

Specifications of Optical Cable Vibration Dampers



Overview

OPGW Vibration Damper Conductor Accessories Compare specifications, compatibility and options to support reliable fiber and network. Dampers for fibre optic.

Key Takeaways

Vibration dampers for optical cables are configured to reduce wind-induced fatigue by dissipating energy across the cable's natural frequency range, using devices such as Stockbridge, spiral, or viscous dampers. Types of Dampers¹.

Stockbridge-

Type Dampers: These consist of a clamp attached to the cable with two masses at the ends of a short messenger cable. The masses are designed to excite multiple resonance modes within the cable's dangerous frequency range, flattening resonance peaks and providing wide frequency coverage for maximum energy dissipation. Asymmetrical designs, like SAPREM D5s or VORTX dampers, improve power dissipation and frequency response compared to symmetrical designs.

2. Spiral Vibration Dampers (SVD): SVDs are made of UV-stabilized PVC and are wrapped around the cable. They are effective for high-frequency, low-amplitude aeolian vibrations and are easy to install on ADSS, OPGW, or bare conductors.

3. Internal and External Viscous or Friction Dampers: External viscous dampers connect the cable directly to the supporting structure, providing effective damping for long spans. Internal viscous dampers transmit forces through a housing into the cable, suitable for various positions along the cable.

Internal rubber or elastomeric dampers dissipate energy via shear deformation, effective for short to medium cable lengths. Internal friction dampers use rotational friction elements to dissipate energy, suitable for medium to long cables.

Configuration and Placement

Cable Length Consideration: Cables longer than 80 meters often require additional damping devices. **Mode Coverage:** Dampers should target the first two to three vibration modes, achieving at least 3-4% logarithmic decrement to prevent excessive vibration. **Span Positioning:** Dampers are typically installed near points of maximum vibration amplitude, often at 1/3 and 2/3 of the span length.

Frequency Tuning: Masses and stiffness are selected to match the cable's natural frequencies, ensuring efficient energy dissipation.

Installation Notes

Clamps should allow for thermal expansion and contraction of the cable. Break-away bolts or flexible attachments facilitate proper torque and prevent damage during installation. Laboratory testing or project-specific vibration studies can optimize damper selection and placement for specific environmental conditions.

Summary

Proper configuration of optical cable vibration dampers involves selecting the appropriate damper type, tuning it to the cable's natural frequencies, and placing it at strategic points along the span. This ensures reduction of aeolian vibration, prevention of fatigue, and long-term reliability of overhead fiber optic cables.

Article Content

[Dampers for fibre optic cable | SAPREM](#)

This damper is especially designed for installation with ADSS fibre optic cables, improving the performance of the conventional stockbridge vibration damper when used with this kind of cables.

[Vibration Dampers for 69-400 kV Lines | PDF | Electric Power ...](#)

This document establishes the characteristics and tests that vibration dampers used in conductors, conventional shield wires, and shield wires with optical fibers for overhead transmission lines with

[Vibration Dampers Conductor Accessories | Specs | AFL Global](#)

Compare specifications, compatibility and options to support reliable fiber and network infrastructure.

AVD Series Spiral Vibration Dampers

Each damper is marked with the conductor range and color coded to indicate the cable diameter size range. Line design, temperature, tension, wind flow exposure and history of vibration on similar

OPGW Vibration Damper_Huadong Cable Group

HuaDong vibration dampers are designed for efficient transfer and dissipation of energy over a wide spectrum of frequencies. They feature all aluminum clamp

ADSS Cable Vibration Dampers Types Prices & Technical Specifications

Vibration dampers are widely used to control aeolian vibration of the ADSS cable and earth wires including optical ground wires (OPGW). When the damper is placed on a vibrating conductor,

ADSS/OPGW Optical Cable Vibration Damper

Because of the concentrated stress, vibration damper will cause some damages to the cable. The armor rods provide proper stress distribution on the optical cable and protect the cable.

Fittings for metal-free optical fibre aerial cables (ADSS)

The purpose of HELUCOM® ADSS Avibra vibration dampers is to dissipate partly the wind power input on the ADSS cable to prevent critical cable stresses. The Avibra vibration damper is composed of a

Vibration Damper-optical cable

Table of specifications and models of optical cables and related parameters – diameter (mm), ultimate tensile strength (N), unit weight (kg/m), aluminum-steel section ratio.

Dampers for fibre optic cable | SAPREM

Stockbridge vibration dampers asymmetrical with four resonances for OPGW cable fibre optic cables [DOWNLOAD PDF DAMPERS Aeolian vibration](#) Several oscillatory phenomena are induced by the

OPGW Vibration Damper Conductor Accessories

Explore AFL OPGW Vibration Damper Conductor Accessories. Compare specifications, compatibility and options to support reliable fiber and network.

ADSS/OPGW Optical Cable Vibration Damper

Overview Non-slip type Vibration Damper with armor rods Non-slip type vibration damper is composed of hammer and helical clip. It can reduce the breeze fatigue damage of wire and optical cable. But if

OPGW Hardware for Fiber Optic Cable Solutions EM | AFL EMEA

AFL EMEA's OPGW hardware solutions for fiber optic cable installations. Our products are designed for durability and reliability in power grid and telecommunications networks, offering robust performance

Spiral Vibration Damper

The Spiral Vibration Damper is a motion control product used to dissipate aeolian vibration that may occur on cable spans. Using the recommended number of Spiral Vibration Dampers minimizes

Spiral Vibration Damper

Vibration Damper for electric power cable is divided into two types, including spiral vibration damper and 4D vibration damper. It can restrain the Aeolian vibration and wave of the optic fiber cable.

Vibration Dampers Conductor Accessories | Specs | AFL Global

Vibration Dampers - Conductor vibration induces a relative motion between the clamp and the inertia weights which causes flexure of the steel cable, resulting in dissipation of mechanical energy by

AVD Series Spiral Vibration Dampers

AVD Series Spiral Vibration Dampers AFL's AVD Series Spiral Vibration Dampers are designed to eliminate the damage caused by Aeolian vibration and reduce overall vibration on bare All-Dielectric

ADSS Cable Spiral Vibration Damper

The document describes spiral vibration dampers that are used for ADSS or OPGW cables. The dampers have a helically formed damping section that interacts with the cable to oppose natural

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