



Document Title:
15KV Indoor Tape Shield Cable Terminations Stress Cone

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Related/Referenced Documents

N/A

Version History

Version	Date	Revision Comments
01	Jan. 21, 2022	PREPA to LUMA format
02	Jul. 22, 2022	General format revision and Table of Compliance added.
03	Sep. 01, 2022	Compatible models updated.
04	Nov. 07, 2024	General format modifications, TOC updated, Section 4, 8, and 9 modified, and sections order rearranged. Compatible models updated.



Item Version History

Warehouse Catalog #	Asset Suite #	Version	Date
038-01420	55867	8	11/07/2024
038-01412	55866	8	11/07/2024
038-01396	55864	8	11/07/2024
038-01388	55018	7	11/07/2024
038-01370	55017	7	11/07/2024
038-01362	55016	7	11/07/2024



1. Introduction

This is a general specification that covers the minimum requirements for 15 KV indoor cable termination 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 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 1. These models are examples of the equipment/materials described in this document and do not represent a preference. LUMA will evaluate equally any models 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. Package(s) to be delivered to the warehouse shall be clearly marked with manufacturer and item information (part number, serial number, quantity, etc.).

5.3. 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. One (1) unit per package or as requested by LUMA Energy.

7.2. All parts and accessories shall be contained inside the package or box.

8. Acceptance Criteria

8.1. Test required: certified by external 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. IEEE Std 48 - Standard for indoor and outdoor cable terminations.

b. ANSI C119.4 – Standard for cable connectors for aluminum and copper conductors.

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. 15 kV, 95 kV Bil indoor terminator stress cone for copper cable. (See Table 1).

9.2. Single phase indoor termination, vertical operation stress cone 15 kV, 95 kV Bil to be used on 13.2 kV 60 hertz system, stranded copper wire.

9.3. Shall be suitable to be installed in a manhole with elbow connectors, in-line splice, and switching units.

9.4. Cross-linked polyethylene (XLP) insulated, copper tape shielded, semiconducting tape shield and PVC jacketed.

9.5. Shall be easily installed by a sliding movement providing uniform concentric pressure on the (XLP) insulation of the cable.

9.6. Shall be rubber, silicone rubber or ethylene propylene diene terpolymer (EPDM) compound with high electrical and mechanical properties.

9.7. Must be furnished with the proper entrance fitting for the intended cable.

- 9.8. Must have shield adapter or a grounding device with a connector capable of bonding a 1/0 AWG copper grounding wire.
- 9.9. Shall eliminate the need of soldering.
- 9.10. Must include:
 - a. Crimp type connector.
 - b. Stress relief cone.
 - c. Seal tube.
 - d. Metallic tape shield.
 - e. Copper ground lead of adequate size for the intended use.
 - f. Insulating material.
 - g. 2-hole aerial lug connector appropriate for the conductor size indicated in Table 1.
- 9.11. All steel parts must be stainless steel.
- 9.12. Shall be suitable to be installed in a manhole with elbow connectors, in-line splice, and switching units.

10. Inspection

The acceptance of any material or equipment shall in no way relieve the vendor from their 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.

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 1: Warehouse and Asset Suite Identification Number

Description	Conductor Size (Stranded)	Warehouse Catalog #	Asset Suite #	Compatible Manufacturer	Termination Kit #
15 KV Indoor Termination	#2 AWG	038-01420	55867	3M-Cold Shrink	QT II - 5623K*
				Thomas & Betts Elastimold-Ranger2	R2IT15M1-N2220
				TE Connectivity	TFT-151E-G
15 KV Indoor Termination	1/0 AWG	038-01412	55866	3M-Cold Shrink	QT II - 5623K*
				Thomas & Betts Elastimold-Ranger2	R2IT15M1-N2240
				TE Connectivity	TFT-151E-G
15 KV Indoor Termination	2/0 AWG	038-01396	55864	3M-Cold Shrink	QT II - 5624K*
				Thomas & Betts Elastimold-Ranger2	R2IT15M1-N2250
				TE Connectivity	TFT-151E-G
15 KV Indoor Termination	4/0 AWG	038-01388	55018	3M-Cold Shrink	QT II - 5624K*
				Thomas & Betts Elastimold-Ranger2	R2IT15M1-N2270
				TE Connectivity	TFT-151E-G
15 KV Indoor Termination	500 MCM	038-01370	55017	3M-Cold Shrink	QT II - 5625K*
				Thomas & Betts Elastimold-Ranger2	R2IT15M2-N2330
				TE Connectivity	TFT-152E-G
15 KV Indoor Termination	750 MCM	038-01362	55016	3M-Cold Shrink	QT II - 5625K*
				Thomas & Betts Elastimold-Ranger2	R2IT15M4-N2380
				TE Connectivity	TFT-153E-G

*Supplier must provide the appropriate connector as part of the termination kit.

— End of Specification —



Appendix

Appendix 1: Table of Compliance

Line	Description	Pass/Fail	Comments
1	The Proponent complies with the corresponding specification document (4350.182)		
2	The Proponent complies with the industry standards established in the specification document. (IEEE, ANSI)		
3	Tech. info., tests & drawings provided.		
4	Rubber, silicone rubber or EPDM compound with high electrical and mechanical properties		
5	All steel parts must be stainless steel.		
6	Shall be suitable to be installed in a manhole with elbow connectors, in-line splice, and switching units.		
7	15 kV, 95 kV Bil		
8	Must be furnish with the proper entrance fitting for the intended cable.		
9	Must have shield adapter or a grounding device with a connector capable of bonding a 1/0 AWG copper grounding wire.		
10	Accessories <ul style="list-style-type: none"> • Crimp type connector. • Stress relief cone. • Seal tube. • Metallic tape shield. • Copper ground lead of adequate size for the intended use. • Insulating material. • 2-hole aerial lug connector appropriately sized. 		
11	Shall be easily installed by a sliding movement providing uniform concentric pressure on the (XLP) insulation of the cable.		

NOTE: This table is only a checklist 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.











4350.182 15kv indoor tape shield cable termination (11-07-24)

Final Audit Report

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