



Document Title:

Hexagonal Nuts, Stainless Steel 316

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Document History

Date	Revision Comments
Jan. 20, 2022	Initial Release with item 002-82038. (Ver. 1)
Mar. 18, 2022	General format modifications (Sections 3, 4, and 7). Table of Compliance (TOC) added. (Ver. 2)
Mar. 30, 2023	Items 002-84574 and 002-84575 created. Cover Page and Table 1 added. TOC and Section 9 modified. Document name modified.
Jun. 01, 2023	New Item added (002-84871). Table 1 and TOC modified. Grainger model for item 002-84575 corrected. Figure 1 added for reference for all items.
Aug. 31, 2023	General format modifications. Document changed as shared between T&D for Item 002-82038.

Items	Warehouse Catalog#	Version	Date
1	* 002-82038	5	8/31/2023
2	002-84574	3	8/31/2023
3	002-84575	3	8/31/2023
4	002-84871	2	8/31/2023



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1. Introduction

This is a general specification that covers the minimum requirements for stainless steel hexagonal nuts 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 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 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.

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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)

7.1. 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 B18.2.2: 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 F594 (18-8): Standard specification for stainless steel nuts.
- c. ASME B1.1, UNC, UNF and UNS, class 2B: Standard for the thread form, series, class, allowance, tolerance, and designation for unified screw threads.
- d. ASTM A380/A380M: Standard practice for cleaning, descaling, and passivation of stainless-steel parts, equipment, and systems.

9. Description

9.1. Stainless steel hexagonal nuts are to be used on mechanical connections with stainless-steel bolts.

9.2. Material: Stainless Steel 316

9.3. Thread Count (TPI) as per Table 1.

9.4. Thickness and Wrench size as per 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

Warehouse Catalog #	Asset Suite #	Diameter and Thread Size	Thickness	Wrench Size	Package	Compatible Manufacturer & Model
* 002-82038	82038	1/2" - 13 TPI	0.437" (11.1 mm)	3/4" (19.0 mm)	25 ea.	Grainger (Item 45NZ83) Fastenal (77714)
002-84574	84574	5/8" - 11 TPI	0.547" (13.9 mm)	15/16" (23.8 mm)	25 ea.	Grainger (Item 45NZ84) Fastenal (77716)
002-84575	84575	3/4" - 10 TPI	0.656" (16.7 mm)	1-1/8" (28.6 mm)	20 ea.	Grainger (Item 45NZ85) Fastenal (77717)
002-84871	84871	3/8" - 16 TPI	0.328" (8.3 mm)	9/16" (14.3 mm)	50 ea.	Grainger (Item 45NZ81) Fastenal (77712)

* Item 002-82038 is also used in the 38kV transmission system

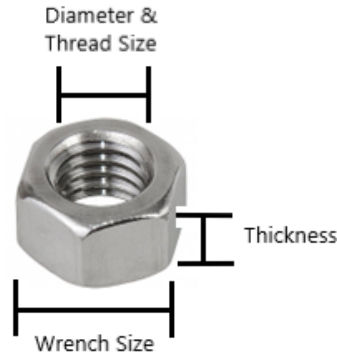


Figure 1

— End of Specification —

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Originating Department: Distribution Engineering

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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 (4350.114).		
2	Industry Standards	The Proponent complies with the industry standards established in the specification document (ASTM, ASME).		
3	Material	Stainless Steel 316		
4	Thickness	<ul style="list-style-type: none"> • 002-82038: 0.437" • 002-84574: 0.547" • 002-84575: 0.656" • 002-84871: 0.328" 		
5	Wrench Size	<ul style="list-style-type: none"> • 002-82038: 3/4" • 002-84574: 15/16" • 002-84575: 1-1/8" • 002-84871: 9/16" 		
6	Bolt Diameter & Threads per inch	<ul style="list-style-type: none"> • 002-82038: 1/2" X 13 TPI • 002-84574: 5/8" X 11 TPI • 002-84575: 3/4" X 10 TPI • 002-84871: 3/8" X 16 TPI 		












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Final Audit Report

2023-08-31

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