EYSX AND EYDX EXPANDED SEALING FITTINGS

IF 288

CONDUIT SEALING IN CLASS I AND CLASS II HAZARDOUS (Classified) LOCATIONS USE ONLY CROUSE-HINDS CHICO® X FIBER FOR DAMS AND CHICO® A SEALING COMPOUND FOR SEALING • Installation & Maintenance Information

SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE

The National Electrical Code® (NEC) in Article 501, Section 501-5, Class I, Divisions 1 and 2, requires that seals be installed in specific places. This is to minimize the passage of gases and vapors and prevent the passage of flames through the conduit from one section of the electrical installation to the other.

While not a Code requirement, it is considered good practice to sectionalize long conduit runs by inserting seals not more than 50 to 100 feet apart, depending on the conduit size, to minimize the effects of "pressure piling".

The Code in Section 502-5 requires seals in Class II locations under certain conditions. Crouse-Hinds sealing fittings can be used to meet this requirement.

Conduit seals are not intended to prevent the passage of liquids, gases or vapors at a continuous pressure differential across the seal. Even at differences in pressure across the seal equivalent to a few inches of water, there may be a slow passage of gas or vapor through a seal and through the conductors passing through the seal.

Accumulations of water in conduit systems are apt to cause trouble and shorten the life of insulation on conductors. In ordinary locations accumulation of water usually can be prevented by drain openings located at low points.

However, in hazardous locations this procedure can be followed only if the drain openings are explosionproof. The National Electrical Code requires that conduit systems in Class I hazardous locations be provided with means by which the systems can be drained of water, if there is likelihood of water accumulation.

EYDX Drain Seal Fittings, for use in vertical conduit runs, prevent accumulation of water above seals in conduit systems. Continuous draining guards against insulation failure and other defects caused by the presence of water in the conduit system.

In humid atmospheres or wet locations where it is likely that water can gain entrance in the interiors of enclosures or runs, the runs should be inclined so that water will not collect in enclosures or in seals but will be led to low points where it may pass out through ECD explosionproof drains.

Crouse-Hinds sealing fittings are listed by Underwriters' Laboratories, Inc., for use in Class I and Class II hazardous locations with Chico A sealing compound and Chico X fiber only. Chico A sealing compound, when properly mixed and poured, hardens into a dense, strong mass which is insoluble in water, is not attacked by petroleum products, and is not softened by heat. It will withstand, with ample safety factor, pressure of the exploding trapped gases or vapor.

Conductors sealed in the compound should be approved thermoplastic or rubber insulated type.

CAUTION

Refer to Table to determine the maximum number and size of conductors allowed in a seal.

Only experienced, careful installers should be entrusted with making the dam, mixing and pouring the compound. Improperly made seals are worthless. Mixing vessel must be cleaned thoroughly before mixing new compound.

Sealing Instructions for EYSX Series

Vertical Seals

When sealing vertical conduits, compound is poured through the pipe plug opening above the cover. (See instructions provided with Chico X Fiber.)

Horizontal Seals

For horizontal sealing of the 1/2" through 4" sizes remove both threaded plugs from EYSX.

Construct dams, per instructions provided with Chico X fiber, in both ends of the EYSX.

Prepare Chico A sealing compound in accordance with instructions provided with Chico A sealing compound. Pour the compound through the large opening.

Replace plugs and screw into body.

EYSX11 and EYSX1 series (1/2" to 4"), for horizontal or vertical sealing have separate filling and damming openings.

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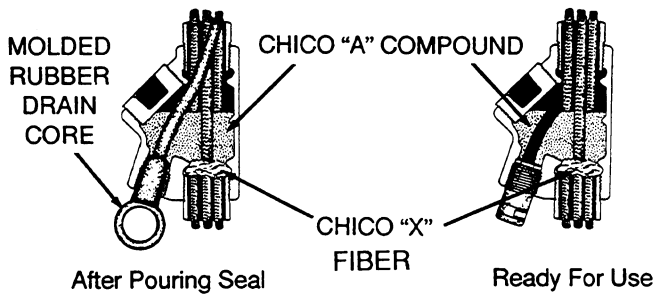


1/2" to 1" Sizes

Install EYDX and pull conductors through. Remove pipe plugs and dam the lower hub opening. Install drain core.

