

**Alumiinium ja alumiiniumisulamid.  
Deformeeritavad tooted. Margitähised**

Aluminium and aluminium alloys - Wrought products  
- Temper designations

**EESTI STANDARDI EESSÖNA****NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN 515:2000 sisaldb Euroopa standardi EN 515:1993 ingliskeelset teksti.	This Estonian standard EVS-EN 515:2000 consists of the English text of the European standard EN 515:1993.
Käesolev dokument on jõustatud 11.01.2000 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.	This document is endorsed on 11.01.2000 with the notification being published in the official publication of the Estonian national standardisation organisation.
Standard on kättesaadav Eesti standardiorganisatsioonist.	The standard is available from Estonian standardisation organisation.

<b>Käsitlusala:</b> Standard kehtestab deformeeritava alumiiniumi ja deformeeritavate alumiiniumisulamite mis tahes profiilide margitähised.	<b>Scope:</b>
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**ICS 77.150.10****Võtmesõnad:** alumiinium, alumiiniumisulamid, ribad, tarnetingimus, tähistus, valtsitud pooltoode (peenike täitevarb), valstooted

**EUROPEAN STANDARD  
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Descriptors: Aluminium, aluminium alloys, rolled products, steel strip, wire rod, delivery conditions, designation.

**English version**

**Aluminium and aluminium alloys**

**Wrought products**

**Temper designations**

Aluminium et alliages d'aluminium;  
produits corroyés; désignation des états  
métallurgiques

Aluminium und Aluminiumlegierungen;  
Halbzeug; Bezeichnungen der Werkstoff-  
zustände

This European Standard was approved by CEN on 1993-08-10.

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.

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 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**

## Contents list

<b>Foreword .....</b>	<b>3</b>
<b>1 Scope .....</b>	<b>4</b>
<b>2 Definitions .....</b>	<b>4</b>
2.1 Cold-working .....	4
2.2 Strain-hardening .....	4
2.3 Solution heat-treating .....	4
2.4 Ageing .....	4
2.5 Annealing .....	4
<b>3 Basis of codification.....</b>	<b>4</b>
<b>4 Basic temper designations .....</b>	<b>5</b>
4.1 F - As fabricated .....	5
4.2 O - Annealed .....	5
4.3 H - Strain-hardened .....	5
4.4 W - Solution heat-treated .....	5
4.5 T - Thermally treated to produce stable tempers other than F, O or H .....	5
<b>5 Subdivisions of O (annealed) temper designations .....</b>	<b>5</b>
5.1 O1 - High temperature annealed and slow cooled .....	5
5.2 O2 - Thermo-mechanically processed.....	6
5.3 O3 - Homogenized.....	6
<b>6 Subdivisions of H (strain hardened) temper designations .....</b>	<b>6</b>
6.1 First digit after H .....	6
6.2 Second digit after H .....	6
6.3 Third digit after H .....	7
6.4 Other digits after H .....	8
<b>7 Subdivisions of T (thermally treated to produce tempers other than F, O or H) temper designations .....</b>	<b>8</b>
7.1 First digit after T .....	8
7.2 Additional digits after T .....	10
7.3 Assigned additional digits for T tempers.....	10
7.3.1 Stress-relieved tempers .....	10
7.3.2 Numeral 2 as a second digit after T4 or T6 .....	11
7.3.3 Variations of T7 type tempers .....	11
7.4 Recommendations for further T temper extensions.....	12
7.4.1 Numeral 1 as a second digit after T .....	12
7.4.2 Numerals 1 and 3 to 9 as a second digit after T3, T8 or T9 .....	12
7.4.3 Numerals 1 and 3 to 5 as a second digit after T5 or T6 .....	12
7.4.4 Numeral 6 as a second digit after T5 or T6 .....	12
7.4.5 Summary of possible uses of a second digit after T .....	12
<b>8 Summary .....</b>	<b>13</b>

## Foreword

This European Standard has been drawn up by CEN/TC 132 "Aluminium and aluminium alloys", whose Secretariat is held by the Association Française de Normalisation (AFNOR), in liaison with AECMA (Association Européenne des Constructeurs de Matériel Aérospatial) Committee C5 "Metallic materials".

Within its programme of work, Technical Committee CEN/TC 132 entrusted CEN/TC 132/WG 7 "Sheets, strips and plates" to prepare the following standard :

EN 515 Aluminium and aluminium alloys - Wrought products - Temper designations.

CEN/TC 132 met on 19 and 20 March 1992 in Paris and agreed on the text to be submitted to CEN members for formal vote.

The result of the formal vote 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 February 1994, and conflicting national standards shall be withdrawn at the latest by February 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.

## 1 Scope

This European Standard establishes temper designations for all forms of wrought aluminium and aluminium alloys and for continuously cast aluminium and aluminium alloy drawing stock and strip intended to be wrought.

**NOTE :** Some of these temper designations may be the subject of patent or patent applications, and their listing herein is not to be construed in any way as the granting of a license under such patent right.

Additional temper designations, conforming to this standard, may be standardized with CEN/TC132 and AECMA/C5 provided :

- the temper is used or is available for use by more than one user,
- mechanical property limits are defined,
- the characteristics of the temper are significantly different from those of all other tempers which have the same sequence of basic treatments and for which designations already have been assigned for the same alloy and product
- the following are also defined if characteristics other than mechanical properties are considered significant :
  - test methods and limits for the characteristics, or
  - the specific practices used to produce the temper.

## 2 Definitions

For the purposes of this standard the following definitions apply.

**2.1 cold working :** Plastic deformation of metal at such temperature and rate that strain-hardening occurs.

**2.2 strain-hardening :** Modification of a metal structure by cold working resulting in an increase in strength and hardness with loss of ductility.

**2.3 solution heat-treating :** A thermal treatment which consists of heating the products to a suitable temperature, holding at that temperature long enough to allow constituents to enter into solid solution and cooling rapidly enough to hold the constituents in solution.

**2.4 ageing :** Precipitation from supersaturated solid solution resulting in a change in properties of an alloy, usually occurring slowly at room temperature (natural ageing) and more rapidly at elevated temperatures (artificial ageing).

**2.5 annealing :** A thermal treatment to soften metal by removal of strain-hardening or by coalescing precipitates from solid solution.

## 3 Basis of codification

**3.1** The temper designations are based on the sequences of basic treatments used to produce the various tempers. Property (mechanical or physical) limits apply to individual alloy-temper-product combinations.

**3.2** The temper designation follows the alloy designation; these are separated by a hyphen.