



# SLOVENSKI STANDARD SIST EN 3475-704:2007

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Aerospace series - Cables, electrical, aircraft use - Test methods - Part 704: Flexibility

Luft- und Raumfahrt - Elektrischen Leitungen für Luftfahrt Verwendung - Prüfverfahren -  
Teil 704: Biagsamkeit

**STANDARD PREVIEW**

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Série aérospatiale - Câbles électriques a usage aéronautique - Méthodes d'essais -  
Partie 704 : Flexibilité

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**Ta slovenski standard je istoveten z: EN 3475-704:2007**

**ICS:**

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^|\ dā } æí ] !^ { æš Åã c { ã equipment and systems

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English Version

Aerospace series - Cables, electrical, aircraft use - Test  
methods - Part 704: Flexibility

Série aérospatiale - Câbles électriques à usage  
aéronautique - Méthodes d'essais - Partie 704 : Flexibilité

Luft- und Raumfahrt - Elektrischen Leitungen für Luftfahrt  
Verwendung - Prüfverfahren - Teil 704: Biegsamkeit

This European Standard was approved by CEN on 21 June 2007.

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 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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

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## Foreword

This document (EN 3475-704:2007) 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 Standard 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 European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 2008, and conflicting national standards shall be withdrawn at the latest by February 2008.

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

This document supersedes EN 3475-704:2002.

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

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## 1 Scope

This standard specifies two methods for appraising the flexibility of a completed cable and its bending aptitude, Method 1 is for cables not less than 5 mm<sup>2</sup> cross-section cables and Method 2 for cables not larger than 5 mm<sup>2</sup> (10 AWG) cross-section cables.

Unless otherwise specified in the product standard, Method 1 applies.

It shall be used together with EN 3475-100.

## 2 Normative references

The following referenced documents are indispensable for the application 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.*

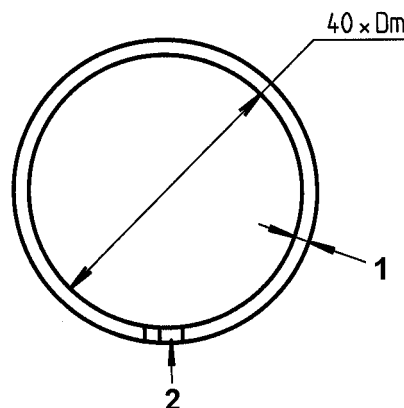
## 3 Test Procedures

### 3.1 Method 1 (applicable for cable sizes larger than 5 mm<sup>2</sup> (10 AWG))

#### 3.1.1 Preparation of specimens

Sufficiently long test specimen shall be sampled from a completed cable and, after appropriate forming, shall undergo a compression crushing test performed with an appropriate machine.

For each test specimen, forming shall consist in making a loop of a diameter equal to 40 times the maximum diameter of the cable. The loop shall be made in the normal cable winding direction. The two ends shall be stripped over 5 mm and placed together, then soldered with tin or spliced.



#### Key

- 1 Dm = maximum diameter of the cable
- 2 Solder or splice

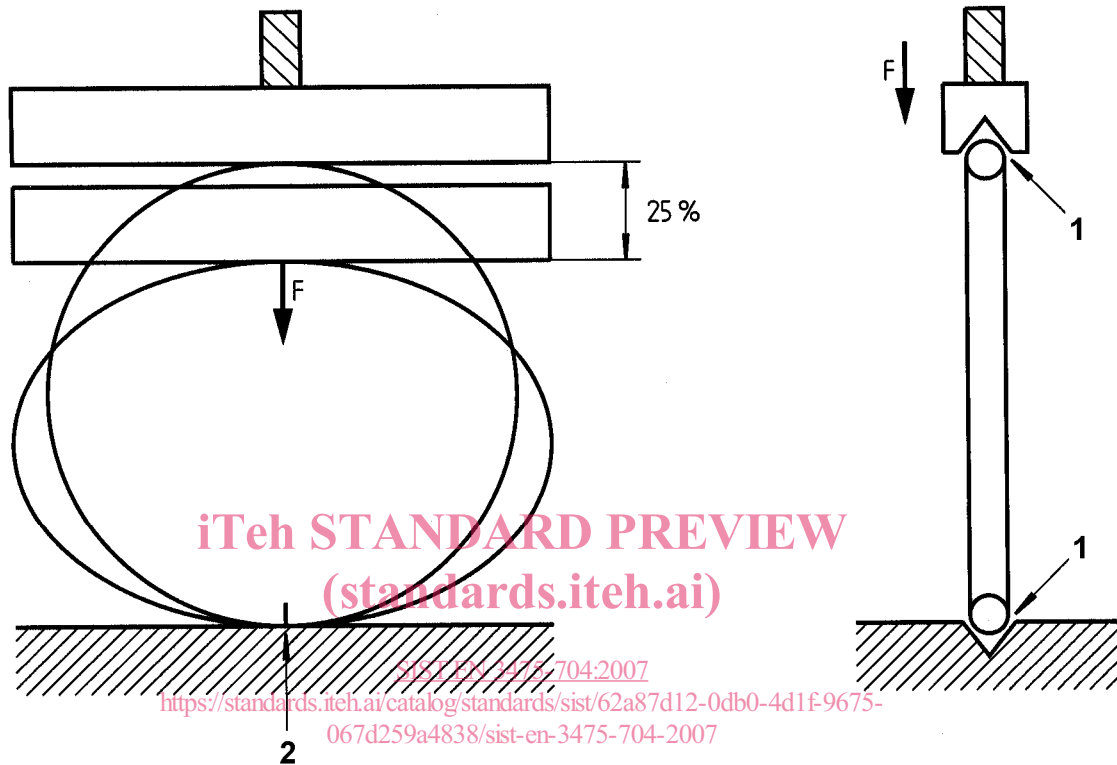
Necessary length:  $\pi \times 40 \times Dm = 125,7 \times Dm$

