



**3#6 Aluminum Clad Overhead
Ground Wire**

Equipment Specification
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Originating Dept: Transmission Eng.

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Version History

Version	Date	Revision Comments
00	Jun 14, 2022	First issue.
01	Sep 16, 2023	General revision for final approval



1. General

- 1.1. This is a general specification that covers the minimum requirements for a 3#6 Aluminum Clad overhead ground wire to be used in the distribution system in Puerto Rico.
- 1.2. Further information will be provided by LUMA Energy at the time of order placement and will provide information on the site-specific conditions, quantity, and other requirements. This document includes the general electrical and mechanical characteristics of the material.

2. Specific Name

- 2.1. 3#6 Aluminum Clad Overhead Ground Wire

3. Basic Use

- 3.1. This wire is used in construction and maintenance for overhead shield wire protecting transmission lines against lightning damage.

4. Special Requirements

- 4.1. Samples shall be furnished if requested by LUMA.
- 4.2. All documented testing required by applicable specifications and standards shall be submitted with product samples, including mechanical drawings, prior to approval.
- 4.3. Vendors that have supplied this material to LUMA on previous orders will not have to furnish samples at bid opening.
- 4.4. Product shall be manufactured in accordance with the latest issue ASTM, NEMA, IEEE and ANSI specification.
- 4.5. The product shall be furnished as described here in this specification or as amended by the purchase order.
- 4.6. Vendor shall submit quotes for conductor on steel reel.

5. Marking

- 5.1. Cable reels shall be marked outside with LUMA Energy's purchase order, item number, description of wire & specification date, code name, net length & size, gross & tare weights, and manufacturer's name & lot/production number.

6. Packaging

- 6.1. 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.
- 6.2. Shall be shipped continuously in a non-returnable new reel containing (see section 12 table 1 for package quantity by cable type). Cable won't be accepted by sections.



- 6.3. Reels shall be made of steel with a finishing consisting of a high-pressure hot phosphate wash and bonding agent, zinc chromate-iron oxide primer and final enamel coat to provide the necessary extra durability.
- 6.4. Reels shall be made of chromated-copper-arsenate (CCA).
- 6.5. Reels shall have a minimum arbor hole diameter of 2.5 in (6.35 cm). Each end of cable shall be firmly and properly secured to reel.
- 6.6. Reels shall be protected against damage in ordinary handling and shipping.
 - a) Manufacturer shall protect the upper layers with pieces of wood along the transverse section of reel for cable protection with NEMA Level 2 wrapping of protective material.
 - b) The manufacturer shall protect cable ends from water entrance or damage by means of an adequate seal.

7. Labeling

- 7.1. Packaging labels and tags shall be waterproof.

8. Compatible with:

- 8.1. For compatible manufacturer and model see Section 12 Table 1.
- 8.2. 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.

9. Number per package:

- 9.1. For package see Section 12 Table 1 or as requested by LUMA.

10. Acceptance Criteria

- 10.1. Test required: certified by external laboratories.
- 10.2. Latest applicable codes, standards, and other regulations: ANSI/ASTM (B415, B416).
- 10.3. NEMA Standard Publication No. WC 26 – Binational Wire and Cable Packaging Standard.

11. Description

- 11.1. Shall consist of a concentric lay stranded aluminum bare conductor in accordance with ANSI/ASTM B416 with hard-drawn aluminum-clad wires with steel core in accordance with ANSI/ASTM B415.
- 11.2. For strands, diameter, weight, and strength see table 1.



12. Properties: Warehouse and Asset Suite Identification Number (Table 1)

Item	Warehouse Catalog #	Package	Minimum Ultimate Strength	Strands & Diameters	Overall Diameter	Weight/1000 ft	Compatible Manufacturer & Model
Cable 3 - #6	046-00235	3,400 ft (1 km) per reel	10,280 lbf (45.7 kN)	3 0.1630" each (4.14 mm) each	0349" (8.9 mm)	178.1 lbs (80.8 kg)	AWG
							AFL

13. Inspection

- 13.1. 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 shall not prevent subsequent rejection if such material is found to be defective later.

— End of Specification —











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Final Audit Report

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