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Pin Type Insulator

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Related/Referenced Documents

N/A

Version History

Version	Date	Revision
01	Nov. 22, 2021	Converted from PREPA to LUMA format.
02	April 19, 2022	Modified Section 9 and added Section 11 and Appendix (TOC).
03	June 25, 2025	Document name changed, general format and TOC modifications, sections 3-5, 8, and 9 modified, and sections order rearranged.

Item Version History

Warehouse Catalog #	Asset Suite #	Version	Date
014-02023	57671	6	06/25/2025



1. Introduction

This is a general specification that covers the minimum requirements for the Pin Type Insulator to be 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 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

- 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 manufacturers and models see Table 2 on page 7. 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.

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 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.
- 6.2. A list of all parts included in the container and/or package must be provided at the time of delivery so that the receiving personnel can verify that everything requested is present, avoiding any delay in the receiving process.

7. Number Per Package (Logistics)

Standard package: One unit per box 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. ANSI C29.6: Covers materials, dimensions, physical characteristics, and testing information for high voltage pin insulators.

8.4. If any other standards 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. The pin type insulator is a device that isolates a wire from physical support, such as a pin, on a utility pole. These insulators are used in overhead distribution lines with bare or covered conductors and have a groove on the upper end that serves to keep the conductors in place.

9.2. The neck size/style of the insulator shall be “J”.

9.3. The ANSI class of the insulator shall be 56-1.

9.4. The insulator shall be made of a polymer, specifically a high-density polyethylene-based compound, or an equivalent material.

9.5. The insulator polymer material shall have an additive protecting it from degradation caused by ultraviolet radiation.

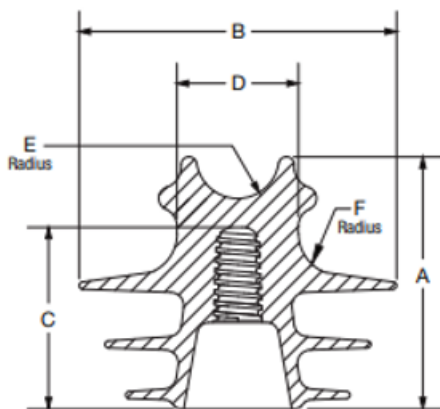
9.6. The insulator shall be suitable for mounting on a 1-inch (25.4 mm) insulator iron pin with a minimum height/length of 6 in. (170.2 mm).

9.7. The insulator shall be compatible with conductors with overall diameters up to 1.5 inches (38.1 mm), including any installed armor rods.

9.8. The minimum cantilever strength of the insulator shall be 3,000 lbs.

9.9. The color of the insulator must be gray.

9.10. Insulator dimensions (inches):



A	6.7
B	7.0
C	4.9
D	3.5
E (Radius)	1.0
F (Radius)	1.0

Note: The insulator does not require the exact measurements indicated above; these values are merely guidelines. However, it is necessary that the insulator bears similar dimensions and/or proportional equivalencies.

9.11. Table 1: Electrical Characteristics

Voltage Rating	25 kV
Positive Impulse Flashover	150 kV
Negative Impulse Flashover	-190 kV
60 Hz Dry Flashover Voltage	95 kV
60 Hz Wet Flashover Voltage	60 kV
Low Frequency Puncture Voltage	130 kV
Leakage Distance	13 in. approx.
Dry Arcing Distance	8.5 in. approx.

10. Inspection

10.1. Upon inspection of incoming equipment/material, 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 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, drawings, and tests.
- b. Table of Compliance completed by the bidder with reference (see Appendix 1).

12. Table 2: Warehouse and Asset Suite Identification Number

Item	Warehouse Catalog #	Asset Suite #	Compatible Manufacturer & Model
Pin Type Insulator	014-02023	57671	PLP (IP-25-J1)

—End of Specification —

Appendix

Appendix 1: Table of Compliance

Criteria	Description	Pass/Fail (P / F)	Comments
Industry Standards	ANSI C29.6 (Shall comply with this standard in terms of electrical, mechanical and dimensional requirements regardless of material, e.g. porcelain, polymer, etc.)		
Insulator Type	Pin Type / Tie Top 56-1, J Neck		
Material	Polymer, specifically high-density polyethylene compound or an equivalent material		
	UV Stabilized		
Features	Suitable for mounting on a 1 in. (25.4 mm) insulator iron pin with a minimum height/length of 6 in. (170.2 mm)		
	Shall be compatible with conductors with overall diameters up to 1.5 in. (38.1 mm), including any installed armor rods		
Electrical Characteristics	Voltage Rating: 25 kV		
	Positive Impulse Flashover: 150 kV		
	Negative Impulse Flashover: -190 kV		
	60 Hz Dry Flashover Voltage: 95 kV		
	60 Hz Wet Flashover Voltage: 60 kV		
	Leakage Distance: 13 in. approx.		
	Dry Arcing Distance: 8.5 in. approx.		
	Low Frequency Puncture Voltage: 130 kV		
Cantilever Strength	3,000 lbs		
Color	Gray		
Conclusion	Complies with Specification (Doc. No. 4350.079)		

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.












4350.079 Pin Type Insulator 06-25-2025

Final Audit Report

2025-06-25

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