

# **35 kV Class Fused Loadbreak Elbow Connector with Interchangeable Fuse Capability**



APPLICATION

The Chardon 35 kV Class Fused Loadbreak Elbow Connector combines a fully-shielded and insulated loadbreak elbow with full range current-limiting fuse protection. The Chardon Fused Loadbreak Elbow Connector provides a convenient and cost effective method to add fusing protection to underground distribution systems utilizing 200 A, 35 kV Class loadbreak bushings. Designed as a hot stick operable switching device, it is tested at the maximum fuse rating in accordance with the IEEE 386-2006 standard. The product is fully sealed and submersible.

Chardon Fused Loadbreak Elbow Connectors are molded using high quality peroxide-cured

EPDM rubber, manufactured in Chardon's facilities, under strict quality controls. Standard features include a copper probe adapter, bi-metal connector, plated copper loadbreak probe and a stainless steel reinforced pulling-eye. The product is designed to accept a wide range of cable conductor and insulation sizes.

Chardon Fused Loadbreak Elbow Connectors are the ONLY fused elbow connectors on the market that can accept fuses manufactured by Cooper Power Systems (Eaton) and Hi-Tech (ABB). This is accomplished by ordering the appropriate lug kit. This feature allows the customer an option which is not available on competitive products.

PRODUCT TESTS

Tests conducted in accordance with IEEE/ANSI Standard 386.

- / Minimum Corona Voltage Level – 26 kV
- / AC 1 Minute Withstand – 50 kV
- / Test Point Voltage Test

Tests conducted in accordance with Chardon manufacturing process requirements:

- / Physical Inspection
- / Periodic Dissection
- / Periodic X-ray Analysis

VOLTAGE RATINGS

Voltage Class	35 kV
Max. Rating Phase to Phase	36.6 kV
Max. Rating Phase to Ground	21.1 kV
AC 1 Minute Withstand	50 kV
DC 15 Minute Withstand	103 kV
BIL and Full Wave Crest	150 kV
Minimum Corona Voltage Level	26 kV

• Revision Date: 08.07.2024

CURRENT RATINGS

Description	Test Parameters
Continuous	Fuse rating
Switching	10 operations at 200 amps rms at 36.3 kV
Fault Close	10,000 amps rms symmetrical at 36.6 kV for 0.17 s after 10 consecutive successful switching operations

