Hot-rolled steel channels

Tolerances on shape, dimensions and mass

English version of DIN EN 10279

DIN EN 10279

ICS 77.140.10; 77.140.70

Warmgewalzter U-Profilstahl – Grenzabmaße, Formtoleranzen und Grenzabweichungen der Masse

This standard, together with DIN 1026-1, March 2000 edition, supersedes DIN 1026, October 1963 edition.

European Standard EN 10279 : 2000 has the status of a DIN Standard.

A comma is used as the decimal marker.

National foreword

This standard has been prepared by ECISS/TC 11.

The responsible German body involved in the preparation of this standard was the *Normenausschuss Eisen und Stahl* (Steel and Iron Standards Committee), Subcommittee *Warmgewalzte Profilerzeugnisse*.

Amendments

DIN 1026, October 1963 edition, has been superseded by the specifications of EN 10279.

Previous editions

DIN 1026: 1959-07, 1963-10; DIN 1612: 1924-09, 1932-01, 1943x-03.

EN comprises 6 pages.

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EUROPEAN STANDARD
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EUROPÄISCHE NORM

EN 10279

January 2000

ICS 77.140.70

English version

Hot-rolled steel channels

Tolerances on shape, dimensions and mass

Profilés en U en acier laminés à chaud – Tolérances sur la forme, les dimensions et la masse

Warmgewalzter U-Profilstahl – Grenzabmaße, Formtoleranzen und Grenzabweichungen der Masse

This European Standard was approved by CEN on 1999-11-22.

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.

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

CEN

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

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

Ref. No. EN 10279 : 2000 E

Contents

Foreword

This European Standard 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 July 2000, and conflicting national standards shall be withdrawn at the latest by July 2000.

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

The discussions within ECISS/TC11 were based on DIN 1026 and BS 4: Part 1.

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.

1 Scope

This European Standard specifies requirements for the tolerances on dimensions, shape and mass of hot-rolled steel channels with tapered flanges or parallel flanges. These requirements do not apply to channels 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 10079, *Definition of steel products*

3 Definitions

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

4 Tolerances on dimensions and shape

4.1 Section height (h)

The deviation from nominal on section height (h) shall be within the tolerance given in Table 1 for tapered flange channels and in Table 2 for parallel flange channels. Height is measured over the web.

4.2 Flange width (b)

The deviation from nominal on flange width (b) shall be within the tolerance given in Table 1 for tapered flange channels and in Table 2 for parallel flange channels.

4.3 Web thickness (s)

The deviation from nominal on web thickness (s) when measured at the mid-height position of the web, shall be within the tolerance given in table 1 for tapered flange channels and in table 2 for parallel flange channels.

4.4 Flange thickness (t)

The deviation from nominal on flange thickness (t), when measured at a distance of $b/2$ from the toe of the flange, shall be within the tolerance given in table 1 for tapered flange channels and in table 2 for parallel flange channels.

4.5 Heel radius (r_3)

The radius of the heel radius (r_3) shall not exceed $0{,}3t$ where t is the flange thickness.

4.6 Out of squareness ($k + k_1$) and web bow (f)

4.6.1 The out of squareness of the section ($k + k_1$) shall not exceed the maximum given in table 1 for tapered flange channels and in Table 2 for parallel flange channels.

4.6.2 The web flatness (f) shall not exceed the values given in Table 1 for tapered flange channels and in Table 2 for parallel flange channels.

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

The straightness (q_{xx} or q_{yy}) shall conform to the requirements given in Table 1 for tapered flange channels and in Table 2 for parallel flange channels.

5 Mass

The deviation between the effective value and the nominal value of the mass per unit length shall comply, for any piece, with the requirements given in Table 1 for tapered flange channels and in Table 2 for parallel flange channels.
The nominal value of mass per unit length shall be determined using a density of 7,85 kg/dm^3.

