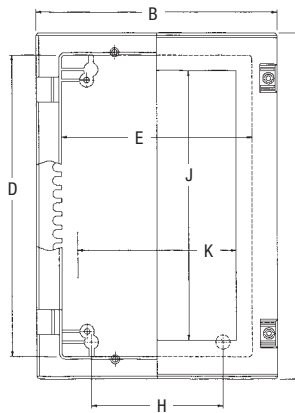
### Specifications



Enclosure with Opaque Cover Cat. No.	Std Ctn Wt. (lb)	Enclosure with Clear Window* Cat. No.	Std Ctn Wt. (lb)	Window Dimension (H x W) (in.)	External (in.)			Internal (in.)			Mounting (in.)		Window (in.)		Std Qty
					A	B	C	D	E	F	G	H	J	K	
HS7A7	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
HS11A7	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
HS11B7	21.13	HC2416C	24.12	18.89 x 11.81	25.47	17.17	9.84	22.83	14.17	8.35	22.67	9.84	18.90	11.81	1
HS11C7	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
HS15C7	39.00	HC3325D**	43.12	26.77 x 19.68	33.35	33.35	11.81	30.77	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.

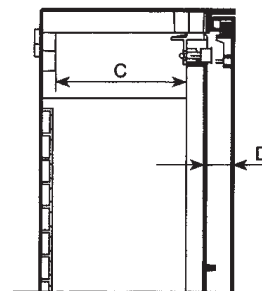
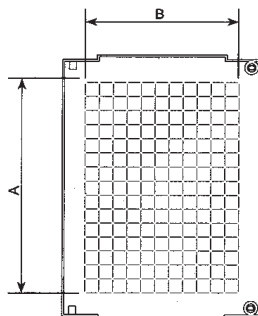


Depth with back panel installed

### 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.

Enclosure with Opaque Cover Cat. No.	A		B		C		D		Std Ctn Qty	Std Ctn Wt. (lb)
	(in.)	(mm)	(in.)	(mm)	(in.)	(mm)	(in.)	(mm)		
HS7A7	12.40	315	18.07	205	5.98	152	1.02	26	1	2.05
HS11A7	16.34	415	12.00	305	5.98	152	1.02	26	1	3.15
HS11B7	20.28	515	12.00	305	7.64	194	1.26	32	1	4.50
HS11C7	24.21	615	15.94	405	9.61	244	1.26	32	1	6.50
HS15C7	28.15	715	19.88	505	9.61	244	1.26	32	1	8.45



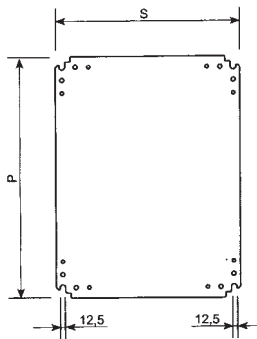
## Accessories

### 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

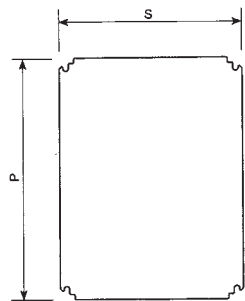
Steel back panels are white painted 14 gauge steel.



To Fit Enclosures	Cat. No.	Thickness		Weight		P (in.)	S (in.)
		(in.)	(mm)	(in.)	(mm)		
HP1612B	<b>PMM1612</b>	0.079	2	3.10	1.6	14.37	9.84
HP2016B	<b>PMM2016</b>	0.079	2	6.15	2.5	18.30	13.78
HP2416C	<b>PMM2416</b>	0.079	2	8.00	3.1	22.24	13.78
HP3020D	<b>PMM3020</b>	0.079	2	12.04	4.6	26.18	17.72
HP3325D	<b>PMM3325</b>	0.118	3	20.00	9.9	30.11	21.65

#### PVC Insulating Back Panels

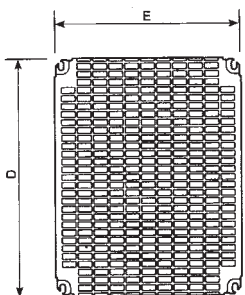
PVC back panels are made from 1/4" PVC and meet UL94 V-0.



To Fit Enclosures	Cat. No.	Weight		P		S	
		lb	kg	(in.)	(mm)	(in.)	(mm)
HP1612B	<b>PMB1612</b>	1.10	0.5	14.37	365	9.84	250
HP2016B	<b>PMB2016</b>	2.65	1.2	18.30	465	13.78	350
HP2416C	<b>PMB2416</b>	3.09	1.4	22.24	565	13.78	350
HP3020D	<b>PMB3020</b>	4.63	2.1	26.18	665	17.72	450
HP3325D	<b>PMB3325</b>	6.62	3.0	30.11	765	21.65	550

#### Slotted Back Panels

Zinc dichromated coated steel plates perforated for addition of electrical circuit.

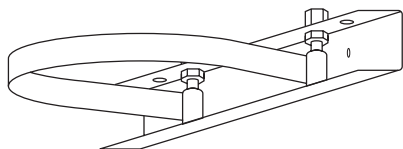


To Fit Enclosures	Cat. No.	Weight		D		E	
		lb	kg	(in.)	(mm)	(in.)	(mm)
HP1612B	<b>PMR1612</b>	1.54	0.7	13.74	349	9.8	251
HP2016B	<b>PMR2016</b>	2.87	1.3	17.72	450	13.82	351
HP2416C	<b>PMR2416</b>	3.53	1.6	21.85	555	13.82	351
HP3020D	<b>PMR3020</b>	5.07	2.3	25.39	645	17.76	451
HP3325D	<b>PMR3325</b>	7.06	3.2	29.53	750	21.69	551

Refer to the Enclosure Accessories section for back panel accessories.

### Accessories

#### Pole Mounting Set



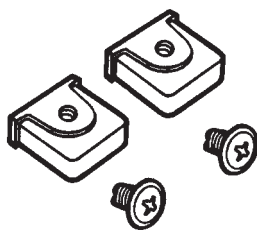
To Fit Enclosures	Cat. No.	Std Ctn Qty
HP1612B	<b>HPPF300</b>	1
HP2016B HP2416C	<b>HPPF400</b>	1
HP3020D	<b>HPPF500</b>	1
HP3325D	<b>HPPF600</b>	1

#### 35 mm Symmetrical DIN Rail



To Fit Enclosures	Cat. No.	Width (in.)	Std Ctn Qty
HP1612B	<b>HPC0300</b>	11.02	1
HP2016B HP2416C	<b>HPC0400</b>	14.96	1
HP3020D	<b>HPC0500</b>	18.90	1

#### Rail Mounting Insert



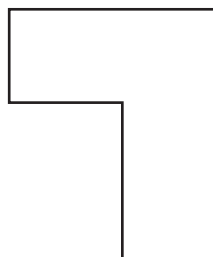
Cat. No.	Features	Std Ctn Qty
<b>HPRFK</b>	Fits all enclosures	1

#### Wall Mounting Set *(includes brass inserts and installation tools)*



Cat. No.	Std Ctn Qty	Std Ctn Wt. (lb)
<b>HPWMF</b>	4	0.1

#### Blanking Grommet *(to close off openings on enclosure backs.)*



To Fit Enclosures	Cat. No.	Description	Std Ctn Qty	Std Ctn Wt. (lb)
16 x 12 and 20 x 16	<b>HPBNGB</b>	Blanking Grommet	Set of 4	1.00
24 x 16, 30 x 20 and 33 x 25	<b>HPBNGC</b>	Blanking Grommet	Set of 4	1.00



## Accessories

### Fixing Accessories For Slotted Plates

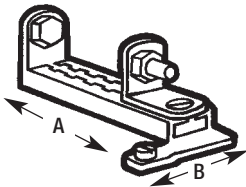


Fixing Nut			Fixing Bolt With Washer		
Cat. No.	Type of Thread	Std Ctn Qty	Cat. No.	Length (in.)	Std Ctn Qty
<b>HPFA4</b>	M4	100	<b>HPFB104</b>	0.39	100
<b>HPFA4</b>	M4	100	<b>HPFB164</b>	0.63	100
<b>HPFA5</b>	M5	100	<b>HPFB125</b>	0.47	100
<b>HPFA5</b>	M5	100	<b>HPFB185</b>	0.71	100
<b>HPFA6</b>	M6	100	<b>HPFB126</b>	0.47	100
<b>HPFA6</b>	M6	100	<b>HPFB186</b>	0.71	100

For slotted back panels, see page

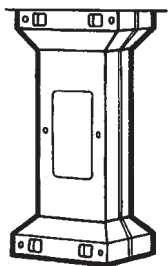
### Back Panel Depth Adjustable Supports

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.



