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Ireland

Tel: (01) 807 3800
Tel: (01) 807 3838

AEROSPACE SERIES - METALLIC MATERIALS - PART 1: CONVENTIONAL DESIGNATION

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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of an identical text or by endorsement, at the latest by June 2002, and conflicting national standards shall be withdrawn at the latest by June 2002.

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.

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0 Introduction

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

1 Scope

This standard specifies the rules for establishing the conventional designation of unalloyed, commercially pure and alloyed metallic materials used for aerospace applications.

NOTE The relationship between former AECMA designations and the new designations according to this standard is given in TR 3900.

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.

ISO 31-8	Quantities and units - Part 8 : Physical chemistry and molecular physics
EN 1780-1	Aluminium and aluminium alloys - Designation of unalloyed aluminium and alloyed aluminium ingots for remelting, master alloys and castings - Part 1: Numerical designation system
EN 4258	Aerospace series - Metallic materials - General organization of standardization - Links between types of EN standards and their use
EN 4500-1	Aerospace series - Metallic materials - Rules for drafting and presentation of material standards - Part 1: General rules [1)]
EN 10020	Definition and classification of grades of steel
TR 3900	Aerospace series - Metallic materials - Relationship between AECMA designation systems [2)]
TR 4242	Aerospace series - Metallic materials - List of EN standardized commercially pure metals and alloys - Relationship between chemical compositions and conventional designation [3)]

3 Definitions

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

3.1
structural material
material used for the manufacture of a specific component of an aerospace system, structure or engine.

3.2
alloying element
see EN 4500-1.

1) Published as AECMA Prestandard at the date of publication of this standard
2) Published as AECMA Technical Report at the date of publication of this standard
3) In preparation at the date of publication of this standard

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3.3
unalloyed metal
metal that contains no alloying elements and with a total impurity content less than 0,5 %.

NOTE For the applications of this standard, a so-called "commercially pure" metal is not considered as unalloyed metal and its designation shall be chosen according to the same rules as those of the relevant metallic alloys.

3.4
cast material
material resulting from the bulk solidification of a previously homogeneous liquid metal

3.5
cast + wrought material
material resulting from further solid state working of cast material

3.6
powder metallurgy material
material divided into solid particles at least in the first step of its solid state processing

3.7
steel
iron base material alloyed with carbon the content of which is generally lower than 2 %

3.8
unalloyed steel
see EN 10020.

3.9
low alloy steel
steel alloyed with one or several metallic elements, the mean value of the content of each being less than 5 % and the content of at least one being higher than the carbon content

3.10
high alloy, ferritic or martensitic steel
steel alloyed with one or several metallic elements, the mean value of the content of at least one of which is equal to or higher than 5 % and the crystalline structure of which contains less than 40 % of austenite in its condition of use

3.11
high alloy, austenitic or austenitic-ferritic steel
steel alloyed with one or several metallic elements, the mean value of the content of at least one of which is equal to or higher than 5 % and the crystalline structure of which contains 40 % austenite or more in its condition of use

3.12
joining material
material used for the metallurgical assembly of several parts of an aerospace system

3.13
filler metals for welding
joining material solidus temperature of which is close to or the same as the solidus temperature of the materials to be joined.

3.14
filler metals for brazing
joining material solidus temperature of which is significantly lower than the solidus temperature of the materials to be joined.

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