BRITISH STANDARD AEROSPACE SERIES

BS EN
4258:1998

Metallic materials — General organization of standardization — Links between types of EN standards and their use

The European Standard EN 4258:1998 has the status of a British Standard

ICS 49.025.01

National foreword

This British Standard is the English language version of EN 4258:1998.

The UK participation in its preparation was entrusted to Technical Committee ACE/61, Inspection and testing requirements for aerospace metallic materials, which has the responsibility to:

— aid enquirers to understand the text;

— present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;

— monitor related international and European developments and promulgate them in the UK.

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

Cross-references

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the EN title page, pages 2 to 8 and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

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Descriptors: Aircraft industry, metals, semi-finished products, definitions, standards, description, organization, reference to standards, level, quantity, utilization

English version

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

Série aérospatiale — Matériaux métalliques — Organisation générale de la normalisation — Liens entre les types de normes EN et leur utilisation

Luft- und Raumfahrt — Metallische Werkstoffe — Allgemeine Gliederung der Normung — Verknüpfung der Arten von EN-Normen und ihre Anwendung

This European Standard was approved by CEN on 23 February 1998.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart 36, B-1050 Brussels

Ref. No. EN 4258:1998 E

Foreword

This European Standard has been prepared by the European Association of Aerospace Manufacturers (AECMA).

After inquiries 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 AECMA, 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 November 1998, and conflicting national standards shall be withdrawn at the latest by November 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, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Contents

0 Introduction

For the purpose of standardization of metallic materials, AECMA had originally based the organization of this standardization on a system which provided strong interlinks between a material standard referring to EN 2500 and its supporting standards.

Since these links did not allow the partial use of the supporting standards, the following amendments have been introduced to ensure that:

— strongly interlinked standards are limited to those strictly necessary to ensure coherency;

— other standards may be either used, or replaced by standards of another origin, at the purchaser's discretion.

The basic change in these links is that the dimensional standards and designation standard for semi-finished products, where applicable, have been dissociated from the material standard. Additionally, product qualification procedures are being introduced.

Pending the updating of the standards, these two organizations exist in parallel:

— the original one described by EN 2500;

— the new one described in this standard (see Annex A and Annex B).

To enable progressive updating of the standards, an intermediate procedure is to be followed, as described in Annex C, pending full introduction of the new organization.

1 Scope

This standard specifies the general organization of metallic material standards, their links with other types of EN standards and their use, for aerospace applications.

It corresponds to level 0 (see **4.1**).

2 Normative references

This European Standard incorporates by dated or undated reference provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 2032-1, *Aerospace series — Metallic materials — Part 1: Designation*[1)].

EN 2032-2, *Aerospace series — Metallic materials — Part 2: Coding of metallurgical condition in delivery condition.*

EN 2043, *Aerospace series — Metallic materials — General requirements for semi-finished product qualification (excluding forgings and castings)*[1)].

EN 2078, *Aerospace series — Metallic materials — Manufacturing schedule — Inspection schedule — Inspection and test report — Description and rules for use.*

EN 2500, *Aerospace series — Instructions for the drafting and use of metallic material standards*[2)].

EN 2600, *Aerospace series — Designation of metallic semi-finished products — Rules*[1)].

EN 4000, *Aerospace series — Metallic materials — Rules for drafting and presentation of dimensional standards for semi-finished products*[1)].

EN 4179, *Aerospace series — Metallic materials — Qualification and approval of personnel for non destructive testing*[1)].

EN 4259, *Aerospace series — Metallic materials — Definitions of general terms*[3)].

EN 4260, *Aerospace series — Metallic materials — Rules for drafting and presentation of technical specifications*[1)].

EN 4261, *Aerospace series — Metallic materials — Rules for drafting and presentation of test method standards*[1)].

EN 4268, *Aerospace series — Metallic materials — Heat treatment facilities*[3)].

EN 4500, *Aerospace series — Metallic materials — Rules for drafting and presentation of material standards*[4)].

