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Flat Washers, Stainless Steel 316

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Author Miguel J. Rios López, PE General Engineer, Distribution Standards & Materials	Signature and Date  Jul 21, 2023
Reviewer Rene Maldonado PE Supervisor Line Engineering Standards	Signature and Date  Rene Maldonado (Jul 21, 2023 14:56 EDT) Jul 21, 2023
Reviewer Rafael Torres Martinez PE Supervisor, Distribution Standards & Materials	Signature and Date  Jul 21, 2023
Approver Ricardo Castro PE Manager, Distribution Standards & Materials	Signature and Date  Jul 24, 2023

Document History

Date	Revision Comments
Mar. 18, 2022	Initial Release with item 002-82041.
Aug. 18, 2022	Item 002-83339 created and item 002-82041 dimensions modified.
Mar. 24, 2023	Item 002-84533 created. Cover Page added. TOC and Table 1 models and thickness (items 002-82041 and 002-83339) modified. Document name modified.
Jun. 01, 2023	New Item added (002-84870). Table 1 and TOC modified.
July 21, 2023	Cover page modifications. Document changed as shared between T&D for Items 002-82041 and 002-83339. General format modifications.

Warehouse Catalog	Item Version	Date
002-82041	4	07/21/2023
002-83339	3	07/21/2023
002-84533	2	07/21/2023
002-84870	2	07/21/2023



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Originating Department: Distribution Engineering



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1. Introduction

This is a general specification that covers the minimum requirements for stainless steel flat washers 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 mechanical characteristics of the 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 (O11) 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 LUMA Energy's approval of the equipment/material shall be supplied by the vendor if requested by LUMA Energy.

4. Markings

- 4.1. Packages 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. See Table 1 for compatible supplier and model.
- 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.

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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: as per Table 1 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:

- a. ASME B18.21.1: Standard for dimensional requirements, physical properties, and related test methods for helical spring-lock washers (#0 through 3"), tooth-lock washers (#2 through 1-3/4"), and plain washers (#0 through 3").

9. Description

9.1. Stainless steel flat washers are to be used in mechanical connections with stainless-steel bolts.

9.2. Material: Stainless Steel 316.

9.3. For dimensions, see Table 1 and Figure 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/materials 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).

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12. Table 1: Warehouse and Asset Suite Identification Number

Item	Warehouse Catalog #	Asset Suite #	Bolt Diameter	Approx. Inner Diameter (A)	Outer Diameter (B)	Thickness (C)	Package	Compatible Supplier & Model
1	*002-82041	30378	1/2" (12.7 mm)	0.562" (14.3 mm)	1.25" (31.8 mm)	0.078" (2.0 mm)	25 units	Grainger (item 22UG62) Fastenal
2	*002-83339	83339	5/8" (15.9 mm)	0.688" (17.5 mm)	1.50" (38.1 mm)	0.099" (2.5 mm)	25 units	Grainger (item 22UG65) Fastenal
3	002-84533	84533	3/4" (19.0 mm)	0.781" (19.8 mm)	1.50" (38.1 mm)	0.132" (3.4 mm)	20 units	Grainger (item 22UG67) Fastenal
4	002-84870	84870	3/8" (9.5 mm)	0.406" (10.3 mm)	13/16" (20.6 mm)	0.063" (1.6 mm)	50 units	Grainger (item 22UG57) Fastenal

*Items 002-82041 and 002-83339 are also used in the 38kV transmission system.

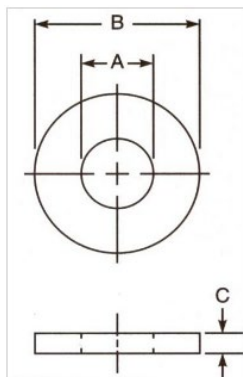


Figure 1

— End of Specification —

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Appendix

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Appendix 1: Table of Compliance

Line	Criteria	Description	Pass/Fail (P/F)	Comments
1	Specification	The Proponent complies with the corresponding specification document (4350.112).		
2	Industry Standards	The Proponent complies with the industry standards established in the specification document (ASTM, ASME).		
3	Material	Stainless Steel 316		
4	Dimensions (1/2": 002-82041)	<ul style="list-style-type: none"> • 0.562" inner diameter • 1.25" outer diameter • 0.078" thickness 		
5	Dimensions (5/8": 002-83339)	<ul style="list-style-type: none"> • 0.688" inner diameter • 1.50" outer diameter • 0.099" thickness 		
6	Dimensions (3/4": 002-84533)	<ul style="list-style-type: none"> • 0.781" inner diameter • 1.50" outer diameter • 0.132" thickness 		
7	Dimensions (3/8": 002-84870)	<ul style="list-style-type: none"> • 0.406" inner diameter • 13/16" outer diameter • 0.063" thickness 		












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Final Audit Report

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