SLOVENSKI STANDARD
oSIST prEN 16828:2015

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Vroče valjani jekleni profili U, I in H - Mere in mase

Hot rolled steel channels, I and H sections - Dimensions and masses

Warmgewalzter U-Profilstahl, I und H Träger - Maße und Masse

Profilés en U en aciers laminés à chaud, poutrelles I et H - Dimensions, masses et propriétés des profilés

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77.140.70 Jekleni profili Steel profiles

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Hot rolled steel channels, I and H sections - Dimensions and masses

Profilés en U en aciers laminés à chaud, poutrelles I et H - Dimensions, masses et propriétés des profilés

Warmgewalzter U-Profilstahl, I und H Träger - Maße und Masse

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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Foreword

This document (prEN 16828:2015) has been prepared by Technical Committee ECISS/TC 103 “Structural steels other than reinforcements”, the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

1 Scope

This European Standard specifies the nominal dimensions and masses of the hot rolled steel channels, I and H sections.

The following shapes are covered by this European Standard:

Sections:

— Parallel flange I sections IPE

— Wide flange beams HE

— Extra wide flange beams HL

— Wide flange columns HD

— Wide flange bearing piles HP and UBP

— Universal beams UB

— Universal columns UC

— Taper flange I sections IPN and J

Channels:

— Parallel flange channels UPE and PFC

— Taper flange channels UPN, U and CH

These requirements do not apply to hot rolled steel channels, I and H sections from stainless steel.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 10024, *Hot rolled taper flange I sections — Tolerances on shape and dimensions*

EN 10025-1, *Hot rolled products of structural steels — Part 1: General technical delivery conditions*

EN 10025-2, *Hot rolled products of structural steels — Part 2: Technical delivery conditions for non-alloy structural steels*

EN 10025-3, *Hot rolled products of structural steels — Part 3: Technical delivery conditions for normalized/normalized rolled weldable fine grain structural steels*

EN 10025-4, *Hot rolled products of structural steels — Part 4: Technical delivery conditions for thermomechanical rolled weldable fine grain structural steels*

EN 10025-5, *Hot rolled products of structural steels — Part 5: Technical delivery conditions for structural steels with improved atmospheric corrosion resistance*

EN 10028-2, *Flat products made of steels for pressure purposes — Part 2: Non-alloy and alloy steels with specified elevated temperature properties*

EN 10034, *Structural steel I and H sections — Tolerances on shape and dimensions*

EN 10079, *Definition of steel products*

EN 10225, *Weldable structural steels for fixed offshore structures —Technical delivery conditions*

EN 10273, *Hot rolled weldable steel bars for pressure purposes with specified elevated temperature properties*

EN 10279, *Hot rolled steel channels — Tolerances on shape, dimensions and mass*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 10079 apply.

4 Designation

A section shall be designated according to Table 1 to Table 15.

This form of designation shall be used in any enquiry and order.

5 Dimensions and masses

Hot rolled steel channels, I and H sections complying with this European Standard shall be manufactured with the specified dimensions given in the Table 1 to Table 15 and according to Figure 1 to Figure 4 below.

Radii of fillets and toes of shape profiles vary with individual manufacturers and therefore are not specified.

The masses per unit length specified in Table 1 to Table 15 were calculated on the basis of a density of 7,85 kg/dm^3.

