



Document Title:
Aluminum-Compression Connectors, Figure 3 Shape

Document Type: **Material Specifications** Document No.: **4350.093**

Originating Department: **Distribution Standards & Materials** Version: **1** Effective Date: **Aug 17, 2023**

Shared documents: T&S T&D T&TM D&TM Luma Engineering

| | | |
|---|--|-----------------------------|
| Author Miguel J. Rios López, PE General Engineer, Distribution Standards & Materials | Signature | Date Aug 15, 2023 |
| Reviewer Rene Maldonado, PE Supervisor, Line Engineering Standards | Signature Rene Maldonado (Aug 16, 2023 08:24 EDT) | Date Aug 16, 2023 |
| Reviewer Rafael Torres Martínez, PE Supervisor, Distribution Standards & Materials | Signature | Date Aug 16, 2023 |
| Approver Ricardo Castro Gómez, PE Manager, Distribution Standards & Materials | Signature | Date Aug 17, 2023 |

Document History

| Date | Revision Comments |
|---------------|---|
| Dec. 02, 2021 | PREPA to LUMA format for Items 002-08363, 002-08371, 002-08389, 002-09569, and 002-10039. |
| Jul. 14, 2022 | General format modifications. Items 002-83025 and 002-83026 created. |
| Aug. 14, 2023 | General format, Table 1, and TOC modifications. Document changed as shared between T&D for 002-08363. |

| Warehouse Catalog # | Version | Date |
|---------------------|---------|------------|
| 002-10039 | 7 | 08/14/2023 |
| * 002-08363 | 8 | 08/14/2023 |
| 002-08389 | 8 | 08/14/2023 |
| 002-83025 | 2 | 08/14/2023 |
| 002-08371 | 7 | 08/14/2023 |
| 002-83026 | 2 | 08/14/2023 |
| 002-09569 | 7 | 08/14/2023 |



Equipment Specification

Document No.: 4350.093

Originating Department: Distribution Engineering



Aluminum Compression Connectors, Figure 3 Shape

1. Introduction

This is a general specification that covers the minimum requirements for aluminum compression connectors 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. For products described in this specification as requiring qualification, awards will be made only for such products that, prior to the time for opening of bids, had been tested and/or approved by LUMA Energy. Evidence of PREPA's and/or 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 manufacturer and model 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.



Document No.: 4350.093

Originating Department: Distribution Engineering

Aluminum Compression Connectors, Figure 3 Shape

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. Standard package: Fifty (50) units per box or as requested by LUMA Energy.

8. Acceptance Criteria

8.1. Test required: certified by external laboratories.

8.2. Latest applicable codes, standards, and other regulations: ANSI/NEMA

9. Description

9.1. The compression line tap connector is used to tap or splice combination of copper, aluminum, and ACSR conductors in overhead distribution lines.

9.2. The connector must accept combinations of aluminum to aluminum, and aluminum to copper conductors.

9.3. Each unit shall be clearly and permanently marked with model number, run conductor size range, tap conductor size range, and installation die index number. Must have indications which show the installer the correct number of crimps and the spacing required.

9.4. Shall be furnished with an adjustable spacer that separates conductors.

9.5. Shall be furnished pre-filled with an oxide inhibiting compound.

9.6. To be installed with standard tooling such as Burndy MD6/7 and Y45. Die index as per Table 1.

9.7. Conductor range as per Table 1.

9.8. H-Type compression connectors will not be accepted.



Document No.: 4350.093
 Originating Department: Distribution Engineering

Aluminum Compression Connectors, Figure 3 Shape

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

| Items | Warehouse Catalog # | Asset Suite # | Compatible Manufacturer | Model | Length | Conductor Size Range | | Die Index / Die Set |
|-------|---------------------|---------------|-------------------------|----------|--------------------|--------------------------------------|--------------------------------------|---------------------|
| | | | | | | Stranded | ACSR | |
| 1 | 002-10039 | 55897 | Burndy | YP2U3 | 1.50" (3.8 cm) | Grove A: #6-#4 Grove B: #6-#4 | Grove A: #6-#4 Grove B: #6-#4 | O WO, UO |
| 2 | * 002-08363 | 54248 | Burndy | YP26AU2 | 1.50" (3.8 cm) | Grove A: #2-2/0 Grove B: #6-#2 | Grove A: #2-1/0 Grove B: #6-#2 | O WO, UO |
| 3 | 002-08389 | 54250 | Burndy | YP27AU2 | 1.625" (4.1 cm) | Grove A: 2/0-3/0 Grove B: #2 | Grove A: 1/0-2/0 Grove B: #2-#4 | D3 MD6, UD3 |
| 4 | 002-83025 | 83025 | Burndy | YP27AU26 | 1.625" (4.1 cm) | Grove A: 2/0-3/0 Grove B: 1/0-2/0 | Grove A: 2/0 Grove B: #1-2/0 | D3 MD6, UD3 |
| 5 | 002-08371 | 54249 | Burndy | YP25U25 | 1.625" (4.1 cm) | Grove A: 1/0-2/0 Grove B: 1/0-2/0 | Grove A: 1/0 Grove B: 1/0 | D3 MD6, UD4 |
| 6 | 002-83026 | 83026 | Burndy | YP28U2 | 1.625" (4.1 cm) | Grove A: 4/0 Grove B: #4-#2 | Grove A: 3/0-4/0 Grove B: #4-#2 | D3 MD6, UD3 |
| 7 | 002-09569 | 56676 | Burndy | YP28U26 | 3.50" (8.9 cm) | Grove A: 4/0 Grove B: 1/0-2/0 | Grove A: 3/0-4/0 Grove B: 1/0-2/0 | D3 MD6, UD3 |

