



SLOVENSKI STANDARD
SIST EN 2032-2:2001

01-januar-2001

Aerospace series - Metallic materials - Part 2: Coding of metallurgical condition in delivery condition

Aerospace series - Metallic materials - Part 2: Coding of metallurgical condition in delivery condition

Luft- und Raumfahrt - Metallische Werkstoffe - Teil 2: Kennbuchstaben für Wärmebehandlungszustände im Lieferzustand

Série aérospatiale - Matériaux métalliques - Partie 2: Codification des états métallurgiques a l'état de livraison

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Ta slovenski standard je istoveten z: EN 2032-2:1994

ICS:

49.025.01 Materiali za letalsko in Materials for aerospace
vesoljsko gradnjo na splošno construction in general

SIST EN 2032-2:2001

en

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EUROPEAN STANDARD

EN 2032-2:1994

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 1994

UDC 669:621.785:62-777.1

Descriptors: Aircraft industry, metallurgical products, delivery condition, codification

English version

**Aerospace series - Metallic materials - Part 2:
Coding of metallurgical condition in delivery
condition**

Série aérospatiale - Matériaux métalliques -
Partie 2: Codification des états métallurgiques
à l'état de livraison

Luft- und Raumfahrt - Metallische Werkstoffe -
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This European Standard was approved by CEN on 1994-03-24. 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 Central Secretariat or to any CEN member.

The European Standards exist 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CEN

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

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

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 successively received the approval of the National Associations and the Official Services of the member countries of AECMA, prior to its presentation to CEN.

This standard was submitted for Formal Vote, and the result was positive.

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 September 1994, and conflicting national standards shall be withdrawn at the latest by September 1994.

According to the CEN/CENELEC Internal Regulations, the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom.

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1 Scope

This standard specifies the code letters to be allocated to define the metallurgical condition of metallic semi-finished products in delivery condition, for aerospace applications.

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 2500-1 Aerospace series - Instructions for the drafting and use of metallic material standards - Part 1: General requirements ¹⁾

EN 3350 Aerospace series - Aluminium, aluminium alloys - Temper designations ¹⁾

3 Principle

When the semi-finished product is delivered in the use condition, the code letter for the delivery condition shall be "U", irrespective of the heat treatment applied.

When the semi-finished product is delivered in any condition other than the use condition, a code letter, defined for each heat treatment in each family of metallic materials, shall be allocated to each delivery condition.

4 Allocated codes

See table 1.

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5 Instructions for use

Determine from lines 6.1 and 7 of the material standard if a delivery condition is identical to the use condition:

- if yes, write code letter "U" on line 6.2 in the appropriate column or sub-column;
- if not, allocate the appropriate code letter, selected from the table 1 in the column corresponding to the relevant family of metallic materials, taking into account the wording used in line 6.1 to describe the heat treatment steps. Write this code letter in the appropriate column or sub-column of line 6.2.

NOTE: The meaning of the line numbers used in the material standard is given in EN 2500-1.

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

TABLE 1

Code letters to be used for the delivery heat treatment condition when it differs from the use condition

Delivery condition Code letter	Steel	Heat resisting alloys	Aluminium, aluminium and magnesium alloys ¹⁾	Titanium and titanium alloys	Joining materials		
F	<ul style="list-style-type: none"> Not heat treated 	<ul style="list-style-type: none"> Not heat treated Cold worked 	<ul style="list-style-type: none"> As fabricated F Hxx Hxxx 	<ul style="list-style-type: none"> Not heat treated 	—		
A	<ul style="list-style-type: none"> Softened Annealed 	<ul style="list-style-type: none"> Softened Annealed 	<ul style="list-style-type: none"> Annealed O Ox 	<ul style="list-style-type: none"> Annealed 	—		
B	<ul style="list-style-type: none"> Normalized (and tempered, if necessary) Normalized, drawn and tempered 	<ul style="list-style-type: none"> Normalized (and tempered, if necessary) Normalized, drawn and tempered 	—	—	—		
C	<ul style="list-style-type: none"> Spheroidized 	—	—	—	—		
D	<ul style="list-style-type: none"> Spheroidized and cold worked 	—	—	—	—		
W	<ul style="list-style-type: none"> Solution treated 	<ul style="list-style-type: none"> Solution treated 	<ul style="list-style-type: none"> Solution heat treated W Wx Wxx 	<ul style="list-style-type: none"> Solution treated 	—		
K	—	<ul style="list-style-type: none"> Solution treated and cold worked 	<table border="1"> <tr> <td> <ul style="list-style-type: none"> Solution heat treated and naturally aged with cold work T3 T3x T3xx T3xxx </td> <td> <ul style="list-style-type: none"> Solution heat treated and naturally aged without cold work T4 T4x T4xx T4xxx </td> </tr> </table>	<ul style="list-style-type: none"> Solution heat treated and naturally aged with cold work T3 T3x T3xx T3xxx 	<ul style="list-style-type: none"> Solution heat treated and naturally aged without cold work T4 T4x T4xx T4xxx 	—	—
<ul style="list-style-type: none"> Solution heat treated and naturally aged with cold work T3 T3x T3xx T3xxx 	<ul style="list-style-type: none"> Solution heat treated and naturally aged without cold work T4 T4x T4xx T4xxx 						
P	<ul style="list-style-type: none"> Solution treated and destabilized 	<ul style="list-style-type: none"> Cold worked and solution treated 	<ul style="list-style-type: none"> Solution heat treated and artificially aged T6 T6x T6xx T6xxx 	—	—		

NOTE: The insertion of a hyphen (—) in a box indicates that the coding of the corresponding delivery condition has not been used, up to the date of publication of this standard.

1) Designation of heat treatment according to EN 3350