| | Documer Wedge | nt Title: Stirrup Connectors | | | |
|---|------------------|--|---------------------------------|---------------|--|
| People first. Safety always. | Documer | nt Type: | Engineering Type | Document No.: | |
| | Specification | | Material Specification 4350.357 | | |
| Department: | Version: | | Effective Date: | | |
| Distribution Engineering | 01 | | May 30, 2025 | | |
| | | | | | |
| For others, specify here | | | | | |
| Shared document with: Transmission Transmission | | | | | |
| * Select the Departments impacted by the document (If apply) | | For others, specify here | | | |
| | | | | | |
| Author | | Signature and Date: | | | |
| Miguel J. Rios Lopez, PE (Lic. 16636) | | Vie Mar | May 29, 2 | 2025 | |
| General Engineer, Distribution Standards & Materials | | 1 4/ 48 | | | |
| Reviewer | | Signature and Date: | | | |
| Rodolfo A. Flores Ortiz, PE (Lic. 27131) Senior Engineer, Distribution Standards & Materials | | May 29, 2025 | | 2025 | |
| Reviewer | | Signature and Date: | | | |
| Oscar Venegas, PE (Lic. 23125) | | Ŭ, | M 20.4 | 2005 | |
| Supervisor, Line Engineering Standards | | Ozen Elingen May 30, 2025 | | 2025 | |
| Approver | | Signature and Date: | | | |
| Ricardo Castro Gómez, PE (Lic. 12135) | | May 30, 2025 | | | |
| Manager, Distribution Standards & Materials | | \mathcal{L} | | | |
| Management Approval (If apply) | | | | | |

Management Approval (If apply)

| Approver | Signature and Date: |
|----------|---------------------|
| Name | |
| Position | |

Related/Referenced Documents

N/A

Version History

| Version | Date | Revision |
|---------|--------------|---|
| | | Initial release for Items 002-87515, 002-87516, 002-87517, 002-87518, 002-87519, and 002-87520. Items |
| 01 | May 29, 2025 | 002-81960 and 002-81958 were transferred from document 4752.213 and 4752.214, respectively. This |
| | | document supersedes documents 4752.213 and 4752.214. |





Document Title: Wedge Stirrup Connectors Document No.: 4350.357 Department: Distribution Engineering

Item Version History

| Warehouse Catalog # | Asset Suite # | Version | Date |
|---------------------|---------------|---------|------------|
| 002-87515 | 87515 | 1 | 05/29/2025 |
| 002-87516 | 87516 | 1 | 05/29/2025 |
| 002-87517 | 87517 | 1 | 05/29/2025 |
| 002-87518 | 87518 | 1 | 05/29/2025 |
| 002-87519 | 87519 | 1 | 05/29/2025 |
| 002-81960 | 81960 | 2 | 05/29/2025 |
| 002-87520 | 87520 | 1 | 05/29/2025 |
| 002-81958 | 81958 | 2 | 05/29/2025 |







1. Introduction

This is a general specification that covers the minimum requirements for Wedge Stirrup Connectors to be used in the distribution 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 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 LUMA's general warehouse (011) at Palo Seco, Puerto Rico. Shipping will include transportation and unloading at the indicated warehouse.

3. Literature

- 3.1. Descriptive and technical literature must be supplied by the vendor at time of bidding. This literature must include, but is not limited to, details of material, drawings, documented testing, and instructions for use and installation. The literature must be an official document from and certified by the manufacturer. Failure to submit documents on time and duly certified by the manufacturer will cause bidder disqualification.
- 3.2. If required by LUMA, final drawings and documentation shall be submitted by the vendor before the manufacturing and shipping process for approval.

4. Compatible with

For compatible manufacturer and model see Table 1. 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.





5. Markings

- 5.1. Containers shall be marked outside with LUMA Energy's purchase order and item number.
- 5.2. Individual package(s) shall be clearly marked with manufacturer name and item information (part number, serial number, quantity, etc.).
- 5.3. Packaging labels and tags shall be waterproof.

6. Packaging

- 6.1. 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.
- 6.2. A list of all parts included in the container and/or package must be provided at the delivery time so the receiving personnel can verify that everything requested is present, avoiding any delay in the receiving process.