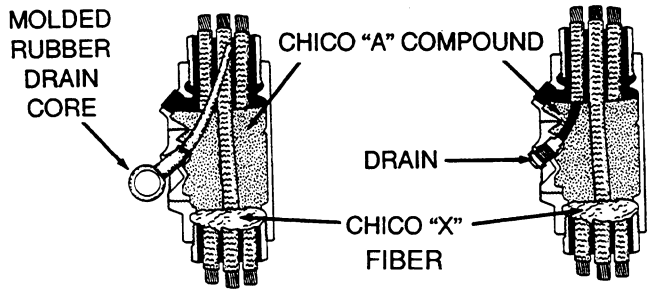
The molded rubber drain core has a flexible stem that can be easily formed. Bend the stem into an arc before installing it into the sealing fitting. Bending the stem will permit the drain core to enter the sealing fitting in a vertical position. Insert the drain core as far as possible into the drain opening so the end of the stem is above the sealing compound in a completely poured seal.

CAUTION

Avoid contact between the rubber drain core and the conductors inside the poured sealing compound. The sealing compound must completely surround the conductors and comply with the thickness requirements in NECode Article 501-5(C)(3). Gaps between the conductors and the drain core in a poured seal can be leakage paths for gases, vapors or flames.

Pour sealing compound and replace pipe plug. After about two hours remove the molded rubber drain core. Thread ECD drain fitting into the opening and tighten securely.

1-1/4" to 4" Sizes



Remove large cover and pipe plug and dam the lower hub opening. Replace large cover threading as far as possible into body with arrow pointing directly down. Insert the molded rubber drain core through hole in large cover high enough so inner end will be above sealing compound in completed seal.

Pour sealing compound and replace pipe plug. After two hours

CAUTION

Make sure that the molded rubber drain core does not touch any of the conductors.

remove the molded rubber drain core. Thread ECD drain fitting into cover opening and tighten securely.

CAUTION

Type EYSX and EYDX fittings are suitable for sealing vertical conduit runs between hazardous and non-hazardous areas, but must be so located that hazardous gases or vapors will not vent into the non-hazardous area. Conduits leaving the hazardous area from the top should have the fitting located in the non-hazardous area. Conduits leaving the hazardous area from the bottom should have the fitting located in the hazardous area.

If any batch of compound starts to set before pouring **DO NOT** try to thin by adding water or stirring. This will spoil seals. Discard the batch and make a new one.

Keep compound dry by tightly closing container cover when not in use.

FOR APPLICATIONS INVOLVING GROUPS C AND D

CAUTION

Sealing compound to be mixed **ONLY** at temperatures above 35°F/2°C and **ONLY** poured into fittings that have been brought to a temperature above 35°F/2°C. Seals must **NOT** be exposed to temperatures below 35°F/2°C for at least 8 hours, Compound **MUST** be allowed 8 hours to cure to full strength before energizing system.

FOR ALL APPLICATIONS

CAUTION

Sealing compound to be mixed **ONLY** at temperatures above 40°F/4°C and **ONLY** poured into fittings that have been brought to a temperature above 40°F/4°C. Seals must **NOT** be exposed to temperatures below 40°F/4°C for at least 72 hours, Compound **MUST** be allowed 72 hours to cure to full strength before energizing system.

