SLOVENSKI STANDARD
SIST EN 3475-804:2004

01-maj-2004

Aerospace series - Cables, electrical, aircraft use - Test methods - Part 804: Velocity of propagation

Aerospace series - Cables, electrical, aircraft use - Test methods - Part 804: Velocity of propagation

Luft- und Raumfahrt - Elektrische Leitungen für Luftfahrtverwendung - Prüfverfahren - Teil 804: Ausbreitungsgeschwindigkeit

Série aérospatiale - Câbles électriques à usage aéronautique - Méthodes d'essais - Partie 804: Vitesse de propagation

Ta slovenski standard je istoveten z: **EN 3475-804:2002**

ICS:

49.060	Letalska in vesoljska elektriļ na oprema in sistemi	Aerospace electric equipment and systems

SIST EN 3475-804:2004 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 3475-804

June 2002

ICS 49.060

English version

Aerospace series - Cables, electrical, aircraft use - Test methods - Part 804: Velocity of propagation

Série aérospatiale - Câbles électriques à usage aéronautique - Méthodes d'essais - Partie 804: Vitesse de propagation

Luft- und Raumfahrt - Elektrischen Leitungen für Luftfahrt Verwendung - Prüfverfahren - Teil 804: Ausbreitungsgeschwindigkeit

This European Standard was approved by CEN on 20 January 2002.

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 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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

Management Centre: rue de Stassart, 36 B-1050 Brussels

Ref. No. EN 3475-804:2002 E

Foreword

This document (EN 3475-804:2002) has been prepared by the European Association of Aerospace Manufacturers (AECMA).

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 December 2002, and conflicting national standards shall be withdrawn at the latest by December 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, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This standard specifies a method for measuring the velocity of propagation in a cable.

It shall be used together with EN 3475-100.

2 Normative references

This European Standard incorporates by dated or undated reference provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

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

3 Preparation of specimens

These shall be stripped and prepared for connection to the measuring device.

4 Method

A real time reflectometer shall be used, delivering a reference signal, the rise time of which is equal to or less than 150 ps, fitted at the output to a precision coaxial air line, with a characteristic impedance of Z_0 (accuracy 1 %), and to an oscilloscope.

The measurement shall be taken on a sample with a length of $(3 \pm 0{,}01)$ m.

The sample shall be prepared for the test so as to minimise mismatch at the cable input (using an appropriate connector or the shortest possible connections).

The other end of the cable shall be open circuit.

The sample shall be connected to the coaxial air line as follows:

– coaxial cable;

Centre and outer conductors connected to their counterparts in the coaxial air line.

– symmetrical cables;

Measurement in differential mode: each conductor of the pair shall be connected to one of the conductors of the coaxial air line; any screens shall not be connected.

The velocity of propagation in the cable shall be calculated from the measurement of propagation time t for go and return of the signal in the sample, by the formula:

$$V = \frac{6{,}10^6}{t}$$

where : V is expressed in kilometres per second
t is expressed in nanoseconds

5 Requirement

The velocity of propagation shall be within the limits specified in the product standard.