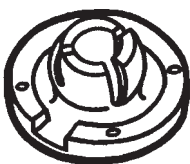
To Fit Enclosures	Cat. No.	A		B		Std Ctn Qty
		(in.)	(mm)	(in.)	(mm)	
HP1612B and HP2016B	<b>HPLM200</b>	5.98	152	3.90	99	1 set of 4
HP2416C	<b>HPLM250</b>	8.07	205	4.13	105	1 set of 4
HP3020D and HP3325D	<b>HPLM300</b>	10.04	255	8.07	205	1 set of 4

### Pedestal Mount



To Fit Enclosures	Cat. No.	Std Ctn Qty
HP2016B HP2416C	<b>HPSFS1</b>	1

### Draining Device (For 3R Rating and condensation build-up.)



Cat. No.	Std Ctn Qty
<b>HPVEA9</b>	1

### Accessories

#### Air Vents

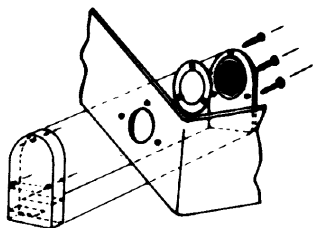
NEMA 1 Rated only.



Cat. No.	Description	Std Ctn 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.



Cat. No.	Std Ctn Qty
HVM27	1

#### Coupling Frame

For Himeline HP Enclosures HP3020D and HP3325D



Cat. No.	Std Ctn Qty
HPBU	1

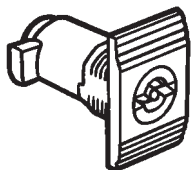
#### Replacement Standard Handle



Cat. No.	Std Ctn Qty	Std Ctn Wt. (lb)
HPRSH	1	0.05

#### Locks

For Himeline HP Enclosures



Replacement Door Lock

Cat. No.	Std Ctn Qty
HPRLA	1



Cylinder Key Lock (Keyed Alike)

Cat. No.	Std Ctn Qty
HPTPLM	1



Padlocking Service

Cat. No.	Std Ctn Qty
HPPLH	1



Carlton® 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 non-metallic back panels, self-positioning panel depth adjusters and ventilator kits.

## Features

- Fiber reinforced polyester.
- Temperature range of -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 or wall 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)
- cULus Listed

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



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



#### HLA One Door (17" Deep)

Cat. No.	Dimensions (in.)			Std Ctn Qty	Std Ctn Wt. (lb)
	H	W	D		
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		81.0
HLA5020	50	20	17		78.7
HLA5030	50	30	17		96.7

#### HLS One Door (12" Deep)

Cat. No.	Dimensions (in.)			Std Ctn Qty	Std Ctn Wt. (lb)
	H	W	D		
HLS2020	20	20	12	1	29.80
HLS2030	20	30	12	1	40.59
HLS3020	30	20	12	1	59.50
HLS3030	30	30	12	1	55.10
HLS4020	40	20	12	1	56.81
HLS4030	40	30	12	1	61.70
HLS5020	50	20	12	1	67.56
HLS5030	50	30	12	1	76.83

Two Door NEMA Types 1, 2, 12 and 13



#### HLA Two Door (17" Deep)

Cat. No.	Dimensions (in.)			Std Ctn Qty	Std Ctn Wt. (lb)
	H	W	D		
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)

Cat. No.	Dimensions (in.)			Std Ctn Qty	Std Ctn Wt. (lb)
	H	W	D		
HLS30402	30	40	12	1	62.57
HLS40402	40	40	12	1	57.59
HLS40502	40	50	12	1	104.28
HLS50402	50	40	12	1	104.28



## Accessories – Back Plates

### Non-metallic Thermosetting Plastic (Bakelite)



#### One Door

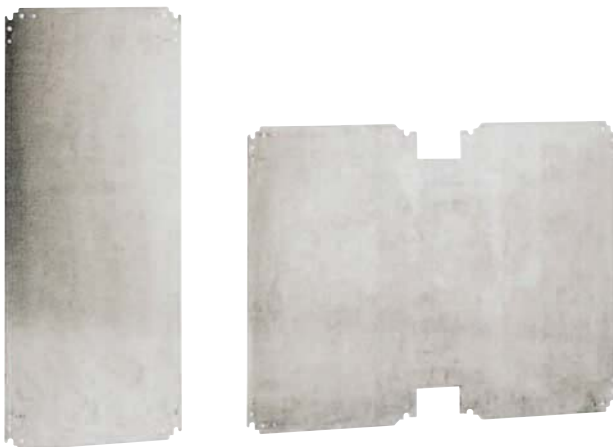
Cat. No.	Dimensions (in.)		Std Ctn Qty	Std Ctn Wt. (lb)
	H	W		
LP2020BP	15.4	14.8	1	2.1
LP3020BP*	25.2	14.8	1	3.0
LP3030BP	25.2	24.6	1	6.3
LP4020BP	35.0	14.8	1	5.2
LP4030BP	35.0	24.6	1	8.8
LP5020BP	44.3	14.8	1	6.7
LP5030BP	44.3	24.6	1	11.2

\* Use Back Panel LP3020BP for Enclosures HLA2030, HLA3020, HLS2030 and HLS3020

#### Two Door

Cat. No.	Dimensions (in.)		Std Ctn Qty	Std Ctn Wt. (lb)
	H	W		
LP30402BP	25.2	34.4	1	8.8
LP40402BP	35.0	34.4	1	12.3
LP40502BP	35.0	44.3	1	16.11
LP50402BP	44.3	34.4	1	16.11

### Metal – Galvanized Steel



#### One Door

Cat. No.	Dimensions (in.)		Std Ctn Qty	Std Ctn Wt. (lb)
	H	W		
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

Cat. No.	Dimensions (in.)		Std Ctn Qty	Std Ctn Wt. (lb)
	H	W		
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

### Accessories

#### Mounting Feet



Cat. No.	Std Ctn Qty	Std Ctn Wt. (lb)
<b>HLAMFSS</b>	1 ea. (set of 4)	0.6

#### Replacement Handle with Cylinder Key Lock



Cat. No.	Std Ctn Qty	Std Ctn Wt. (lb)
<b>HLATEL</b>	1 ea.	0.41

#### Panel Adjuster Kit



Cat. No.	Std Ctn Qty	Std Ctn Wt. (lb)
<b>HLABPA4</b>	1 ea. (set of 4)	0.31

#### Standard Replacement Bar Lock with Key



Cat. No.	Std Ctn Qty	Std Ctn Wt. (lb)
<b>HLATD</b>	1 ea.	0.21

#### Padlock Device



Cat. No.	Std Ctn Qty
<b>HLAPAD</b>	1

#### Replacement Handle with Push Button

Cat. No.	Std Ctn Qty	Std Ctn Wt. (lb)
<b>HLAHAN</b>	1	0.40

#### Air Vents

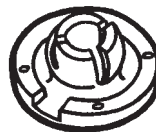
NEMA 1 Rated only



Cat. No.	Style	Std Ctn Qty
<b>HPVM25</b>	For fitting outside of all enclosures	1
<b>HPVM35</b>	For fitting inside of all enclosures	1

#### Draining Device

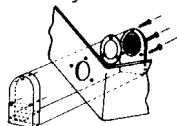
For 3R Rating and condensation build-up.



Cat. No.	Std Ctn Qty
<b>HPVEA9</b>	1

#### Enclosure Ventilator

Allows any size enclosure to breathe, yet remains watertight.



Cat. No.	Std Ctn Qty
<b>HVM27</b>	1

## HLP Series Enclosure and Pedestal



Enclosure



Pedestal



Himeline HLP 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, and the pedestal is approved for direct burial applications.

Both are manufactured using fiber reinforced polyester to provide high impact resistance and allow effortless modifications. And each have an IP-43 Self-Ventilated and IP-54 Watertight rating and a temperature range of -50 to 150°C.

### Features

- High impact resistance
- Non-conductive and non-corrosive.
- 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.
- Doors open 180°

### Features

- Can be direct buried.
- Non-conductive and non-corrosive
- 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.

### Material

- Fiberglass Reinforced Polyester

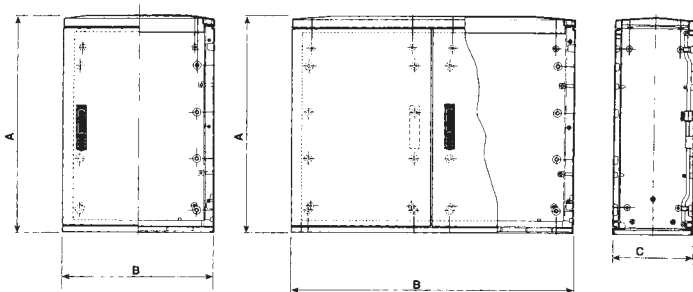
### Applications



## Specifications

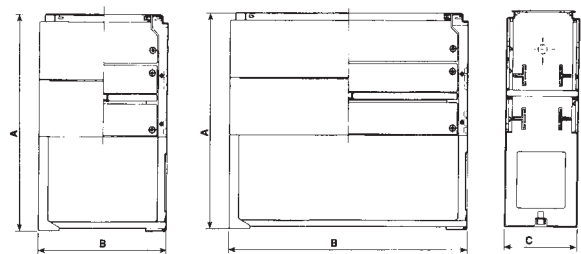
### Enclosures

Cat. No.	No. of Doors	No. of Locks	A Height (in.)	B Width (in.)	C Depth (in.)	Ctn Qty	Wt. (lb)
HLP3318	1	1	33.46	18.31	12.60	1	40.79
HLP3323	1	1	33.46	23.23	12.60	1	48.50
HLP3331	1	1	33.46	30.91	12.60	1	55.12
HLP33442	2	1	33.46	43.90	12.60	1	77.16
HLP33442L	2	2	33.46	43.90	12.60	1	77.16



