

Aerospace series — Fibres and cables, optical, aircraft use — Test methods —

Part 411: Resistance to fluids

ICS 49.060

National foreword

This British Standard is the UK implementation of EN 3745-411:2007.

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A list of organizations represented on this committee can be obtained on request to its secretary.

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Foreword

This document (EN 3745-411:2007) 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.

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1 Scope

This standard specifies methods of measuring the fluid resistance of a finished cable.

It shall be used together with EN 3745-100, EN 3909 and TR 4542.

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 3745-100, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 100: General.* ¹⁾

EN 3745-201, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 201: Visual examination.*

EN 3745-503, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 503: Scrape abrasion.*

EN 3909, *Aerospace series — Test fluids for electric components and sub-assemblies.* ²⁾

TR 4542, *Aerospace series — Guidance for fluid tests.* ¹⁾

3 Test procedures

Two test procedures are proposed, depending of the need.

Test method 1: occasional contamination

Aim: to offer a test method to appreciate the behaviour of the insulation in case of occasional contamination.

See EN 3909.

Test method 2: extended contamination

Aim: to measure the fluid resistance and to be applied for qualification of a product standard.

See EN 3909 (and associated TR 4542).

Unless otherwise specified in the product standard, all fluids mentioned in EN 3909 are mandatory.

1) In preparation at the date of publication of this standard.

2) Published as ASD Prestandard at the date of publication of this standard.

4 Preparation of specimen

For each fluid to be tested, take a clean specimen at least 1 m in length from a finished cable.

If necessary an initial cleaning may be performed according to EN 3909.

Unless otherwise stated in the product standard, each specimen shall be wound seven complete turns onto a mandrel of diameter 12 times the maximum outer diameter of the specimen without torsion, but with sufficient tension to ensure the specimen remains fully in contact with the mandrel.

Remove the mandrel.

5 Methods

With each so prepared specimen apply the procedure described in:

- EN 3909 for method 1 or;
- EN 3909 for method 2.

Only the coiled part shall be contaminated.

6 Requirements

After being returned to ambient temperature and without final cleaning, examine the test sample visually, according to EN 3745-201 and record any change of condition from the initial examination.

Straighten or uncoil the coiled part of the cable.

The contaminated specimen shall pass:

- the scrape abrasion test, according to EN 3745-503 as defined in the product standard for ambient temperature.

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