6 Length (l)

The sections shall be cut to ordered lengths to tolerances of either

a) $^{+100}_{0}$ mm

or, by agreement between the purchaser and manufacturer,

b) ± 50 mm

Table 1 — Tolerances for taper flange channels

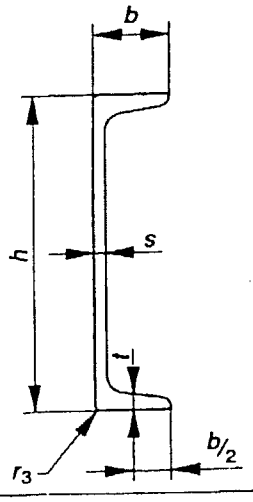
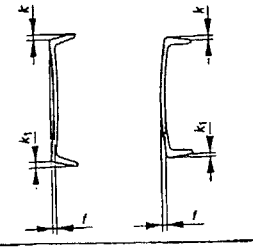
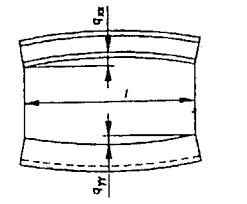
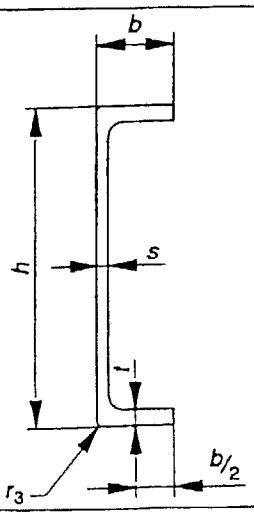
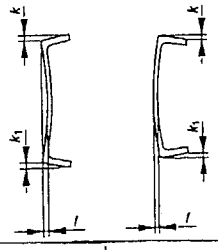
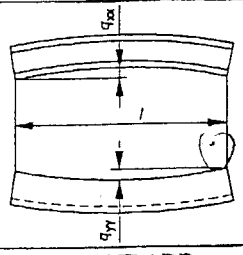
DESIGNATION	PROPERTY	RANGE mm	TOLERANCE mm
	HEIGHT h	$h \leq 65$ $65 < h \leq 200$ $200 < h \leq 400$ $400 < h$	± 1,5 ± 2,0 ± 3,0 ± 4,0
	FLANGE WIDTH b	$b \leq 50$ $50 < b \leq 100$ $100 < b \leq 125$ $125 < b$	± 1,5 ± 2,0 ± 2,5 ± 3,0
	WEB THICKNESS s	$s \leq 10$ $10 < s \leq 15$ $15 < s$	± 0,5 ± 0,7 ± 1,0
	FLANGE THICKNESS t	$t \leq 10$ $10 < t \leq 15$ $15 < t$	a - 0,5 a - 1,0 a - 1,5
	HEEL RADIUS r_3	All Sizes	$\leq 0{,}3t$
	OUT OF SQUARENESS $k+k_1$	$b \leq 100$ $100 < b$	2,0 2,5% of b
	WEB FLATNESS f	$h \leq 100$ $100 < h \leq 200$ $200 < h \leq 400$ $400 < h$	± 0,5 ± 1,0 ± 1,5 ± 1,5
	STRAIGHTNESS q_{xx} q_{yy}	$h \leq 150$ $150 < h \leq 300$ $300 < h$ $h \leq 150$ $150 < h \leq 300$ $300 < h$	± 0,3% of l ± 0,2% of l ± 0,15% of l ± 0,5% of l ± 0,3% of l ± 0,2% of l
STANDARD ALTERNATIVE STANDARD (by agreement)	LENGTH l	All All	+ 100 0 ± 50
MASS PER UNIT LENGTH	kg/m	$h < 125$ $125 < h$	± 6% ± 4%
a. Plus tolerances are limited by weight.			

Table 2 — Tolerances for parallel flange channels

DESIGNATION	PROPERTY	RANGE mm	TOLERANCE mm
	HEIGHT h	$h \leq 65$ $65 < h \leq 200$ $200 < h \leq 400$ $400 < h$	± 1,5 ± 2,0 ± 3,0 ± 4,0
	FLANGE WIDTH b	$b \leq 50$ $50 < b \leq 100$ $100 < b \leq 125$ $125 < b$	± 1,5 ± 2,0 ± 2,5 ± 3,0
	WEB THICKNESS s	$s \leq 10$ $10 < s \leq 15$ $15 < s$	± 0,5 ± 0,7 ± 1,0
	FLANGE THICKNESS t	$t \leq 10$ $10 < t \leq 15$ $15 < t$	a - 0,5 a - 1,0 a - 1,5
	HEEL RADIUS r_3	All Sizes	$\leq 0{,}3t$
	OUT OF SQUARENESS $k+k_1$	$b \leq 100$ $100 < b$	2,0 2,5% of b
	WEB FLATNESS f	$h \leq 100$ $100 < h \leq 200$ $200 < h \leq 400$ $400 < h$	± 0,5 ± 1,0 ± 1,5 ± 1,5
	STRAIGHTNESS q_{xx}	$h \leq 150$ $150 < h \leq 300$ $300 < h$	± 0,3% of l ± 0,2% of l ± 0,15% of l
	q_{yy}	$h \leq 150$ $150 < h \leq 300$ $300 < h$	± 0,5% of l ± 0,3% of l ± 0,2% of l
STANDARD ALTERNATIVE STANDARD (by agreement)	LENGTH l	All All	+100 0 ± 50
MASS PER UNIT LENGTH	kg/m	$h \leq 125$ $125 < h$	± 6% ± 4%
a. Plus tolerances are limited by weight			