DETAILED COMPOSITION OF THE CHARDON 35 kV LOADBREAK FUSE ELBOW

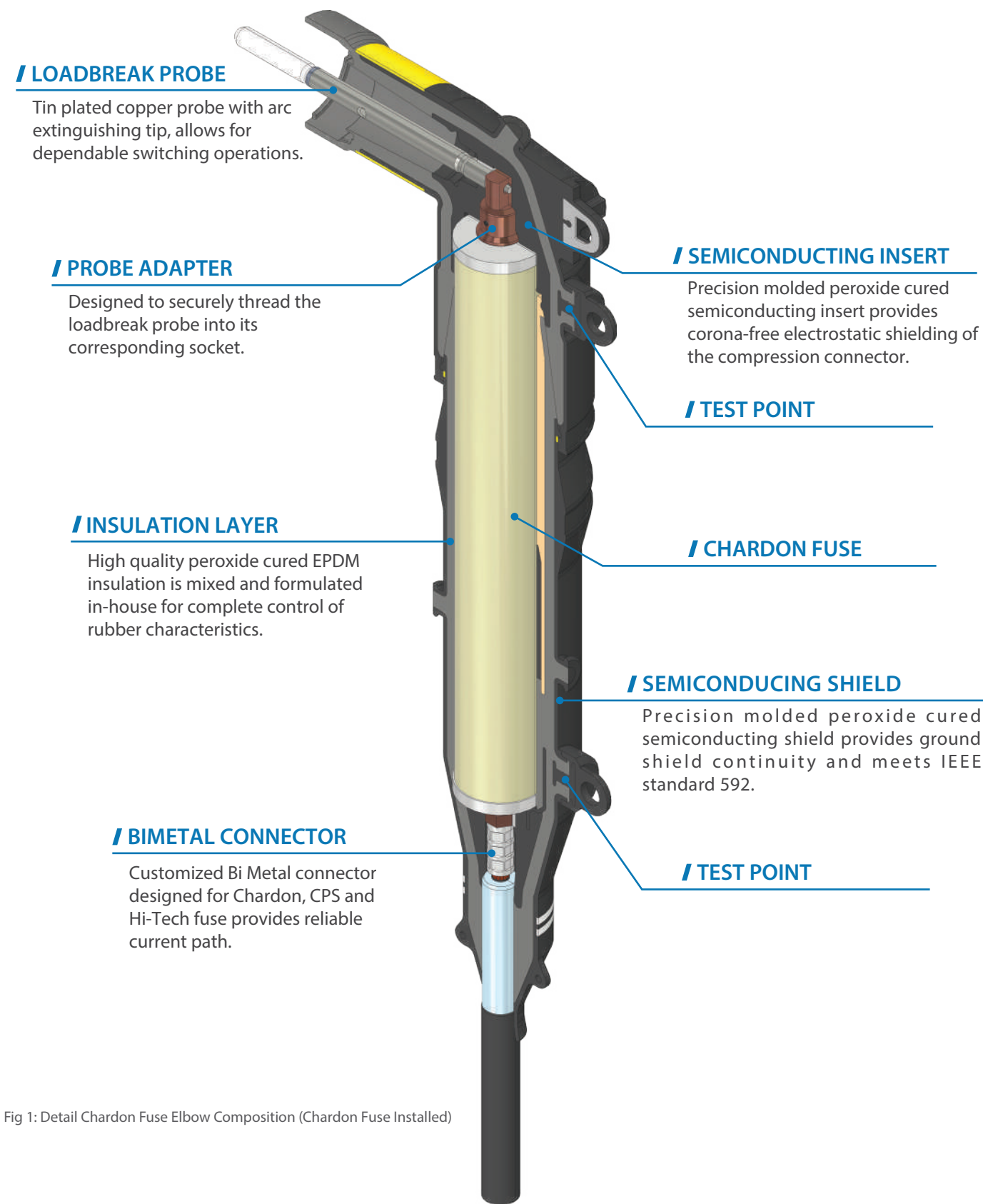
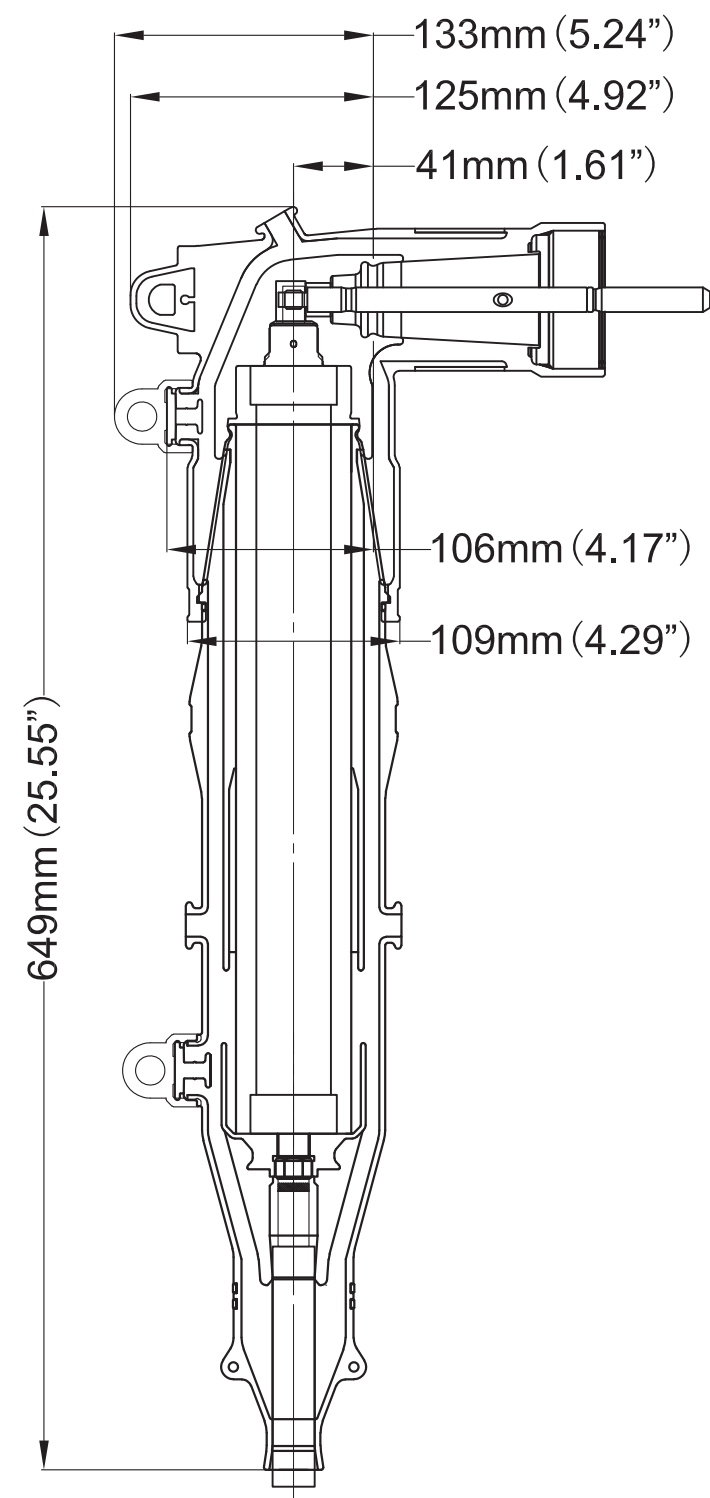


