

Document Title:
Vibration Dampers for ACSS

Document Type:
50 - MATERIAL SPECIFICATION

Document No.:
4751.50.010

Department:
Transmission Engineering

Version:
01

Effective Date:

Oct 20, 2025

For others, specify here

Shared document with: N/A

*Select the Departments impacted by the document (If apply)

For others, specify here

Author

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

Signature and Date:



Oct 17, 2025

Reviewer

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

Signature and Date:



Oct 17, 2025

Reviewer

Oscar Venegas, PE (Lic. 23125)
Supervisor, Line Engineering Standards

Signature and Date:



Oct 17, 2025

Approver

Reinaldo Barety Huertas, PE (Lic. 16712)
Director Systems Standards and Records

Signature and Date:



Oct 20, 2025

Management Approval (If apply)

Approver

Name
Position

Signature and Date:

Related/Referenced Documents

N/A

Version History

Version	Date	Revision
01	Oct. 17, 2025	Initial release for Items 002-87807, 002-87808, and 002-87809.

Item Version History

Warehouse Catalog #	Asset Suite #	Version	Date
002-87807	87807	1	10/17/2025
002-87808	87808	1	10/17/2025
002-87809	87809	1	10/17/2025

Table of Contents

1. Introduction	4
2. Special Requirements	4
3. Literature	4
4. Compatible with	5
5. Markings	5
6. Packaging	5
7. Number Per Package (Logistics)	5
8. Acceptance Criteria	5
9. Description	6
10. Inspection	7
11. Proposal Information	7
12. Table 1: Warehouse and Asset Suite Identification Number	8
Appendix 1: Table of Compliance	10



1. Introduction

This is a general specification that covers the minimum requirements for vibration dampers to be used in the transmission 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 product.

2. Special Requirements

Samples shall be furnished as requested by LUMA Energy. Vendors that have supplied this product to LUMA on previous orders will not have to furnish samples at bid opening. The product will be received at LUMA's general warehouse (017) 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 product 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 products 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 delivery time so 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 (1) unit per package 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. ASTM A153: For zinc coatings applied by the hot-dip process to iron and steel.
- b. IEEE 664: Guide on the measurement of the performance of aeolian vibration dampers for single 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. Vibration dampers for aluminum conductors steel supported (ACSS) are used in overhead transmission power line constructions and maintenance to prevent damage due to aeolian vibration.

9.2. Shall be compatible with ACSS with operating temperatures up to 250°C (482°F).

9.3. Shall be High-Efficiency Stockbridge Asymmetrical type.

9.4. The complete assembly shall be composed of a 19-strand messenger wire, two different damper weights (asymmetrical) located at both ends of the messenger, and a clamp in the middle. The messenger length must be also asymmetrical. The clamp and the two weights must be factory compressed on the messenger wire for better performance. See figure 1 below as reference.

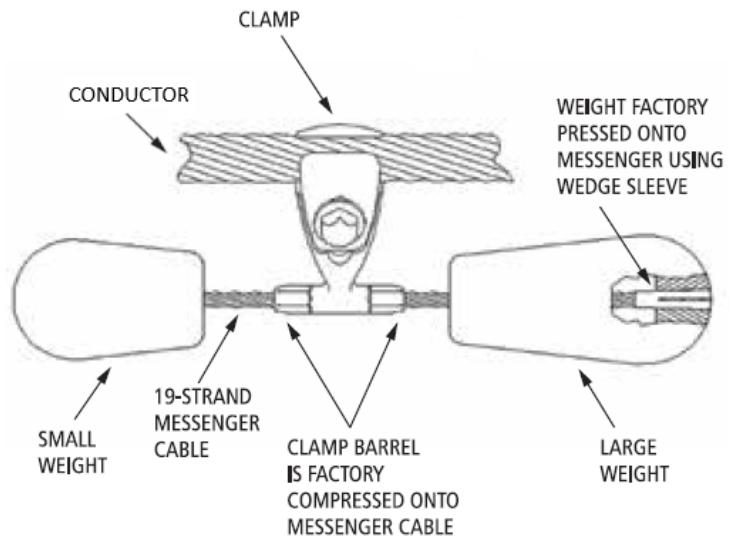


Figure 1

- 9.5. All the edges shall be contoured to reduce corona effect.
- 9.6. The complete assembly shall be designed for corrosion resistance.
- 9.7. Material:
 - a. Messenger Wire: Galvanized Steel.
 - b. Damper Weights: Hot Dip Galvanized Steel or Cast Iron.
 - c. Clamp Body, Keeper, and Bolt: Aluminum Alloy.
- 9.8. For conductor's size and diameter see Table 1.
- 9.9. Approximate clamp dimensions as per Table 1 and Figure 2.
- 9.10. Shall be permanently marked in the body with the manufacturer's name, model, manufacture date, and conductor's size range.

10. Inspection

- 10.1. Upon inspection of incoming products, the purchaser reserves the right to refuse their 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 product 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 products were found later to be defective or out of compliance.

