

Hot rolled steel equal flange tees with radiused root and toes — Dimensions and tolerances on shape and dimensions

The European Standard EN 10055:1995 has the status of a
British Standard

ICS 77.140.70

Committees responsible for this British Standard

The preparation of this British Standard was entrusted to Technical Committee ISE/13, Structural steel, upon which the following bodies were represented:

- British Constructional Steelwork Association Ltd.
- British Iron and Steel Producers' Association
- Health and Safety Executive

This British Standard, having been prepared under the direction of the Engineering Sector Board, was published under the authority of the Standards Board and comes into effect on 15 July 1996

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National foreword

This British Standard has been prepared by Technical Committee ISE/13 and is the English language version of EN 10055:1995 *Hot rolled steel equal flange tees with radiused root and toes — Dimensions and tolerances on shape and dimensions* published by the European Committee for Standardization (CEN).

Cross-references

Publication referred to	Corresponding British Standard
EN 10025:1993	BS EN 10025:1993 <i>Hot rolled products of non-alloy structural steels. Technical delivery conditions</i>
EN 10079:1992	BS EN 10079:1993 <i>Definition of steel products</i>

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the EN title page, pages 1 to 6 and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

ICS 77.140.70

Descriptors: Iron and steel products, hot rolled products, T bars, steels, designation, dimensions, dimensional tolerances, form tolerances

English version

Hot rolled steel equal flange tees with radiused root and toes — Dimensions and tolerances on shape and dimensions

Fers T en acier à ailes égales et à coins arrondis
en acier laminés à chaud — Dimensions et
tolérances sur la forme et les dimensions

Warmgewalzter gleichschenkliger T-Stahl mit
gerundeten Kanten und Übergängen — Maße,
Grenzabmaße und Formtoleranzen

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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

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

Foreword

This European Standard has been prepared by Technical Committee ECISS/TC11, Structural steel sections, of which the Secretariat is held by BSI.

The discussions within ECISS/TC11 were based on Euronorm 55.

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

This European Standard specifies requirements for the nominal dimensions and the tolerances on dimensions, shape and mass of hot-rolled steel equal flange tees with radiused root and toes. These requirements do not apply to equal flange tees produced from stainless steel.

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 10025, *Hot rolled products of non alloy structural steels and their technical delivery conditions*.

EN 10079, *Definition of steel products*.

3 Definitions

For the purpose of this European Standard the definitions given in EN 10079 apply.

4 Designation

The designation of the hot-rolled equal flanged tees shall comprise:

- the term “tee”;
- the number of this European Standard;
- the letter T;
- the height h in mm;
- number of the quality standard and the steel name or steel number of the ordered steel.

Example: Tee EN 10055 — T 40 — steel
EN 10025 — S 235JR

5 Dimensions

Hot-rolled equal flange tees with radiused root and toes complying with this European Standard shall be produced with the dimensions given in Table 1 and illustrated in Figure 1.

6 Tolerances on dimensions and shape

6.1 Section height (h)

The deviation from nominal on section height (h) shall be within the tolerance given in Table 2.

6.2 Flange width (b)

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

6.3 Web thickness (s)

The deviation from nominal on web thickness, when measured at a distance $\frac{h}{2}$ from the outer edge of the web shall be within the tolerance given in Table 2.

6.4 Flange thickness (t)

The deviation from nominal on flange thickness when measured at a distance of $\frac{b}{4}$ from the outer edge of the flange shall be within the tolerance given in Table 2.

6.5 Out of square (k)

The out of squareness of the section shall not exceed the maximum given in Table 2.

6.6 Symmetry (e)

The tolerance on symmetry shall not be greater than that given in Table 2 where

$$e = \frac{b_1 - b_2}{2}$$

6.7 Straightness (q_{xx} or q_{yy})

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

7 Tolerance on mass

The mass of a piece shall be within – 8 % of the calculated mass for thicknesses $4 \text{ mm} \leq s$ and $t \leq 7 \text{ mm}$ (see Table 2) and within – 6 % of the calculated mass for s and $t > 7 \text{ mm}$. The calculated mass shall be determined using a density of $7,85 \text{ kg/dm}^3$.

