



Document Title:
Hot Dip Galvanized Flat Washer ½"

Document Type: **Specification** Engineering Type: **Material Specification** Document No.: **4350.111**

Department
Distribution

Version:
03

Effective Date:
Jul 23, 2024

Shared document with: N/A

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Document Title:

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Related/Referenced Documents

N/A

Version History

| Version | Date | Revision Comments |
|---------|---------------|--|
| 01 | Dec. 8, 2021 | Modified from PREPA to LUMA format. |
| 02 | Jun. 14, 2022 | Changed Document History section format. |
| 03 | Jul. 23, 2024 | General format modifications. |



Document Title: Hot Dip
Galvanized Flat Washer ½"
Document No.: 4350.111
Department: Distribution

Item Version History

| Warehouse Catalog # | Asset Suite # | Version | Date |
|---------------------|---------------|---------|------------|
| 002-82932 | 82932 | 03 | 07/23/2024 |



1. Introduction

This is a general specification that covers the minimum requirements for the Hot-Dip Galvanized Flat Washer ½" 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 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 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. If required by LUMA, final drawings shall be submitted by the vendor before the manufacturing and shipping process for approval.

4. Compatible with

For a compatible manufacturer/model, see Table 1. This model is an example of the equipment/material described in this document and does not represent a preference. LUMA will evaluate equally any models 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. Packaging labels and tags shall be waterproof.

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)

Standard Package: Twenty-five (25) units per package 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. ASME B18.21.1: This standard covers the dimensional requirements, physical properties, and related test methods for helical spring-lock washers (#0 through 3 inches), tooth-lock washers (#2 through 1 ¼ inches), and plain washers (#0 through 3 inches).
 - b. ASTM A153/A153M or ASTM F2329/F2329M: These standards cover zinc coatings applied through hot-drip process on iron and steel hardware.
- 8.4. If any other standard different from the ones indicated in this document are used, the supplier must provide information showing compatibility with the required ones.

9. Description

- 9.1. Hot dip galvanized flat washers (1/2") are used to distribute the fasteners load when attaching a strut channel on a riser support assembly.
- 9.2. Shall have the following dimensions:
 - a. 0.562" (14.27 mm) inside diameter.
 - b. 1.375" (34.93 mm) outside diameter
 - c. 0.109" (2.77 mm) thickness
- 9.3. Approximate Weight: 0.0352 lbs. (15.97 g) each
- 9.4. Material: Hot dip galvanized low carbon steel

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/materials were found later to be defective.

11. Proposal Information

11.1. Submitted proposals must include:

- a. Technical information, tests, and drawings.
- 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 # | Compatible Manufacturer & Model |
|-----------------------------------|---------------------|---------------|---------------------------------|
| Hot Dip Galvanized Flat Washer ½” | 002-82932 | 82932 | Fastenal 1133184 |

— End of Specification —



Appendix

Appendix 1: Table of Compliance

| Criteria/Description | | Pass/Fail | Comments |
|-------------------------------|---|-----------|----------|
| Specification | Complies with Specification (Doc. No. 4350.111) | | |
| Industry Standards | ASME B18.21.1 | | |
| | ASTM A153/A153M or ASTM F2329/F2329M | | |
| Requirements | Tech. info., tests & drawings provided | | |
| Item | Flat Washer (1/2") | | |
| Material | Hot dip galvanized low carbon steel | | |
| Approximate Weight | 0.0352 lbs. (15.97 g) each | | |
| Approximate Dimensions | Inside Diameter: 0.562" (14.27 mm) | | |
| | Outside Diameter: 1.375" (34.93 mm) | | |
| | Thickness: 0.109" (2.77 mm) | | |

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











4350.111 Hot-Dip Galvanized Flat Washer 1-2 in (7-23-2024)

Final Audit Report

2024-07-23

| | |
|-----------------|--|
| Created: | 2024-07-23 |
| By: | Alexander Moraza (Alexander.MorazaRamo@Lumapr.com) |
| Status: | Signed |
| Transaction ID: | CBJCHBCAABAAIADYmL-a4tB2gjYImQ4TC-zWQjqNg2FY |

"4350.111 Hot-Dip Galvanized Flat Washer 1-2 in (7-23-2024)" History

-  Document created by Alexander Moraza (Alexander.MorazaRamo@Lumapr.com)
2024-07-23 - 5:22:58 PM GMT
-  Document emailed to Alexander Moraza (Alexander.MorazaRamo@Lumapr.com) for signature
2024-07-23 - 5:23:04 PM GMT
-  Email viewed by Alexander Moraza (Alexander.MorazaRamo@Lumapr.com)
2024-07-23 - 5:23:18 PM GMT
-  Document e-signed by Alexander Moraza (Alexander.MorazaRamo@Lumapr.com)
Signature Date: 2024-07-23 - 5:23:26 PM GMT - Time Source: server
-  Document emailed to Rodolfo Flores (rodolfo.floresortiz@lumapr.com) for signature
2024-07-23 - 5:23:28 PM GMT
-  Email viewed by Rodolfo Flores (rodolfo.floresortiz@lumapr.com)
2024-07-23 - 5:23:40 PM GMT
-  Document e-signed by Rodolfo Flores (rodolfo.floresortiz@lumapr.com)
Signature Date: 2024-07-23 - 5:23:45 PM GMT - Time Source: server
-  Document emailed to Ricardo Castro (ricardo.castro@lumapr.com) for signature
2024-07-23 - 5:23:47 PM GMT
-  Email viewed by Ricardo Castro (ricardo.castro@lumapr.com)
2024-07-23 - 5:28:07 PM GMT
-  Document e-signed by Ricardo Castro (ricardo.castro@lumapr.com)
Signature Date: 2024-07-23 - 5:28:33 PM GMT - Time Source: server

✔ Agreement completed.

2024-07-23 - 5:28:33 PM GMT