

For over 70 years, Richards has remained dedicated to manufacturing high-quality, innovative products for electrical distribution systems. The Cold Shrink Hammerhead epitomizes this legacy by introducing a truly unique, robust solution for terminating and splicing medium voltage power cable. We've taken our industry-leading 600/900A Deadbreak Elbow design and given it a cutting-edge transformation.

- **All-In-One Solution:** The CSH is range-taking and includes an integral jacket seal, providing a complete solution in a simple package. Three separate components have been elegantly combined into a single design.
- **100% EPDM:** Richards Cold Shrink Products are molded from 100% EPDM, a proven material in underground electrical applications for decades. This proprietary formulation of Cold Shrink EPDM is produced in-house. To achieve maximum durability in underground environments, the CSH features a fully-integrated, oil-resistant EPDM jacket that provides outstanding mechanical impact/tear resistance.
- **Easy Installation:** We've optimized our design to minimize installation time, complexity, and overall cost. No more cable adapter and no more separate jacket seal kit. The cold shrink Cable Entrance eliminates problems that arise when sliding traditional interference-fit Deadbreak elbows into position. This ergonomic improvement substantially simplifies positioning/aligning the lug in the CSH housing.
- **Designed, Molded & Tested in the USA:** Our team is intimately involved in everything from material development, product and mold design, and production. This allows us to control every aspect of the design, down to the smallest detail.

Product Ratings

For your reference, IEEE ratings are provided below. Many of our products exceed these ratings. For product-specific information, see appropriate Product Data Sheet or contact the factory.

IEEE 386 - Industry Minimum Requirements			
Voltage Ratings			
Voltage Class, Phase-to-Phase	15kV	25kV	35kV
Maximum Operating Voltage – (phase-to-ground)	8.3kV	15.2kV	21.1kV
Corona Voltage Level – (partial discharge extinction voltage)	11kV	19kV	26kV
AC Withstand – (1 minute)	34kV	40kV	50kV
Impulse-Withstand Voltage – (BIL)	95kV	125kV	150kV

Continuous Current Ratings	
Aluminum	600A
Copper	900A

Short-Time Current Ratings	
Aluminum	25kA, 10c. and 10kA, 3s.
Copper	40kA, 10c. and 10kA, 3s.

SCAN QR CODE
TO WATCH
INSTALLATION
VIDEO

OUR TESTING EXCEEDS INDUSTRY REQUIREMENTS. IEEE REQUIRES PARTIAL DISCHARGE PLUS A CHOICE OF AC OR IMPULSE WITHSTAND. RICHARDS RUNS ALL THREE TO ENSURE THE HIGHEST QUALITY.