Fig 1: Detail Chardon Fuse Elbow Composition (Chardon Fuse Installed)

CHARDON 35 kV LOADBREAK FUSE ELBOW  
DRAWING



ORDERING INFORMATION

Chardon Loadbreak Fuse Elbow kits are packaged in a heavy duty plastic bag.

Each elbow kit includes the following:

- / Fused Elbow, Cable Housing
- / Fused Elbow, Elbow Housing
- / Compression Lug Kit
- / Probe
- / Hex Wrench
- / Silicone Grease
- / Towel
- / Installation Instruction Sheet

Note:  
Current-limiting fuses sold separately. See "Chardon Fuses" below for fuse recommendations, electrical ratings and catalog numbers.

To order a Chardon 35 kV Fuse Elbow Kit, follow the steps below:

35-LFE200T	"X"	"Y"	"Z"
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- "X" = Enter Cable Range Code (A, B, C or D)
- "Y" = If a Hi-Tech Fuse will be used in the Fused Elbow, Enter "HE".  
If a Cooper Fuse will be used in the Fused Elbow, enter "CP".  
If a Chardon Fuse will be used in the Fused Elbow, enter "CH".
- "Z" = Enter Conductor Code (See Conductor Code Table Below)

Range Code	Inches	Millimeters
C	0.846 - 1.051	21.50 - 26.70
D	0.976 - 1.181	24.80 - 30.00
E	1.087 - 1.311	27.60 - 33.30
F	1.232 - 1.469	31.30 - 37.30

Conductor Code Table

CONDUCTOR CODE	Concentric or Compressed		Compact or Solid	
	AWG or kcmil	mm <sup>2</sup>	AWG or kcmil	mm <sup>2</sup>
01	#6	-	#4	-
02	#4	-	#3	25
03	#3	25	#2	35
04	#2	35	#1	-
05	#1	-	1/0	50
06	1/0	50	2/0	70
07	2/0	70	3/0	-
08	3/0	-	4/0	95
09	4/0	95	250	120
10	250	120	300	-

