



**Equipment Specification**  
**Document No.:** 4350.131  
**Item No.:** 002-13546  
**Asset Suite:** 57691  
**Originating Department:** Distribution Engineering



## Expansion Anchor

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### 1. Introduction

This is a general specification that covers the minimum requirements for expansion anchor 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 mechanical characteristics of the material.

### 2. Special Requirements

Samples shall be furnished as requested by LUMA Energy. Vendors that have supplied this material to PREPA / LUMA on previous orders, will not have to furnish samples at bid opening. The 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. Quantity/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 LUMA Energy's approval of the equipment or 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 labels and tags shall be waterproof.
- 4.3. Each item must be marked with the manufacturer's identification number on the upper portion of the hub.

### 5. Equal or Approved Equal to

- 5.1. Hubbell-Chance – Model: 1283-1
- 5.2. MacLean Power System – Model: J0283-1

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### **6. Packaging**

All material and equipment 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: one (1) unit or as requested by LUMA Energy.
- 7.2. Pallet quantity: thirty-six (36) units
- 7.3. Product weight: 29 lbs. (13.2 kg)

### **8. Acceptance Criteria**

- 8.1. Test required: certified by external laboratories.
- 8.2. Latest applicable codes, standards, and other regulations:
  - a. ASTM A575 - Standard Specification for Steel Bars, Carbon, Merchant Quality, M-Grades.
  - b. ASTM A576 - Standard Specification for Steel Bars, Carbon, Hot-Wrought, Special Quality.
  - c. ASTM A47 - Standard Specification for Ferritic Malleable Iron Castings.
  - d. ASTM A108: Standard Specification for Steel Bar, Carbon, and Alloy Cold-Finished.

### **9. Description**

- 9.1. The expansion anchor is use for mechanical support of pole guy on soil.
- 9.2. Must be an 8-way expanding anchor for a 12 in. (30.48 cm) diameter hole, expansion capability to cover 300 in<sup>2</sup> (1935 cm<sup>2</sup>), and for use with 1 in. (2.54 cm) diameter rod size.
- 9.3. Must be made of steel or malleable iron.
- 9.4. Shall be coated with asphalt paint for protection against electrolysis and corrosion.
- 9.5. Holding power must be not less than values on Table 1.

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9.6. Table 1

Holding Strength Soil Class 3	Holding Strength Soil Class 4	Holding Strength Soil Class 5	Holding Strength Soil Class 6	Holding Strength Soil Class 7
36,000 lbf (16,329 kgf)	34,000 lbf (15,422 kgf)	26,500 lbf (12,020 kgf)	21,500 lbf (9,752 kgf)	16,000 lbf (7,257 kgf)

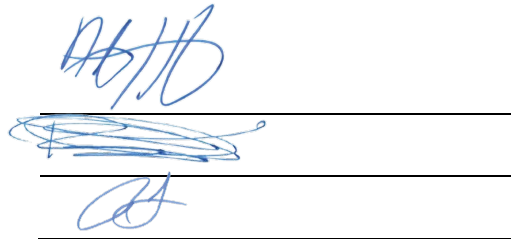
## 10. Inspection

The acceptance of any material or equipment 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 materials were found later to be defective.

— End of Specification —

### Document History

**Version** 1 (5)  
**Date** 4/20/2022  
**Author** Alex J. Rodríguez Rodríguez  
**Reviewer** Rafael Torres  
**Approver Manager** Ricardo Castro



Three horizontal lines with handwritten signatures in blue ink above them. The first signature is 'AJR', the second is 'RT', and the third is 'RC'.

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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 (4350.131)		
2	Industry Standards	The Proponent complies with the industry standards established in the specification document. (ASTM)		
3	Product Requirement	Must be an 8-way, 12 in. (30.48 cm) diameter expansion anchor.		
4	Product Requirement	Expansion anchor must be for use with 1 in. (2.54 cm) diameter rod size.		
5	Material	Expansion anchor must be made of steel or malleable iron coated with asphalt paint.		
6	Product Requirement	Holding capacity must be equal or greater than the following values:		
		Soil Class 3: 36,000 lbf (16,329 kgf)		
		Soil Class 4: 34,000 lbf (15,422 kgf)		
		Soil Class 5: 26,500 lbf (12,020 kgf)		
		Soil Class 6: 21,500 lbf (9,752 kgf)		
		Soil Class 7: 16,000 lbf (7,257 kgf)		