* The item 002-08363 is also used in the 38kV transmission system.

— End of Specification —



Document No.: 4350.093

Originating Department: Distribution Engineering

**Aluminum Compression Connectors,
Figure 3 Shape**

Appendix



Document No.: 4350.093

Originating Department: Distribution Engineering

Aluminum Compression Connectors, Figure 3 Shape

Appendix 1: Table of Compliance

| Line | Criteria | Description | Pass/Fail (P/F) | Comments |
|------|----------------------|---|-----------------|----------|
| 1 | Specification | The Proponent complies with the corresponding specification document (4350.093). | | |
| 2 | Industry Standards | The Proponent complies with the industry standards established in the specification document (ANSI/NEMA). | | |
| 3 | Type | Al compression connector figure 3 shaped | | |
| 4 | Material | Aluminum-Unplated | | |
| 5 | Product Requirement | For aluminum-to-aluminum, and aluminum-to-copper conductors. | | |
| | | Adjustable overhanging spacer that separates conductors. | | |
| | | Conductor range and tooling information clearly printed on connector and package. | | |
| | | Pre-filled with oxide inhibitor compound and strip sealed. | | |
| 8 | Conductor Size Range | As per Table 1. | | |
| 9 | Die Index | As per Table 1. | | |











4350.093 Aluminum Compression Connectors Figure 3 Shape (8-14-23)

Final Audit Report

2023-08-17


| | |
|-----------------|--|
| Created: | 2023-08-15 |
| By: | Wanda Ocasio (wanda.ocasio@lumapr.com) |
| Status: | Signed |
| Transaction ID: | CBJCHBCAABAA3AdLzY5yTnX-zBJJUzBRMVag4cPv9xOQ |

"4350.093 Aluminum Compression Connectors Figure 3 Shape (8-14-23)" History

-  Document created by Wanda Ocasio (wanda.ocasio@lumapr.com)
2023-08-15 - 8:05:56 PM GMT
-  Document emailed to Miguel Rios (miguel.rioslopez@lumapr.com) for signature
2023-08-15 - 8:08:21 PM GMT
-  Email viewed by Miguel Rios (miguel.rioslopez@lumapr.com)
2023-08-15 - 9:01:37 PM GMT
-  Document e-signed by Miguel Rios (miguel.rioslopez@lumapr.com)
Signature Date: 2023-08-15 - 9:01:50 PM GMT - Time Source: server
-  Document emailed to Rene Maldonado (rene.maldonado@lumapr.com) for signature
2023-08-15 - 9:01:51 PM GMT
-  Email viewed by Rene Maldonado (rene.maldonado@lumapr.com)
2023-08-16 - 12:23:46 PM GMT
-  Document e-signed by Rene Maldonado (rene.maldonado@lumapr.com)
Signature Date: 2023-08-16 - 12:24:07 PM GMT - Time Source: server
-  Document emailed to Rafael Torres-Martinez (rafael.torresm@lumapr.com) for signature
2023-08-16 - 12:24:09 PM GMT
-  Email viewed by Rafael Torres-Martinez (rafael.torresm@lumapr.com)
2023-08-16 - 1:28:46 PM GMT
-  Document e-signed by Rafael Torres-Martinez (rafael.torresm@lumapr.com)
Signature Date: 2023-08-16 - 1:29:15 PM GMT - Time Source: server

 Document emailed to ricardo.castro@lumapr.com for signature


2023-08-16 - 1:29:16 PM GMT

 Email viewed by ricardo.castro@lumapr.com

2023-08-17 - 8:24:38 PM GMT

 Signer ricardo.castro@lumapr.com entered name at signing as Ricardo Castro Gómez

2023-08-17 - 8:25:00 PM GMT

 Document e-signed by Ricardo Castro Gómez (ricardo.castro@lumapr.com)

Signature Date: 2023-08-17 - 8:25:02 PM GMT - Time Source: server

 Agreement completed.

2023-08-17 - 8:25:02 PM GMT