8 Tolerance on length

The sections shall be cut to ordered lengths (L) to tolerances in accordance with Table 2.

NOTE L represents the longest useable length of the section assuming that the ends of the section have been cut square.

Table 1 — Designation and dimensions of hot rolled steel equal flange tees with radiused root and toes

Designation	Mass	Cross-section	Dimensions						Position of centre of gravity	Characteristics with respect to the axis						
			Height	Width	Thickness	Radii				X – X			Y – Y			
			<i>h</i>	<i>b</i>	<i>s</i> and <i>t</i>	<i>r</i>	<i>r</i> ₁	<i>r</i> ₂		<i>d</i>	<i>I</i> _x	$\frac{I_x}{v_x}$	<i>i</i> _x	<i>I</i> _y	$\frac{I_y}{v_y}$	<i>i</i> _y
			mm							cm	cm ⁴	cm ³	cm	cm ⁴	cm ³	cm
T30	1,77	2,26	30	30	4	4	2	1	0,85	1,72	0,80	0,87	0,87	0,58	0,62	
T35	2,33	2,97	35	35	4,5	4,5	2,5	1	0,99	3,10	1,23	1,04	1,57	0,90	0,73	
T40	2,96	3,77	40	40	5	5	2,5	1	1,12	5,28	1,84	1,18	2,58	1,29	0,83	
T50	4,44	5,66	50	50	6	6	3	1,5	1,39	12,1	3,36	1,46	6,06	2,42	1,03	
T60	6,23	7,94	60	60	7	7	3,5	2	1,66	23,8	5,48	1,73	12,2	4,07	1,24	
T70	8,32	10,6	70	70	8	8	4	2	1,94	44,5	8,97	2,05	22,1	6,32	1,44	
T80	10,7	13,6	80	80	9	9	4,5	2	2,22	73,7	12,8	2,33	37,0	9,25	1,65	
T100	16,4	20,9	100	100	11	11	5,5	3	2,74	179	24,6	2,92	88,3	17,7	2,05	
T120	23,2	29,6	120	120	13	13	6,5	3	3,28	366	42,0	3,51	178	29,7	2,45	
T140	31,3	39,9	140	140	15	15	7,5	4	3,80	660	64,7	4,07	330	47,2	2,88	

