SLOVENSKI STANDARD
SIST EN 4387:2022

01-junij-2022

Aeronavtika - Nekovinski materiali - Pravila za pripravo in predstavitev tehničnih specifikacij

Aerospace series - Non-metallic materials - Rules for drafting and presentation of technical specifications

Luft- und Raumfahrt - Nichtmetallische Werkstoffe - Regeln für die Abfassung und Gestaltung von Techischen Lieferbedingungen

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Série aérospatiale - Matériaux non-métalliques - Règles pour la rédaction et la présentation des spécifications techniques

Ta slovenski standard je istoveten z: EN 4387:2022

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ICS:

49.025.99	Drugi materiali	Other materials

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2003-01.Slovenski inštitut za standardizacijo. Razmnoževanje celote ali delov tega standarda ni dovoljeno.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 4387

April 2022

ICS 49.025.99

English Version

Aerospace series - Non-metallic materials - Rules for drafting and presentation of technical specifications

Série aérospatiale - Matériaux non-métalliques - Règles pour la rédaction et la présentation des spécifications techniques

Luft- und Raumfahrt - Nichtmetallische Werkstoffe - Regeln für die Abfassung und Gestaltung von Technischen Lieferbedingungen

This European Standard was approved by CEN on 8 December 2019.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (EN 4387:2022) 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-STAN, 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of an identical text or by endorsement, at the latest by October 2022, and conflicting national standards shall be withdrawn at the latest by October 2022.

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.

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, 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.

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Introduction

This document is part of the series of EN non-metallic materials standards for aerospace applications. The general organisation of this series is described in EN 4385. This document is a level 2 document as defined in EN 4385.

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1 Scope

This document specifies the general rules for drafting and presentation of EN aerospace series non-metallic material technical specifications.

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 4385, *Aerospace series — Non-metallic materials — General organisation of standardisation — Links between types of standards*[1)]

TR 7000-1, *Aerospace series — Non-metallic materials —Rules for the drafting and presentation of material standards — Part 1: General rules*[1)]

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

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4 Framework and structure

4.1 General

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Where necessary the technical specification may be subdivided into several parts (e.g. EN XXXX-001, EN XXXX-002, etc., where Part 001 is always the general part).

In such cases all general requirements should be incorporated in Part 001 (general part) and the specific requirements in Part 002 onwards (specific parts). Annex A gives modified rules for the preparation of technical specifications containing more than one part.

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

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4.2 Required elements

The technical specification shall include the title and the following elements in the given order:

— Introduction;

— Clause – 1 Scope;

— Clause – 2 Normative references;

— Clause – 3 Terms and definitions;

— Clause – 4 Requirements;

— Clause – 5 Qualification;

— Clause – 6 Release testing;

— Clause – 7 Preparation for delivery;

— Clause – 8 Declaration of conformity;

— Annex A Testing requirements tables.

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All of the above clauses and their subclauses, with the exception of the Introduction, are mandatory. If any of the mandatory clauses and/or subclauses are not applicable, the number and heading shall still be used with the statement "Not Applicable".

5 Content

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Standard sentences, placed in a frame, are listed below for the different clauses and subclauses of the technical specification and are mandatory unless otherwise stated.

When necessary, further information is indicated in italics, shall be completed or re-worded.

5.1 Title

This title shall give sufficient information to unambiguously identify the subject of this document.

EXAMPLE Aerospace series Non-metallic materials Family(ies) *(e.g. film adhesives, organic materials)* *Add additional information, if necessary (e.g. cure temperature)*

5.2 Introduction

This clause is optional. If included, the following standard wording shall be used.

EXAMPLE **Introduction** This document is part of the series of EN non-metallic material standards for aerospace applications. The general organization of this series is described in EN 4385. This document is a level 2 document as defined in EN 4385. This document has been prepared in accordance with EN 4387.

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5.3 Clause 1: Scope

In this clause, the scope and field of application of the technical specification shall be stated.

EXAMPLE

1 Scope

This document defines the requirements for manufacture, qualification, inspection and testing of *(complete with non-metallic material family, e.g. glass reinforced thermosetting preimpregnates)* for aerospace applications.

5.4 Clause 2: Normative references

EXAMPLE

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.

