



Document Title:

Wildlife Protection – Conductor Protector Guard

Document Type:
Specification

Engineering Type
Material Specification

Document No.:
4350.033

Department
Distribution

Version:
06

Effective Date:
Feb 11, 2025

Shared document with: N/A

**Select the Departments impacted by the document*

For others, specify here

Author

Miguel J. Rios Lopez, PE (Lic. 16636)
General Engineer, Distribution Standards & Materials

Signature and Date

Feb 11, 2025

Reviewer

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

Signature and Date

Feb 11, 2025

Approver

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

Signature and Date

Feb 11, 2025

Management Approval (If apply)

Approver

Name
Position

Signature and Date

N/A

Related/Referenced Documents

N/A.

Version History

Version	Date	Revision Comments
01	Nov. 05, 2021	Initial Release
02	Feb. 16, 2022	Sections 3, 4, and 7 edited
03	Nov. 21, 2022	Cover Page and TOC added, Section 9 and Table 1 edited.
04	Oct. 17, 2023	Revision of Section 9.3 and compatible models. General format revision.
05	May 29, 2024	Table #1 revised. Table of Compliance revised. Items 072-86072 and 072-86073 added.
06	Feb. 11, 2025	General format modifications, TOC updated, Sections 3, 4, 5, 6, 8, and 10 modified. Items 072-82377, 072-82378, 072-82379, and 072-82380 removed. Items 072-86913, 072-86914, 072-86915, and 072-86916 added.



Item Version History

Warehouse Catalog #	Asset Suite	Version	Date
072-86072	86072	2	02/11/2025
072-86913	86913	1	02/11/2025
072-86914	86914	1	02/11/2025
072-86915	86915	1	02/11/2025
072-86916	86916	1	02/11/2025
072-86073	86073	2	02/11/2025



1. Introduction

This is a general specification that covers the minimum requirements for the wildlife protection conductor protector guard 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 material.

2. Special Requirements

Samples shall be furnished as requested by LUMA Energy. Vendors that have supplied this 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 (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)

Fifty (50) feet per roll or as requested by LUMA Energy.

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 1656: Guide for testing the electrical, mechanical, and durability performance of wildlife protective devices on overhead power distribution systems rated up to 38 kV.

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. Wildlife protection for conductors to avoid faults due to animals, vegetation, and climate events.

9.2. Characteristics:

a. Shall be overlapping design for conductor coverage.

b. Must be easy to install.

c. Material shall be EPDM or similar in compliance with standard IEEE 1656-2010.

d. Shall be 125 mils thick as minimum.

e. Not for human protection.

f. Shall be able to minimize longitudinal movement along the conductor.

9.3. Minimum Electrical Rating Phase to Ground: 20 kV



9.4. Dimensions:

- a. Length: 50 ft (15.24 m) per roll
- b. Minimum Thickness: 125 mils (3.18 mm)

9.5. The conductors’ protectors shall be able to completely cover the overall diameter of the conductors without the need for additional materials. See Table 1 for conductor range.

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

Warehouse Catalog #	Asset Suite #	Conductor			Conductor OD inch (cm)	Compatible Manufacturer	Model
		ACSR	AAAC	CU			
072-86072	86072	-	-	2 AWG	0.292” (0.74)	Reliaguard	EEL-02503750-50-Y
						PLP	PT-0375-50
072-86913	86913	1/0 AWG	123.3 kcmil	1/0 AWG	0.373” - 0.398” (0.95 - 1.01)	Reliaguard	EEL-03750500-50-Y
						PLP	PT-0625-50
072-86914	86914	3/0 AWG	195.7 kcmil	4/0 AWG	0.502” - 0.532” (1.28 - 1.35)	Reliaguard	EEL-05000750-50-Y
						PLP	PT-0625-50
072-86915	86915	266.8 MCM	394.5 kcmil	300 kcmil	0.630” - 0.721” (1.60 - 1.83)	Reliaguard	EEL-05000750-50-Y
						PLP	PT-0938-50
072-86916	86916	556.5 MCM	652.4 kcmil	-	0.914” - 0.927” (2.32 - 2.35)	Reliaguard	EEL-07501000-50-Y
						PLP	PT-0938-50
072-86073	86073	795 kcmil	927.2 kcmil	-	1.108” (2.81)	Reliaguard	EEL-10001250-50-Y
						PLP	PT-1300-50

— End of Specification —



Appendix



Appendix 1: Table of Compliance

Line	Description	Pass/Fail (P / F)	Comments
1	Complies with the document 4350.033.		
2	Industry Standards: IEEE 1656		
3	EPDM or similar.		
4	Overlapping design for conductor coverage.		
5	Easy to install.		
6	Shall be able to minimize longitudinal movement along the conductor.		
7	Minimum Electrical Rating Phase to Ground: 20 kV		
8	Length: 50 ft per roll		
9	Minimum Thickness: 125 mils		
10	Covers the overall conductor diameter (OD as per Table #1).		

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.











4350.033 Wildlife Protection – Conductor Protector Guard (2-11-25)

Final Audit Report

2025-02-11

Created:	2025-02-11
By:	Miguel Rios (miguel.rioslopez@lumapr.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAAyYVjYIOZcp74EUmoSfcifa0zD17OqgRw

"4350.033 Wildlife Protection – Conductor Protector Guard (2-11-25)" History

-  Document created by Miguel Rios (miguel.rioslopez@lumapr.com)
2025-02-11 - 12:57:20 PM GMT
-  Document emailed to Miguel Rios (miguel.rioslopez@lumapr.com) for signature
2025-02-11 - 12:57:24 PM GMT
-  Document e-signed by Miguel Rios (miguel.rioslopez@lumapr.com)
Signature Date: 2025-02-11 - 12:57:50 PM GMT - Time Source: server
-  Document emailed to Rodolfo Flores (rodolfo.floresortiz@lumapr.com) for signature
2025-02-11 - 12:57:51 PM GMT
-  Email viewed by Rodolfo Flores (rodolfo.floresortiz@lumapr.com)
2025-02-11 - 3:12:38 PM GMT
-  Document e-signed by Rodolfo Flores (rodolfo.floresortiz@lumapr.com)
Signature Date: 2025-02-11 - 3:14:27 PM GMT - Time Source: server
-  Document emailed to Ricardo Castro (ricardo.castro@lumapr.com) for signature
2025-02-11 - 3:14:29 PM GMT
-  Email viewed by Ricardo Castro (ricardo.castro@lumapr.com)
2025-02-11 - 3:48:44 PM GMT
-  Document e-signed by Ricardo Castro (ricardo.castro@lumapr.com)
Signature Date: 2025-02-11 - 3:49:51 PM GMT - Time Source: server
-  Agreement completed.
2025-02-11 - 3:49:51 PM GMT