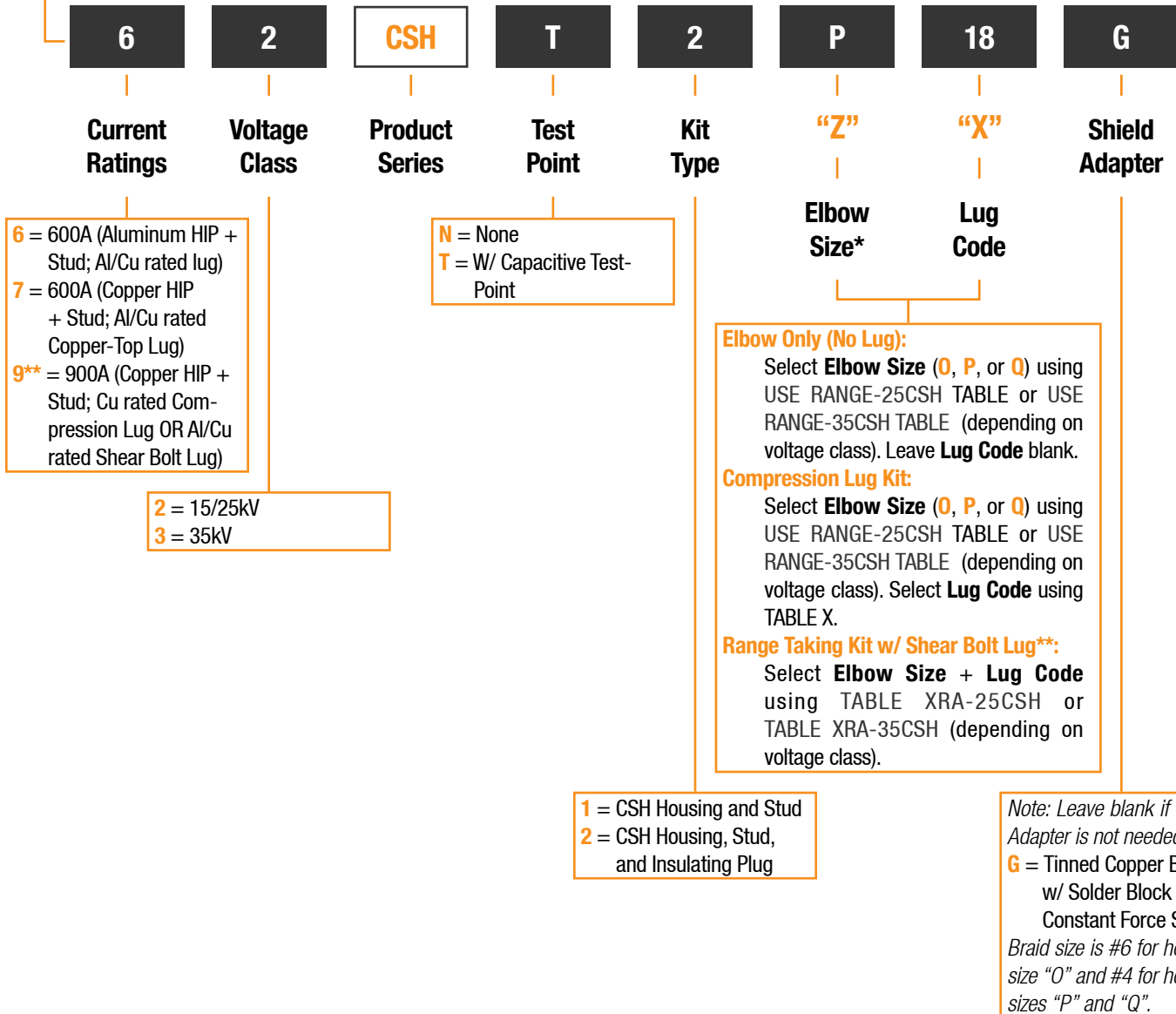
AVAILABLE WITH
200KV BIL RATING

To Schedule a Demonstration
Contact Your Local Sales Rep



1. **CONDUCTOR LUGS:** The CSH Series is available with a variety of conductor lugs. We offer a range-taking shear bolt option, as well as the traditional 600 or 900A compression connector. One of the most impressive improvements of the CSH is the ease with which the housing can be installed onto the prepared cable/installed lug. Without having to overcome any interference-fit (remember, we've obsoleted the cable adapter), positioning the lug properly is incredibly easy.
2. **IEEE 386 INTERFACE:** The 600/900A Deadbreak interface accepts the appropriate IEEE Interface (15/25kV IEEE 386 Interface 11 or 35kV IEEE 386 Interface 13) components, such as Apparatus Bushings, Elbow Tap Plugs, Hammerhead Insulating Plugs (HIPs) and more.
3. **CAPACITIVE TEST POINT:** The CSH Series is available with an optional capacitive test point. This enables system operators to utilize suitable equipment to test for voltage, or install a faulted circuit indicator (FCI).
4. **EPDM JACKET:** The entire CSH Series is molded from a proprietary EPDM formulation. This material has excellent mechanical impact/tear resistance—an important trait given the harsh conditions of the underground environment. The bonded outer jacket is semi-conductive, making the CSH fully shielded.
5. **CABLE ENTRANCE:** The Cable Entrance of the CSH is shrinkable, obsoleting the cable adapter. This eliminates the performance risk associated with cable adapter positioning and makes installation markedly more ergonomic. This cold shrink Cable Entrance also allows the CSH to cover a range of cable sizes, as laid out in the selection tables. With fewer components and range-taking capabilities, customers are able to reduce inventory.
6. **EASY-TO-REMOVE CORE:** Hold-out cores that rely on grease or a ribbon/spiral design can be unreliable and messy. Spiral holdouts can be difficult to remove and may prematurely collapse. Richards product development engineers created a compact core design that is easy to eject, and performs consistently across a variety of installation environments. Once ejected, the Core separates into halves which can be recycled.
7. **INTEGRAL JACKET SEAL:** Once the core is removed, a jacket seal is deployed over sealing mastic, completing the jacket restoration without the need for a separate component.