[1)] Published as AECMA Prestandard at the date of publication of this standard

[2)] Series of parts, published as AECMA Prestandards at the date of publication of this standard

[3)] In preparation at the date of publication of this standard

[4)] Series of parts, published as AECMA Prestandards at the of publication of this standard

TR 2410, *Aerospace series — Relationship between dimensional standards and metallic material standards*[5)].

3 Definitions

For the purposes of this standard, the following definitions apply:

3.1
family of metallic materials

group of metallic materials characterized by a base element or a group of base elements in several different semi-finished product forms:

— aluminium and aluminium alloys;

— magnesium alloys;

— heat resisting alloys (nickel or cobalt or iron base);

— titanium and titanium alloys;

— steel;

— filler metals for brazing;

— etc.

3.2
semi-finished products

generic term used to indicate that the material as supplied does not necessarily have any relation to the exact form, dimensions or condition in which that material is used as a final component

this term may refer to one of the following types:

— wrought products (e.g. bar, sheet, sections) or cast products (e.g. rod, amorphous brazing foil) characterized by their form within a range of standardized dimensions;

— products of non-standardized form and dimensions produced by the same metallurgical technique (e.g. forging stock, remelting stock);

— blanks manufactured from the products stated above, of non-standardized form and dimension (e.g. forgings, castings).

4 Description of the types of EN standards

There are five levels of EN standards, numbered from 0 to 4 (see Annex A). For the intermediate procedure, see Annex C.

4.1 General standard (level 0)

— Explanatory standard for the organization of the whole collection	EN 4258

4.2 Basic standards (level 1)

They define the wording and/or specify conventional rules that provide the basis of understanding between the writer and the user of standards specifying rules (see **4.3**) and semi-finished product definition documents (see **4.4**).

They are the following:

— definitions of the general terms	EN 4259
— definitions of manufacturing schedule, inspection schedule and inspection and test report	EN 2078
— material designation	EN 2032-1
— coding of metallurgical condition in the delivery condition	EN 2032-2

4.3 Standards specifying rules (level 2)

They specify the specific rules for the drafting and presentation of the semi-finished product definition documents (see **4.4**).

They are the following:

— material standards	EN 4500 series
— technical specifications	EN 4260
— test method standards	EN 4261
— dimensional standards	EN 4000

and during the intermediate procedure:

— general requirements for qualification	EN 2043

4.4 Semi-finished product definition documents (level 3)

4.4.1 *Material standards*

They specify a series of technical requirements relating to a metallic material semi-finished product, in one or several delivery conditions and only one use condition.

4.4.2 *Technical specifications*

They specify, for the semi-finished products of a metallic material family, general and specific technical requirements related to:

— manufacturing;

— quality assurance (qualification, acceptance, etc.);

— the preparation and procedures for inspection (including test frequency);

— the order and shipment.

[5)] Published as AECMA Technical Report at the date of publication of this standard

4.4.3 *Test method standards*

They specify instructions concerning:

— principle;

— reagents and/or associated materials;

— apparatus;

— preparation and retention of test samples and/or test pieces;

— procedure(s).

for determination of a characteristic.

4.4.4 *Dimensional standards*

They specify, for each form of semi-finished product in a family of metallic materials:

— geometry;

— dimensions;

— associated tolerances.

4.4.5 *Designation standards for semi-finished products*

They specify the rules for designation of metallic semi-finished products, e.g.: EN 2600.

4.4.6 *Technical Reports*

They group information in a practical way, e.g.

— relationship between dimensional standards and material standards	TR 2410

4.5 Supplementary standards for quality assurance (level 4)

They specify supplementary quality assurance requirements concerning e.g.:

— personnel;

— facilities;

— processes.

For example the following:

— Qualification and approval of personnel for non-destructive testing	EN 4179
— Heat treatment facilities	EN 4268

5 Links between types of EN standards and use

5.1 Level 1, 2 and 4 standards

5.1.1 Basic standards (level 1) shall be systematically used in defining the semi-finished product definition documents (level 3), see **5.2**.

5.1.2 Rules (level 2) for the drafting and presentation of semi-finished product definition documents (level 3), shall be systematically applied.

5.1.3 Supplementary standards for quality assurance (level 4) are only referred to in the relevant standards where their application is considered necessary.

