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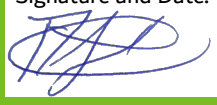
Author Rodolfo A Flores Ortiz, PE (Lic. 27131) Senior Engineer, Distribution Standards and Materials	Signature and Date:  Dec 1, 2025
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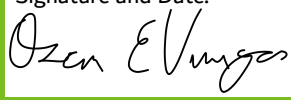
Reviewer Oscar Venegas, PE (Lic. 23125) Supervisor, Line Engineering Design, Standards and Records	Signature and Date:  Dec 2, 2025
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Related/Referenced Documents

N/A

Version History

Version	Date	Revision
01	Dec. 03, 2021	From PREPA to LUMA format for Items 002-01129, 002-01160, 002-01186, 002-01228 & 002-01269.
02	Apr. 13, 2022	General format modifications and Table of Compliance (TOC) added.
03	Aug. 29, 2023	General format modifications, cover page added, and the document were changed as shared between T&D for items 002-01129, 002-01160,002-01186, 002-01228, and 002-01269.
04	Dec. 17, 2024	General format modifications, TOC updated, Sections 3, 4, 8 & 9 modified, and sections order rearranged. Note from Jun. 08, 2023, in the last version (Aug. 29, 2023) where removed (it said "Initial Release" which is an error). The document version was corrected to 04. New Items added (002-86769, 002-86770, 002-86771, 002-86772, and 002-86773).
05	Dec. 01, 2025	General format modification. Added item 002-87873. Changed Document Number (Legacy Number: 4350.102) to new Engineering Records nomenclature number 4300.50.102.

Item Version History

Warehouse Catalog #	Asset Suite #	Version	Date
002-01129	54336	12	12/01/2025
002-01160	54337	12	12/01/2025
002-01186	54338	8	12/01/2025
002-01228	54340	12	12/01/2025
002-01269	54341	9	12/01/2025
002-87873	87873	1	12/01/2025
002-86769	86769	2	12/01/2025
002-86770	86770	2	12/01/2025
002-86771	86771	2	12/01/2025
002-86772	86772	2	12/01/2025
002-86773	86773	2	12/01/2025

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1. Introduction

This is a general specification that covers the minimum requirements for hot dip galvanized (HDG) double arming bolts 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 characteristics of the product.

2. Special Requirements

Samples shall be furnished as requested by LUMA Energy. Vendors that have supplied this product to LUMA on previous orders, will not have to furnish samples at bid opening. The product 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 product 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 products 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 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: Twenty-five (25) units per box or as requested by LUMA Energy. Each unit consists of one (1) bolt with four (4) nuts assembled.

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 C135.1: For zinc-coated steel bolts and nuts.
b. ASTM A 153: For hot dip galvanized coating process.
c. ASME B1.1 class 2: For thread form, series, class, allowance, tolerance, and designation for unified screw threads.
d. ASME B18.2.2: For general and dimensional data of square and hex nuts.

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. Used for double crossarm construction to secure and lock in the spacing between the crossarms.

9.2. Shall be full thread bolts with semi-cone type point at both ends.

9.3. Each bolt shall be furnished with four (4) standard square nuts assembled.

9.4. Bolts and nuts shall be hot dip galvanized steel as per ASTM A153.

9.5. The nuts shall be flat at one end and chamfered at the other end.

9.6. The bolt should be grade A with minimum tensile strength as per Table 1.

9.7. Bolts and nuts dimensions as per Table 1.

10. Inspection

10.1. Upon inspection of incoming product, 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 product 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 products 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

Warehouse Catalog #	Asset Suite #	Bolt & Nut Diameter	Treads Per Inch (TPI)	Bolt Length	Min. Tensile Strength	Compatible Manufacturer & Model
002-01129	54336	5/8" (1.59 cm)	11	16" (40.64 cm)	12,400 lbf (55 kN)	Hubbell (8866) MacLean (J8866)
002-01160	54337	5/8" (1.59 cm)	11	20" (50.80 cm)	12,400 lbf (55 kN)	Hubbell (8870) MacLean (J8870)
002-01186	54338	5/8" (1.59 cm)	11	22" (55.88 cm)	12,400 lbf (55 kN)	Hubbell (8872) MacLean (J8872)
002-01228	54340	5/8" (1.59 cm)	11	26" (66.04 cm)	12,400 lbf (55 kN)	Hubbell (8876) MacLean (J8876)
002-01269	54341	5/8" (1.59 cm)	11	30" (76.2 cm)	12,400 lbf (55 kN)	Hubbell (8878) MacLean (J8878)
002-87873	87873	5/8" (1.59 cm)	11	34" (86.4 cm)	12,400 lbf (55 kN)	Hubbell (PS887934) Maclean (J8880)
002-86769	86769	3/4" (1.9 cm)	10	16" (40.64 cm)	18,350 lbf (81.6 kN)	Hubbell (8886) MacLean (J8886)
002-86770	86770	3/4" (1.9 cm)	10	20" (50.80 cm)	18,350 lbf (81.6 kN)	Hubbell (8890) MacLean (J8890)
002-86771	86771	3/4" (1.9 cm)	10	22" (55.88 cm)	18,350 lbf (81.6 kN)	Hubbell (8892) MacLean (J8892)
002-86772	86772	3/4" (1.9 cm)	10	26" (66.04 cm)	18,350 lbf (81.6 kN)	Hubbell (8896) MacLean (J8896)
002-86773	86773	3/4" (1.9 cm)	10	30" (76.2 cm)	18,350 lbf (81.6 kN)	Hubbell (8898) MacLean (J8898)

Appendix

Appendix 1: Table of Compliance

Line	Description		Pass/Fail (P/F)	Comments
1	Complies with the specification document 4300.50.102.			
2	Industry Standards: ANSI C135.1, ASME (B1.1, B18.2.2) & ASTM A153.			
3	Tech. info. and drawings provided.			
4	HDG as per ASTM A153.			
5	Full thread bolt with semi-cone type point at both ends.			
6	Four (4) square nuts included and assembled on each bolt.			
7	Bolt: Grade A			
8	Nuts: Flat at one end and chamfered at the other end.			
9	Bolts and Nuts dimensions as per Table 1.			
10	TPI	5/8: 11 TPI		
		3/4: 10 TPI		
11	Min. Tensile Strength	5/8: 12,400 lbf		
		3/4: 18,350 lbf		

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.

4300.50.102 Double Arming Bolt, HDG (12-01-25)

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