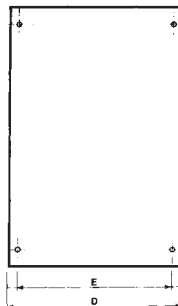
### Pedestals

Cat. No.	A Height (in.)	B Width (in.)	C Depth (in.)	Ctn Qty	Wt. (lb)
HLPED3318	35.43	18.31	12.20	1	33.10
HLPED3323	35.43	23.23	12.20	1	37.48
HLPED3331	35.43	30.91	12.20	1	44.10
HLPED33442	35.43	43.90	12.20	1	55.12



### Mounting Plates

Cat. No.	Enclosure Cat. No.	Pedestal Cat. No.	# of Plates per Encl.	D (in.)	E (in.)	Thickness (in.)	Ctn Qty	Wt. (lb)
LA1412BP	HLP3318	HLPED3318	1	14.02	11.97	0.20	1	4.41
LA1816BP	HLP33442L	HLPED33442L	2	17.64	15.59	0.20	1	11.02
LA1916BP	HLP3323	HLPED3323	1	18.94	16.89	0.20	1	6.00
LA2725BP	HLP3331	HLPED3331	1	26.61	24.57	0.20	1	8.38



### Accessories

Cat. No.	Size (in.) H x W x D	Ctn Qty	Wt. (lb)
HLP3318G	33 x 18 x 12	1	2.2
HLP3323G	33 x 23 x 12	1	2.2
HLP3331G	33 x 31 x 12	1	2.2
HLP3344G	33 x 44 x 12	1	2.2



## NEMA Types — Definitions Pertaining to Non-Hazardous Locations

### *Enclosures for Electrical Equipment*



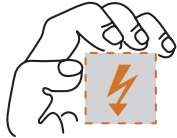






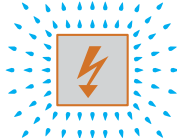

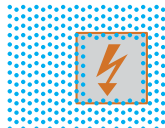

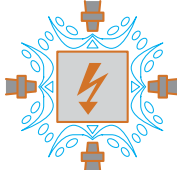


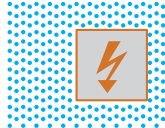

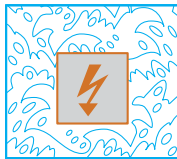
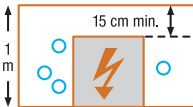


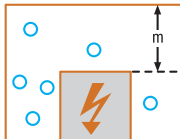



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An enclosure is a surrounding case constructed to provide protection from accidental contact with the enclosed equipment and to provide protection to the enclosed equipment from specified environmental conditions. A brief description of the more common 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 and 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 corrosion, 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 avoid 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 non-corrosive liquids.
- Type 13 Enclosure:** Intended for indoor use primarily to provide a degree of protection against dust, spraying of water, oil and non-corrosive coolant.

### International Standards IP Protection Classification Data

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

<b>First Digit</b>		<b>Second Digit</b>	
Protection Against Solid Bodies		Protection Against Liquids	
IP	Test	IP	Test
0	 No protection	0	 No protection
1	 Protection against solid bodies larger than 50 mm (for example accidentally touching with the hand)	1	 Protection against vertical water drops condensation
2	 Protection against solid bodies larger than 12 mm (for example a finger)	2	 Protected against water drops at up to 15° from the vertical
3	 Protection against solid bodies larger than 2.5 mm (tools, wires)	3	 Protected against rain at up to 60° from the vertical
4	 Protection against solid bodies larger than 1 mm (tools, small wires)	4	  Protected against water splashing from all directions
5	  Protection against dust (no harmful deposits)	5	   Protected against water sprayed from a hose from all directions
6	  Complete protection against dust	6	 Protected against water projections similar to sea wave splashes
		7	   Protected against the effects of immersion
		8	    Protected against effects of prolonged immersion under pressure

## 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	0.875	0.879	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	NORYL
<b>Thermal And Mechanical</b>					
Temperature Range (°C)	-	-34 to 110°	-34 to 110°	-50 to 160°	-40 to 85°
Specific Gravity (oz./in.3)	ASTM D792	1.20	1.20	1.79	0.85
Thermal Conductivity (BTU•in./hr•ft2•°C)	ASTM D177	1.35	1.35	1.68	0.86
Heat Deflection Temperature @ 264 PSI (°C)	ASTM D648	265	260	392	180
Tensile Strength (PSI)	ASTM D638	8,800	9,000	13,000	3,400
Flexural Strength (PSI)	ASTM D790	13,500	14,000	19,000	6,800
Compressive Strength @ 10% Deformation (PSI)	ASTM D695	12,500	12,500	24,000	5,200
Impact Strength IZOD Notched (ft lb./in.)	ASTM D256	12	12	12	-
Water Absorption – 24 hrs. @ 23°C (%)	ASTM D570	0.15	0.15	0.17	0.06
UV Rating	UL 746C	F1	F1	F2	
<b>Electrical</b>					
Dielectric Strength (volts/mil.)	ASTM D149	380	380	467	192
Dielectric Constant	ASTM D150				
60 Hz		3.0	3.0	-	-
100 Hz		-	-	-	2.27
106 Hz		2.96	2.96	-	2.18
Volume Resistivity @ 23°C (ohms-cm)	ASTM D257	>1016	>1016	2.0 x 1015	1.0 x 1016
Arc Resistance (sec.)	ASTM D495	120	120	200+	67

## Chemical Resistance Data

Environmental Resistance Table: E-Excellent, G-Good, L-Limited, U-Unsatisfactory

IMPORTANT: These environmental resistance ratings are based upon tests where the specimens were placed in complete submergence in the reagent listed. Ratings listed in this chart apply to a 48-Hour exposure period. (The information in this chart is to be used ONLY as a guide in selecting equipment for appropriate chemical compatibility. Before permanent installation, test the equipment with the chemicals and under the specific conditions of your application.)

Chemical	PVC Opaque Cover w/Base	Polycarbonate Circuit Safe NEMA Circuit Safe JIC Clear Cover w/Base Himeline HS - Opaque w/Clear Lids	FRP (Fiberglass Reinforced Polyester) Himeline HS - Bases Himeline HP Himeline HLA/HLS Himeline HLP	Noryl Circuit Safe Medium JIC
Acetaldehyde	U	L	-	-
Acetamide	U	U	-	-
Acetate Solvent	U	-	-	U
Acetic Acid	U	G	E	E
Acetic Acid 20%	U	E	E	E
Acetic Acid 80%	L	G	E	E
Acetic Acid, Glacial	U	G	E	E
Acetic Anhydride	U	U	E	U
Acetone	U	U	U	U
Acetyl Bromide	U	-	-	-
Acetyl Chloride (dry)	L	U	-	U
Acetylene	E	U	-	-
Acrylonitrile	G	U	-	-
Adipic Acid	E	-	-	-
Alcohols:Amyl	E	G	-	L
Alcohols:Benzyl	U	-	-	U
Alcohols:Butyl	E	E	-	E
Alcohols:Diacetone	G	-	-	E
Alcohols:Ethyl	L	G	-	E
Alcohols:Hexyl	E	-	-	E
Alcohols:Isobutyl	E	-	-	E
Alcohols:Isopropyl	E	E	-	E
Alcohols:Methyl	E	G	-	E
Alcohols:Octyl	-	-	-	E
Alcohols:Propyl	E	-	-	E
Aluminum Chloride	E	E	E	E
Aluminum Chloride 20%	E	E	-	E
Aluminum Fluoride	E	-	-	E
Aluminum Hydroxide	E	G	-	E
Aluminum Nitrate	G	E	-	-
Aluminum Potassium Sulfate 10%	E	E	-	E
Aluminum Potassium Sulfate 100%	E	E	-	E
Aluminum Sulfate	E	E	E	E
Amines	U	U	-	U
Ammonia 10%	G	U	-	E
Ammonia Nitrate	G	U	-	E
Ammonia, anhydrous	E	-	-	G
Ammonia, liquid	E	U	L	-
Ammonium Acetate	E	-	-	-
Ammonium Bifluoride	E	-	-	E
Ammonium Carbonate	E	-	L	E
Ammonium Caseinate	-	-	-	E
Ammonium Chloride	E	E	E	E
Ammonium Hydroxide	E	U	L	E
Ammonium Nitrate	E	-	L	E
Ammonium Oxalate	E	E	-	-
Ammonium Persulfate	E	-	-	E
Ammonium Phosphate, Dibasic	E	E	-	E
Ammonium Phosphate, Monobasic	E	-	-	E
Ammonium Phosphate, Tribasic	E	-	-	E
Ammonium Sulfate	E	E	E	E
Ammonium Sulfite	E	-	E	E
Amyl Acetate	U	U	L	U
Amyl Alcohol	E	G	L	L
Amyl Chloride	U	-	U	U
Aniline	L	U	U	U
Aniline Hydrochloride	G	U	-	-
Antifreeze	E	-	-	E
Antimony Trichloride	E	E	E	E
Aqua Regia (80% HCl, 20% HNO3)	L	U	-	U

