



SLOVENSKI STANDARD
SIST EN 3475-307:2006
01-julij-2006

**Aerospace series - Cables, electrical, aircraft use - Test methods - Part 307:
Corona extinction voltage**

Aerospace series - Cables, electrical, aircraft use - Test methods - Part 307: Corona
extinction voltage

Luft- und Raumfahrt - Elektrische Leitungen für Luftfahrtverwendung - Prüfverfahren -
Teil 307: Corona-Aussetzspannung

Série aérospatiale - Câbles électriques à usage aéronautique - Méthodes d'essais -
Partie 307 : Tension d'extinction corona

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English Version

Aerospace series - Cables, electrical, aircraft use - Test
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Série aérospatiale - Câbles électriques à usage
aéronautique - Méthodes d'essais - Partie 307 : Tension
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Luft- und Raumfahrt - Elektrische Leitungen für
Luftfahrtverwendung - Prüfverfahren - Teil 307: Corona-
Aussetzspannung

This European Standard was approved by CEN on 12 September 2005.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, 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 European Standard (EN 3475-307:2005) has been prepared by the European Association of Aerospace Manufacturers - Standardization (AECMA-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 AECMA, 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 April 2006, and conflicting national standards shall be withdrawn at the latest by April 2006.

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.

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

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1 Scope

This product standard defines a method to measure the corona extinction voltage of electrical cables for aircraft use.

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 Preparation of specimen

The cable specimen shall be from 660 mm to 1 650 mm in length. The ends of the cable shall be made corona free. A suggested method for making the ends corona free is shown on Figures 1 to 3.

Step 1: Suggested length of cable specimen is 1 m.

Step 2: Remove 75 mm of the jacket material from each end.



Figure 1

Step 3: Roll back the braid over the jacket and trim as shown. Be careful to avoid breaking any strands. Trim the braid edges neatly to 25 mm lengths.

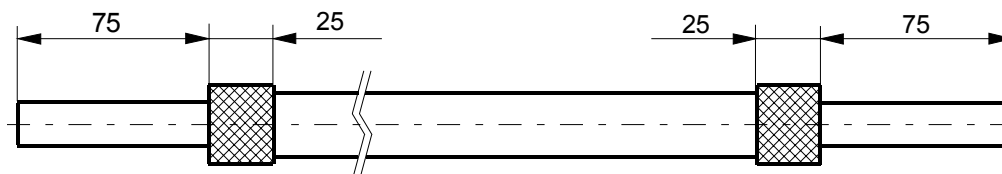


Figure 2

Step 4: Trim one end of the specimen to the dimensions shown and cover the braid edge and jacket with a plastic tube as shown. Wrap a gauge 20 copper grounding wire tightly over the braid.

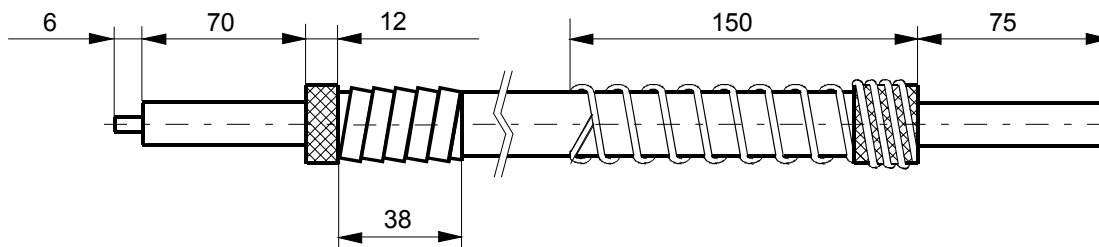


Figure 3

4 Apparatus

The sensitivity of the detection equipment shall permit observation of corona of five picocoulombs or less.

The cable test specimen shall be subjected to gradually increasing sinusoidal voltage until a detector indicates a sustained corona discharge.

5 Method

After the cable preparation, connect the cable test specimen to a voltage source. Both ends may be immersed in insulating oil to prevent corona discharge at the ends.

The test voltage shall be applied at room ambient conditions. The frequency of the test voltage shall be between 48 Hz to 62 Hz.

Slowly increase the 48 Hz to 62 Hz test voltage until the detector indicates a sustained corona discharge or reaches two times the specified corona extinction voltage.

If sustained corona discharge is indicated, the voltage shall then be decreased slowly until the corona extinction point is observed. The corona extinction voltage is defined as the voltage at which sustained discharge ceases. If sustained corona has not been observed at two times the specified corona extinction level the requirement is considered to have been satisfied.

When specified (in the product standard), corona extinction voltage test shall be performed at the specified altitude equivalent reduced pressure.

6 Requirement

The corona extinction voltage shall be within the limits indicated in the product standard.