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Flat Square Washer, Galvanized

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Document History

Date	Revision Comments
Jun. 08, 2023	Initial Release
Aug. 31, 2023	General format, Table 1, and TOC modifications. Item 002-06946 shared with Transmission.

Items	Warehouse Catalog#	Version	Date
1	* 002-06946	6	8/31/2023
2	002-82656	3	8/31/2023
3	002-06961	6	8/31/2023
4	002-82657	3	8/31/2023



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Flat Square Washer, Galvanized

1. Introduction

This is a general specification that covers the minimum requirements for galvanized square washers 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 PREPA / 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 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. Evidence of PREPA's and/or LUMA Energy's approval of the equipment/material shall be supplied by 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 label 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 models not listed here during any acquisition event.

Flat Square Washer, Galvanized

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)

See table 1 or as requested by LUMA.

8. Acceptance Criteria

8.1. Test required: certified by external qualified laboratories.

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

- a. ASME B18.2.2: Standard for the complete general and dimensional data for the various types of inch series square and hex nuts, including machine screw nuts and coupling nuts.
- b. ASTM A29/A29M-16: Standard specification for general requirements for steel bars, carbon, and alloy hot-wrought.
- c. IEEE C135.1: Standard for zinc-coated steel bolts and nuts for overhead line construction.
- d. ASTM A153/A153M or ASTM F2329/F2329M: Standard specification for zinc coating (hot dip) on iron and steel hardware.

9. Description

9.1. Square washers are used in conjunction with machine, double arming, and eye bolts on poles and arms.

9.2. Material must be low carbon steel conforming to ASTM A29/A29M.

9.3. Must be square hot dip galvanized steel as per ASTM A153.

9.4. For sizes (length X width X thickness) and hole diameter see table 1.

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).

Flat Square Washer, Galvanized

12. Table 1: Warehouse and Asset Suite Identification Number

Warehouse Catalog #	Asset Suite #	Item	Hole	Package	Compatible Manufacturer & Model
* 002-06946	57585	2-1/4" x 2-1/4" x 3/16" (5.7 x 5.7 x 0.5 cm)	11/16" (1.7 cm)	9,600/pallet	Hubbell, Catalog # 6813
002-82656	82656	2-1/4" x 2-1/4" x 3/16" (5.7 x 5.7 x 0.5 cm)	13/16" (2.1 cm)	9,600/pallet	Hubbell, Catalog # 6814
002-06961	57586	4" x 4" x 1/4" (10.2 x 10.2 x 0.6 cm)	11/16" (1.7 cm)	1,680/pallet	Hubbell, Catalog # PSC2050828
002-82657	82657	4" x 4" x 1/4" (10.2 x 10.2 x 0.6 cm)	7/8" (2.2 cm)	35/box 1,680/pallet	Hubbell, Catalog # 681812

* Item 002-06946 is also used in the 38kV transmission system.

— End of Specification —

Flat Square Washer, Galvanized

Appendix

Flat Square Washer, Galvanized

Appendix 1: Table of Compliance

Line	Criteria	Description	Pass/Fail (P / F)	Comments
1	Specification	The Proponent complies with the corresponding specification document (4350.120).		
2	Industry Standards	The Proponent complies with the industry standards established in the specification document. (ANSI/ASTM, ASME, IEEE)		
3	Material	<ul style="list-style-type: none">• Low Carbon Steel as per ASTM A29/A29M• Hot Dip Galvanized as per ASTM A153		
4	Shape	Square		
5	Measurements (Length X Width X Thickness)	<ul style="list-style-type: none">• 002-06946: (2-1/4" x 2-1/4" x 3/16"); (11/16" Hole)• 002-82656: (2-1/4" x 2-1/4" x 3/16"); (13/16" Hole)• 002-06961: (4" x 4" x 1/4"); (11/16" Hole)• 002-82657: (4" x 4" x 1/4"); (7/8" Hole)		











4350.120 Galvanized Square Flat Washer (8-31-2023)

Final Audit Report

2023-08-31


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