Chemical	PVC Opaque Cover w/Base	Polycarbonate Circuit Safe NEMA Circuit Safe JIC Clear Cover w/Base Himeline HS - Opaque w/Clear Lids	FRP (Fiberglass Reinforced Polyester) Himeline HS - Bases Himeline HP Himeline HLA/HLS Himeline HLP	Noryl Circuit Safe Medium JIC
Aromatic Hydrocarbons	U	-	-	U
Arsenic Acid	E	E	-	E
Arsenic Salts	E	-	-	-
Asphalt	E	U	-	-
Barium Carbonate	E	E	E	E
Barium Chloride	E	E	E	E
Barium Cyanide	U	-	-	-
Barium Hydroxide	E	U	U	E
Barium Nitrate	E	U	-	E
Barium Sulfate	G	U	E	E
Barium Sulfide	E	-	E	E
Beer	E	E	-	E
Beet Sugar Liquids	E	-	-	E
Benzaldehyde	U	U	U	G
Benzene	L	U	-	U
Benzene Sulfonic Acid	E	U	E	E
Benzoic Acid	E	G	-	G
Benzol	-	U	-	-
Benzonitrile	-	E	-	-
Benzyl Chloride	-	-	-	U
Bleaching Liquors	E	-	-	-
Borax (Sodium Borate)	E	-	-	-
Boric Acid	E	-	E	E
Bromine	L	L	-	E
Butadiene	L	U	-	U
Butane	L	U	-	U
Butanol (Butyl Alcohol)	L	G	-	E
Butyl Amine	U	U	-	U
Butyl Ether	E	-	-	U
Butyl Phthalate	-	U	-	-
Butylacetate	U	U	U	G
Butylene	E	U	-	-
Butyric Acid	G	U	-	U
Calcium Bisulfate	-	U	-	-
Calcium Bisulfide	E	-	-	E
Calcium Bisulfite	G	U	-	E
Calcium Carbonate	E	L	-	E
Calcium Chlorate	G	-	E	-
Calcium Chloride	L	-	E	E
Calcium Hydroxide	G	U	U	E
Calcium Hypochlorite	G	U	-	E
Calcium Nitrate	E	E	E	E
Calcium Oxide	G	-	-	E
Calcium Sulfate	G	E	E	E
Calgon	-	-	-	E
Cane Juice	E	-	-	-
Carbolic Acid (Phenol)	U	U	-	U
Carbon Bisulfide	U	-	-	-
Carbon Dioxide (dry)	E	-	-	E
Carbon Dioxide (wet)	E	-	-	E
Carbon Disulfide	U	U	-	U
Carbon Monoxide	E	-	-	E
Carbon Tetrachloride	U	U	E	U
Carbon Tetrachloride (dry)	-	-	-	U
Carbon Tetrachloride (wet)	-	-	-	U
Carbonated Water	E	-	-	-
Carbonic Acid	E	E	-	E
Catsup	E	-	-	E
Chloric Acid	E	-	-	U
Chlorine (dry)	U	-	-	G



## Chemical Resistance Data

Environmental Resistance Table: E-Excellent, G-Good, L-Limited, U-Unsatisfactory

IMPORTANT: These environmental resistance ratings are based upon tests where the specimens were placed in complete submergence in the reagent listed. Ratings listed in this chart apply to a 48-Hour exposure period. (The information in this chart is to be used ONLY as a guide in selecting equipment for appropriate chemical compatibility. Before permanent installation, test the equipment with the chemicals and under the specific conditions of your application.)

Chemical	PVC Opaque Cover w/Base	Polycarbonate Circuit Safe NEMA Circuit Safe JIC Clear Cover w/Base Himeline HS - Opaque w/Clear Lids	FRP (Fiberglass Reinforced Polyester) Himeline HS - Bases Himeline HP Himeline HLA/HLS Himeline HLP	Noryl Circuit Safe Medium JIC
Chlorine Water	E	-	E	L
Chlorine, Anhydrous Liquid	U	L	-	G
Chloroacetic Acid	G	U	-	-
Chlorobenzene (Mono)	U	U	U	U
Chlorobromomethane	U	-	-	-
Chloroform	U	U	-	U
Chlorosulfonic Acid	U	L	-	U
Chocolate Syrup	-	E	-	E
Chromic Acid 10%	E	G	E	E
Chromic Acid 30%	E	L	-	U
Chromic Acid 5%	E	G	-	E
Chromic Acid 50%	U	U	-	U
Chromium Salts	E	-	-	-
Citric Acid	G	E	E	E
Citric Oils	-	-	-	E
Clorox® (Bleach)	E	-	-	E
Copper Chloride	E	-	-	E
Copper Cyanide	E	U	-	E
Copper Fluoborate	E	-	-	-
Copper Nitrate	E	U	-	E
Copper Sulfate >5%	E	E	-	E
Copper Sulfate 5%	E	E	-	E
Cresols	U	U	U	U
Cresylic Acid	U	U	-	-
Cupric Acid	E	E	-	E
Cyclohexane	U	G	-	U
Cyclohexanone	U	U	-	U
Detergents	E	E	-	E
Diacetone Alcohol	U	U	-	-
Dichlorobenzene	U	U	-	-
Dichloroethane	U	U	-	E
Diesel Fuel	E	E	-	U
Diethyl Ether	U	U	-	-
Diethylamine	U	U	-	-
Diethylene Glycol	L	G	-	E
Dimethyl Aniline	U	U	U	U
Dimethyl Formamide	U	U	-	U
Diphenyl Oxide	U	-	-	-
Dyes	G	-	-	E
Epsom Salts (Magnesium Sulfate)	E	E	-	E
Ethane	E	-	-	-
Ethanol	L	G	-	E
Ethanolamine	U	-	-	E
Ether	U	-	L	U
Ethyl Acetate	U	U	-	E
Ethyl Benzoate	U	U	-	E
Ethyl Chloride	U	U	L	U
Ethyl Ether	U	-	-	U
Ethylene Bromide	U	U	-	-
Ethylene Chloride	U	U	-	U
Ethylene Chlorohydrin	U	U	E	-
Ethylene Diamine	U	E	-	U
Ethylene Dichloride	U	U	U	U
Ethylene Glycol	E	G	E	E
Ethylene Oxide	U	L	-	E
Fatty Acids	E	G	-	E
Ferric Chloride	E	E	E	E
Ferric Nitrate	E	E	E	E
Ferric Sulfate	E	E	E	E
Ferrous Chloride	E	U	E	E

Chemical	PVC Opaque Cover w/Base	Polycarbonate Circuit Safe NEMA Circuit Safe JIC Clear Cover w/Base Himeline HS - Opaque w/Clear Lids	FRP (Fiberglass Reinforced Polyester) Himeline HS - Bases Himeline HP Himeline HLA/HLS Himeline HLP	Noryl Circuit Safe Medium JIC
Ferrous Sulfate	E	E	E	E
Fluoboric Acid	E	-	-	E
Fluorine	U	L	-	-
Fluosilicic Acid	U	E	-	E
Formaldehyde 100%	E	E	-	E
Formaldehyde 40%	E	E	E	E
Formic Acid	E	E	L	E
Freon 113	G	G	-	U
Freon 12	E	-	-	U
Freon 22	E	-	-	G
Freon TF	G	-	-	-
Freon® 11	E	-	-	G
Fuel Oils	E	G	-	G
Furan Resin	E	-	-	-
Furfural	U	U	L	U
Gallic Acid	G	-	-	E
Gasoline (high-aromatic)	E	E	E	G
Gasoline, leaded, ref.	G	E	E	G
Gasoline, unleaded	L	E	-	U
Gelatin	G	-	-	E
Glucose	E	E	E	E
Glue, P.V.A.	L	-	-	-
Glycerin	E	E	E	E
Glycolic Acid	G	-	-	-
Grease	E	-	-	-
Heptane	L	G	E	G
Hexane	G	U	U	G
Hydraulic Oil (Petro)	E	-	-	-
Hydraulic Oil (Synthetic)	E	-	-	-
Hydrazine	-	U	-	-
Hydrobromic Acid 100%	E	-	-	G
Hydrobromic Acid 20%	G	-	-	G
Hydrochloric Acid 100%	U	U	-	E
Hydrochloric Acid 20%	E	G	E	E
Hydrochloric Acid 37%	G	U	L	E
Hydrochloric Acid, Dry Gas	E	-	-	E
Hydrocyanic Acid	G	-	-	E
Hydrocyanic Acid (Gas 10%)	E	G	-	L
Hydrofluoric Acid 100%	L	U	-	U
Hydrofluoric Acid 20%	G	U	-	L
Hydrofluoric Acid 50%	G	U	-	U
Hydrofluoric Acid 75%	L	U	-	U
Hydrofluosilicic Acid 100%	G	-	-	G
Hydrofluosilicic Acid 20%	E	-	-	G
Hydrogen Gas	E	E	-	E
Hydrogen Peroxide 10%	E	E	-	E
Hydrogen Peroxide 100%	E	E	-	E
Hydrogen Peroxide 30%	E	E	E	E
Hydrogen Peroxide 50%	E	E	E	-
Hydrogen Sulfide (aqua)	G	E	-	E
Hydrogen Sulfide (dry)	E	-	-	-
Hydroquinone	G	-	-	-
Hydroxyacetic Acid 70%	U	-	-	-
Ink	L	-	-	-
Iodine	E	-	-	L
Iodine (in alcohol)	E	-	-	-
Iodoform	E	-	-	-
Isooctane	E	G	-	U
Isopropyl Acetate	U	U	-	-
Isopropyl Ether	G	U	-	-

## Chemical Resistance Data

Environmental Resistance Table: E-Excellent, G-Good, L-Limited, U-Unsatisfactory

IMPORTANT: These environmental resistance ratings are based upon tests where the specimens were placed in complete submergence in the reagent listed. Ratings listed in this chart apply to a 48-Hour exposure period. (The information in this chart is to be used ONLY as a guide in selecting equipment for appropriate chemical compatibility. Before permanent installation, test the equipment with the chemicals and under the specific conditions of your application.)