Sample Part Number



* 35kV CSH is available in sizes P and Q only.
 ** Range Taking Shear Bolt Lugs are only available in aluminum.

Sample Part Number is a 15/25kV 600A CSH kit. Kit includes Size "P" CSH (with Test Point), Stud, Insulating Plug, Aluminum Compression Lug for 500 kcmil Strd/Compr, and a PCRK-GA-05 Shield Adapter kit.

15/25/28kV Stud

Product Data Sheet

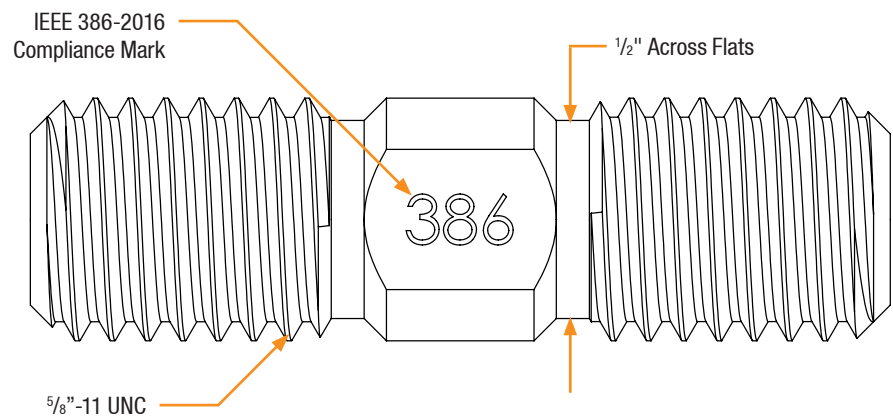
The Richards 15/25/28kV Threaded Stud provides a means to bolt together IEEE 386 Interface 11 Deadbreak Products. The Stud is available in Aluminum (P625HIP-STUD) or Copper (P925HIP-STUD). The Copper Stud is typically used when 900A connections are required. The Stud can be supplied factory-installed on certain Deadbreak Accessories such as Deadbreak Insulating Caps and Deadbreak Insulating Plugs. Both the Copper and Aluminum Studs are tin-plated.



Features

- Tin-Plated
- Machined with flats for tightening
- Available in Aluminum or Copper
- Meets the dimensional requirements of the 2016 revision of IEEE-386

