



# SLOVENSKI STANDARD SIST EN 10137-3:1997

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Plates and wide flats made of high yield strength structural steels in the quenched and tempered or precipitation hardened conditions - Part 3: Delivery conditions for precipitation hardened steels

**STANDARD PREVIEW**  
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Blech und Breitflachstahl aus Baustählen mit höherer Streckgrenze im vergüteten oder im ausscheidungsgehärteten Zustand - Teil 3: Lieferbedingungen für ausscheidungsgehärtete Stähle

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Tôles et larges plats en aciers de construction a haute limite d'élasticité a l'état trempé et revenu ou durci par précipitation - Partie 3: Conditions de livraison des aciers durcis par précipitation

**Ta slovenski standard je istoveten z: EN 10137-3:1995**

**ICS:**

77.140.10	Jekla za toplotno obdelavo	Heat-treatable steels
77.140.50	Ú[ z aã\  ^} ãã å^  ãã ][  ã å^ ã	Flat steel products and semi-products

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EUROPEAN STANDARD

EN 10137-3

NORME EUROPÉENNE

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Descriptors: iron and steel products, metal plates, wide flats, steels, structural steels, high yield strength steels, delivery conditions, hardening, chemical composition, grades, quality, designation, mechanical properties, inspection, tests, marking

English version

**Plates and wide flats made of high yield strength structural steels in the quenched and tempered or precipitation hardened conditions - Part 3: Delivery conditions for precipitation hardened steels**

**iTeh STANDARD PREVIEW**

Tôles et larges plats en aciers de construction à haute limite d'élasticité à l'état trempé et revenu ou durci par précipitation - Partie 3: Conditions de livraison des aciers durcis par précipitation

Blech und Breitflachstahl aus Baustählen mit höherer Streckgrenze im vergüteten oder im ausscheidungsgehärteten Zustand - Teil 3: Lieferbedingungen für ausscheidungsgehärtete Stähle

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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.

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**CEN**

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

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## Foreword

This European Standard has been prepared by the Technical Committee ECISS/TC 10 "Structural steel - Qualities", the secretariat of which is held by NNI.

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 Mars 1996, and conflicting national standards shall be withdrawn at the latest by Mars 1996.

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

Part 3 of this European Standard, in addition to Part 1, specifies requirements for plates and wide flats of high yield strength alloy special steels.

The grades and qualities are given in table 1 (chemical composition) and tables 2 and 3 (mechanical properties) and are supplied in the precipitation hardened condition as given in 7.2.

The steels specified in this European Standard are applicable to hot-rolled plates and wide flats with a nominal thickness of  $\geq 3$  mm and  $\leq 70$  mm.

## 2 Normative references

The normative references as given in EN 10137-1 shall apply.

## 3 Definitions

The definitions given in EN 10137-1 shall apply.

## 4 Information to be supplied by the purchaser

### 4.1 General

The information to be supplied by the purchaser shall be in accordance with EN 10137-1.

### 4.2 Options

The options given in EN 10137-1 shall apply.

## 5 Dimensions, mass and tolerances

### 5.1 Dimensions and tolerances

The dimensions and tolerances shall be in accordance with EN 10137-1.

### 5.2 Mass of steel

The calculated mass of steel shall be determined in accordance with EN 10137-1.

## 6 Classification and designation

### 6.1 Classification

#### 6.1.1 Classification

The steel grades of Part 3 of this European Standard are alloy special steels according to EN 10020.

#### 6.1.2 Qualities

All the grades in Part 3 of this European Standard can be delivered in the following qualities as specified at the time of the enquiry and order:

- (no symbol) with specified minimum values of impact energy at temperatures not lower than - 20 °C;
- L with specified minimum values of impact energy at temperatures not lower than - 40 °C;

#### 6.2 Designation

The designation shall comply with EN 10137-1.

## 7 Technical requirements

### 7.1 Steel manufacturing process

The steel manufacturing process shall be in accordance with EN 10137-1. See clause 11, option 1.

### 7.2 Delivery condition

Unless otherwise agreed at the time of the enquiry and order the products shall be supplied in the precipitation hardened condition (A).

### 7.3 Chemical composition

7.3.1 The chemical composition determined by ladle analysis shall comply with the specified values of table 1.

7.3.2 The values for permissible deviations of the product analysis from the specified limits of the ladle analysis are as specified in table 1 of EN 10137-1. The manufacturer shall inform the purchaser at the time of the enquiry and order which of the alloying elements appropriate to the steel grade required will be deliberately added to the material to be delivered.

7.3.3 The product analysis shall be carried out when specified at the time of the enquiry and order. See clause 11, option 2.

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#### 7.4 Mechanical properties

##### 7.4.1 General

Under the inspection and testing conditions as specified in clause 8 and in the delivery condition as specified in 7.2 the mechanical properties shall comply with the values given in tables 2 and 3.

##### 7.4.2 Impact energy

The verification of the impact energy values shall be carried out in accordance with EN 10137-1.

See clause 11, option 3.

See clause 11, option 4.

##### 7.4.3 Improved deformation properties perpendicular to the surface

If agreed at the time of the enquiry and order the requirements of EN 10137-1 shall apply.

See clause 11, option 5.

#### 7.5 Technological properties

##### 7.5.1 Weldability

Weldability shall be in accordance with EN 10137-1.

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##### 7.5.2 Formability

NOTE: Recommendations regarding hot and cold forming are laid down in ECSC IC 2.

##### 7.5.2.1 Hot forming

The products shall comply with tables 2 and 3 if hot forming is carried out after delivery (see 7.4.1). Hot forming is only permitted up to the stress relief annealing temperature. For higher temperatures the manufacturer shall be consulted.

##### 7.5.2.2 Cold forming

If specified at the time of the enquiry and order plates and wide flats ordered and supplied in the precipitation hardened condition with a nominal thickness  $\leq 16$  mm are suitable for flanging without cracking with the indicative values for the inside bend radii for cold forming as given in Annex A.

See clause 11, option 6.

##### 7.5.3 Other requirements

If specified at the time of the enquiry and order the grades S500A and S500AL shall be suitable for hot-dip zinc-coating and shall comply with the relevant product quality requirements.

See clause 11, option 7.



## 7.6 Surface finish

The surface finish shall be in accordance with EN 10137-1. Repair of surface defects by welding is not allowed.

## 7.7 Internal soundness

The internal soundness shall be in accordance with EN 10137-1.  
See clause 11, option 8.

## 8 Inspection and testing

### 8.1 General

The products shall be supplied in accordance with 8.1 of EN 10137-1.  
See clause 11, option 9.

### 8.2 Sampling

Sampling shall be in accordance with EN 10137-1.

### 8.3 Test units

The test unit shall be in accordance with EN 10137-1.  
See clause 11, option 10.  
See clause 11, option 11.

### 8.4 Verification of chemical composition

The verification of the chemical composition shall be in accordance with EN 10137-1.  
See clause 11, option 2.

### 8.5 Preparation of samples and test pieces

The preparation of samples and test pieces shall be in accordance with EN 10137-1.

### 8.6 Test methods

The test methods shall be in accordance with EN 10137-1.  
See clause 11, option 12.

### 8.7 Retests and resubmission for testing

The retests and resubmission for testing shall be in accordance with EN 10137-1.

### 8.8 Inspection documents

The inspection documents shall comply with EN 10137-1.