NOTE The supplementary standards for quality assurance may also be external to the collection (e.g. ISO, ASTM) after agreement between the manufacturer and the purchaser.

5.2 Level 3 standards

5.2.1 The material standard is the lead document that provides the basis of understanding between the manufacturer and the purchaser.

As such, the requirements of the material standard shall override any other different requirements of any other referenced level 3 standard (see Annex B).

5.2.2 The material standard shall refer to the relevant technical specification.

NOTE This link is mandatory for coherency of the collection.

5.2.3 The material standard and the relevant technical specification shall refer to test method standards, where required.

NOTE 1 The test method standards from the original organization remain valid for the new organization.
NOTE 2 Test method standards external to the collection may also be used (e.g. ISO, ASTM).

5.2.4 Dimensional standards shall not be referred to in the material standards.

Dimensions shall be independently specified by the purchaser on the order, in accordance with the requirements of the technical specification or normative documents from another origin.

5.2.5 Designation standards shall not be referred to in the material standards or in the dimensional standards.

Designation rules, when required, shall be independently specified by the purchaser on the order, in accordance with the requirements of the technical specification or normative documents from another origin.

5.3 Technical Reports

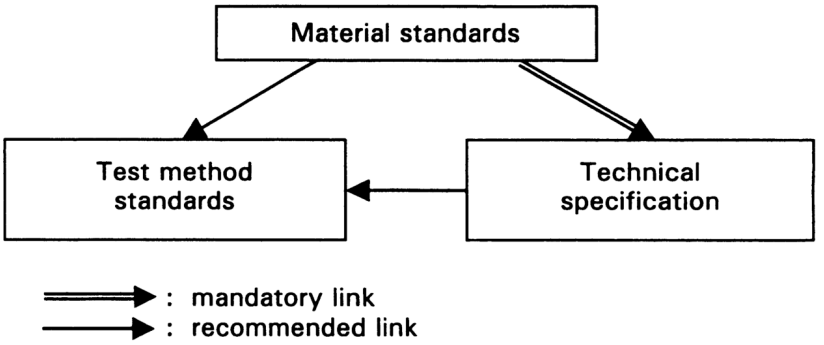
Technical Reports defining relationships between standards or data from different standards are established to facilitate the use at any level of the standards in the collection. They shall not be referred to in material standards or dimensional standards.

6 Overview

See Annex A.

Annex A (normative)
New organization

Table A.1 — Overview

Type of document	Level	Reference and title
General standard (see **4.1**)	0	EN 4258 Aerospace series — Metallic materials — General organization of standardization — Links between types of EN standards and their use
Basic standards (see **4.2**)	1	EN 2032-1 Aerospace series — Metallic materials — Part 1: Designation EN 2032-2 Aerospace series — Metallic materials — Part 2: Coding of metallurgical condition in delivery condition EN 2078 Aerospace series — Metallic materials — Manufacturing schedule — Inspection schedule — Inspection and test report — Description and rules for use EN 4259 Aerospace series — Metallic materials — Definitions of general terms
Rules (see **4.3**)	2	EN 4000 Aerospace series — Metallic materials — Rules for drafting and presentation of dimensional standards for semi-finished products EN 4260 Aerospace series — Metallic materials — Rules for drafting and presentation of technical specifications EN 4261 Aerospace series — Metallic materials — Rules for drafting and presentation of test method standards EN 4500 Aerospace series — Metallic materials — Rules for drafting and presentation of material standards
Semi-finished products definition documents (see **4.4**)	3	a) Interconnected (see **5.2.1**, **5.2.2** and **5.2.3**) — Material standards — Technical specifications — Test method standards  b) Optional use (see **5.2.4** and **5.2.5**) — Dimensional standards — Designation standards c) For information (see **5.3**) Relationship between EN dimensional standards and EN metallic material standard: TR 2410.
Supplementary standards for quality assurance (see **4.5**)	4	EN 4179 Aerospace series — Metallic materials — Qualification and approval of personnel for non destructive testing EN 4268 Aerospace series — Metallic materials — Heat treatment facilities

Annex B (normative)
Use of the material standard

For the definition, lay out and examples of forms 1, 2 and 3, see EN 4500 series.