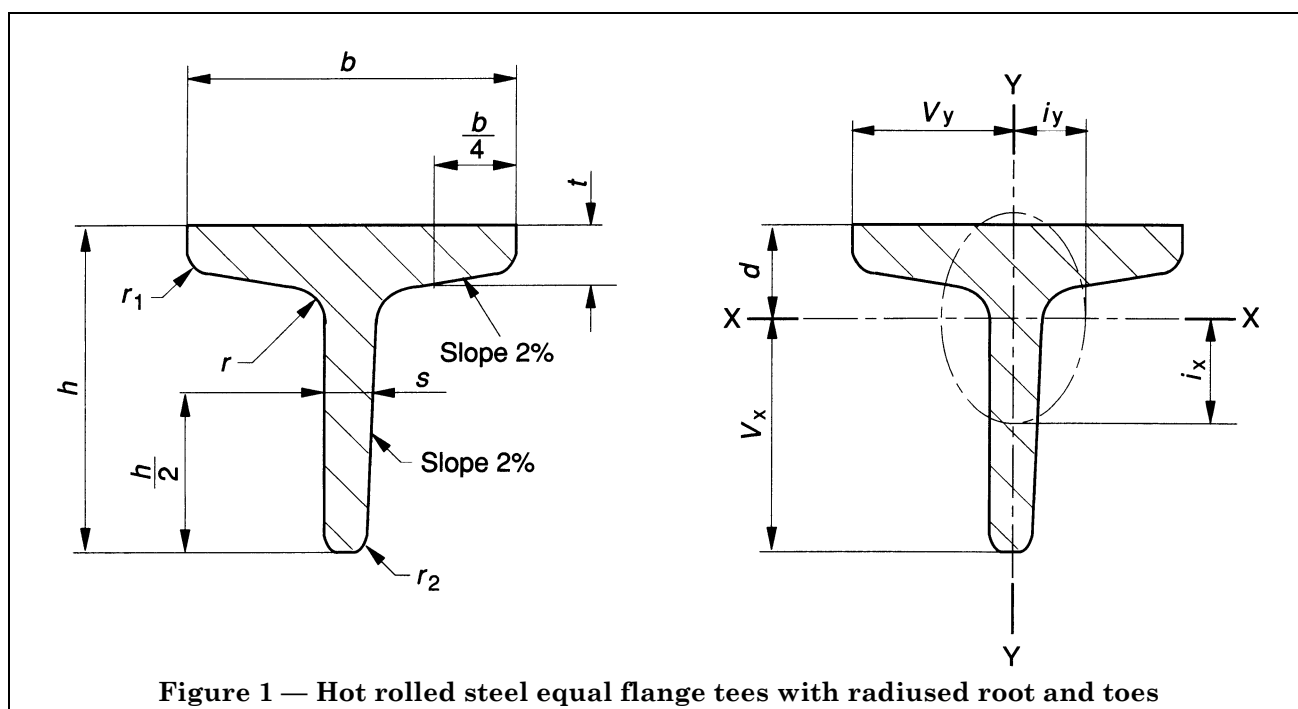
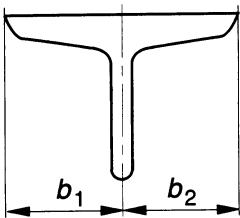
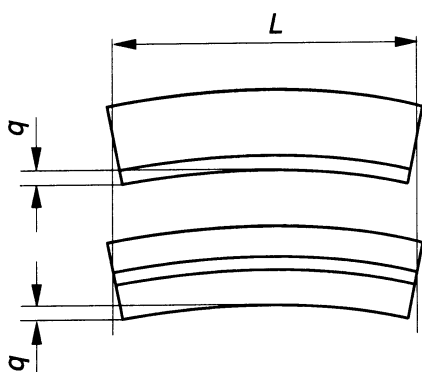


Figure 1 — Hot rolled steel equal flange tees with radiused root and toes

Table 2 — Tolerances on dimensions and shape of hot rolled steel equal flange tees with radiused root and toes

1	Cross-section	Nominal dimensions	Tolerances on	
			b, h	s, t
		$b \leq 50$ $50 < b \leq 100$ $100 < b$	± 1 $\pm 1,5$ $\pm 2,0$	$\pm 0,5$ $\pm 0,75$ $\pm 1,0$
2	Squareness k	Nominal dimensions	Tolerances	
			$k \leq 1$ $k \leq 1,5$	
		$b, h \leq 100$ $100 < b, h$		

Table 2 — Tolerances on dimensions and shape of hot rolled steel equal flange tees with radiused root and toes

3	<i>Symmetry e</i> 	$e = \frac{b_1 - b_2}{2}$	
		Nominal dimensions	Tolerances
		$b \leq 60$ $60 < b$	$e \leq 1$ $e \leq 1,5$
4	<i>Length L</i> <i>L</i> represents the longest useable length of the section, assuming that the ends of the section have been cut square. The tolerances required shall be stated in the order. If agreed at the time of enquiry and order, either all plus tolerances or all minus tolerances may be accepted.		Tolerances
		Normal tolerances	± 100
		Finer tolerances	± 50
			± 25
5	<i>Straightness q</i> 	Normal straightness: the deviation <i>q</i> is measured over the total length <i>L</i> of the section	
		Nominal dimensions	Tolerances
		$50 \leq b, h \leq 100$	$q \leq 0,4 \text{ \% of } L$
		6	<i>Mass: applicable to individual sections</i>
$4 \leq s, t \leq 7$	$- 8 \text{ \%}$		
$7 < s, t$	$- 6 \text{ \%}$		
The deviation in mass of sections taken individually, is the difference between the supplied mass and the theoretical mass of each section.			

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