EYS Stainless Sealing Fitting

Conduit Sealing in Class I and Class II Hazardous (Classified) Locations

Use only Crouse-Hinds Series Chico® X Fiber for Dams and Chico® A Sealing Compound for Sealing

Installation & Maintenance Information

IF 1752

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 series 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.

Crouse-Hinds series 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 and vapor.

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

⚠ WARNING

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 EYS SERIES

Vertical Seals

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

Horizontal Seals

For horizontal sealing, remove both threaded plugs from EYS.

Construct dams, per instruction provided with Chico X Fiber, in both ends of the EYS.

Prepare Chico A Sealing Compound in accordance with instructions provided with Chico A Sealing Compound. Pour the compound through a large opening. Fill the seal so that the sealing compound reaches the bottom of the fill hole.

Replace plugs and screw into body.

EYS21 SS and EYS31 SS for horizontal or vertical sealing have separate filling and damming openings.

⚠ WARNING

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

APPLICATIONS INVOLVING GAS GROUPS C AND D

⚠ WARNING

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.

APPLICATIONS INVOLVING GAS GROUPS A AND B

⚠ WARNING

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.

The maximum number of #14 type THHN conductors (Column B) permitted by UL Std. 1203 in a 3/4" size sealing fitting is 15. The fifteen #14 THHN conductors represent the maximum wire fill of 25% or less for sealing fittings. Increasing the sealing fitting to a 1" trade size will provide space for the 40% wire fill, or twenty-two (22) #14 conductors, and comply with UL Std. 1203.

Trade Size	Conductor Size	Type	Max No. Permitted for 25% Fill	Permitted for 40% Fill/Trade Size Sealing
3/4"	#14	THHN	15	(22/1")

In our example, use a 1" EYS sealing fitting.

The maximum number of wires[a] that can be sealed in a fitting are as follows:

Size AWG or KCmil	3/4" Seal (Qty/NPT Size)		1" Seal (Qty/NPT Size)	
	A	B	A	B
18	12(15/1-1/4")	20	12(24/1-1/2")	20
16	10(12/1")	16	17(20/1-1/2")	27
14	6(7/1")	15(22/1")	10(12/2-1/2")	24(36/1-1/2")
12	5(6/1")	11(16/1")	8(10/1-1/2")	18(26/1-1/2")
10	4(5/1")	7(10/1")	7(8/1-1/4")	11(17/1-1/4")
8	2	4(6/1")	4	6(9/1-1/4")
6	1	2(4/1")	2(3/1-1/4")	4(7/1-1/4")
4	1	1(2/1")	1(2/1-1/4")	2(4/1-1/4")
3	1	1	1(2/1-1/4")	2(3/1-1/4")
2	1	1	1	1(3/1-1/4")
1	1	1	1	1
1/0			1	1
2/0			1	1
3/0			1	1
4/0				

Source: UL Std. 1203 / National Electric Code

[a] Column A = Types RFH-2, FFH-2, RFHH-2 (AWG 18-16) RHH, RHW, RHW-2 (AWG 14-2000 KCmil)

Column B = THHN, THWN, THWN-2 (AWG 14-100 Kcmil)

NOTE: For all conductor sizes, wire fill is based on maximum 25% fill or less depending on conduit and conductor size per UL Std. 1203.

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