7. Number Per Package (Logistics)

Standard package: Ten (10) per box or as requested by LUMA.

8. Acceptance Criteria

- 8.1. Test required: certified by external qualified laboratories.
- 8.2. Product shall be manufactured in accordance with the latest issue below (section 8.3). When conflicts occur between purchaser's specifications and the latest issue below, the purchaser's specification shall prevail.
- 8.3. Latest applicable codes, standards, and other regulations:
 - a. ANSI C119.4-Class 3: The standard covers electrical and mechanical requirements for connectors used in tests to establish performance characteristics of connectors used to join aluminum-to-aluminum, aluminum-to-copper, or copper-to-copper bare and insulated conductors.
 - b. RUS accepted
- 8.4. If any other standard different from the ones indicated in this document is used, the supplier must provide information showing compatibility with the required ones.





9. Description

- 9.1. Wedge stirrup used for tap connections which must be removed and reinstalled frequently.
- 9.2. Shall be suitable for aluminum and copper conductors.
- 9.3. The spring "C" member and wedge must be made of aluminum alloy with high ductility and electric conductivity.
- 9.4. The wedge connector must come with a bail attached to one side of the connector.
- 9.5. The bail shall be made of tin-plated copper.
- 9.6. The wedge connector must come from factory with oxide inhibitor applied to the spring "C" member groove and to the wedge groove.
- 9.7. The connector shall be color-coded for easy selection by the installer and must have a permanent mark indicating the wire size range and manufacturer name.
- 9.8. The connector must include the correct propellant cartridge or power booster for installation.
 - a. The propellant and/or booster shall be composed of a primer and powder charge housed in a polyethylene waterproof cartridge.
 - b. Shall be color-coded to identify the correct application.
- 9.9. For Run size, Bail size, Color Code, and Conductor Range see Table 1.

10. Inspection

- 10.1. Upon inspection of incoming equipment/material, the purchaser reserves the right to refuse product shipments and to determine the acceptability or rejection of the product received. The supplier shall be liable for all costs incurred for a product that is rejected.
- 10.2. 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/materials were found later to be defective.

11. Proposal Information

- 11.1. Submitted proposals must include:
 - a. Technical information, drawings, and tests.
 - b. Table of Compliance completed by the bidder with reference (see Appendix 1).





12. Table 1: Warehouse and Asset Suite Identification Number

| | | Deckere | ACSR, AAAC & CU Conductors | | | Compatible Manufacturer & Model | |
|------------------------|------------------|--------------------------|---|------------------------------|---------------|--|--|
| Warehouse Catalog # | Asset Suite # | Package (Qty/ Box) | Run Conductor Range [Max OD - Min OD] in. | Tap Bail Size [OD] in. | Color Code | Burndy (Wejtap) + Power Booster | TE Connectivity (AMPACT) + Propellant Cartridge |
| 002-87515 | 87515 | | 6 AWG ACSR & CU | 2 AWG | White* | WSS1 PB^ | 602585* |
| | | | [0.204 - 0.162] | [0.250] | Red^ | | |
| 002-87516 | 87516 | | 4 - 2 AWG ACSR & CU | 2 AWG | White* | WSS2 PB^ | 602586* |
| 002-87 510 | 87 510 | | [0.325 - 0.206] | [0.250] | Red^ | | |
| 002-87517 | 87517 | | 1 - 2/0 AWG ACSR & CU 123.3 MCM AAAC | 2 AWG | Blue | WSM1 PB | 600464 |
| | | | [0.447 - 0.325] | [0.250] | | | |
| 002-87518 | 002-87518 87518 | | 3/0 - 4/0 AWG ACSR & CU 195.7 MCM AAAC | 2/0 AWG | Blue | WSM4 PB | 602173 |
| | | | [0.563 - 0.460] | [0.375] | | | |
| 002-87519 875 | 87519 | 10 | 266.8 MCM ACSR 300 MCM CU | 1/0 AWG | Blue | WSM6 PB | 602201 |
| | | | [0.642 - 0.537] | [0.324] | | | |
| 002-81960 | 81960 | | 336.4 MCM ACSR 394.5 MCM AAAC 300 MCM CU | 1/0 AWG | Yellow | WSL1 PB | 600474 |
| | | [0.726 - 0.603] | [0.324] | | | | |
| 002-87520 | 87520 | | 397.4 - 477 MCM ACSR 465.4 MCM AAAC | 2/0 AWG | Yellow | WSL5 PB | 602143 |
| | 0.520 | | [0.862 - 0.722] | [0.375] | | | |
| 002-81958 | 81958 | | 556.5 MCM ACSR 652.4 MCM AAAC | 1/0 AWG | Yellow | WSL7 PB | 602104 |
| | | | [0.927 - 0.846] | [0.324] | | | |