(Followed by the list of documents; give titles to which reference is made in the text and date of issue if required)

5.5 Clause 3: Terms and definitions

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EXAMPLE

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 9100 and EN 9133 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

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- ISO Online browsing platform: available at https://www.iso.org/obp
- IEC Electropedia: available at https://www.electropedia.org/

3.1
batch

(define the batch of the material family)

3.2
product

in this document, the word product refers to all forms of *(repeat non-metallic material family name from 1 Scope)*

3.3 ***(add additional definitions, if necessary)***

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5.6 Clause 4: Requirements

This clause shall contain technical requirements for the manufacture, qualification, inspection and testing of the products.

This clause is subdivided into 2 (two) subclauses:

- Subclause 4.1: General requirements;
- Subclause 4.2: Technical requirements.

EXAMPLE

4 Requirements

4.1 General requirements

(Add additional definitions, if necessary.)

4.1.1 Manufacturing schedule *(complete with non-metallic material family if required)*

The product shall be manufactured to fulfil the requirements of the relevant material standard and this technical specification. In accordance with EN 9133, the manufacturer shall define the raw material, processes and inspection requirements in a manufacturing schedule. Once approved, any modifications to the manufacturing schedule shall be in accordance with EN 9133.

4.1.2 Traceability

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All products shall be traceable to the raw material batches at all stages of manufacture and delivery. Similarly, each raw material batch shall be traceable to all products at all stages of manufacture and delivery.

4.1.3 Freedom from defects

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All products shall be free from defects not complying with the requirements of the material standard or order and this technical specification, or which may be prejudicial to the subsequent manufacture and/or use of the products. *(Add additional information if necessary.)*

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4.1.4 Health, safety and environment

It is the responsibility of the supplier to establish satisfactory health, safety and environmental information to ensure conformity with any European, national or local laws/regulations.

The safety data sheet shall be available and shall be provided prior to qualification testing.

4.1.5 Dimensions

Dimensions and tolerances shall conform to the requirements of the order or drawing.

(Add additional information if necessary.)

4.1.6 Title as appropriate

Add any other relevant general requirements, with suitable subclause headings, as necessary (e.g. general processing requirements).

Continue subclause numbering as required.

4.2 Technical requirements

The product shall satisfy the requirements of the relevant material standard and/or the order.

4.2.1 Required testing

Unless otherwise specified in the material standard, the test method and the test frequency for screening, qualification testing and release testing are given in Annex A.

(Add any relevant general technical requirements as necessary using text and/or tables as desired.)

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5.6.1 Test samples

It is essential that samples are identified with respect to the product and the batch from which they are taken, therefore the first statement below is mandatory. It may also be necessary to impose requirements on the condition of the samples prior to testing. Therefore one or more of the subsequent statements shall be used as appropriate. Additional statements may be made as required.

EXAMPLE

4.2.2 Test samples

– Samples and associated test pieces shall be marked in such manner that their identity and orientation (when appropriate) with respect to the product and the batch is maintained in a traceable manner.

– Samples taken from fully finished products (condition of use) shall not be further processed.

– Samples representing products in a condition other than the condition of use shall be processed in accordance with the material standard before testing.

– Samples shall be tested in the as-supplied condition.

– Samples shall be tested in the fully cured condition.

4.2.3 *Storage life/shelf life*

The *(material family)* shall maintain all of its physical, chemical and mechanical properties within the specification requirements for the period of time specified in the material standard, when stored under the specified conditions.

(Insert subclause title) shall start from the date of manufacture.

4.2.4 *Shoplife/work life/pot life/application time/out time*

The product shall meet the physical, chemical and mechanical properties of the material standard for a period of time known as the *(insert subclause title)* during *shoplife/work life/pot life/application time/out time* under normal shop conditions.

These requirements will be met throughout the *(insert subclause title)*.

4.2.5 *Title as appropriate*

Add any other relevant technical requirements, with suitable subclause headings, specific to the non-metallic material family (e.g. chemical composition, appearance, areal weight).

Continue subclause numbering as required.

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5.7 Clause 5: Qualification

5.7.1 Principle

The product qualification procedure is dependant on the type of product. In general, product qualification as described hereafter, according to EN 9133, is controlled by the mandated body.