

BS EN 4681-001:2012



BSI Standards Publication

Aerospace series — Cables, electric, general purpose, with conductors in aluminium or copper-clad aluminium

Part 001: Technical Specification

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National foreword

This British Standard is the UK implementation of EN 4681-001:2012.

BSI as a member of CEN, is obliged to publish EN 4681-001:2012 as a British Standard. However, attention is drawn to the fact that during the development of this European Standard, the UK committee voted against its approval as a European Standard.

In the opinion of the committee, the 600 V rms AC rating is not justified by the tests required by this standard, as different test conditions require the use of different voltages. For example, the arc track test which is mentioned in table 1 is carried out using either a 115 V or 230 V, according to BS EN 3475-603:2011, and so is the need for a corona test on cables used in non-pressurized zones on AC systems above 115 V phase to neutral.

The UK participation in its preparation was entrusted to Technical Committee ACE/6, Aerospace avionic electrical and fibre optic technology.

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

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Compliance with a British Standard cannot confer immunity from legal obligations.

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English Version

**Aerospace series - Cables, electric, general purpose, with
conductors in aluminium or copper-clad aluminium - Part 001:
Technical specification**

Série aérospatiale - Câbles électriques, d'usage général,
avec conducteurs en aluminium ou en aluminium chemisé
cuivre - Partie 001: Spécification technique

Luft- und Raumfahrt - Elektrische Leitungen, zur
allgemeinen Verwendung, mit Leitern aus Aluminium oder
kupferbeschichtetem Aluminium - Teil 001: Technische
Lieferbedingungen

This European Standard was approved by CEN on 25 February 2012.

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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Foreword

This document (EN 4681-001:2012) 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 April 2013, and conflicting national standards shall be withdrawn at the latest by April 2013.

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 organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This European Standard specifies the characteristics, test methods, qualification and acceptance conditions of single-core electric cables for general purpose with conductors in aluminium or copper-clad aluminium, intended for installation in aircraft electrical systems.

The insulation of these cables is designed to withstand a maximum service voltage of 600 V r.m.s. at a frequency not exceeding 2 000 Hz.

They are divided into types, the characteristics of which are given in the product standards. Unless otherwise specified in the product standard, the tests defined in this standard apply.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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 (all parts), *Aerospace series — Cables, electrical, aircraft use — Test methods — Part 100: General*

EN 3719, *Aerospace series — Aluminium or aluminium alloy conductors for electrical cables — Product standard*

EN 3838, *Aerospace series — Requirements and tests on user-applied markings on aircraft electrical cables*

EN 4651, *Aerospace series — Copper-clad aluminium alloy conductors for electrical cables — Product standard* ¹⁾

EN 4681-002, *Aerospace series — Cables, electric, general purpose, with conductors in aluminium or copper-clad aluminium — Part 002: General*

EN 9133, *Aerospace series — Quality management systems — Qualification procedure for aerospace standard parts*

ISO 2574, *Aircraft — Electrical cables — Identification marking*

TR 4648, *Aerospace series — Cable, electrical — Re-qualification following changes in design, material or manufacturing process* ²⁾

TR 4684, *Aerospace series — Electrical Technology and component definition* ³⁾

1) Published as ASD-STAN Prestandard at the date of publication of this standard (www.asd-stan.org).

2) Published as ASD-STAN Technical Report at the date of publication of this standard (www.asd-stan.org).

3) In study at the date of publication of this standard.