

**ESR White Paper for INTERNAL and EXTERNAL posting
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**Subject: Swedges, Sleeves and Slip Joints
ESR Section 6**

Swedges

The use of a swedge, or “smooth wall reducer,” is required when a flush-mounted meter base is installed in a 2” x 4” wall, or when an approved meter base does not have a three-inch knockout. The attached manufacturers’ spec sheets show various different swedges in detail.

When prior approval is received, a 3”-to-2 ½” setup is allowed. The 3”-to-2” reducer should be avoided, but, if its use is approved in writing prior to installation, it may be utilized. If a local district refuses the 3”-to-2” inch combination, it shall not be used.

Sleeves

A sleeve is required when a conduit rises through a paved or concrete surface. A typical sleeve is an appropriate length of conduit or tube around the conduit system, sized such that the pavement or concrete does not bind on the conduit and cause it to break in the event of settling or ground shift.

Slip Joints

Slip joints are required in areas where ground heave and/or extensive settling is common or expected. Some communities have required them. Consult the local inspecting authority to determine if they are required. Where installed, the slip joint shall be above the ground line, sleeve and surface. If a swedge is used on a surface-mounted meter base, the slip joint shall be below the swedge.

Where slip joints are not required by the inspecting authority, the customer may chose to use them. However, the installation is for the life of the served facility and the customer is responsible for providing a conduit system that will endure the conditions of their location. Failing to recognize the potential for settling, heaves or other ground shifts does not absolve responsibility. If the customer chooses not to provide a slip joint, they may be responsible for repairing a conduit system that becomes damaged by ground shifts, even after the utility conductors are installed.

Attachments

Following are scans from manufacturers’ catalogs, of swedge illustrations and part numbers (from Carlon and PW Pipe), as well as photographic examples of sleeves and slip joints from actual installations.



LISTED
E32447

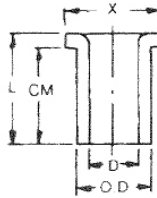
Except where noted by ▶

Adapters

Box Adapters for Enclosures

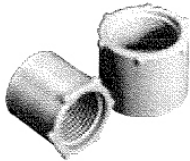


Adapts nonmetallic conduit to all electrical enclosures by inserting adapter through knockout and cementing into Carlon couplings.



Part No.	Size	Std. Ctn. Qty.	Min D	OD Typical	Max X	CM Typical	L
E996D	1/2	100	.662	.840	1 ⁷ / ₆₄	2 ³ / ₃₂	2 ⁷ / ₃₂
E996E	3/4	100	.824	1.050	1 ²¹ / ₆₄	2 ⁵ / ₃₂	2 ³ / ₃₂
E996F	1	100	1.049	1.315	1 ⁵ / ₁₆	2 ¹ / 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 ¹ / ₆₄	1 ³ / ₁₆	1 ³ / ₈
E996J	2	25	2.067	2.375	2 ²³ / ₃₂	1 ¹ / ₄	1 ⁷ / ₁₆
E996K-CAR	2 1/2	10	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
E996L-CAR	3	5	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

Threaded Adapters



Part No.	Size	Std. Ctn. Qty.
E9842D ¹	1/2	25
E9842E ²	3/4	25

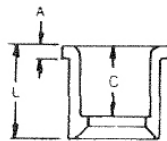
¹ Fits 3/4" sockets ² Fits 1" sockets

Reducers

Reducer Bushings



For connecting different sizes of conduit. Bell x Spigot.



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

Reducers

Fabricated Reducers



Fabricated Reducers (Male x Male)

Part No.	Size	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
▶E952KJ	2 1/2" x 2"	48	28
▶E952LJ	3" x 2"	36	21
▶E952LK	3" x 2 1/2"	36	31
▶E952NL	4" x 3"	15	23
▶E952NM	4" x 3 1/2"	15	25
▶E952PN	5" x 4"	12	26
▶E952RP	6" x 5"	10	31

Plugs

Reducer Plugs



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

Plugs



Part No.	Size	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
▶P258H	1 1/2"	50	2
▶P258K	2 1/2"	25	1.5

Plugs with Pull Tabs





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

Made in the U.S.A.

www.carlon.com

Repair Couplings, Swedge Couplings, 5-Degree Couplings, Swedge Reducers, Caps, and End Bells = Call for Availability

	Item Number	Size	UPC Code	Pkg Qty	Pkg Wt (lbs.)	Price Per 100	
Swedge Couplings							
	DB 60	61010150	1 1/2	20200	25	2.9	360.76
		61010200	2	20201	50	8.6	396.72
		61010300	3	20203	30	14.7	603.20
		61010400	4	20205	15	14.1	792.28
		61010500	5	20206	5	8.4	1,258.60
		61010600	6	20207	5	14.0	1,900.08
DB 120		81010200	2	22826	50	11.2	450.08
		81010250	2 1/2	23947	40	15.2	566.08
		81010300	3	22827	30	18.1	648.44
		81010400	4	22828	15	18.1	844.48
		81010500	5	22829	5	10.5	1,336.32
		81010600	6	22830	5	17.0	1,967.36
SCH 40		600201253	1 1/4	20115	50	9.5	627.56
		600202003	2	20118	50	18.7	635.68
		600202503	2 1/2	20121	25	17.6	680.34
		600203003	3	20123	20	23.5	1,085.76
		600204003	4	20125	15	31.0	2,114.68
		600205003	5	20127	5	13.7	2,516.04
C-Duct		600206003	6	20129	5	21.0	3,219.78
		74090400	4	21651	20	19.9	792.28
		87090400	T-C, US WEST	23364	20	19.9	792.28
		74080400	T-C Bell to Duct Bell	21650	15	16.8	858.40
	74070400	T-C Plain to Duct Bell	21648	30	23.8	931.48	
GT - 8342	80010400	4	22780	15	16.8	818.96	
Swedge Reducers - Spigot by Spigot + molded							
	DB 120	6148025020	2 1/2 x 2	20357	20	5.6	1,208.72
		6148030020	3 x 2	20358	40	24.8	1,249.08
		6148030025	3 x 2 1/2	20360	25	20.5	1,374.60
		6148040030	4 x 3	20363	50	32.6	1,520.10
		6148050040	5 x 4	20366	10	21.5	1,859.10
		6148060050	6 x 5	20368	5	15.3	3,187.68
SCH 40		+ 6146020010	2 x 1	20334	100	16.1	815.48
		+ 6146020015	2 x 1 1/2	20336	25	7.7	815.48
		6146025020	2 1/2 x 2	20338	20	9.9	2,282.59
		6146030020	3 x 2	20340	25	14.0	2,477.64
		6146030025	3 x 2 1/2	20342	20	17.7	2,485.52
		6146040030	4 x 3	20345	20	23.2	2,572.53
		6146050040	5 x 4	20347	30	49.6	2,675.52
		6146060050	6 x 5	20349	20	49.7	4,268.73
SCH 80		6147025020	2 1/2 x 2	20350	20	11.2	3,420.84
		6147030020	3 x 2	20351	25	14.1	3,716.64
		6147040030	4 x 3	20352	15	22.1	3,930.08
		6147050040	5 x 4	20353	10	21.5	4,011.28
		6147060050	6 x 5	20354	5	16.6	4,137.72