MAXIMUM NUMBER OF CONDUCTORS THAT CAN BE SEALED IN A CROUSE-HINDS EYSX AND EYDX SEALING FITTING

SIZE AWG OR KCmil	1/2" CONDUIT A 40% WF	1/2" CONDUIT B 40% WF	3/4" CONDUIT A 40% WF	3/4" CONDUIT B 40% WF	1" CONDUIT A 40% WF	1" CONDUIT B 40% WF	1 1/4" CONDUIT A 40% WF	1 1/4" CONDUIT B 40% WF	1 1/2" CONDUIT A 40% WF	1 1/2" CONDUIT B 40% WF	2" CONDUIT A 40% WF	2" CONDUIT B 40% WF
18	13 (3/4")	19 (3/4")	24 (1")	34 (1")	39 (1-1/4")	55 (1-1/4")	67 (2")	95(2")	92 (2")	131 (2")	152 (3")	216 (3")
16	11 (3/4")	15 (3/4")	19 (1")	27 (1")	31 (1-1/4")	43 (1-1/4")	54 (2")	75(2")	74 (2")	103 (2")	123 (3")	170 (3")
14	9 (3/4")	14 (3/4")	15 (1")	24 (1")	25 (1-1/4")	39 (1-1/4")	41 (2")	68 (2")	60 (2")	93 (2")	90 (3")	154 (3")
12	7 (3/4")	10 (3/4")	12 (1")	18 (1")	20 (1-1/4")	29 (1-1/4")	34 (2")	50 (2")	47 (2")	69 (2")	76 (3")	115 (3")
10	5 (3/4")	7 (3/4")	9 (1")	11 (1")	15 (1-1/4")	18 (1-1/4")	27 (2")	32 (2")	36 (2")	44 (2")	60 (3")	73 (3")
8	3 (3/4")	3 (3/4")	4 (1")	6 (1")	7 (1-1/4")	9 (1-1/4")	13 (2")	16 (2")	17 (2")	22 (2")	28 (3")	36 (3")
6	1 (1/2")*	2 (3/4")	2 (1")	4 (1")	4 (1-1/4")	7 (1-1/4")	7 (2")	11 (2")	10 (2")	16 (2")	16 (3")	26 (3")
4	1 (1/2")*	1 (1/2")*	2 (1")	2 (1")	3 (1-1/4")	4 (1-1/4")	5 (1-1/2")	7 (2")	7 (2")	9 (2")	12 (3")	16 (3")
3	1 (1/2")*	1 (1/2")*	2 (1")	2 (1")	3 (1-1/4")	3 (1-1/4")	5 (2")	6 (2")	6 (2")	8 (2")	11 (3")	13 (3")
2	1 (1/2")*	1 (1/2")*	1 (3/4")*	2 (1")	2 (1-1/4")	3 (1-1/4")	4 (2")	5 (2")	5 (2")	7 (2")	9 (3")	11 (3")
1	1 (1/2")*	1 (1/2")*	1 (3/4")*	1 (3/4")*	2 (1-1/4")	2 (1-1/4")	3 (1-1/2")	4 (2")	4 (2")	5 (2")	7 (3")	8 (2-1/2")
1/0	1 (1/2")*	1 (1/2")*	1 (3/4")*	1 (3/4")*	1 (1")*	2 (1-1/4")	2 (1-1/4")*	2 (1-1/4")*	3 (2")	4 (2")	6 (3")	7 (3")
2/0		1 (1/2")*		1 (3/4")*	1 (1")*	1 (1")*	2 (1-1/2")	3 (2")	3 (2")	4 (2")	5 (3")	6 (3")
3/0					1 (1")*	1 (1")*	2 (1-1/2")	2 (1-1/2")	2 (1-1/2")*	3 (2")	4 (2-1/2")	5 (3")
4/0					1 (1")*	1 (1")*	2 (2")	1 (1-1/4")*	2 (2")	2 (1-1/2")*	3 (2-1/2")	4 (2-1/2")
250					1 (1")*	1 (1")*	1 (1-1/4")*	1 (1-1/4")*	2 (2")	2 (2")	3 (3")	3 (2-1/2")
300							1 (1-1/4")*	1 (1-1/4")*	1 (1-1/2")*	1 (1-1/2")*	2 (2")*	3 (2-1/2")
350							1 (1-1/4")*	1 (1-1/4")*	1 (1-1/2")*	1 (1-1/2")*	1 (2")*	3 (3")
400							1 (1-1/4")*	1 (1-1/4")*	1 (1-1/2")*	1 (1-1/2")*	1 (2")*	2 (2-1/2")
500									1 (1-1/2")*	1 (1-1/2")*	2 (3")	1 (2")*
600										1 (1-1/2")*	1 (2")*	1 (2")*
700										1 (1-1/2")*	1 (2")*	1 (2")*
750											1 (2")*	1 (2")*
800											1 (2")*	1 (2")*
900											1 (2")*	1 (2")*
1000											1 (2")*	1 (2")*
1250												
1500												
1750												
2000												

NOTE: Number in brackets is the actual trade size of sealing fittings without reducers installed. This trade size is used to determine the dimensions and turning radius for the expanded sealing fitting.