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Isotane	E	-	-	-
Jet Fuel (JP3, JP4, JP5)	L	E	-	U
Kerosene	E	U	-	U
Ketones	U	U	-	U
Lacquer Thinners	U	G	-	U
Lacquers	U	U	-	U
Lactic Acid	G	G	E	E
Lard	E	E	-	E
Lead Acetate	G	-	-	E
Lead Nitrate	E	-	-	E
Lead Sulfamate	G	E	-	-
Lime	G	-	-	-
Linoleic Acid	E	-	-	-
Lithium Chloride	U	G	-	-
Lithium Hydroxide	-	U	-	-
Lubricants	G	E	-	L
Lye: Ca(OH)2 Calcium Hydroxide	G	U	-	E
Lye: KOH Potassium Hydroxide	G	U	-	E
Lye: NaOH Sodium Hydroxide	E	U	-	E
Magnesium Bisulfate	E	E	-	-
Magnesium Carbonate	G	E	E	E
Magnesium Chloride	G	E	E	E
Magnesium Hydroxide	E	E	G	E
Magnesium Nitrate	E	E	-	E
Magnesium Oxide	-	-	-	-
Magnesium Sulfate (Epsom Salts)	E	E	E	E
Maleic Acid	E	-	-	E
Malic Acid	E	-	-	-
Manganese Sulfate	L	E	-	E
Mayonnaise	U	-	-	-
Melamine	U	-	-	-
Mercuric Chloride (dilute)	E	E	-	E
Mercuric Cyanide	E	-	-	-
Mercurous Nitrate	E	E	-	E
Mercury	E	U	-	E
Methane	G	-	-	-
Methanol (Methyl Alcohol)	E	G	L	E
Methyl Acetate	U	U	-	-
Methyl Acetone	U	-	-	-
Methyl Alcohol 10%	E	G	-	E
Methyl Bromide	U	-	-	-
Methyl Butyl Ketone	E	U	-	-
Methyl Cellosolve	U	U	-	-
Methyl Chloride	U	U	-	U
Methyl Dichloride	E	-	-	-
Methyl Ethyl Ketone	U	U	E	U
Methyl Isobutyl Ketone	U	U	-	U
Methyl Isopropyl Ketone	U	U	-	U
Methyl Methacrylate	E	-	-	-
Methylamine	U	-	-	-
Methylene Chloride	U	U	U	U
Mineral Spirits	E	L	-	E
Monochloroacetic acid	-	U	-	-
Monoethanolamine	U	-	-	E
Morpholine	-	U	-	U
Motor oil	G	E	-	E
Naphtha	E	G	E	U
Naphthalene	U	-	-	U
Natural Gas	E	-	-	-
Nickel Chloride	E	E	-	E

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Nickel Nitrate	E	U	-	E
Nickel Sulfate	E	E	-	E
Nitrating Acid (<15% HNO3)	U	-	-	-
Nitrating Acid (>15% H2SO4)	U	-	-	-
Nitrating Acid (1% Acid)	U	-	-	-
Nitrating Acid (15% H2SO4)	U	-	-	-
Nitric Acid (20%)	E	G	G	G
Nitric Acid (50%)	G	G	-	G
Nitric Acid (5-10%)	E	E	-	E
Nitric Acid (Concentrated)	G	L	-	G
Nitrobenzene	U	U	L	U
Nitromethane	G	U	-	U
Nitrous Acid	E	-	-	-
Nitrous Oxide	E	-	-	-
Oils:Aniline	U	-	-	U
Oils:Citric	G	E	-	E
Oils:Creosote	L	-	-	U
Oils:Diesel Fuel (20, 30, 40, 50)	G	-	-	U
Oils:Fuel (1, 2, 3, 5A, 5B, 6)	E	G	-	E
Oils:Hydraulic Oil (Petro)	E	-	-	-
Oils:Hydraulic Oil (Synthetic)	E	-	-	-
Oils:Mineral	G	G	-	E
Oils:Olive	L	E	-	E
Oils:Orange	L	L	-	-
Oils:Pine	U	E	-	-
Oils:Rosin	L	-	-	-
Oils:Silicone	E	-	-	E
Oils:Transformer	G	-	-	-
Oils:Turbine	E	-	-	-
Oleic Acid	L	-	E	E
Oleum 100%	U	-	-	E
Oleum 25%	U	-	-	-
Oxalic Acid (cold)	G	-	E	E
Ozone	G	E	-	-
Palmitic Acid	G	-	-	-
Paraffin	G	E	-	E
Pentane	E	E	-	-
Perchloric Acid	L	-	-	-
Perchloroethylene	L	U	-	U
Petrolatum	G	-	-	-
Petroleum	-	-	-	U
Phenol (10%)	L	G	L	U
Phenol (Carbolic Acid)	U	U	-	U
Phosphoric Acid (>40%)	G	E	-	E
Phosphoric Acid (crude)	G	E	-	E
Phosphoric Acid (molten)	U	-	-	-
Phosphoric Acid (L 40%)	G	E	-	E
Phosphoric Acid Anhydride	-	U	-	-
Phosphorus	E	-	-	-
Phosphorus Trichloride	U	L	-	-
Photographic Developer	E	E	-	E
Photographic Solutions	E	E	-	E
Phthalic Anhydride	U	E	-	-
Picric Acid	U	U	-	-
Potash (Potassium Carbonate)	E	-	L	E
Potassium Bicarbonate	E	-	-	E
Potassium Bromide	E	E	-	E
Potassium Chlorate	E	E	-	E
Potassium Chloride	E	E	E	E
Potassium Chromate	E	-	E	E