Basic Dimensions

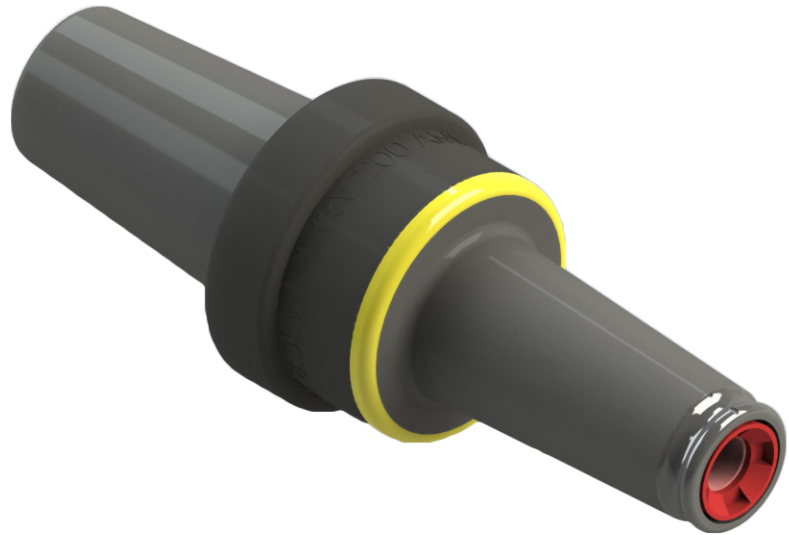


15kV Loadbreak Elbow Tap Plug

Product Data Sheet

The Richards 15kV Elbow Tap Plug (P615ETP) converts a 15/25kV Deadbreak interface (IEEE 386 Interface 11) to a 15kV 200A Loadbreak interface (IEEE 386 Interface 5). This allows a component such as Loadbreak Elbow, Loadbreak Insulating Cap or Arrester to be installed. The Elbow Tap Plug features a yellow seating indicator ring which becomes completely covered once the appropriate mating component is fully seated.

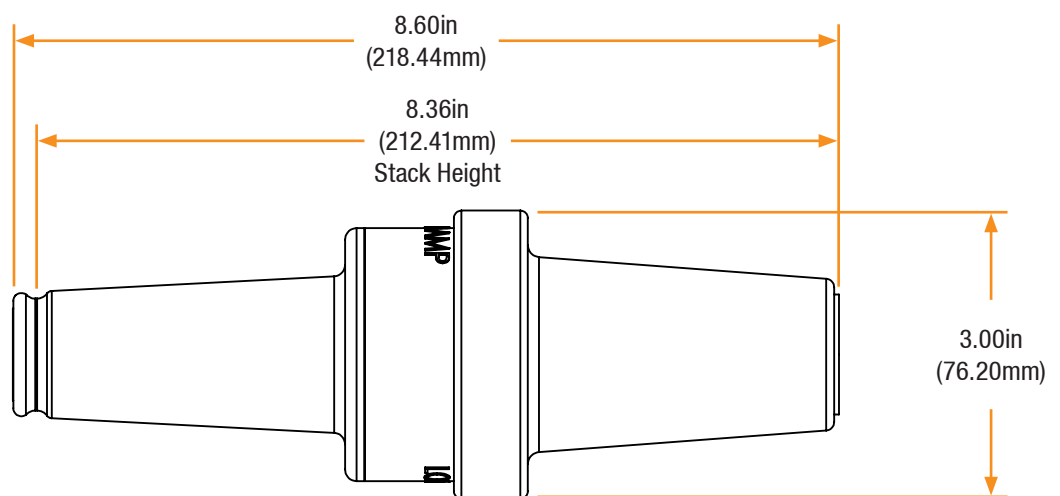
The Elbow Tap Plug is torqued by engaging an internal 3/8" hex broach using the P6AT (or similar) assembly tool.



Features

- 100% EPDM Composition
- Injection Molded & Peroxide-Cured
- Made in the USA
- Yellow Seating Indicator Ring