* Use standard EYS or EYD sealing fitting; expanded wire fill sealing fitting is not required

Col.A = Types RFH-2, RH,RHH,RHW,THW,TW XHHW(AWG 14 - 6) FEPB(AWG 6 - 2)

Col.B = FEP,THHN,THWN,TFN,PF,PGF XHHW(AWG4 - 2000 MCM) FEPB(AWG14 - 8)

MAXIMUM NUMBER OF CONDUCTORS THAT CAN BE SEALED IN A CROUSE-HINDS EYSX AND EYDX SEALING FITTING

SIZE AWG OR KCmil	2 1/2" CONDUIT A 40% WF	2 1/2" CONDUIT B 40% WF	3" CONDUIT A 40% WF	3" CONDUIT B 40% WF	3 1/2" CONDUIT A 40% WF	3 1/2" CONDUIT B 40% WF	4" CONDUIT A 39% WF	4" CONDUIT B 39% WF
18	217 (3-1/2")	308 (3-1/2")						
16	175 (3-1/2")	242 (3-1/2")						
14	141 (3-1/2")	220 (3-1/2")	219 (4")	339 (4")	293 (5")	454 (5")	370 (5")	525 (5")
12	111 (3-1/2")	163 (3-1/2")	172 (4")	252 (4")	230 (5")	338 (5")	291 (5")	427 (5")
10	86 (3-1/2")	104 (3-1/2")	133 (4")	160 (4")	178 (5")	215 (5")	173 (5")	272 (5")
8	41 (3-1/2")	51 (3-1/2")	63 (4")	79 (4")	84 (5")	106 (5")	94 (5")	134 (5")
6	23 (3")	37 (3-1/2"))	36 (4")	57 (4")	48 (5")	76 (5")	61 (5")	96 (5")
4	18 (3")	23 (3-1/2"))	27 (4")	35 (4")	36 (5")	47 (5")	46 (5")	59 (5")
3	15 (3")	19 (3")	23 (4")	30 (4")	31 (5")	40 (5")	40 (5")	50 (5")
2	13 (3")	16 (3")	20 (4")	25 (4")	27 (5")	33 (5")	34 (5")	42 (5")
1	9 (3")	12 (3")	15 (4")	19 (4")	19 (5")	25 (5")	25 (5")	31 (5")
1/0	8 (3")	10 (3")	12 (4")	16 (4")	17 (5")	21 (5")	21 (5")	26 (5")
2/0	7 (3")	8 (3")	11 (4")	13 (4")	14 (5")	17 (5")	18 (5")	22 (5")
3/0	6 (3")	7 (3")	9 (4")	11 (4")	12 (5")	15 (5")	15 (5")	18 (5")
4/0	5 (3")	6 (3")	8 (4")	9 (4")	10 (5")	12 (5")	13 (5")	15 (5")
250	4 (3")	5 (3")	6 (4")	7 (4")	8 (5")	10 (5")	10 (5")	12 (5")
300	3 (3")	4 (3")	5 (4")	6 (4")	7 (5")	8 (5")	9 (5")	11 (5")
350	3 (3")	4 (3-1/2")	5 (4")	6 (4")	6 (5")	7 (5")	8 (5")	9 (5")
400	3 (3")	3 (3-1/2")	4 (3-1/2")	5 (4")	6 (5")	5 (5")	7 (5")	8 (5")
500	2 (3")	3 (3-1/2")	4 (4")	4 (4")	5 (5")	6 (5")	6 (5")	7 (5")
600	2 (3")	2 (3")	3 (4")	3 (3-1/2")	4 (5")	4 (4")	5 (5")	6 (5")
700	1 (2-1/2")*	2 (3")	3 (4")	3 (4")	3 (4")	4 (5")	4 (5")	5 (5")
750	1 (2-1/2")*	2 (3")	2 (3")*	3 (4")	3 (4")	4 (5")	4 (5")	5 (5")
800	1 (2-1/2")*	2 (3-1/2")	2 (3-1/2")	3 (4")	3 (5")	4 (5")	4 (5")	5 (6")
900	1 (2-1/2")*	2 (3-1/2")	2 (3-1/2")	2 (3-1/2")	3 (5")	3 (4")	4 (5")	4 (5")
1000	1 (2-1/2")*	1 (2-1/2")*	1 (3")*	2 (3-1/2")	3 (5")	3 (5")	3 (5")	4 (5")
1250	1 (2-1/2")*		1 (3")*		1 (3-1/2")*		3 (5")	
1500	1 (2-1/2")*		1 (3")*		2 (5")		2 (5")	
1750			1 (3")*		2 (5")		2 (5")	
2000			1 (3")*		1 (3-1/2")*		2 (5")	

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COOPER Crouse-Hinds
Quality from Cooper Industries

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