## Chemical Resistance Data

Environmental Resistance Table: E-Excellent, G-Good, L-Limited, U-Unsatisfactory

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Potassium Cyanide Solutions	E	-	-	E	Stannic Chloride	E	E	-	E
Potassium Dichromate	E	E	-	E	Stannic Fluoborate	-	-	-	E
Potassium Ferricyanide	E	-	-	E	Stannous Chloride	E	-	-	E
Potassium Ferrocyanide	E	-	E	E	Stearic Acid	G	E	-	E
Potassium Hydroxide (Caustic Potash)	E	U	L	E	Stoddard Solvent	L	E	-	U
Potassium Hypochlorite	G	-	-	-	Styrene	U	U	-	E
Potassium Iodide	E	-	-	-	Sulfate (Liquors)	G	-	-	-
Potassium Nitrate	E	E	E	E	Sulfur Chloride	L	-	-	E
Potassium Oxalate	-	-	-	-	Sulfur Dioxide	E	-	-	E
Potassium Permanganate	E	E	E	E	Sulfur Dioxide (dry)	E	E	-	E
Potassium Sulfate	E	E	E	E	Sulfur Hexafluoride	G	-	-	-
Potassium Sulfide	E	-	-	E	Sulfur Trioxide	E	-	-	U
Propane (liquefied)	E	L	-	E	Sulfur Trioxide (dry)	E	-	-	U
Propylene	-	-	-	-	Sulfuric Acid (<10%)	E	E	E	E
Propylene Glycol	L	G	-	-	Sulfuric Acid (10-75%)	E	G	U	E
Pyridine	U	U	-	G	Sulfuric Acid (75-100%)	U	U	-	E
Pyrogallol Acid	E	-	-	-	Sulfuric Acid (cold concentrated)	U	U	-	E
Resorcinol	L	G	-	-	Sulfuric Acid (hot concentrated)	U	U	-	U
Rosins	L	-	-	-	Sulfurous Acid	E	-	-	E
Salicylic Acid	G	E	-	-	Tallow	-	-	-	E
Salt Brine (NaCl saturated)	E	E	-	E	Tannic Acid	E	L	-	E
Sea Water	E	E	-	E	Tanning Liquors	E	-	-	E
Silicone	E	E	-	E	Tartaric Acid	E	-	E	E
Silver Bromide	-	-	-	E	Tetrachloroethane	L	-	-	U
Silver Nitrate	E	E	-	E	Tetrachloroethylene	U	U	-	U
Soap Solutions	E	E	-	E	Tetrahydrofuran	U	U	L	U
Soda Ash (see Sodium Carbonate)	E	E	-	E	Tin Salts	E	-	-	-
Sodium Acetate	G	E	E	E	Toluene (Toluol)	U	U	-	U
Sodium Aluminate	-	-	-	E	Trichloroacetic Acid	G	U	-	-
Sodium Benzoate	G	E	-	-	Trichloroethane	L	U	-	U
Sodium Bicarbonate	E	E	E	E	Trichloroethylene	U	-	U	U
Sodium Bisulfate	E	E	-	E	Trichloropropane	-	-	-	U
Sodium Bisulfite	E	E	-	E	Tricresylphosphate	U	-	-	E
Sodium Borate (Borax)	E	E	-	E	Triethylamine	G	-	-	G
Sodium Bromide	G	-	E	E	Trisodium Phosphate	E	-	-	E
Sodium Carbonate	E	E	-	E	Turpentine	U	U	E	U
Sodium Chlorate	E	E	E	E	Urea	U	U	L	E
Sodium Chloride	E	E	E	E	Uric Acid	E	-	-	-
Sodium Chromate	-	E	-	E	Varnish	U	-	-	U
Sodium Cyanide	E	-	-	E	Vinegar	G	E	E	E
Sodium Ferrocyanide	E	-	E	E	Vinyl Acetate	U	-	-	-
Sodium Fluoride	E	-	-	E	Vinyl Chloride	U	-	-	-
Sodium Hydrosulfite	L	-	-	-	Water, Acid, Mine	G	G	-	-
Sodium Hydroxide (20%)	E	E	U	E	Water, Deionized	E	-	-	E
Sodium Hydroxide (50%)	E	U	U	E	Water, Distilled	E	E	-	E
Sodium Hydroxide (80%)	E	U	U	E	Water, Fresh	G	E	-	E
Sodium Hypochlorite (<20%)	E	L	L	E	Water, Salt	G	E	-	E
Sodium Hypochlorite (100%)	G	-	-	E	Whiskey & Wines	E	E	-	E
Sodium Metaphosphate	E	-	-	-	White Liquor (Pulp Mill)	E	-	-	E
Sodium Metasilicate	E	-	-	-	White Water (Paper Mill)	E	-	-	U
Sodium Nitrate	E	-	U	E	Xylene	U	U	E	G
Sodium Perborate	E	-	-	E	Zinc Chloride	G	E	E	E
Sodium Peroxide	G	E	-	-	Zinc Hydrosulfite	-	-	-	E
Sodium Polyphosphate	E	-	-	E	Zinc Sulfate	E	E	E	E
Sodium Silicate	E	-	-	E					
Sodium Sulfate	E	E	E	E					
Sodium Sulfide	E	U	U	E					
Sodium Sulfite	E	-	E	E					
Sodium Tetraborate	E	-	-	E					
Sodium Thiosulfate (hypo)	E	U	-	E					

# Carlton®

## Curved Lid J-Box

- 
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### Product Overview

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, sport arenas, office complexes or anywhere you need pole lighting for large parking lot areas – the Carlton non-metallic curved lid J-Boxes.

Carlton curved lid J-Boxes meet NEMA 1, 2, 3, 3R, 3S, 4, 4X, 12, 13 ratings. They are available in sizes 8" x 8" or 12" x 12". 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 non-metallic J-Boxes are a better choice for you

### Features

- NEMA 1, 2, 3, 3R, 3S, 4, 4X, 12, 13
- CSA certified
- Printable 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
- Non-conductive and non-corrosive
- Designed for 24" diameter concrete piers





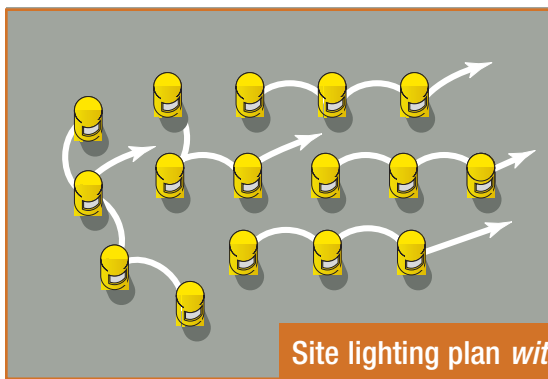
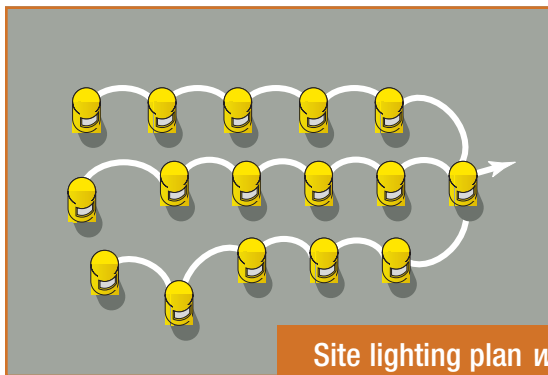
## *Faster, easier wiring for greater productivity.*

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*



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



2. 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



### J-Box Assemblies



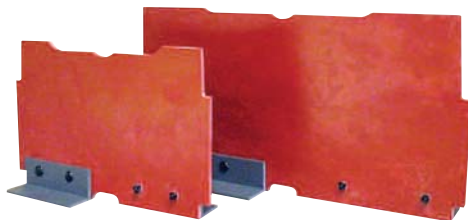
Cat. No.	Size (in.)	Std Ctn Qty	Std Ctn Wt. (lb)
<b>E88C24</b>	8 x 8 x 4	6	28.3
<b>E1212C24</b>	12 x 12 x 4	2	9.7

### Accessories



### Replacement Lids

Cat. No.	Size (in.)	Std Ctn Qty	Std Ctn Wt. (lb)
<b>E88L24</b>	8 x 8	1	2.1
<b>E1212L24</b>	12 x 12	1	2.3



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

### Dividers

The Canadian Electrical Code (CEC) allows electrical conductors to share an outlet box when the conductors and communication cables are separated by a barrier within the box

Cat. No.	Std Ctn Qty	Std Ctn Wt. (lb)
<b>E88DIV</b> (for use with part no. E88C24)	6	2.1
<b>E1212DIV</b> (for use with part no. E1212C24)	2	2.3



# Carlton®

## PV-Mold®

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- PV-Mold® Fittings . . . . .171
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## PV-Mold® Non-Metallic Pole Riser System

RUS Accepted

Carlton PV-Mold is a non-metallic pole riser system designed to protect communications or 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.
- No grounding required.
- Belled end fits over each added section or conduit.
- Requires no maintenance.
- PV-Mold acts as an insulator against electrical shock.
- Interchangeable parts and accessories to match the needs of specific requirements.

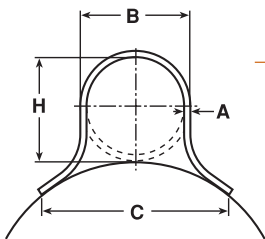


Steel U-Guard requires grounding strapping and does not have belled ends.



PV-Mold has belled ends, flanged design and does not require grounding.

### Flanged Overall Length 10 Feet, Including Bell



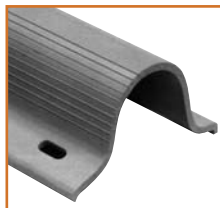
Size (in.)	Depth of Bell (in.)
1	2 - 2-1/4
1-1/2	2 - 2-1/4
2	2 - 2-1/4
3	3 - 3-1/4
4	4 - 4-1/4
5	4 - 4-1/2
6	5 - 5-1/2

Slots are 1/2" from side to side 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.



