



Document Title:
Cable Support Racks for Manholes

Document Type: **Specification** Engineering Type: **Material Specification** Document No.: **4350.220**

Department
Distribution

Version:
06

Effective Date:
Jul 18, 2024

Shared document with: N/A

**Select the Departments impacted by the document*

For others, specify here

Author

Jose R. Torres Irizarry EIT (Cert. 14613)
Engineer 2, Distribution Standards & Materials

Signature and Date

Jul 18, 2024

Reviewer

Rodolfo A Flores Ortiz, PE (Lic. 27131)
General Engineer, Distribution Standards & Materials

Signature and Date

Jul 18, 2024

Approver

Ricardo Castro Gómez, PE (Lic. 12135)
Manager, Distribution Standards & Materials

Signature and Date

Jul 18, 2024

Management Approval (If apply)

Approver

Name
Position

Signature and Date

N/A

Related/Referenced Documents

N/A

Version History

Version	Date	Revision Comments
5	Apr. 05, 2025	Document created in LUMA format.
6	Jul. 18, 2024	Format corrections, TOC update, Section 4 modified, and sections order rearranged, Engineers license number was added.



Item Version History

Warehouse Catalog #	Asset Suite #	Version	Date
002-11839	11839	6	7/18/2024
002-11862	11862	6	7/18/2024
002-12597	12597	6	7/18/2024



1. Introduction

This is a general specification that covers the minimum requirements for cable support racks for Manholes 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 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 (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. If required by LUMA, final drawings shall be submitted by the vendor before the manufacturing and shipping process for approval.

4. Compatible with

For compatible manufacturer and model see Table 1. 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. 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)

7.1. Standard package: As requested by LUMA Energy.

7.2. See Table 1 for standard package quantity.

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/NEMA/ASTM/ASME

b. UL Listed for glass reinforced polymer.

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. Cable racks for manholes are used to support underground cables on walls.

9.2. The cable racks consist of a stanchion that shall be attached to the manhole wall and adjustable height arms that lock into the stanchion.

9.3. Cable racks stanchions and arms shall be made from 50% glass reinforced nylon or other nonmetallic approved material.

9.4. Must have high load capacity and must be designed to avoid any possible cable damage.

9.5. The stanchion must be of an appropriate length to accommodate the required number of arms to be installed, must have ½ in. diameter recessed bolt mounting holes spaced 8 in. between them and shall incorporate multiple arms mounting holes that are 4 inches apart

9.6. Stanchions must be capable of being mounted on tandem configuration to extend the installation height to accommodate additional support arms.

9.7. Stanchion must include cable tie slot in a way that allows an easy installation of it.

9.8. Each stanchion must include all necessary hardware for installation. Hardware must be Stainless Steel.



- 9.9. The rack arm must provide slots to secure cable wire ties.
- 9.10. Arm must be permanently marked with the following information:
 - a. Manufacturer's name
 - b. Model number
 - c. Date manufactured
- 9.11. Arms must include a locking device to secure it into the stanchion to avoid unwanted disassembling during cable installation.
- 9.12. Support arm dimensions as per Table 1.
- 9.13. The cable racks arm shall meet or exceed the load capacities shown in Table 1.
- 9.14. Table 1:

Warehouse #	Asset Suite #	Description	Length In. (cm)	Rated Load Lbs. (kg)	Deflection In. (mm)	Compatible Manufacturer	Model	Standard Package Carton Box	
								QTY	Weight
002-11839	56569	Stanchion	36 (91.44)			Underground Devices, Inc.	CR36-B	10	40
002-11862	56570	Rack Arm	14 (35.56)	350 (158.76)	0.375 (9.52)	Underground Devices, Inc.	RA14	10	18
002-12597	55814	Rack Arm	20 (50.8)	250 (113.40)	0.234 (5.94)	Underground Devices, Inc.	RA20	10	33

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 2: Warehouse and Asset Suite Identification Number

Item Description	Warehouse Catalog #	Asset Suite #	Compatible Manufacturer	Part #
Stanchion	002-11839	56569	Underground Devices, Inc.	CR36-B
Rack Arm	002-11862	56570	Underground Devices, Inc.	RA14
Rack Arm	002-12597	55814	Underground Devices, Inc.	RA20

— End of Specification —



Appendix

Appendix 1: Table of Compliance

Line	Description	Pass/Fail (P / F)	Comments
1	The Proponent complies with the corresponding specification document (4350.220).		
2	The Proponent complies with the industry standards established in the specification document (ANSI/ASTM).		
3	Tech. info., tests & drawings provided.		
4	Attached to the manhole wall and adjustable height arms that lock into the stanchion		
5	Made from 50% glass reinforced nylon or other nonmetallic approved material		
6	High load capacity and must be designed to avoid any possible cable damage		
7	Have ½ in. diameter recessed bolt mounting holes spaced 8 in. between them and shall incorporate multiple arms mounting holes that are 4 inches apart		
8	<ul style="list-style-type: none"> • Tandem configuration to extend the installation height • Include cable tie slot 		
9	Stainless Steel Installation hardware.		
10	Arm permanently marked with the following information: <ul style="list-style-type: none"> • Manufacturer's name • Model number • Date manufactured 		
11	Locking device to secure it into the stanchion		

NOTE: This table is only a check list 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.











4350.220 Cable Support Racks for Manholes(July 2024)

Final Audit Report

2024-07-18

Created:	2024-07-18
By:	jose torres (JoseR.TorresIrizarr@Lumapr.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAA9Gx-_tdnleO30huC0YIOA3byVWQXRh67

"4350.220 Cable Support Racks for Manholes(July 2024)" History

-  Document created by jose torres (JoseR.TorresIrizarr@Lumapr.com)
2024-07-18 - 1:37:53 PM GMT
-  Document emailed to jose torres (JoseR.TorresIrizarr@Lumapr.com) for signature
2024-07-18 - 1:37:57 PM GMT
-  Email viewed by jose torres (JoseR.TorresIrizarr@Lumapr.com)
2024-07-18 - 1:38:33 PM GMT
-  Document e-signed by jose torres (JoseR.TorresIrizarr@Lumapr.com)
Signature Date: 2024-07-18 - 1:38:40 PM GMT - Time Source: server
-  Document emailed to Rodolfo Flores (rodolfo.floresortiz@lumapr.com) for signature
2024-07-18 - 1:38:41 PM GMT
-  Email viewed by Rodolfo Flores (rodolfo.floresortiz@lumapr.com)
2024-07-18 - 1:40:04 PM GMT
-  Document e-signed by Rodolfo Flores (rodolfo.floresortiz@lumapr.com)
Signature Date: 2024-07-18 - 1:40:56 PM GMT - Time Source: server
-  Document emailed to Ricardo Castro (ricardo.castro@lumapr.com) for signature
2024-07-18 - 1:40:58 PM GMT
-  Email viewed by Ricardo Castro (ricardo.castro@lumapr.com)
2024-07-18 - 2:03:43 PM GMT
-  Document e-signed by Ricardo Castro (ricardo.castro@lumapr.com)
Signature Date: 2024-07-18 - 2:03:50 PM GMT - Time Source: server

✔ Agreement completed.

2024-07-18 - 2:03:50 PM GMT