

Aerospace series - Cables, electrical, aircraft use - Test methods - Part 512: Flexure endurance

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NATIONAL FOREWORD

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Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 10.03.2021.	Date of Availability of the European standard is 10.03.2021.
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ICS 49.060

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EUROPEAN STANDARD

EN 3475-512

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 2021

ICS 49.060

Supersedes EN 3475-512:2002

English Version

Aerospace series - Cables, electrical, aircraft use - Test methods - Part 512: Flexure endurance

Série aérospatiale - Câbles électriques à usage
aéronautique - Méthodes d'essais - Partie 512 :
Résistance à la flexion

Luft- und Raumfahrt - Elektrische Leitungen für
Luftfahrtverwendung - Prüfverfahren - Teil 512:
Wechselbiegefestigkeit

This European Standard was approved by CEN on 2 November 2020.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (EN 3475-512:2021) has been prepared by the Aerospace and Defence Industries Association of Europe — Standardization (ASD-STAN).

After enquiries and votes carried out in accordance with the rules of this Association, this document has received the approval of the National Associations and the Official Services of the member countries of ASD, prior to its presentation to CEN.

This document shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 2021, and conflicting national standards shall be withdrawn at the latest by September 2021.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 3475-512:2002.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this document: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

The main changes with respect to the previous edition are listed in the following table.

prEN/EN Number	Edition	Publication Date	Modification
prEN 3475-512	P2	08/2019	<p>3 – Terms and definitions: Addition of this clause.</p> <p>5 – Apparatus and installation of specimens: Addition of “The test setup shall be designed to avoid any swing motion/displacement of the cable between the mandrels. The length should be sufficient to ensure that the weight shall not influence the bending motion.”</p> <p>7 – Requirement: Addition of method B. Addition of “Unless otherwise specified, only method A is required.”</p>

1 Scope

This document specifies a method of testing flexure endurance of the cable when it is subjected to alternating flexing.

It is used together with EN 3475-100.

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.

EN 3475-100, *Aerospace series — Cables, electrical, aircraft use — Test methods — Part 100: General*

EN 3475-302, *Aerospace series — Cables, electrical, aircraft use — Test methods — Part 302: Voltage proof test*

3 Terms and definitions

No terms and definitions are listed in this document.

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

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

4 Preparation of specimens and principle of test

Take specimens of adequate length from a finished cable and install them on apparatus described hereafter.

This test makes it possible to determine the resistance of the cable to cycles of repeated flexing.

With the cable vertical, a cycle is defined by a rotation of 90° left, return to the vertical, rotation of 90° right and return to the vertical.

The damage is detected by conductor breakage and thus an interruption of electrical continuity between the two ends of the tested specimen.

The test is normally performed on gauge 20 cables.

It is carried out at ambient temperature.

5 Apparatus and installation of specimens

The apparatus is described by Figure 1.

It is fitted with a counter and an automatic stop device controlled by interruption of electrical continuity.

The rotation speed shall be a uniform rate of (18 ± 2) cycles/min.

The space between mandrels is equal to the maximum diameter of the tested cable.

The mandrel diameter D and weight M are specified in the product standard.