### Standard Duty

Cat. No.	Size (in.)	Std Ctn Qty	Std Ctn Wt. (lb)	Dimensions (in.)				Actual Impact @ 0°C 20 Pound Tup
				A	B	C	H	
59208N	1	294	1059	0.100	1-5/8	2-3/8	1-5/8	40 ft - lb
59211N	2	136	726	0.100	2-3/8	4-1/2	2-3/8	100 ft - lb
59213N	3	66	761	0.150	3-1/2	6	3-1/2	110 ft - lb
59215N	4	65	910	0.150	4-1/2	6-1/2	4-1/2	110 ft - lb
59216N	5	30	515	0.150	5-1/2	7-1/2	5-1/2	110 ft - lb

### Heavy Duty Schedule 40

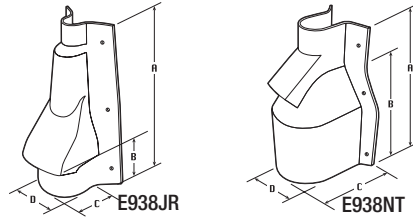
Cat. No.	Size (in.)	Std Ctn Qty	Std Ctn Wt. (lb)	Dimensions (in.)				Actual Impact @ 0°C 20 Pound Tup
				A	B	C	H	
59010N	1-1/2	200	1142	0.145	1-29/32	3-1/2	1-29/32	100 ft - lb
59011N	2	136	1214	0.154	2-3/8	4-1/2	2-3/8	150 ft - lb
59013N	3	66	937	0.216	3-1/2	6	3-9/32	150 ft - lb
59015N	4	65	1621	0.237	4-1/2	6-1/2	4-1/2	260 ft - lb
59016N	5	30	870	0.258	5-1/2	7-1/2	5-1/2	260 ft - lb
59017N	6	30	1160	0.280	6-5/8	8-3/4	6-5/8	260 ft - lb

## Polyethylene Vented Boots and Adapters

Note:

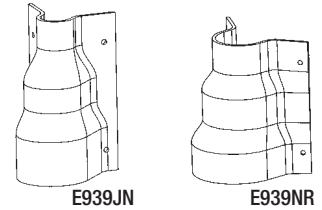
1. A field cut may be needed to accommodate different boot or adapter to Carlton U-Mold size combinations.
2. Recommendation: 2 sets of mounting holes per boot/fitting. To add mounting holes, use a 3/8" drill bit and drill out where needed.
3. When 3" or smaller conduit is being used, it's recommended that the bottom (largest section) of the boot or adapter section be buried 2" to 3" below ground surface.

### Vented Boots

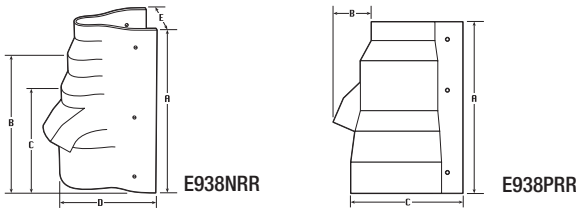


Cat. No.	Size (in.)	Dimensions (in.)				Std Ctn Qty	Std Ctn Wt. (lb)
		A	B	C	D		
E938JR	2 x 6	20.50	4.80	6.13	6.20	4	13.5
E938NT	4 x 8	21.00	15.00	11.34	9.76	4	21.0

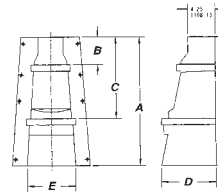
### Adapters



Cat. No.	Size (in.)	Dimensions (in.)				Std Ctn Qty	Std Ctn Wt. (lb)
		A	B	C	D		
E939JN	2 x 4	11.00	6.75	5.88	5.07	8	10.0
E939NR	4 x 6	11.00	6.75	7.08	7.13	6	11.7



Cat. No.	Size (in.)	Dimensions (in.)					Std Ctn Qty	Std Ctn Wt. (lb)
		A	B	C	D	E		
E938NRR	4 x 6	20.87	16.57	12.87	11.68	11.43	6	26.4
E938PRR	5 x 6	16.74	3.65	10.84	11.43	-	6	23.2

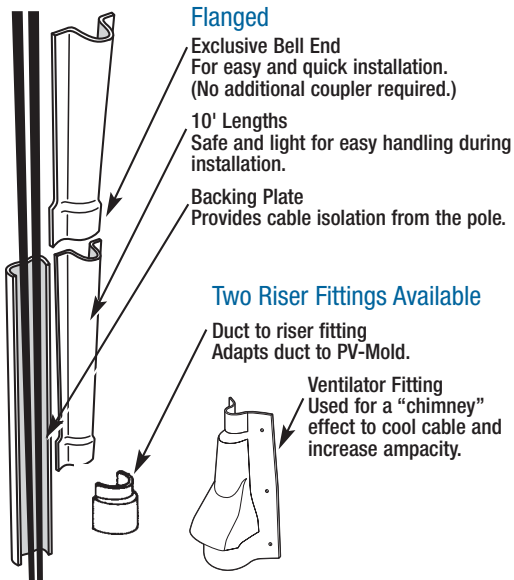


Cat. No.	Size (in.)	Dimensions (in.)					Std Ctn Qty	Std Ctn Wt. (lb)
		A	B	C	D	E		
E939NRT	4 x 6	19.75	4.25	12.50	8.50	7.40	3	14.0

### Duct to Riser Fitting



Cat. No.	Size (in.)	Std Ctn Qty	Std Ctn Wt. (lb)
E939NL	4 x 3	15	5.6
E939N	4 x 4	15	5.3



### 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 Carlton 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 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

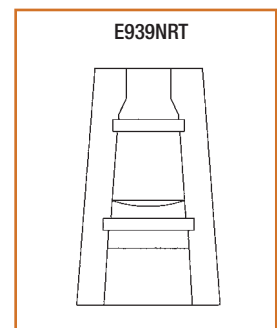
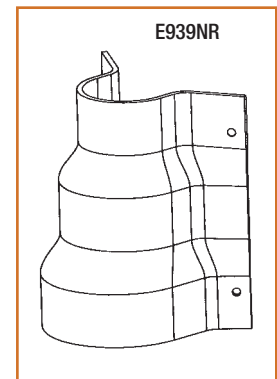
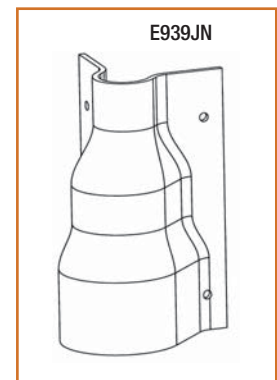
Place Adapter over conduit and attach to pole using the top and bottom mounting holes. Place PV-Mold over top section of Adapter and secure PV-Mold to pole

To transition from 6" Conduit to 5" PV-Mold

Measure 5.25" down from the top of the adapter and cut. 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.



## Field Installation Instructions for Carlton PV-Mold Vented Boots

For Vented Boots (E938JR, E938NT, E938NRR, E938PRR)

### **E938JR**

*To transition from 5" 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.

To transition from 5" or smaller Conduit to 3" and larger PV-Mold

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.

### **E938NT**

*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.

### **E938NRR**

*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.

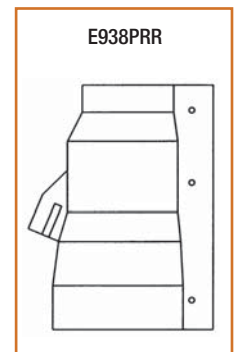
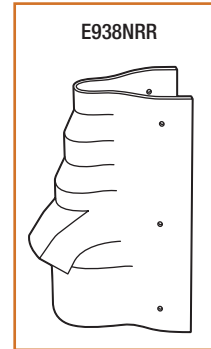
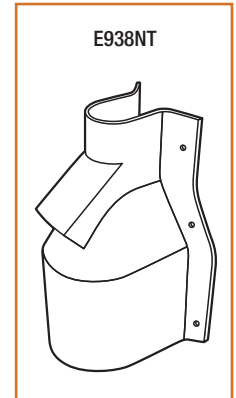
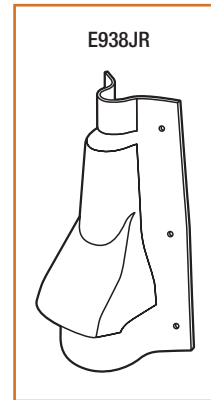
To transition from 6" or smaller conduit to 6" PV-Mold

Measure 8.25" down from the top of the vented boot and cut. Assemble to pole as described above.

### **E938PRR**

*To transition from 6" or smaller conduit to 5" PV-Mold*

Assemble to pole as described above.



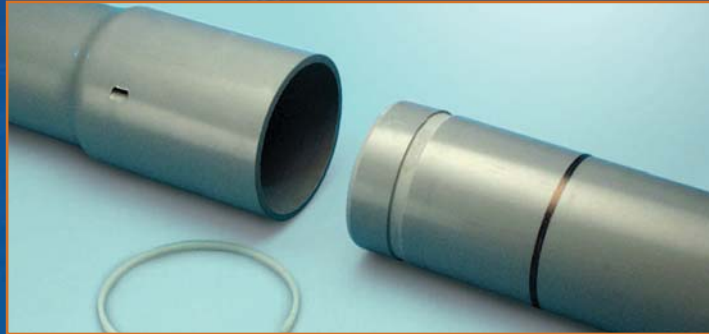


# Carlton®

## Bore-Gard®

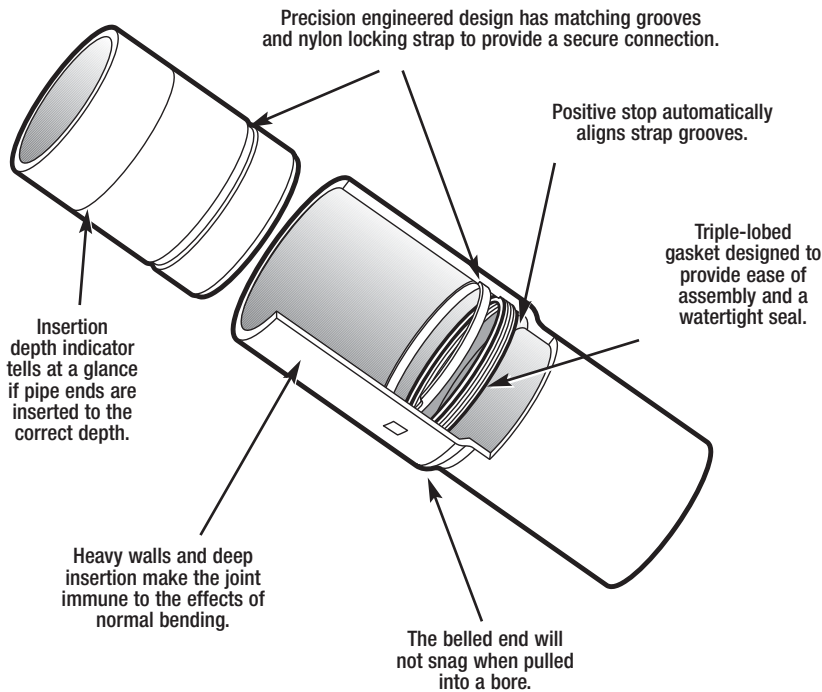
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- Trenchless Raceway .....178–179



## Product Overview

RUS Accepted



Carlton'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.