Basic Dimensions



15kV Loadbreak Elbow Tap Plug

Installation

15kV Loadbreak Elbow Tap Plug installation is covered by:
RP-II-ETP

Related Products

P625HIP-STUD

15/25kV Aluminum Threaded Stud

P925HIP-STUD

15/25kV Copper Threaded Stud

P6AL-X

Aluminum Compression Lug

P9CU-X

Copper Compression Lug

P6ALR-X

Aluminum Range Taking Lug

P7ALCU-X

Copper-Top Compression Lug

62LCN/62LCT

15/25kV Deabreak Elbow

92LCN/92LCT

15/25kV Deabreak Elbow

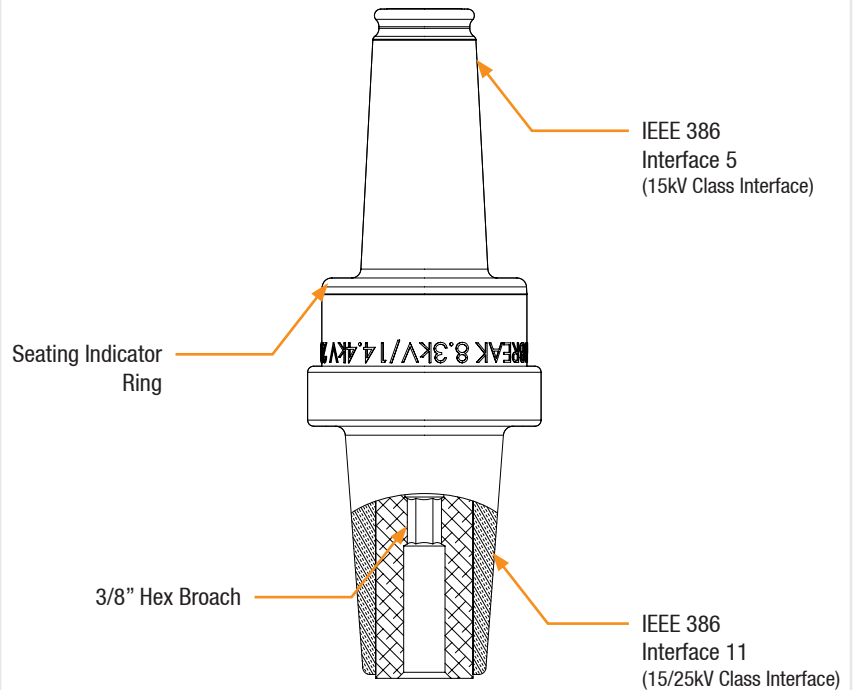
P625HIP

15/25kV Aluminum Insulating Plug

P925HIP

15/25kV Copper Insulating Plug

Detail View



Production Testing

IEEE requires a Partial Discharge test and choice between AC withstand and Impulse.

Richards runs 3/3 tests on **all** Medium Voltage products governed by IEEE 386. [®]

100% Routine Electrical Test:

- Partial Discharge
- AC Withstand
- Impulse Withstand

Product Ratings

Voltage Ratings	
Maximum Voltage Rating – (phase to ground)	8.3kV
Corona Voltage Level – (partial discharge extinction voltage)	11kV
AC Withstand – (1 minute)	34kV
Impulse-Withstand Voltage – (BIL)	95kV

Current Ratings (Deadbreak Side)	
Continuous	600A
Short-Time Current	25kA, 10c. and 10kA, 3s.

Current Ratings (Loadbreak Side)	
Continuous	200A
Short-Time Current	10kA, 10c. and 3.5kA, 3s.

The 15kV Loadbreak Elbow Tap Plug is qualified to the following industry standards:

- ANSI/IEEE Std. 386-2016: For Separable Insulated Connector Systems
- ANSI C119.4: For Electric Connectors
- IEEE Std 592: For Exposed Semiconducting Shields

