



NSAI
Standards

Irish Standard
I.S. EN 2591-315:2015

Aerospace series - Elements of electrical and optical connection - Test methods - Part 315: Fluid resistance

I.S. EN 2591-315:2015

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.

S.R. xxx: Standard Recommendation — recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):

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This document is based on:

EN 2591-315:2015

Published:

2015-11-04

This document was published under the authority of the NSAI and comes into effect on:

2015-11-22

ICS number:

49.060

49.090

NOTE: If blank see CEN/CENELEC cover page

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National Foreword

I.S. EN 2591-315:2015 is the adopted Irish version of the European Document EN 2591-315:2015, Aerospace series - Elements of electrical and optical connection - Test methods - Part 315: Fluid resistance

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EUROPEAN STANDARD

EN 2591-315

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2015

ICS 49.060; 49.090

Supersedes EN 2591-315:1998

English Version

Aerospace series - Elements of electrical and optical connection - Test methods - Part 315: Fluid resistance

Série aérospatiale - Organes de connexion électrique et optique - Méthodes d'essais - Partie 315 : Résistance aux fluides

Luft- und Raumfahrt - Elektrische und optische Verbindungselemente - Prüfverfahren - Teil 315: Beständigkeit gegen Flüssigkeiten

This European Standard was approved by CEN on 8 June 2015.

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.

CEN members are the national standards bodies of 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 United Kingdom.



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European foreword

This document (EN 2591-315:2015) 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 European 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 May 2016, and conflicting national standards shall be withdrawn at the latest by May 2016.

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.

This document supersedes EN 2591-315:1998.

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

EN 2591-315:2015 (E)

1 Scope

This European Standard specifies the method of determining the fluid resistance of a connector, or cable accessory.

It shall be used together with EN 2591-100 and EN 3909.

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 2591-100, *Aerospace series — Elements of electrical and optical connection — Test methods — Part 100: General*

EN 2591-101, *Aerospace series — Elements of electrical and optical connection — Test methods — Part 101: Visual examination*

EN 2591-206, *Aerospace series — Elements of electrical and optical connection — Test methods — Part 206: Measurement of insulation resistance*

EN 2591-408, *Aerospace series — Elements of electrical and optical connection — Test methods — Part 408: Mating and unmating forces*

EN 2591-409, *Aerospace series — Elements of electrical and optical connection — Test methods — Part 409: Contact retention in insert*

EN 3909, *Aerospace series — Test fluids for electrical and optical components and sub-assemblies*

3 Test fluids

Unless otherwise specified in the Product Standard, the samples under test shall be exposed to each of the fluid types listed in Table 1 below. Each fluid shall be selected from the fluid groups in EN 3909.

Table 1 — Types of test fluid to be used

Fluid group number	Fluid family name	Test fluid type (variant)	No of fluids to be selected per test	Remarks (e.g. test temperature)
Group 1	Fuels	Hydrocarbon	1	-
		Biofuel	1	-
Group 2	Hydraulic Fluids	Mineral	1	-
		Synthetic	1	-
Group 3	Oils	Mineral	1	-
		Synthetic	1	-
Group 4	Cleaning Fluids	Optional	1	-
Group 5	De-Icing Fluids	Runway	1	-
		Aircraft	1	-
Group 6	Fire Extinguishant	-	1	- ^a
Group 7	Cooling Fluid	-	1	-

^a Due to restrictions and applicable by local laws, fire extinguishant shall not be discharged in non-critical situations.

4 Preparation of specimens

4.1 Unless otherwise specified in the relevant Technical Specification or Product Standard, specimens shall be prepared as follows to comply with Figure 1 and Figure 2.

Each specimen shall be visibly inspected for any imperfections, clean, dry and free from any contaminants that do not comprise the 'ready for use' product.

Unwired cavities shall be fitted with contacts and sealing plugs. 20 % of cavities shall be fitted with sealing plugs and for connectors with less than 5 cavities, 1 cavity shall be fitted with a sealing plug. All remaining cavities shall be fitted with wired contacts.

Wired contacts shall be fitted with sufficient cable to enable the test sample to be fully immersed in the test fluid chamber. Care shall be taken to ensure the sample is not subjected to unnecessary load or deformation (e.g. due to tough cables or cable alignment at the rear of the connector or accessory). See Figure 1.

4.2 The following details shall be stated in the Product Standard or Technical Specification:

- types of fluids (and the substance application method if different to herein);
- number of specimens (if different from one per test fluid);
- mounting method, type of cable and definition of specimen wiring;
- number of cycles;
- temperature (T_1) and duration of the first phase;
- initial measurements (if applicable);
- method according to EN 2591-206 and insulation resistance value;
- temperature (T_2) and duration for the third phase;
- final measurements and requirements (if applicable).

5 Method

5.1 Initial measurements (if applicable in the Product Standard or Technical Specification)

Measurements shall be carried out as specified in the Product Standard or Technical Specification.

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