## Features

- Rated for use with 90°C conductors
- Easy to handle 10 and 20 foot lengths
- For bores up to 1000 feet
- Fast easy assembly
- Strong watertight joints without cement
- Fits standard rigid non-metallic conduit fittings
- All non-metallic 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" and 6" Schedule 80 - 3" and 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.

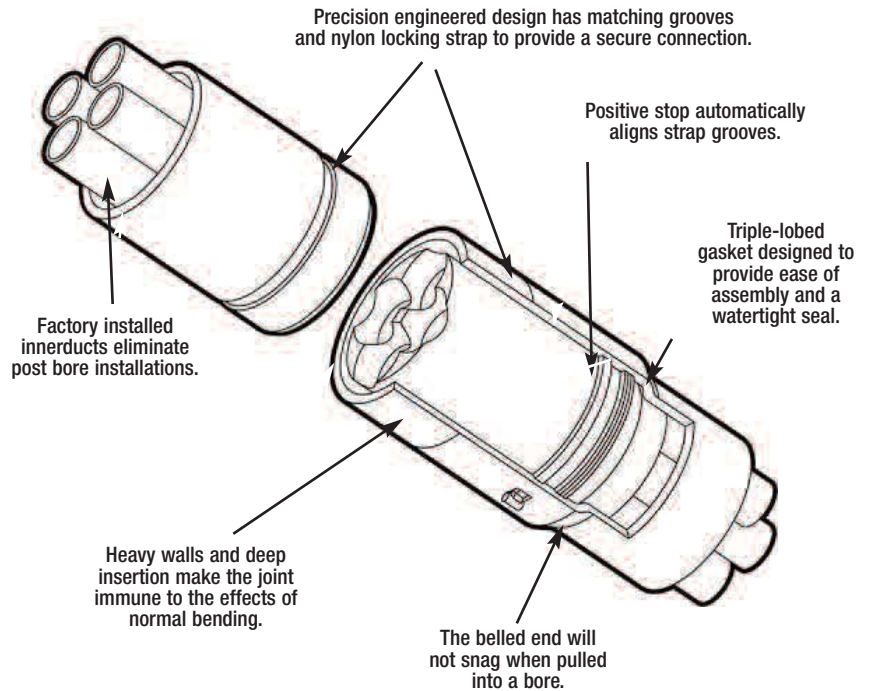
**Carlton® Boreable Multi-Gard®**

Carlton'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 Carlton'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 Carlton 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
- Innerducts: 3-way or 4-way
- Easy to handle 20 foot lengths
- Type: Type 40 PVC outerduct
- Size: 4"
- Prelubricated innerducts
- Strong water-tight joints without cement
- 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.



### Bore-Gard® Assembly



Trim spigot end before attaching pulling eye.



Tighten pulling eye so that it expands against interior of the conduit.



Attach the next piece of Bore-Gard.

1. Position Bore-Gard with the print line facing up.
2. Remove plastic locking strap and set it aside.
3. Remove end caps. On first stick only, trim spigot end of Bore-Gard at the groove before attaching the pulling eye/gripping attachment.
4. Insert pulling eye into spigot end of Bore-Gard.
5. Tighten pulling eye so that it expands against the interior of the conduit. Use of sleeve over O.D. of conduit is recommended.
6. The installer should use appropriate instrumentation to insure that maximum pull rating is not exceeded.
7. 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.
8. 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.
9. Repeat with remaining sections as space allows.
10. Bore-Gard is now ready for installation.

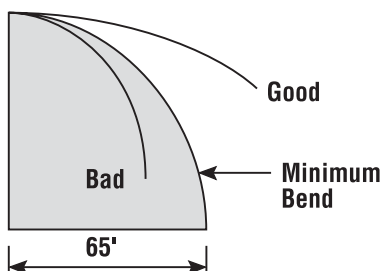
### Boreable Multi-Gard® Assembly

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.
4. Attach 4" Kellems Grip over lead end.
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.
7. 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.

Note: Internal pulling eye cannot be used due to innerduct interference.

NOTE: Innerducts need to be aligned before insertion

### 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 on the left 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® Specifications



Except where noted by ▶



Except where noted by †

### Schedule 40

• RUS Accepted

Cat. No.	Description	Overall Length (ft)	Lay Length	Dimensions O.D. (in.)	Dimensions I.D. (in.)	Pkg. Qty (ft./bundle)	Bundles per Truckload	Feet per Truckload	Wt. per 100 ft (lb)	Min. Bend Radius (ft)	Insertion Force (lb)	Seal Pressure Rating (PS.I.)	Joint Pull Rating (lb)	Typical Crush (lb) @ 30% deflection)	NEMA TC2 Min. Crush (lb)
<b>BG340SP-010</b>	3" Sch. 40 Bore-Gard	10	9'6"	3.50	3.0	350	56	19,600	164	65	20	75	7,000	1,225	1,000
<b>BG340SP-020</b>	3" Sch. 40 Bore-Gard	20	19'6"	3.50	3.0	700	28	19,600	164	65	20	75	7,000	1,225	1,000
<b>BG440SP-010</b>	4" Sch. 40 Bore-Gard	10	9'6"	4.50	4.0	260	56	14,560	234	65	40	75	8,700	1,075	900
<b>BG440SP-020</b>	4" Sch. 40 Bore-Gard	20	19'6"	4.50	4.0	520	28	14,560	234	65	40	75	8,700	1,075	900
<b>BG540SP-010</b>	5" Sch. 40 Bore-Gard	10	9'6"	5.56	5.0	230	40	9,200	317	65	60	75	11,300	950	850
<b>BG540SP-020</b>	5" Sch. 40 Bore-Gard	20	19'6"	5.56	5.0	460	20	9,200	317	65	60	75	11,300	950	850
<b>BG640SP-010</b>	6" Sch. 40 Bore-Gard	10	9'6"	6.625	6.0	200	40	8,000	418	65	80	75	14,000	950	850
<b>BG640SP-020</b>	6" Sch. 40 Bore-Gard	20	19'6"	6.625	6.0	400	20	8,000	418	65	80	75	14,000	950	850

### Schedule 80

RUS Accepted

Cat. No.	Description	Overall Length (ft)	Lay Length	Dimensions O.D. (in.)	Dimensions I.D. (in.)	Pkg. Qty (ft./bundle)	Bundles per Truckload	Feet per Truckload	Wt. per 100 ft.(lb.)	Min. Bend Radius (ft)	Insertion Force (lb)	Seal Pressure Rating (PS.I.)	Joint Pull Rating (lb)	Typical Crush lb @ 30% deflection)	NEMA TC2 Min. Crush (lb)
† <b>BG480SP-010</b>	4" Sch. 80 Bore-Gard	10	9'6"	4.50	3.8	260	56	14,560	308	65	40	75	12,000	2,000	2,000
† <b>BG480SP-020</b>	4" Sch. 80 Bore-Gard	20	19'6"	4.50	3.8	520	28	14,560	308	65	40	75	12,000	2,000	2,000
† <b>BG380SP-010</b>	3" Sch. 80 Bore-Gard	10	9'6"	3.50	2.8	350	56	19,600	210	65	20	75	10,000	2,000	2,000
† <b>BG380SP-020</b>	3" Sch. 80 Bore-Gard	20	19'6"	3.50	2.8	700	28	19,600	210	65	20	75	10,000	2,000	2,000

### Accessories

#### Pulling Eyes

These high-quality pulling eyes have a permanent outer sleeve and a seal on pipe O.D.

Cat. No.	Description	Package Dimensions (in.)	Package Weight (lb)	Package Type
† ▶ <b>BG3PE</b>	3" Pulling Eye	10 x 4 x 4	8	Carton
† ▶ <b>BG4PE</b>	4" Pulling Eye	17 x 6 x 6	26	Carton
† ▶ <b>BG5PE</b>	5" Pulling Eye	16 x 7-3/4 x 7-3/4	37	Crate
† ▶ <b>BG6PE</b>	6" Pulling Eye	19-1/2 x 8-1/4 x 8-1/4	63	Crate

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