

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Overhead lines – Requirements and tests for aeolian vibration dampers

**Lignes aériennes – Exigences et essais applicables aux amortisseurs
de vibrations éoliennes**



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IEC Central Office
3, rue de Varembe
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
info@iec.ch
www.iec.ch

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**OVERHEAD LINES –
REQUIREMENTS AND TESTS FOR AEOLIAN VIBRATION DAMPERS****FOREWORD**

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International Standard IEC 61897 has been prepared by Technical Committee 11: Overhead lines.

This second edition cancels and replaces the first edition published in 1998. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) Consider, in addition to Stockbridge type aeolian vibration dampers, also spiral aeolian vibration dampers and elastomeric aeolian vibration dampers.
- b) Consider the application of dampers on high temperature conductors, specifying additional high temperature tests in clamp slip tests.
- c) Simplify the procedure of the damper effectiveness evaluation.
- d) Introduce test at low temperature on fastener components such as break away bolts and conical spring washers.
- e) Include figures showing the test arrangements for the main mechanical tests.

The text of this standard is based on the following documents:

FDIS	Report on voting
11/266/FDIS	11/273/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended

OVERHEAD LINES – REQUIREMENTS AND TESTS FOR AEOLIAN VIBRATION DAMPERS

1 Scope

This document applies to aeolian vibration dampers intended for single conductors or earth wires or conductor bundles where dampers are directly attached to each subconductor.

The purchaser may adopt part(s) of this document when specifying requirements for cables different from those mentioned above (e.g. optical ground wires (OPGW), all dielectric self-supporting optical cables (ADSS)).

In some cases, test procedures and test values are left to agreement between the purchaser and the supplier and are stated in the procurement contract.

Annex A lists the minimum technical details to be agreed between purchaser and supplier.

Throughout this document, the word “conductor” is used when the test applies to dampers for conductors or earth wires.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60050(466):1990, *International Electrotechnical Vocabulary (IEV) – Chapter 466: Overhead lines*

IEC 60888:1987, *Zinc-coated steel wires for stranded conductors*

IEC 61284:1997, *Overhead lines – Requirements and tests for fittings*

IEC 61854, *Overhead lines – Requirements and tests for spacers*

IEC 62567:2013, *Overhead lines – Methods for testing self-damping characteristics of conductors*

ISO 1461:2009, *Hot dip galvanized coatings on fabricated iron and steel articles – Specifications and test methods*

ISO 2859-1:1999/AMD1:2011, *Sampling procedures for inspection by attributes – Part 1: Sampling schemes indexed by acceptable quality limit (AQL) for lot-by-lot inspection*

ISO 2859-2:1985, *Sampling procedures for inspection by attributes – Part 2: Sampling plans indexed by limiting quality level (LQ) for isolated lot inspection*

ISO 3951-1:2013, *Sampling procedures for inspection by variables – Part 1: Specification for single sampling plans indexed by acceptance quality limit (AQL) for lot-by-lot inspection for a single quality characteristic and a single AQL*

ISO 3951-2:2013, *Sampling procedures for inspection by variables – Part 2: General specification for single sampling plans indexed by acceptance quality limit (AQL) for lot-by-lot inspection of independent quality characteristics*

ISO 9001:2015, *Quality management systems – Requirements*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60050-466 apply, as well as the following.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1

stockbridge-type aeolian vibration damper

device comprising a steel cable with a weight at each end and one bolted clamp or a helical rod attachment, attachable to a conductor, for the purpose of damping aeolian vibration

3.2

spiral aeolian vibration damper

SVD

device made of helical plastic which wraps around the conductor for purposes of damping aeolian vibration (these are commonly used on earth wires, OPGW and ADSS cables)

3.3

elastomeric aeolian vibration damper

device comprising suspended weights connected to elastomeric articulations and one bolted clamp or a helical rod attachment, attachable to a conductor for the purpose of damping aeolian vibration

3.4

high temperature conductors

HTC

conductors which are designed to have a maximum continuous operating temperature over 95 °C

3.5

maximum continuous operating temperature

conductor temperature specified by the manufacturer and measured at the outer wire layers

4 General requirements

4.1 Design

The damper shall be designed so as to

- damp aeolian vibration;
- withstand mechanical loads imposed during installation, maintenance and specified service conditions;
- avoid damage to the conductor under specified service conditions;
- be capable of being removed and re-installed without damage to the conductor;