Figure 1 — Test specimen forming

### 3.1.2 Apparatus

The set-up shall comply with the specifications stipulated below and shall consist of a device designed crush the loop, preferably in the vertical direction, over a height 10 times the maximum diameter of the cable (25 % of the loop diameter) at a 100 mm/min speed.

This device shall be fitted with a recording system.



#### Key

- 1 Retaining notch
- 2 Position of loop connection

Figure 2 — Test mounting

### 3.1.3 Procedure

This test shall be performed at ambient temperature.

A test specimen shall be put in the crushing device with the loop junction point in contact with the support. Then, the test specimen shall be subjected to a gradual force  $F$ .

### 3.1.4 Requirements

The force  $F$  applied to crush the loop 25 % shall be less than the value specified in the product standard.

**3.2 Method 2 (applicable for cable sizes not larger than 5 mm<sup>2</sup> (10 AWG))**

**3.2.1 Preparation of specimens**

Cut the cable specimens, each approximately 200 mm long, consecutively from the same coil.

The specimens shall be straightened by hand

or

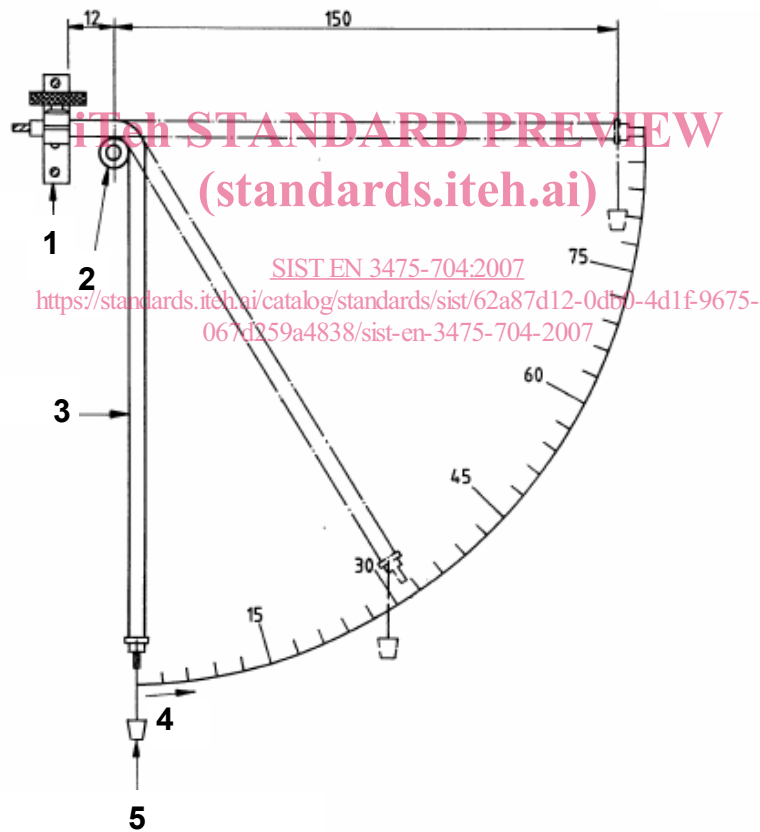
when specified in the individual cable specification, hang each specimen vertically for 24 hours in an oven with the mass specified in Table 1 attached to its free end. The oven temperature is be as stated in the individual cable specification but shall not exceed the cables maximum rated temperature.

After straightening the specimen test shall be performed within 1 hour at an ambient temperature (20 °C ± 5 °C).

**3.2.2 Apparatus**

The apparatus shall consist of a device, shown in Figure 3, designed to examine the bending attitude.

Dimensions in millimetres



**Key**

- 1 Clamp
- 2 Mandrel
- 3 Specimen
- 4 Recoil
- 5 Mass container

**Figure 1 — Method 2, test apparatus**