

Clamps, Ductile Iron, Suspension



1. Scope

This standard covers the requirements for forged steel and ductile iron suspension clamps.

Ductile iron suspension clamps consist of a body, a keeper (a metal piece that sandwiches the conductor to the body of the clamp), a button-head pin, a socket eye, a cotter pin, and fastening hardware.

This standard applies to Seattle City Light (SCL) Stock No. 695015.

2. Application

Ductile iron suspension clamps are used for ground wire applications with galvanized steel cable or static wire. These clamps may be used for either distribution or transmission construction with copper conductor or Copperweld® phase conductors; however, magnetic induction heating will occur.

The socket eye fitting on the deadend clamp may be used with Class 52-3 or 52-5 insulators per ANSI C-29.2B.

Recommended torque on U-bolts: 1/2-in – 40 ft-lb., 5/8-in – 60 ft-lb.

Aluminum suspension clamps are used to hold all-aluminum, ACSR, or aluminum alloy conductors for angle constructions. Ductile iron and aluminum alloy clamps are not interchangeable.

3. Industry Standards

Ductile iron suspension clamps shall meet the applicable requirements of the following industry standards:

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

ASTM A47; Standard Specification for Ferritic Malleable Iron Castings; 2014 Edition

ASTM A153; Standard Specification for Zinc Coating (Hot Dip) on Iron and Steel Hardware; 2005 Edition

ASTM A536; Standard Specification for Ductile Iron Castings; 2014 Edition

ASTM A711 / A711M; Standard Specification for Steel Forging Stock; 2012 Edition

4. Requirements

Ductile iron suspension clamps and their keepers shall meet the following requirements:

- Be made of ductile iron or forged steel; Ductile iron shall conform to ASTM A536; Forged steel shall conform to ASTM A711
- Be galvanized in accordance with ASTM A153.
- Be designed to meet the ultimate strengths shown in Table 4 and Figure 4.
- Have smooth surfaces and all edges rounded to prevent formation of corona or damage to the conductor.

Socket eyes shall meet the requirements of ANSI/NEMA C29.2B as it applies to ball-and-socket gauge for Class 52-3 insulators.

Socket eyes shall have a nominal length of 2-1/6 inches. See Figure 4, bottom.

Fastening hardware and button-head pin shall be galvanized in accordance with ASTM A153.

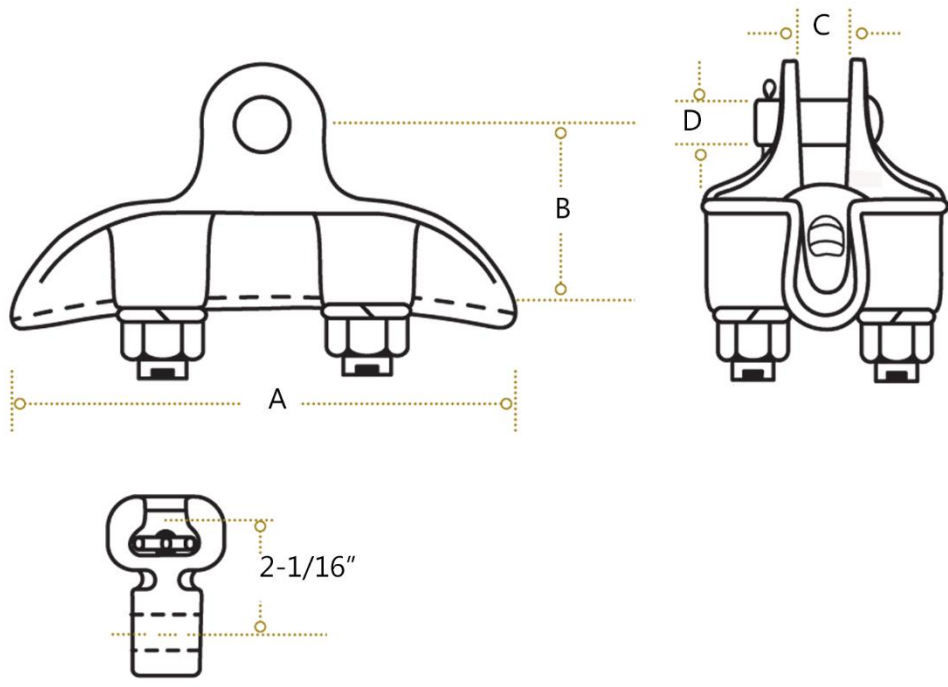
The clamshell shall include two U-bolts with a nominal diameter of 1/2 inch.

A button-head pin shall be provided with cotter pins meeting the applicable requirements of SCL 5825.90.

Table 4. Ductile Iron Suspension Clamp Attributes

Stock No.	Conductor Size Range (AWG/kcmil)	Conductor Diameter (in)		Ultimate Strength (lb)	Max Take-Off Angle (degrees)	Dimensions, Nominal (in)			
		(min)	(max)	(min)		A	B	C	D
695015	2/0 – 500	0.40	0.82	15,000	30	7-1/4	2-1/4	15/16	5/8

Figure 4. Ductile Iron Suspension Clamp



5. Marking

Each fitting 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
- Fitting ultimate strength

6. Packaging

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

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
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7. Issuance

Stock Unit: EA

8. Approved Manufacturers

Stock No.	Line Hardware, Inc.	MacLean Power Systems	Hubbell Power Systems/Anderson
695015	SCF-83-S	FS-83-S	MS-82-S

9. Reference

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

10. Sources

SCL Material Standard 6950.2 (canceled); "Clamps, Malleable Iron Suspension"

Wang, Quan; SCL Standards Engineer and originator of 6940.20
(quan.wang@seattle.gov)

www.hubbellpowersystems.com

www.macleancleanpower.com