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Document Title:

15 kV Inline Shielded Cable Splice Kit

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Specification	**Equipment Specification**	**4350.222**

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Related/Referenced Documents

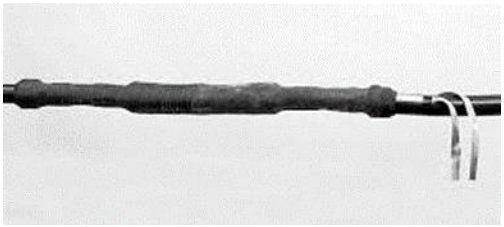
N/A

Version History

Version	Date	Revision
01	Jul. 22, 2022	New specification document created.
02	Jul. 29, 2022	Added Section 9.2. Added this requirement to the Table of Compliance.
03	Jun. 20, 2024	Format corrections, TOC update. Section 4 modified and sections order rearranged.
04	Jul. 02, 2024	Section 8 updated.
05	Jul. 17, 2024	Engineers license number was added.
06	Jun. 20, 2025	General format revision. Correction of reference model for all items. Items versions corrected to version 6.

Item Version History

Warehouse Catalog #	Asset Suite #	Version	Date
038-82826	82826	6	06/20/2025
038-82827	82827	6	06/20/2025



1. Introduction

This is a general specification that covers the minimum requirements for 15 KV inline shielded cable splice kit 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 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. 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. IEEE Std 404: Standard for cable joints and splices.

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

c. AEIC CS8-06n: Standards for XLP and EPR insulated cables.

d. ANSI/ICEA S-94-649-2004, S-97-682-2000: Standards for XLP and EPR insulated cables.

9. Description

9.1. 15 kV, 95 KVBIL, prefabricated, inline straight, single-phase splices for joining tape or wire shielded power cables.

9.2. The splice kit shall be compatible with the following cable combinations:

a. Tape Shield to Tape Shield

b. Tape Shield to Jacketed Concentric Neutral

c. Jacketed Concentric Neutral to Jacketed Concentric Neutral

9.3. To be used in 13.2 KV, 60 Hz system. Conductor sizes as per Table 1.

9.4. The splice body must be made of silicone rubber to provide high dielectric strength.

9.5. Protective jackets must be made of pre-expanded EPDM rubber for physical protection.

9.6. Must be resistant to chemicals.

9.7. Must be furnished with the appropriate copper shearbolt type connector.

9.8. Must have a cable shield adapter or a grounding device at both ends.

9.9. Must provide a fully shield watertight ground takeoff.

9.10. Splice kit must have a cold shrink design.

9.11. Splice kit must include the following:

a. Mechanical shearbolt connector for copper conductor.

b. Shielding sleeve

c. Silicone rubber splice body

d. Adapter tube

e. Pre-expanded EPDM rubber jacket tube

f. Dielectric compound

g. Cable preparation/cleaning kit

h. Mastic sealing strip

i. Mastic tape

j. Constant force spring ground connectors

k. Metallic tape shield

l. Copper ground lead or ground strap of adequate size for the intended use

m. Installation instructions

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

9.12. Table 1: Conductor's Sizes

15 KV Splices Conductor Size Range	Insulation O.D. Range In. (mm)	Conductor Max. Jacket O.D. In. (mm)	Conductor Diameter Range (inches)
#2 – 4/0 AWG	0.64 - 1.01 (16.3 – 25.7)	1.50 (38.1)	#2 - 4/0 AWG (0.283" - 0.512")
500-750 MCM	1.08 - 1.70 (27.4 – 43.2)	2.05 (52.1)	500 - 750 MCM (0.789" - 0.968")

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 1: Warehouse and Asset Suite Identification Number

Item	Warehouse Catalog #	Asset Suite #	Compatible Manufacturer & Model	Splice Kit #	Connector Item #
15 KV #2 – 4/0 AWG Splice	038-82826	82826	3M Cold Shrink	QS4-15SP-QCI-2-4/0-BCA	QCI 2-250
			TE Connectivity Raychem	CSJA-1521M0 with CSJ-EG-4	CSBS-2-250
15 KV 500 – 750 MCM Splice	038-82827	82827	3M Cold Shrink	QS4-15SP-QCI-500-750-BCA	QCI 350-750
			TE Connectivity Raychem	CSJA-1523M3 with CSJ-EG-4	CSBS 350-750

—End of Specification —

Appendix

Appendix 1: Table of Compliance

Line	Description	Pass/Fail	Comments
1	Complies with document 4350.222.		
2	Industry Standards: IEEE 404, ANSI C119.4, AEIC CS8-06n, ANSI S-94-649, S-97-682-2000		
3	Tech. info., drawings, and tests provided.		
4	15 kV Inline Shielded Cable Splice kit		
5	Voltage Class: 15 kV, 60 Hz		
6	Basic Insulation Level: 95kVBil min.		
7	Compatible with cables combinations: • TS to TS • TS to JCN • JCN to JCN		
8	Material: Silicone rubber splice body		
9	Protective jacket must be made of pre-expanded EPDM rubber		
10	Copper shearbolt type splice connector that accept the specified range of conductor's diameters.		
11	Include a cable shield adapter or a grounding device at both ends		
12	It provides a fully shield watertight ground takeoff		
13	Cold shrink design.		
14	Accessories: • Mechanical shearbolt connector for copper conductor. • Shielding sleeve • Silicone rubber splice body • Adapter tube • Pre-expanded EPDM rubber jacket tube • Dielectric compound • Cable preparation/cleaning kit • Mastic sealing strip • Constant force spring ground connectors • Metallic tape shield • Copper ground lead or ground strap • l. Installation instructions		
15	038-82826: 15 KV, #2 – 4/0 AWG, Insulation O. D. Range 0.64 - 1.01 (16.3 – 25.7 mm)		
16	038-82827: 15 KV, 500 – 750 MCM, Insulation O. D. Range 1.08 - 1.70 (27.4 – 43.2 mm)		

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.

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