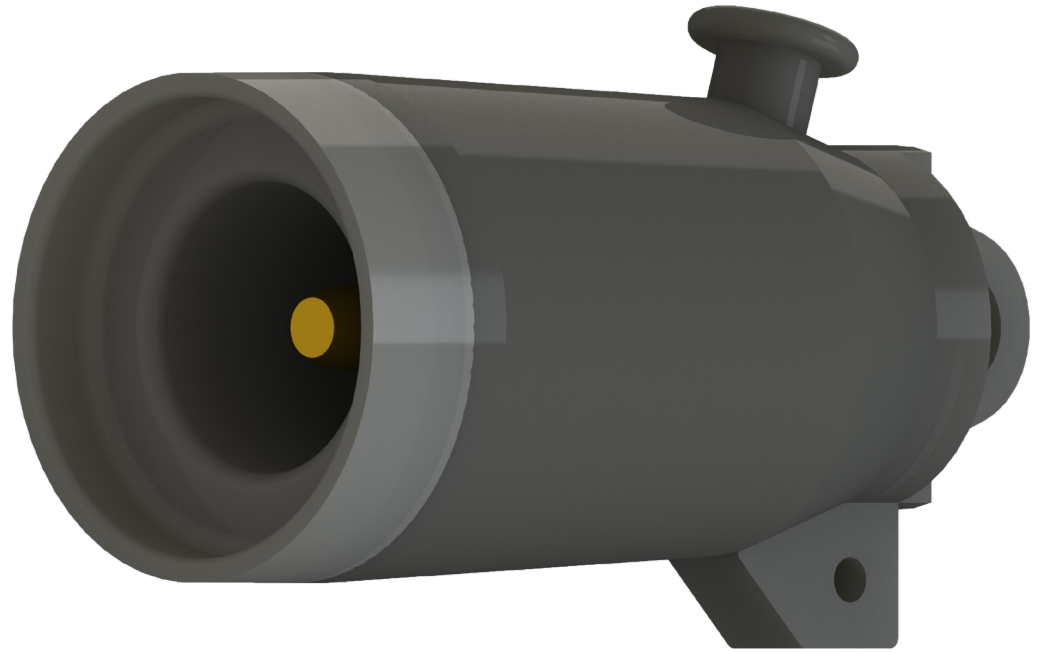
[®] Exceeds IEEE 386 requirement

15kV Loadbreak Insulating Cap

Product Data Sheet

The Richards 15kV 200A Loadbreak Insulating Cap provides a means for insulating, shielding and sealing a 15kV 200A Loadbreak Interface (IEEE 386, Interface 5).

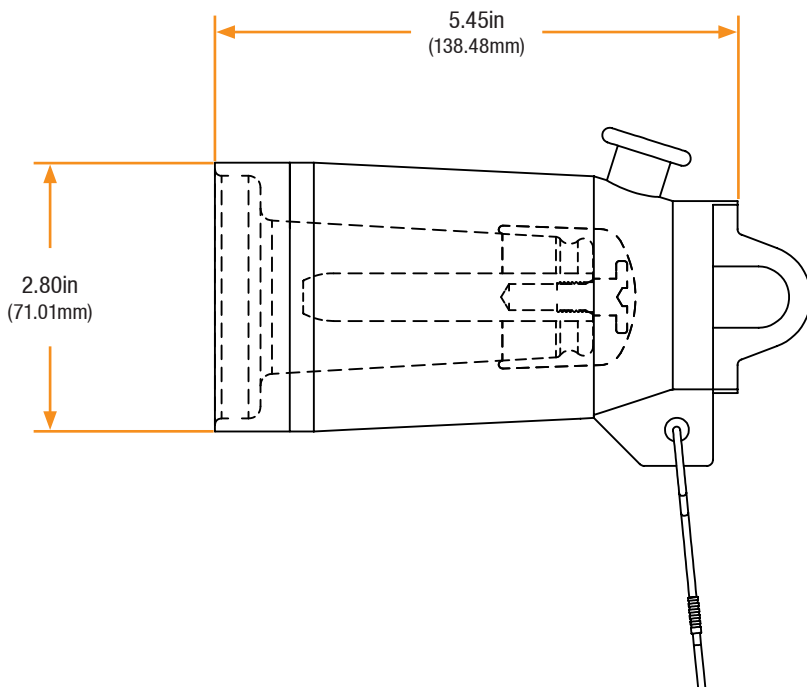
The Cap is supplied with a 48" #12 AWG tinned copper drain wire connected to a grounding eye on the semi-conductive jacket. The Loadbreak Cap features a stainless steel bail that is engaged with suitable hot stick tools to install and remove the cap from its mating accessories.



Features

- Injection Molded EPDM Composition
- Made in the USA
- Stainless Steel Pulling Eye or Bail
- #12 Tinned Copper Drain Wire

Basic Dimensions



15kV Loadbreak Insulating Cap

Installation

15kV Loadbreak Cap installation is covered by: **RP-II-LBIC**

Related Products

618BEF

15kV Bushing Extender R-800

21LBI

15kV 200A Loadbreak Bushing Insert

P615ETP

15kV Elbow Tap Plug

P615LRTP

15kV Loadbreak Reducing Tap Plug

R-800 SERIES

15kV R800 - All Types

CS8 SERIES

15kV Cold Shrink R800 - All Types

Production Testing

IEEE requires a Partial Discharge test and choice between AC withstand and Impulse.