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 Size (Strands)	Code Word	Conductor OD	Clamp Width (C)	Clamp Height (B) (Center to Center)	Compatible Manufacturer & Model
002-87807	87807	266.8 (26/7)	Partridge ACSS	0.642" (1.63 cm)	1.7" (4.32 cm)	3.0" (7.62 cm)	AFL (1704AA-5)
002-87808	87808	556.5 (24/7)	Parakeet ACSS	0.914" (2.32 cm)	2.0" (5.08 cm)	3.5" (8.89 cm)	AFL (1705AA-8)
002-87809	87809	795 (26/7)	Drake ACSS	1.108" (2.81 cm)	2.12" (5.38 cm)	3.78" (9.60 cm)	AFL (1706AA-10)

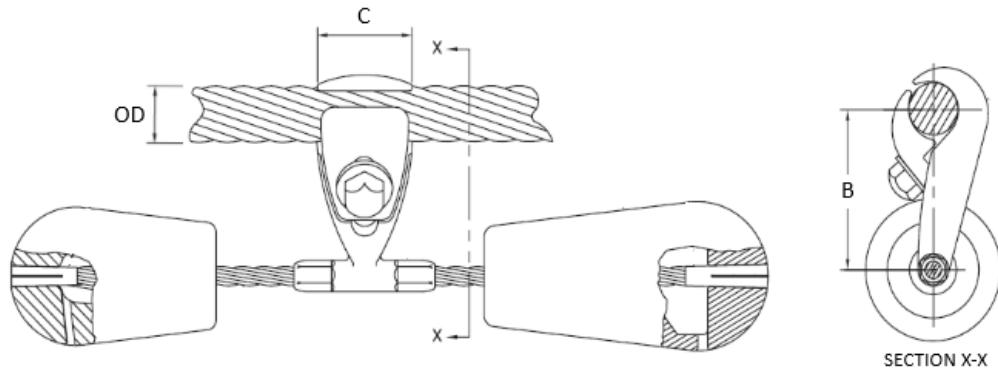


Figure 2

- End of Specification -

Appendix

Appendix 1: Table of Compliance

Line	Description		Pass/Fail (P / F)	Comments
1	Compliance with the document 4751.50.010.			
2	Industry standards: IEEE 664. If different ones are used, information showing compatibility is required.			
3	Tech. info. and drawings provided.			
4	High-Efficiency Stockbridge Asymmetrical type			
5	For ACSS with operating temperatures up to 250°C.			
6	Complete Assembly: 19-strand messenger wire, two different weights, and a clamp with bolt.			
7	Rounded edges.			
8	Complete Assembly (Body & Terminal Pad).			
9	Conductor's Size and OD as per Table 1.			
10	Clamp Dimensions as per Table 1.			
11	Material	Messenger Wire: Galvanized Steel		
12		Weights: HDG Steel or Cast Iron.		
13		Clamp Body, Keeper, and Bolt: Aluminum Alloy		
14	Markings as per Section 9.10.			

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.

4751.50.010 Vibration Dampers for ACSS (10-17-25)

Final Audit Report

2025-10-20

Created:	2025-10-17
By:	Miguel Rios (miguel.rioslopez@lumapr.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAAV8tvz5yITtlla9y1D7acb_rbXYn4l8m-

"4751.50.010 Vibration Dampers for ACSS (10-17-25)" History

-  Document created by Miguel Rios (miguel.rioslopez@lumapr.com)
2025-10-17 - 5:34:27 PM GMT
-  Document emailed to Miguel Rios (miguel.rioslopez@lumapr.com) for signature
2025-10-17 - 5:34:31 PM GMT
-  Document e-signed by Miguel Rios (miguel.rioslopez@lumapr.com)
Signature Date: 2025-10-17 - 5:34:57 PM GMT - Time Source: server
-  Document emailed to Rodolfo Flores (rodolfo.floresortiz@lumapr.com) for signature
2025-10-17 - 5:34:59 PM GMT
-  Email viewed by Rodolfo Flores (rodolfo.floresortiz@lumapr.com)
2025-10-17 - 6:24:18 PM GMT
-  Document e-signed by Rodolfo Flores (rodolfo.floresortiz@lumapr.com)
Signature Date: 2025-10-17 - 6:24:56 PM GMT - Time Source: server
-  Document emailed to Oscar Venegas (oscar.venegas@lumapr.com) for signature
2025-10-17 - 6:24:58 PM GMT
-  Email viewed by Oscar Venegas (oscar.venegas@lumapr.com)
2025-10-17 - 8:01:43 PM GMT
-  Document e-signed by Oscar Venegas (oscar.venegas@lumapr.com)
Signature Date: 2025-10-17 - 8:02:07 PM GMT - Time Source: server
-  Document emailed to Reinaldo Barety (reinaldo.barety@lumapr.com) for signature
2025-10-17 - 8:02:09 PM GMT



Adobe Acrobat Sign

 Email viewed by Reinaldo Baretti (reinaldo.baretti@lumapr.com)

2025-10-20 - 2:00:34 PM GMT

 Document e-signed by Reinaldo Baretti (reinaldo.baretti@lumapr.com)

Signature Date: 2025-10-20 - 2:00:44 PM GMT - Time Source: server

 Agreement completed.

2025-10-20 - 2:00:44 PM GMT



Adobe Acrobat Sign