



SLOVENSKI STANDARD

SIST EN 10092-2:2004

01-junij-2004

Hot rolled spring steel flat bars - Part 2: Ribbed and grooved spring leaves - Dimensions and tolerances on shape and dimensions

Hot rolled spring steel flat bars - Part 2: Ribbed and grooved spring leaves - Dimensions and tolerances on shape and dimensions

Warmgewalzte Flachstäbe aus Federstahl - Teil 2: Gerippter Federstahl - Maße, Formtoleranzen und Grenzabmaße

Plats laminés a chaud en aciers a ressort - Partie 2: Plats pour lames de ressorts rainées et nervurées - Dimensions et tolérances sur la forme et les dimensions

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Ta slovenski standard je istoveten z: EN 10092-2:2003

ICS:

77.140.25	Vzmetna jekla	Spring steels
77.140.60	Jeklene palice in drogovi	Steel bars and rods

SIST EN 10092-2:2004

en

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 10092-2

October 2003

ICS 77.140.25; 77.140.60

English version

Hot rolled spring steel flat bars - Part 2: Ribbed and grooved spring leaves - Dimensions and tolerances on shape and dimensions

Plats laminés à chaud en aciers à ressort - Partie 2: Plats
pour lames de ressorts rainées et nervurées - Dimensions
et tolérances sur la forme et les dimensions

Warmgewalzte Flachstäbe aus Federstahl - Teil 2:
Gerippter Federstahl - Maße, Formtoleranzen und
Grenzabmaße

This European Standard was approved by CEN on 4 September 2003.

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 Management Centre 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 Management Centre 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, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

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

Management Centre: rue de Stassart, 36 B-1050 Brussels

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Foreword

This document (EN 10092-2:2003) has been prepared by Technical Committee ECISS/TC 11 "*Structural steel sections and hot rolled steel bars for engineering use — Dimensions and tolerances*", the secretariat of which is held by BSI.

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 April 2004, and conflicting national standards shall be withdrawn at the latest by April 2004.

This European Standard replaces:

EURONORM 92-75 *Hot rolled flats for spring leaves.*

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, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

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EN 10092-2:2003 (E)**1 Scope**

This Part of this European Standard specifies the nominal dimensions and the tolerances on dimensions and shape of hot rolled spring steel flat bars for ribbed and grooved spring leaves.

This standard is applicable only to steel flats produced from steel grades specified in EN 10089.

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 (including amendments).

EN 10079:1992, *Definition of steel products*

EN 10089, *Hot-rolled steels for quenched and tempered springs - Technical delivery conditions*

3 Terms and definitions

For the purposes of this European Standard the terms and definitions given in EN 10079:1992 apply.

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4 Designation

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The designation of hot-rolled spring steel flat bars for spring leaves shall comprise:

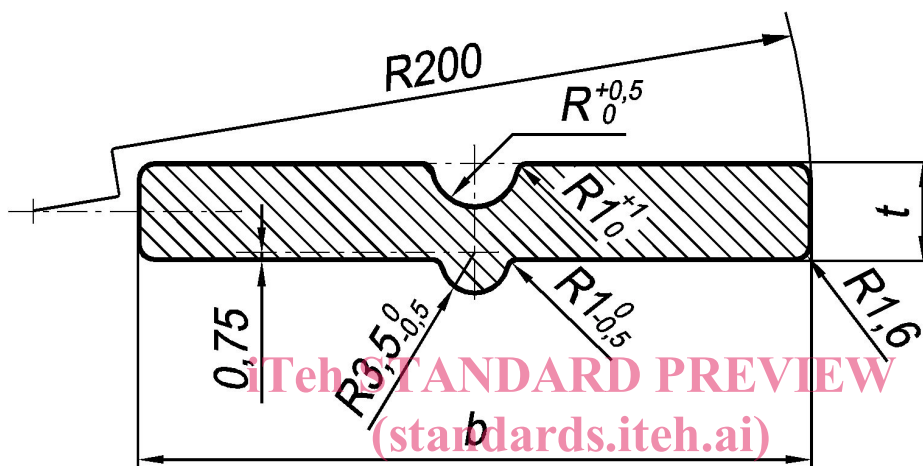
- the term " Spring steel flat bar";
- the number of this European Standard (EN 10092-2);
- dimensions in mm (width x thickness x length (M, F or E, see table 3));
- the number of the quality standard (EN 10089) and the steel name or steel number of the ordered steel;

EXAMPLE

Spring steel flat bar EN 10092-2 - 60x10x3000F
steel EN 10089 - 51CrV4

5 Dimensions

Hot rolled flats for ribbed and grooved spring leaves complying with this European Standard shall be produced with the specified dimensions given in table 1 and illustrated in figure 1.



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Figure 1 — Hot rolled flat for ribbed and grooved spring leaves

Table 1 — Dimensions and mass of hot rolled flats for spring leaves

Dimensions in millimetres

Thickness t	8	9	10	13	14	15	16	20
R min.	3,25		4,5					
Width b	Mass ^a in kg/m							
60	3,68							
70			5,34					
75						8,68		
90		6,32	6,91	9,03			11,2	
100				10,1		11,6	12,4	
120				12,1	13,0	14,0	14,9	18,7

^a Calculated using a density of 7,85 kg/dm³.

EN 10092-2:2003 (E)**6 Tolerances on dimensions and shape****6.1 Thickness (t)**

The deviation from nominal thickness (t) shall be within the tolerance given in table 2.

6.2 Width (b)

The deviation from nominal width (b) shall be within the tolerance given in table 2.

6.3 Length (L)

Depending on the type of length the flats shall be cut to lengths within tolerances given in table 3.

6.4 Straightness (q)

The straightness shall comply with the requirements given in table 2.

6.5 Convexity and Concavity

The convexity and concavity shall comply with the requirements given in table 2.

6.6 Lateral offset of the groove and the rib

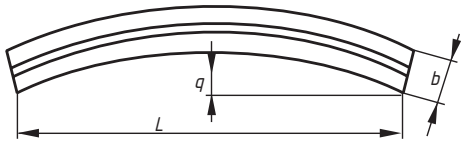
The lateral offset of the groove and the rib shall comply with the requirements given in table 2.

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Table 2 — Tolerances on dimensions and shape of hot rolled flats for spring leaves

Width b	Limit deviation	
	$\pm 0,5$	
Thickness t	Nominal dimension	Limit deviation
	$t \leq 13$ $13 < t$	$\pm 0,2$ $\pm 0,3$
Convexity	0	
Concavity ^a	Nominal thickness of leaf	Reduction of thickness (difference between the thickness at the edge and the centre of the leaf)
	$t \leq 10$ $10 < t$	$\leq 0,2$ $\leq 0,3$
Lateral offset of the groove and the rib	$\leq 0,3$	
Straightness q	Tolerance	
 <p>The diagram shows a curved spring leaf of length L and width b. A vertical line from the center of the leaf to the top surface is labeled q, representing the straightness tolerance.</p>	$q \leq 0,15 \% \text{ of } L$	
<p>^a The faces may be slightly concave but the resultant total thickness shall be reduced by no more than the values.</p>		

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