B-1 Form 1

B-1-1 All lines that are completed indicate that the relevant test shall be carried out for routine acceptance and that the semi-finished product shall meet the requirements specified on these lines.

B-1-2 When a line is completed, all the necessary requirements that do not appear are in the referenced technical specification (line 5).

B-1-3 The absence of an entry (indicated by a hyphen) in a line indicates that there is no requirement and that the corresponding test is not required, even if it is stated in the referenced technical specification (line 5).

B-2 Form 2

B-2-1 All "fixed" and "opened" optional lines that are completed indicate that the relevant test or inspection shall be carried out for routine acceptance and that the semi-finished product shall meet the requirements specified on these lines.

B-2-2 When a line is completed using sub-lines all the necessary requirements that do not appear are in the referenced technical specification (line 5) or relevant test method standard.

B-2-3 The absence of an optional line indicates that there is no requirement and that the corresponding test is not required, even if it is stated in the referenced technical specification (line 5).

B-3 Form 3

B-3-1 A line 100 that is completed with line numbers in column 2 indicates that the relevant tests shall be carried out for product qualification purposes and that the semi-finished product shall meet the requirements specified on these lines.

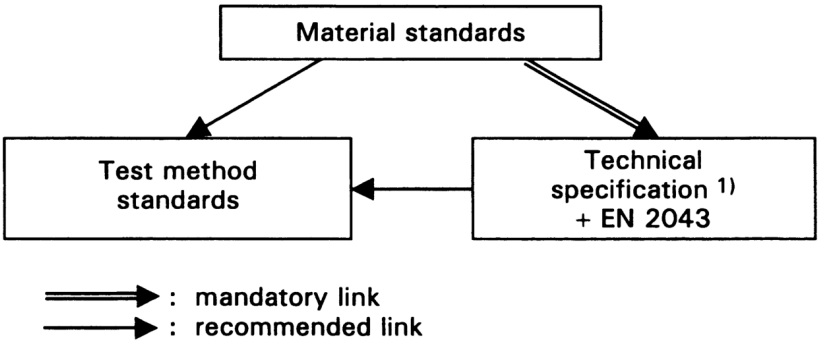
B-3-2 When a line number is completed in column 5 by cross-reference to the same line number of forms 1 and 2, the product qualification requirements of the referenced technical specification and the routine acceptance criteria shall apply.

B-3-3 When a line number is completed in column 5 using sub-lines, all the necessary product qualification requirements that do not appear are in the referenced technical specification.

B-3-4 The absence of a line number in column 2 indicates that there is no product qualification requirement and that the corresponding test is not required, even if it is stated in the referenced technical specification (line 5).

Annex C (normative)
Intermediate procedure

Table C.1 — Overview

Type of document	Level	Reference and title
General standard (see **4.1**)	0	EN 4258 Aerospace series — Metallic materials — General organization of standardization — Links between types of EN standards and their use
Basic standards (see **4.2**)	1	EN 2032-1 Aerospace series — Metallic materials — Part 1: Designation EN 2032-2 Aerospace series — Metallic materials — Part 2: Coding of metallurgical condition in delivery condition EN 2078 Aerospace series — Metallic materials — Manufacturing schedule — Inspection schedule — Inspection and test report — Description and rules for use
Rules (see **4.3**)	2	EN 2043 Aerospace series — Metallic materials — General requirements for semi-finished product qualification (excluding forgings and castings) EN 4500 Aerospace series — Metallic materials — Rules for drafting and presentation of material standards
Semi-finished products definition documents (see **4.4**)	3	a) Interconnected (see **5.2.1**, **5.2.2** and **5.2.3**) — Material standards — Technical specifications — Test method standards  b) Optional use (see **5.2.4** and **5.2.5**)l — Dimensional standards — Designation standards c) For information (see **5.3**) Relationship between EN dimensional standards and EN metallic material standard: TR 2410.
Supplementary standards for quality assurance (see **4.5**)	4	EN 4179 Aerospace series — Metallic materials — Qualification and approval of personnel for non destructive testing

[1)] Technical specifications from the original organization.

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