—End of Specification —





Appendix





Appendix 1: Table of Compliance

| Line | Description | Pass/Fail | Comments |
|------|---|-----------|----------|
| 1 | Complies with document 4350.357. | | |
| 2 | Industry Standards: ANSI C119.4-Class3 | | |
| 3 | Tech. info., drawings, and tests provided. | | |
| 4 | Wedge Stirrup Connector | | |
| 5 | Suitable for AL and CU conductors. | | |
| 6 | Aluminum alloy wedge and "C" member. | | |
| 7 | Tin-Plated Copper Bail | | |
| 8 | Oxide inhibitor applied from factory. | | |
| 9 | Color coded connector with conductor range and manufacturer marked. | | |
| 10 | Propellant cartridge and/or power booster included. Also color coded. | | |
| 11 | Conductor Range and Run & Bail Size as per Table 1. | | |

NOTE: This table is only a checklist for reference. The compliance must be with the complete document. Filling out the table with "PASS" won't be accepted as a compliance without the technical information required to certify it.



4350.357 Wedge Stirrup Connectors (5-29-25)

Final Audit Report

2025-05-30

| Created: | 2025-05-29 |
|-----------------|---|
| By: | Miguel Rios (miguel.rioslopez@lumapr.com) |
| Status: | Signed |
| Transaction ID: | $CBJCHBCAABAATM1ATgjKAk-TZsTM8hnlRbUmGuMZf_rN$ |

"4350.357 Wedge Stirrup Connectors (5-29-25)" History

- Document created by Miguel Rios (miguel.rioslopez@lumapr.com) 2025-05-29 - 1:52:03 PM GMT
- Document emailed to Miguel Rios (miguel.rioslopez@lumapr.com) for signature 2025-05-29 1:52:08 PM GMT
- Document e-signed by Miguel Rios (miguel.rioslopez@lumapr.com) Signature Date: 2025-05-29 - 1:52:52 PM GMT - Time Source: server
- Document emailed to Rodolfo Flores (rodolfo.floresortiz@lumapr.com) for signature 2025-05-29 1:52:53 PM GMT
- Email viewed by Rodolfo Flores (rodolfo.floresortiz@lumapr.com) 2025-05-29 - 1:53:47 PM GMT
- Document e-signed by Rodolfo Flores (rodolfo.floresortiz@lumapr.com) Signature Date: 2025-05-29 - 1:55:19 PM GMT - Time Source: server
- Document emailed to Oscar Venegas (oscar.venegas@lumapr.com) for signature 2025-05-29 1:55:21 PM GMT
- Email viewed by Oscar Venegas (oscar.venegas@lumapr.com) 2025-05-30 - 6:05:59 PM GMT
- Document e-signed by Oscar Venegas (oscar.venegas@lumapr.com) Signature Date: 2025-05-30 - 6:06:45 PM GMT - Time Source: server
- Document emailed to Ricardo Castro (ricardo.castro@lumapr.com) for signature 2025-05-30 6:06:47 PM GMT
- Email viewed by Ricardo Castro (ricardo.castro@lumapr.com) 2025-05-30 - 6:15:33 PM GMT

Adobe Acrobat Sign

Document e-signed by Ricardo Castro (ricardo.castro@lumapr.com) Signature Date: 2025-05-30 - 6:15:58 PM GMT - Time Source: server

Agreement completed. 2025-05-30 - 6:15:58 PM GMT