



**NSAI**  
Standards

Irish Standard  
I.S. EN 3475-604:2018

# Aerospace series - Cables, electrical, aircraft use - Test methods - Part 604: Resistance to dry arc propagation

**I.S. EN 3475-604:2018**

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

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I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

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## National Foreword

I.S. EN 3475-604:2018 is the adopted Irish version of the European Document EN 3475-604:2018, Aerospace series - Cables, electrical, aircraft use - Test methods - Part 604: Resistance to dry arc propagation

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**EUROPEAN STANDARD**  
**NORME EUROPÉENNE**  
**EUROPÄISCHE NORM**

**EN 3475-604**

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English Version

**Aerospace series - Cables, electrical, aircraft use - Test  
methods - Part 604: Resistance to dry arc propagation**

Série aérospatiale - Câbles électriques à usage  
aéronautique - Méthodes d'essais - Partie 604 :  
Résistance à l'amorçage et à la propagation d'arc  
électrique, essai à sec

Luft- und Raumfahrt - Elektrische Leitungen für  
Luftfahrtverwendung - Prüfverfahren - Teil 604:  
Lichtbogenfestigkeit, trocken

This European Standard was approved by CEN on 28 August 2017.

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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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## **European foreword**

This document (EN 3475-604:2018) 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of an identical text or by endorsement, at the latest by July 2018, and conflicting national standards shall be withdrawn at the latest by July 2018.

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

This document supersedes EN 3475-604:2010.

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, 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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

**EN 3475-604:2018 (E)****1 Scope**

This European standard specifies a method for appraising the behaviour of cable insulation when an electric arc is initiated and maintained by two (2) powered cables rubbing against a blade.

This European standard shall be used together with EN 3475-100.

The primary aim of this test is:

- to produce, in a controlled fashion, continuous failure effects which are representative of those which may occur in service when a typical cable bundle is damaged by abrasion such that electrical arcing occurs, both between cables and between cables and conductive structure, and
- to examine the aptitude of the insulation to track, to propagate electric arc to the electrical origin.

Originally defined for 115 Vac network, this test also proposes conditions for 230 Vac network. Unless otherwise specified in product standard, only 115 Vac conditions shall be satisfied.

Six (6) levels of prospective fault current have been specified for concerned cable sizes (see Clause 7). It is generally agreed that larger sizes need not be assessed since the short-circuit phenomenon becomes dominant at low line impedances.

Unless otherwise specified in the technical/product standard sizes 002, 006 and 020 cable shall be assessed.

**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 2350, *Aerospace series — Circuit breakers — Technical specification*

EN 2702, *Aerospace series — Aluminium alloy AL-P6061 — T6 or T62 — Drawn or extruded bar and section —  $a$  or  $D \leq 200$  mm*

EN 3197, *Aerospace series — Design and installation of aircraft electrical and optical interconnection systems*

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

EN 3475-302, *Aerospace series — Cables, electrical, aircraft use — Test methods — Part 302: Voltage proof test*

A-A-52083, *Tape, lacing and tying, glass* <sup>1)</sup>

**3 Specimen requirements**

Cables to be tested shall be of traceable origin and shall have passed the high voltage dielectric test defined in the product standard.

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<sup>1)</sup> Published by: Department of Defense Industrial Supply Center, ATTN: DISC-BBEE, 700 Robbins Avenue, Philadelphia, PA 19111-5096 – USA.

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