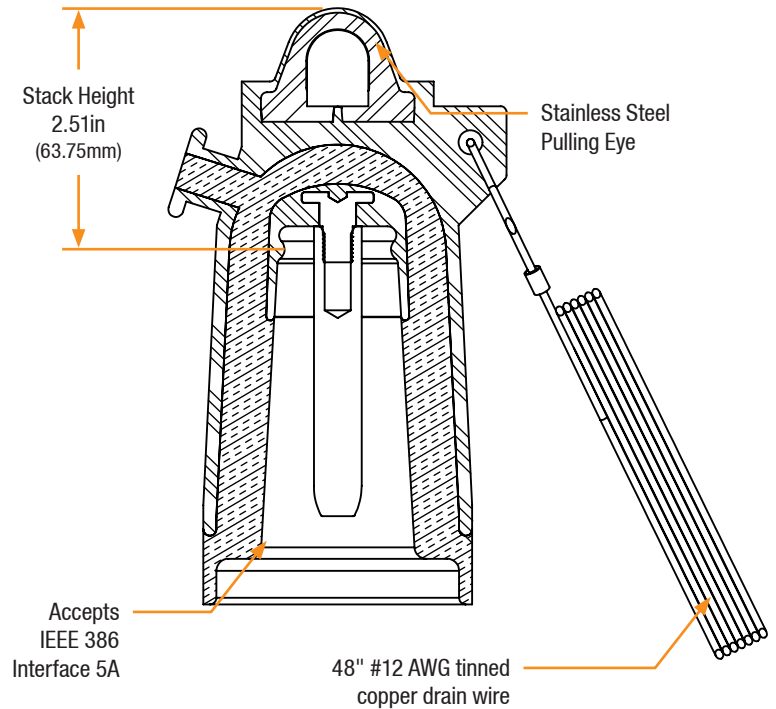
Richards runs 3/3 tests on **all** Medium Voltage products governed by IEEE 386.[®]

100% Routine Electrical Test:

- Partial Discharge
- AC Withstand
- Impulse Withstand

[®] Exceeds IEEE 386 requirement

Detail View



Product Ratings

Voltage Ratings	
Maximum Voltage Rating – (phase to ground)	8.3kV
Corona Voltage Level – (partial discharge extinction voltage)	11kV
AC Withstand – (1 minute)	34kV
Impulse-Withstand Voltage – (BIL)	95kV BIL

Current Ratings	
Continuous Current	200A
Short-Time Current	10kA, 10c. and 3.5kA, 3s.

The 15kV Loadbreak Cap is qualified to the following industry standards:

- IEEE Std 386: For Separable Insulated Connector Systems
- ANSI C119.4: For Electric Connectors
- IEEE Std 592: For Exposed Semiconducting Shields

Deadbreak Shear Bolt Lug

Product Data Sheet

Richards P6ALR Series Shear Bolt Lugs are range-taking connectors that utilize an innovative “stepless” shear bolt design. This shear bolt is engineered to break below the surface of the lug regardless of conductor cross-section. These lugs accept a wide range of conductor sizes and can be used on Aluminum or Copper conductors (600A rating). The P6ALR Series Lugs are used with IEEE 386 components such as 600/900A Deadbreak Elbows and Disconnectable Joints.

P6ALR Series Lugs are qualified to the following standards:

- ANSI C119.4
- IEC 61238-1 (class A)



Nominal Use Range Chart

Part #	SICON #	Nominal Conductor Range*		Compression Lug Code Equiv.		“X”**
		Min	Max	Min	Max	
P6ALR1	332901012	#3	300	6	14	R1
P6ALR2	332811032	1/0	450 Strd/500 Cmpt	9	17	R2
P6ALR3	332900012	3/0	600	11	20	R3
P6ALR4	332907022	300 Cmpr /350 Cmpt	750 Strd/900 Cmpt	14	23	R4
P6ALR5	332910022	600	1250	20	29	R5
P6ALR6***	332918012	1500		30		R6

* Unless otherwise noted conductor size listed is stranded/compressed/compact.

** To order any standard Deadbreak Elbow or Disconnectable Joint kit with P6ALR Lug, use this column to select character “X”.

*** For use on 35kV LC Series. For other applications contact the factory.

Dimensional Chart

Part #	# of Bolts	Hex Key Size	L (in.)
P6ALR1	2	5 mm	4.3
P6ALR2	2	6 mm	4.8
P6ALR3	2	8 mm	5.2
P6ALR4	3	8 mm	5.9
P6ALR5	3	8 mm	6.6
P6ALR6	4	8 mm	7.3

Basic Dimensions

