



Document Title:

Dead-End Straight-Line Clamp for ACSR & Aluminum Conductor

Document Type:

Specification

Engineering Type

Material Specification

Document No.:

4350.086

Department

Distribution

Version:

03

Effective Date:

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Shared document with: Transmission & Distribution

**Select the Departments impacted by the document*

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Author

Miguel J. Rios López, PE
General Engineer, Distribution Standards & Materials

Signature and Date

Nov 20, 2023

Reviewer

Oscar Venegas, PE
Supervisor, Line Engineering Standards

Signature and Date

[Oscar E Venegas \(Nov 22, 2023 09:35 AST\)](#)

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Reviewer

Rodolfo A. Flores Ortiz, PE
General Engineer, Distribution Standards & Materials

Signature and Date

Nov 22, 2023

Approver

Ricardo Castro Gómez, PE
Manager, Distribution Standards & Materials

Signature and Date

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Management Approval (If apply)

Approver

Name
Position

Signature and Date

N/A

Related/Referenced Documents

N/A

Version History

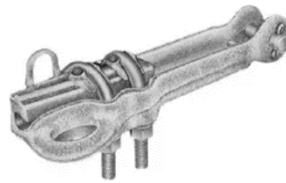
Version	Date	Revision Comments
1	Oct. 04, 2021	PREPA to LUMA Format for Item 002-11524 and 002-14387.
2	Jun. 03, 2022	General Format modifications. Item 002-11524 and Item 002-83038 created.
5	Nov. 22, 2023	General format modifications and document changed as shared between T&D for Item 002-14387.



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Document No.: 4350.086
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Item Version History

Warehouse Catalog #	Asset Suite #	Version	Date
002-83038	83038	2	11/22/2023
002-14387	59055	4	11/22/2023



1. Introduction

This is a general specification that covers the minimum requirements for ACSR and aluminum conductor dead-end straight-line clamps to be used in the distribution and transmission system in Puerto Rico. Further information will be provided by LUMA Energy at the time of order placement and will provide information on site specific conditions, quantity, and other requirements. This document includes the general electrical and mechanical characteristics of the equipment/material.

2. Special Requirements

Samples shall be furnished as requested by LUMA Energy. Vendors that have supplied this equipment/material to LUMA on previous orders, will not have to furnish samples at bid opening. The equipment/material will be received at the LUMA's general warehouse (011) at Palo Seco, Puerto Rico. Shipping will include transportation and unloading at the indicated warehouse.

3. Literature

Descriptive and technical literature must be supplied by the vendor at time of bidding. This literature may include, but is not limited to details of material, drawings, documented testing, and instructions for use and installation. Failure to submit documents on time will cause bidder disqualification. Evidence of LUMA Energy's approval of the equipment/material shall be supplied by the vendor if requested by LUMA Energy.

4. Markings

- 4.1. Containers shall be marked outside with LUMA Energy's purchase order and item number.
- 4.2. Packaging labels and tags shall be waterproof.

5. Compatible with

- 5.1. For compatible manufacturers and models see Table 1.
- 5.2. These models are examples of the equipment/material described in this document and do not represent a preference. LUMA will evaluate equally any model not listed here during any acquisition event.

6. Packaging

All equipment/material shall be packaged and marked in such a way as to facilitate handling and protection from damage and that the receiving warehouse can readily identify it and send it, in one complete unit, to a field location without opening crates or boxes to sort items and/or parts.

7. Number Per Package (Logistics)

7.1. Fifteen (15) units per box for item 1 or as requested by LUMA.

7.2. Ten (10) units per box for item 2 or as requested by LUMA.

8. Acceptance Criteria

8.1. Test required: certified by external laboratories.

8.2. Latest applicable codes, standards, and other regulations: Aluminum Association.

1. ANSI C119.4: Electric connectors for use between aluminum-to-aluminum and aluminum-to-copper conductors designed for normal operation at or below 93°C and copper-to-copper conductors designed for normal operation at or below 100°C.
2. ASTM A153: This specification covers zinc coatings applied by the hot-dip process on iron and steel hardware.

