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**SVENSK STANDARD**  
**SS-EN 10092-1**

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Utgåva 1

## **Varmvalsad plattstång av fjäderstål –**

Del 1: Plattstång – Dimensioner och toleranser för  
form och dimensioner

## **Hot rolled spring steel flat bars –**

Part 1: Flat bars – Dimensions and tolerances on  
shape and dimensions

ICS 77.140.25; 77.140.60

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EUROPEAN STANDARD

**EN 10092-1**

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2003

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ICS 77.140.25; 77.140.60

English version

## Hot rolled spring steel flat bars - Part 1: Flat bars - Dimensions and tolerances on shape and dimensions

Hexagones en acier laminés à chaud - Partie 1:  
Dimensions et tolérance sur la forme et les dimensions

Warmgewalzte Flachstäbe aus Federstahl - Teil 1:  
Flachstäbe - Maße, Formtoleranzen und Grenzabmaße

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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.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
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## **Foreword**

This document (EN 10092-1:2003) 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of an identical text or by endorsement, at the latest by April 2004, and conflicting national standards shall be withdrawn at the latest by April 2004.

The annex A of this European Standard is informative.

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.

## EN 10092-1:2003 (E)

### 1 Scope

This Part of this European Standard specifies the nominal dimensions and the tolerances on dimensions and shapes of hot rolled steel flat bars for springs with three different types of profiles (A, B, and C). Formulas for calculation the moment of inertia are specified in annex A.

This standard is applicable only to spring steel flat bars 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.

### 4 Designation

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

- the term "Spring steel flat bar";
- the number of this European Standard (EN 10092-1);
- type of profile A, B, or C;
- dimensions in mm (width x thickness x length (M, F or E, see Table 5));
- 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 10092-1- B - 60x10x6800M

steel EN 10089 - 51CrV4

## 5 Dimensions

Hot rolled spring steel flat bars complying with this European Standard shall be delivered with the specified dimensions range given in Tables 1 to 3 and illustrated in Figures 1 to 3. The preferred dimensions are

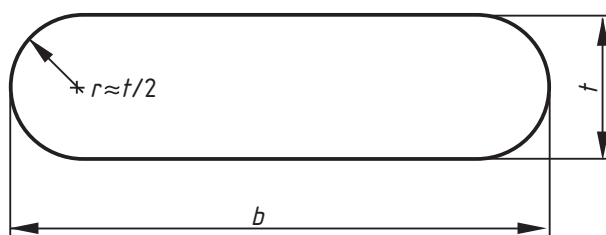


Figure 1 — Profile A: Hot rolled spring steel flat bar with halfrounded edges

EN 10092-1:2003 (E)

**Table 1 — Dimensions and mass (kg/m) of hot rolled spring steel flat bars. Profile A with halfrounded edges**

Thickness <i>t</i> mm	Width, <i>b</i> mm										
	50	60	70	80	90	100	110	120	130	140	150
5	1,92	2,31	2,71	3,10							
6	2,29	2,77	3,24	3,71	4,18						
7	2,66	3,21	3,76	4,31	4,86	5,41	5,96				
8	3,03	3,66	4,29	4,92	5,54	6,17	6,80	7,43	8,06		
9	3,40	4,10	4,81	5,52	6,22	6,93	7,64	8,34	9,05	9,75	10,46
10	3,76	4,54	5,33	6,11	6,90	7,68	8,47	9,25	10,04	10,82	11,61
11	4,11	4,98	5,84	6,70	7,57	8,43	9,29	10,16	11,02	11,89	12,75
12	4,47	5,41	6,35	7,29	8,24	9,18	10,12	11,06	12,00	12,95	13,89
13	4,82	5,84	6,86	7,88	8,90	9,92	10,94	11,96	12,98	14,00	15,02
14	5,16	6,26	7,36	8,46	9,56	10,66	11,76	12,86	13,96	15,06	16,15
15	5,51	6,69	7,86	9,04	10,22	11,40	12,57	13,75	14,93	16,11	17,28
16	5,85	7,10	8,36	9,62	10,87	12,13	13,38	14,64	15,90	17,15	18,41
17	6,19	7,52	8,85	10,19	11,52	12,86	14,19	15,53	16,86	18,20	19,53
18	6,52	7,93	9,35	10,76	12,17	13,58	15,00	16,41	17,82	19,24	20,65
19	6,85	8,34	9,83	11,32	12,82	14,31	15,80	17,29	18,78	20,27	21,76
20	7,18	8,75	10,32	11,89	13,46	15,03	16,60	18,17	19,74	21,31	22,88
21		9,15	10,80	12,45	14,09	15,74	17,39	19,04	20,69	22,34	23,98
22		9,55	11,27	13,00	14,73	16,45	18,18	19,91	21,64	23,36	25,09
23		9,94	11,75	13,55	15,36	17,16	18,97	20,77	22,58	24,39	26,19
24		10,33	12,22	14,10	15,99	17,87	19,75	21,64	23,52	25,41	27,29
25			12,68	14,65	16,61	18,57	20,53	22,50	24,46	26,42	28,38
26			13,15	15,19	17,23	19,27	21,31	23,35	25,39	27,44	29,48
27			13,61	15,73	17,85	19,97	22,09	24,21	26,33	28,44	30,56
28			14,07	16,26	18,46	20,66	22,86	25,06	27,25	29,45	31,65
29			14,52	16,80	19,07	21,35	23,62	25,90	28,18	30,45	32,73
30			14,97	17,32	19,68	22,03	24,39	26,74	29,10	31,45	33,81
31				17,85	20,28	22,72	25,15	27,58	30,02	32,45	34,88
32				18,37	20,88	23,39	25,91	28,42	30,93	33,44	35,95
33				18,89	21,48	24,07	26,66	29,25	31,84	34,43	37,02
34				19,40	22,07	24,74	27,41	30,08	32,75	35,42	38,09
35				19,92	22,66	25,41	28,16	30,91	33,65	36,40	39,15
36					23,25	26,08	28,90	31,73	34,55	37,38	40,21
37					23,83	26,74	29,64	32,55	35,45	38,36	41,26
38					24,41	27,40	30,38	33,36	36,35	39,33	42,31
39					24,99	28,05	31,11	34,18	37,24	40,30	43,36
40					25,56	28,70	31,84	34,98	38,12	41,26	44,40