

Clamps, Aluminum Deadend Strain, Straight-Line, Side-Opening



1. Scope

This standard covers the requirements for aluminum, straight-line, side-opening, deadend strain clamps.

Aluminum deadend strain clamps consist of the body and keepers, compression springs, a button head pin, a cotter pin, and U-bolts with nuts.

This standard applies to the following Seattle City Light (SCL) stock numbers:

Stock No.	ACSR Cable Range (AWG/kcmil)
694292	3/0 – 397
694294	336.4 – 954

2. Application

Aluminum deadend strain clamps are used for connecting primary conductor to a deadend insulator. These clamps are used for distribution line construction with all aluminum, ACSR, or aluminum alloy conductors.

Aluminum deadend strain clamps can be installed on energized conductors using hot sticks.

The recommended torque on the U-bolts is 1/2" – 40 in-lb.

3. Industry Standards

Aluminum deadend strain clamps shall meet the applicable requirements of the following industry standards:

ANSI/NEMA C29.2B-2013; American National Standard for Insulators—Wet Process Porcelain and Toughened Glass—Transmission Suspension Type

ASTM A47/A47M-99(2014); Standard Specification for Ferritic Malleable Iron Castings

ASTM A153/A153M-05; Standard Specification for Zinc Coating (Hot Dip) on Iron and Steel Hardware

ASTM A313/313M-13; Standard Specification for Stainless Steel Spring Wire

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4. Requirements

Aluminum deadend strain clamps and their keepers shall:

- Be made of 356-T6 cast aluminum alloy or high-strength, heat-treated wrought aluminum alloy.
- Be capable of being installed on an energized conductor before it is cut, without removing keeper piece, bolts, or nuts.
- Be designed to meet the ultimate strengths shown in Table 4, and the dimensions shown in Table 4 and Figure 4a.
- Have smooth surfaces and all edges rounded to prevent formation of corona or damage to the conductor.
- Have a string, or pulling eye, as an integral part of the clamp body.

Each clamp shall have two sets of U-bolts with a nominal diameter of 1/2 inch.

Cotter pins and compression springs shall be made of stainless steel.

All bolts, nuts, washers and button-head pins shall be steel and shall be hot-dipped galvanized in accordance with ASTM A153.

Table 4. Aluminum Deadend Strain, Straight-Line Clamp Attributes

Stock No.	Conductor Size, ACSR (AWG/kcmil)	Conductor Diameter (in)		Ultimate Strength, Min (lb)	Dimensions, Nominal (in)					
		Min	Max		A	B	C	D	E	W
694292	3/0 – 556.5 (18/1)	0.502	0.88	12,000	13-1/2	1	5	5/8	1-1/2	11/16
694294	336.4 – 954 (45/7) Rail	0.666	1.165	15,000	15-1/2	1-1/2	6-3/4	5/8	1-1/2	11/16

Figure 4a. Aluminum Deadend Strain, Straight-Line Clamp

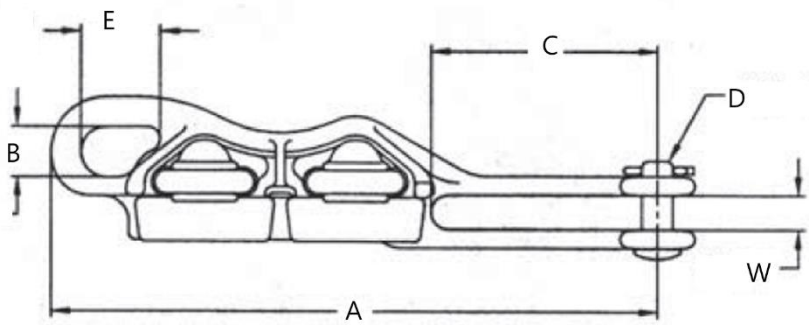
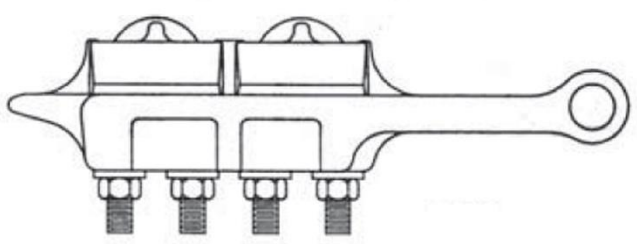


Figure 4b. Side View



5. Marking

Each aluminum deadend strain clamp shall be permanently and legibly marked in raised or stamped letters. Marking shall include but not be limited to the following information:

- Manufacturer name or symbol
- Manufacturer part number
- Clamp ultimate strength

6. Packaging

Product shall be packaged to prevent damage during shipping, handling, and storage.

Aluminum deadend strain clamps shall be shipped assembled.

Standard package quantity shall not exceed 50 per box.

Standard package weight shall not exceed 50 pounds.

Individual packages shall be legibly marked with:

- Manufacturer name
- Manufacturer catalog number
- Product description
- SCL stock number

Shipping containers shall be legibly marked with:

- SCL purchase order number
- SCL stock number

7. Issuance

Stock Unit: EA

8. Approved Manufacturers

Stock Number	Approved Manufacturers	
	MacLean Power Systems	Hubbell Power Systems
694292	ASO-858-2-N	ASOD8582N
694294	ASO-1259-2-N	-

9. References

SCL Material Standard 5825.90; "Cotter Pin, Humpback, Stainless Steel"

SCL Material Standard 6942.2 (canceled); "Clamps, Aluminum Deadend Strain Straight-Line, Hot-Line Operable"

10. Sources

Wang, Quan; SCL Standards Engineer and originator of 6939.22
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www.hubbellpowersystems.com

www.macleancleanpower.com