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Aerospace series - Metallic materials - Test methods - Part 16: Non-destructive testing - Penetrant testing

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

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English Version

Aerospace series - Metallic materials - Test methods - Part 16: Non-destructive testing - Penetrant testing

Série aérospatiale - Matériaux métalliques - Méthodes
d'essais - Partie 16 : Essais non destructifs - Examen
par ressuage

Luft- und Raumfahrt - Metallische Werkstoffe -
Prüfverfahren - Teil 16: Zerstörungsfreie Prüfung -
Eindringprüfung

This European Standard was approved by CEN on 8 July 2018.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

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European foreword

This document (EN 2002-16:2019) 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 May 2020, and conflicting national standards shall be withdrawn at the latest by May 2020.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

EN 2002-16:2019 (E)**Introduction**

This document is part of the series of EN metallic material standards for aerospace applications. The general organization of this series is described in EN 4258.

1 Scope

This document specifies the requirements for penetrant testing of metallic materials for aerospace applications. It is limited to the direction of surface-breaking defects, e.g. cracks, laps, seams and inclusions.

It shall be applied when referred to in the EN technical specification or material standard unless otherwise specified on the drawing, order or inspection schedule.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 1330-1, *Non-destructive testing — Terminology — Part 1: List of general terms*

EN 1330-2, *Non-destructive testing — Terminology — Part 2: Terms common to the non-destructive testing methods*

EN 4179, *Aerospace series — Qualification and approval of personnel for non-destructive testing*

EN 4258, *Aerospace series — Metallic materials — General organization of standardization — Links between types of EN standards and their use*

EN 4259, *Aerospace series — Metallic materials — Definition of general terms*¹

EN ISO 3059, *Non-destructive testing — Penetrant testing and magnetic particle testing — Viewing conditions*

EN ISO 12706, *Non-destructive testing — Penetrant testing — Vocabulary*

ISO 3452-1, *Non-destructive testing — Penetrant testing — Part 1: General principles*²

ISO 3452-2, *Non-destructive testing — Penetrant testing — Part 2: Testing of penetrant materials*²

ISO 3452-3, *Non-destructive testing — Penetrant testing — Part 3: Reference test blocks*²

ISO 3452-4, *Non-destructive testing — Penetrant testing — Part 4: Equipment*²

ASTM E433-71, *Standard Reference Photographs for Liquid Penetrant Inspection*³

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