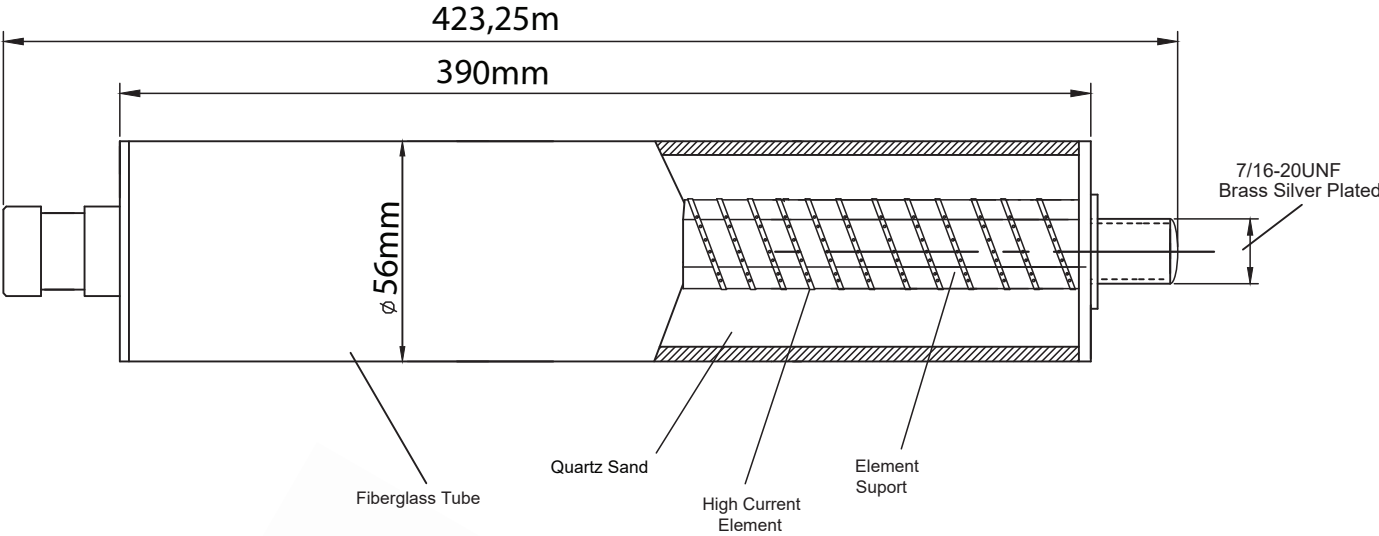
Example :  
To order a Chardon 35 kV Loadbreak Fused Elbow with a cable insulation diameter of 0.850", using a Hi-tech fuse, and a 3/0 compression connector, order the following number : 35-LFE200T-B-HE08 .

ORDERING INFORMATION

Replacement Parts

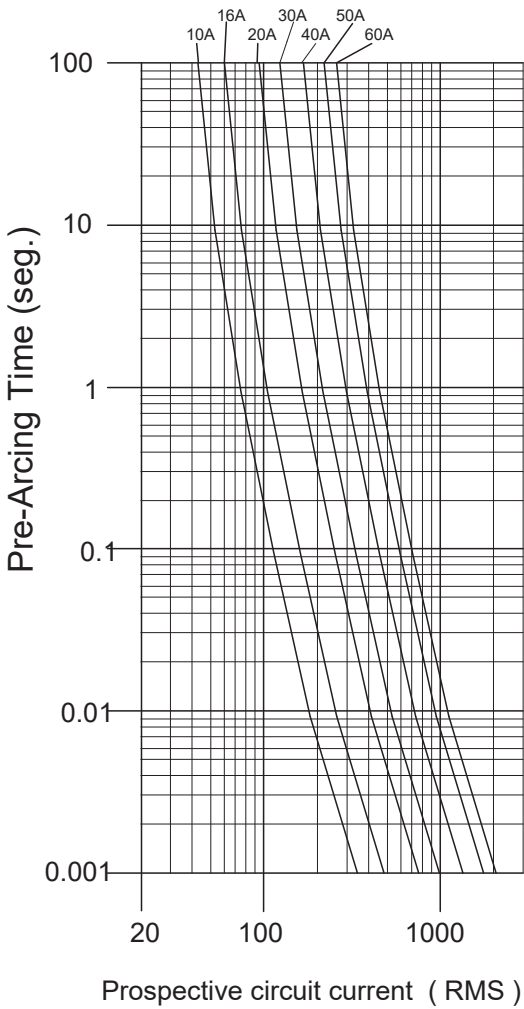
Compression Lug Kit	Part Number
Chardon Fuse Compression Lug	LFE-CH + Conductor Code

CHARDON FUSES



CHARDON FUSES

Electrical Characteristics of the Elbow Fuses						
Voltage Class System (kV)	Nominal Fuse Voltage Rating (kV)	Nominal Fuse Current Rating (A)	I <sup>2</sup> t (A <sup>2</sup> s)		Peaking Capacity (kA)	Peak arc voltage (kV)
			Pre-arc I <sup>2</sup> t	Clearing I <sup>2</sup> t		
35	23	10	400	1116	50	60
		16	1000	2555	50	60
		20	1680	4380	50	60
		25	2500	6225	50	60
		30	5390	13800	50	60
		40	6240	16856	50	60
		50	10000	24900	50	60
		60	14500	36900	50	60







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