9. Description

9.1. This is used for clamping and tension mounting on ACSR and aluminum conductors.

9.2. The dead-end straight-line clamp shall have the following characteristics:

- a. For clamping range, measures, and U-bolts see table 1.
- b. Body and Keeper: heat treated, high strength, cast aluminum alloy.
- c. Pulling eye shall be designed to accommodate come-along hook or shackle.
- d. Shall have clevis at one end of clamp to provide for mounting and installation.
- e. Hardware: hot-dip galvanized steel in accordance with ANSI/ASTM A153.
- f. Cotter Pin: stainless-steel (302).
- g. Ultimate Strength: 15,000 lbf (66.7 kN) for each clamp.

9.3. Clamping range and ultimate strength information shall be stamped on the clamp body.

10. Inspection

The acceptance of any equipment/material shall in no way relieve the vendor from his responsibility to meet all the requirements of this specification, and it would not prevent subsequent rejection if such equipment/material were found later to be defective.

11. Proposal Information

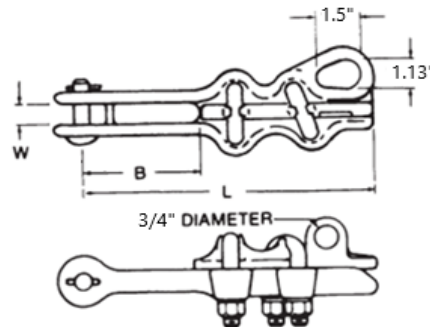
11.1. Submitted proposals must include:

- a. Technical information
- b. Table of Compliance completed by the bidder with reference (see Appendix 1).

12. Table 1: Warehouse and Asset Suite Identification Number

Item	Warehouse Catalog #	Asset Suite #	Clamping Range	Approximate Dimensions (L, B, W)	U-Bolts	Suggested Manufacturer & Model
1	002-83038	83038	#2 AWG - 900 MCM (0.31" - 1.16")	10.5", 5.5", 1" (26.7, 14.0, 2.5 cm)	2 - 1/2" (2 - 1.27 cm)	Hubbell (ADS116N)
2	* 002-14387	59055	336.4 - 1590 MCM (0.72" - 1.55")	11.75, 6.00, 1" (29.8, 15.2, 2.4 cm)	2 - 5/8" (2 - 1.59 cm)	Hubbell (ADS155N) MacLean (ASD-69-N)

* The item 002-14387 is also used in the 38kV transmission system.



— End of Specification —



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Appendix



Appendix 1: Table of Compliance

Line	Criteria	Description	Pass/Fail (P / F)	Comments
1	Specification	The Proponent complies with the corresponding specification document (4350.086).		
2	Industry Standards	The Proponent complies with the industry standards established in the specification document. (ANSI/ASTM, AA)		
3	Material	Hardware: hot dip galvanized as per ASTM A153.		
		Body & Keeper: high strength cast aluminum		
		Cotter Pin: stainless steel 302		
4	Product Requirements	Suitable for ACSR & Aluminum conductors.		
		Suitable for come-along hook or shackle.		
5	Minimum Ultimate Strength	15,000 lbf. Shall be stamped on clamp body.		
6	Clamping Range & U-Bolts	Shall be stamped on clamp body. • 002-83038: 2 AWG - 900 MCM with two 1/2" U-Bolts. • 002-14387: 336.4 - 1590 MCM with two 5/8" U-Bolts.		
7	Approximate Measures	• 002-83038: 10.50" X 5.15" X 1.00" • 002-14387: 11.75" X 6.00" X 1.00"		











4350.086 Dead End Straight Line Clamp, ACSR & AI (11-22-23)

Final Audit Report

2023-11-22


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