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SIST EN 10132-2:2000

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EUROPEAN STANDARD

EN 10132-2

NORME EUROPÉENNE

EUROPÄISCHE NORM

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English version

## Cold rolled narrow steel strip for heat treatment - Technical delivery conditions - Part 2: Case hardening steels

Feuillards laminés à froid pour traitement thermique -  
Conditions techniques de livraison - Partie 2: Aciers pour  
cémentation

Kaltband aus Stahl für eine Wärmebehandlung -  
Technische Lieferbedingungen - Teil 2: Einsatzstahl

This European Standard was approved by CEN on 3 January 2000.

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, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

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

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## Foreword

This European Standard has been prepared by Technical Committee ECISS/TC 23 "Steels for heat treatment, alloy steels and free-cutting steels - Qualities and dimensions", the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by August 2000, and conflicting national standards shall be withdrawn at the latest by August 2000.

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association. This European Standard is considered to be a supporting standard to those application and product standards which in themselves support an essential safety requirement of a New Approach Directive and which make reference to this European Standard.

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.

The European Standard EN 10132 "Cold rolled narrow steel strip for heat-treatment - Technical delivery conditions" is subdivided as follows:

- Part 1: General;
- Part 2: Case hardening steels;
- Part 3: Steels for quenching and tempering;
- Part 4: Spring steels and other special applications.

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## 1 Scope

**1.1** This part of EN 10132 applies to non-alloy and alloy cold rolled narrow steel strip for case hardening with thicknesses up to 10 mm for general applications.

**1.2** This EN 10132-2 is complemented by EN 10132-1.

## 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 10020, *Definition and classification of grades of steel*

EN 10132-1, *Cold rolled narrow steel strip for heat treatment - Technical delivery conditions - Part 1: General*

## 3 Terms and definitions

For the purposes of this standard, the terms and definitions given in EN 10132-1 apply.

## 4 Classification and designation

### 4.1 Classification

All steels covered by this European Standard are classified according to EN 10020. Steel grades C10E and C15E are non-alloy special steels, steel grades 16MnCr5 and 17Cr3 are alloy special steels.

### 4.2 Designation

See EN 10132-1.

## 5 Information to be supplied by the purchaser

See EN 10132-1.

## 6 Manufacturing process

See EN 10132-1.

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## 7 Requirements

### 7.1 General

See EN 10132-1.

### 7.2 Method of delivery

See EN 10132-1.

### 7.3 Delivery condition

Cold rolled narrow steel strip covered by EN 10132-2 shall be supplied in one of the following delivery conditions:

- annealed or annealed and skin passed (+A or +LC)
- cold rolled (+CR)

### 7.4 Chemical composition

#### 7.4.1 Cast analysis

The chemical composition shall be in accordance with the values specified in table 1 for the cast analysis.

#### 7.4.2 Product analysis

In cases where a product analysis is requested, the admissible deviations from the values specified for the cast analysis are indicated in table 2.

### 7.5 Mechanical properties

The mechanical properties of the strip shall be in accordance with the values given in table 3.

NOTE For those customers who specify Rockwell hardness rather than Vickers hardness or tensile strength, a table is given in A.1, showing Rockwell hardness values for information.

### 7.6 Structure

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#### 7.6.1 Grain size

See EN 10132-1.

#### 7.6.2 Non-metallic inclusions

See EN 10132-1.

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### **7.7 Surface finish**

The surface finish of cold rolled narrow steel strip shall be bright as achieved by rolling and annealing in a controlled atmosphere.

### **7.8 Dimensions and tolerances on dimensions and shape**

See EN 10132-1.

### **8 Inspection**

See EN 10132-1.

### **9 Sampling**

See EN 10132-1.

### **10 Test methods**

See EN 10132-1.

### **11 Labelling, packaging and protection**

See EN 10132-1.

### **12 Retests**

See EN 10132-1.

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**Table 1 - Steel grades and chemical composition <sup>a</sup> (cast analysis)**

Steel designation		% by mass					
name	number	C	Si max.	Mn	P max.	S max.	Cr
C10E	1.1121	0,07 to 0,13	0,40	0,30 to 0,60	0,035	0,035	max. 0,40
C15E	1.1141	0,12 to 0,18	0,40	0,30 to 0,60	0,035	0,035	max. 0,40
16MnCr5	1.7131	0,14 to 0,19	0,40	1,00 to 1,30	0,035	0,035	0,80 to 1,10
17Cr3	1.7016	0,14 to 0,20	0,40	0,60 to 0,90	0,035	0,035	0,70 to 1,00

<sup>a</sup> Elements not quoted in this table shall not be intentionally added to the steel without the agreement of the purchaser, other than for the purpose of finishing the heat. All reasonable precautions shall be taken to prevent the addition, from scrap or other material used in manufacture, of such elements which affect the mechanical properties and application.

**Table 2 - Permissible deviations between the product analysis and the limiting values given in table 1 for the cast analysis**

Element	Permissible maximum content in the cast analysis	Permissible deviation <sup>a</sup>
	% by mass	% by mass
C	≤ 0,20	± 0,02
Si	≤ 0,40	+ 0,03
Mn	≤ 1,00	± 0,04
	> 1,00 ≤ 1,30	± 0,05
P	≤ 0,035	+ 0,005
S	≤ 0,035	+ 0,005
Cr	≤ 0,40	+ 0,03
	> 0,40 ≤ 1,10	± 0,04

<sup>a</sup> ± means that in one cast the deviation may occur over the upper value or under the lower value of the specified range in table 1, but not both at the same time.

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