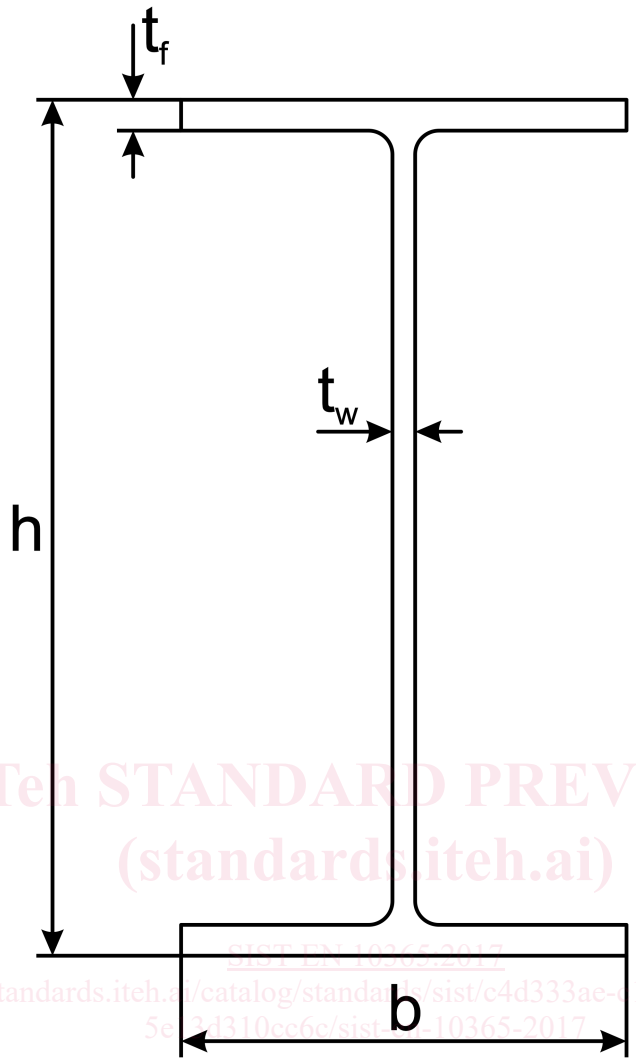

Figure 1 — IPE, HE, HL, HD, HP, UBP, UB and UC parallel flange sections

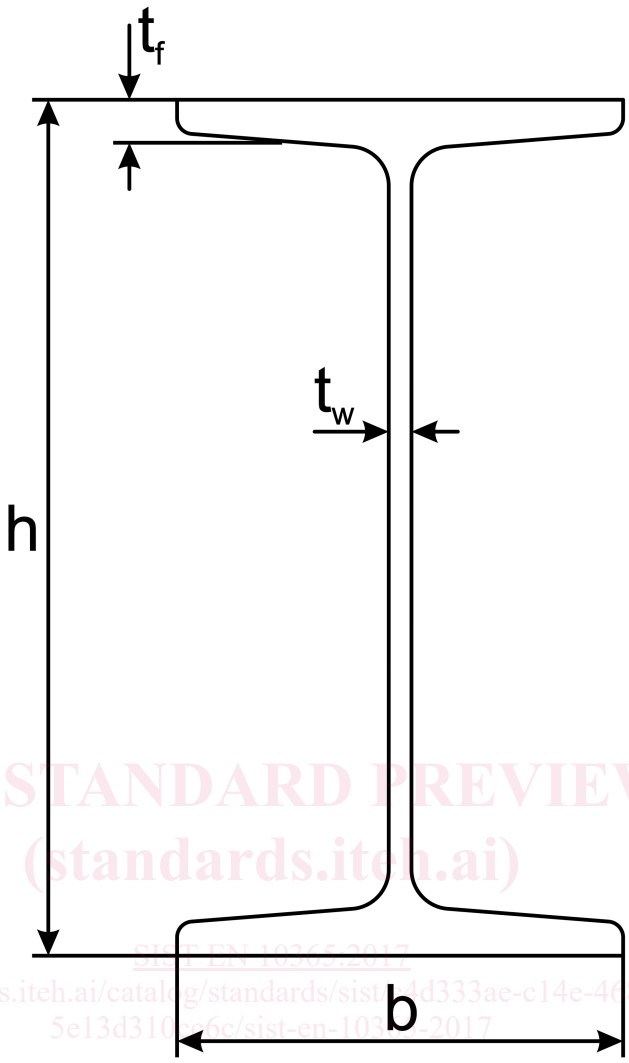

Figure 2 — Taper flange I sections IPN and J

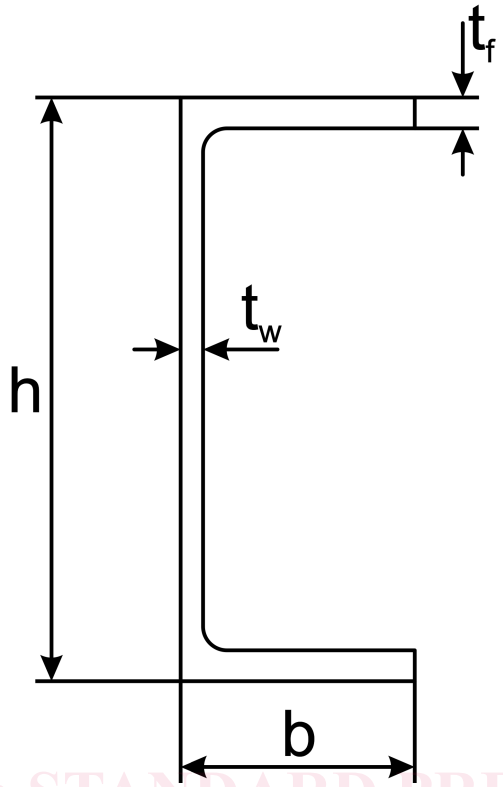

Figure 3 — Parallel flange channels UPE and PFC

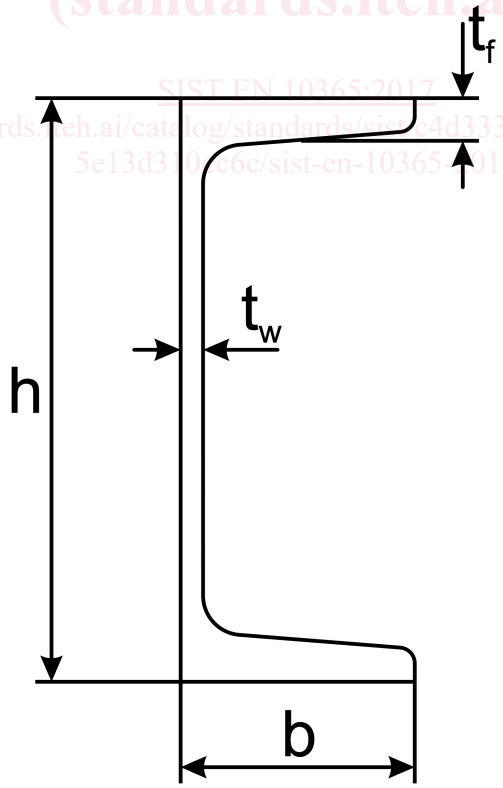

Figure 4 — Taper flange channels UPN, U and CH

6 Tolerances on dimensions, shape and mass

Tolerances on dimensions, shape and mass shall be as given in EN 10034 for I (parallel flanges) and H sections.

Tolerances on dimensions, shape and mass shall be as given in EN 10024 for taper flange I sections.

Tolerances on dimensions, shape and mass shall be as given in EN 10279 for channels.

Tolerances for shapes not included in the mentioned standards shall be as agreed upon between the manufacturer and the purchaser.

7 Material

Sections and channels shall preferably be made from steel of a grade as specified in EN 10025-1, EN 10025-2, EN 10025-3, EN 10025-4 and EN 10025-5. Other steel grades as specified in EN 10225, EN 10028-2 and EN 10273 may also be used for specific applications.

Table 1 — Parallel flange I sections IPE

Designation		Dimensions				
	G	h	b	t_w	t_f	A
	kg/m	mm	mm	mm	mm	cm²
IPE AA 80	4,9	78,0	46,0	3,2	4,2	6,3
IPE A 80	5,0	78,0	46,0	3,3	4,2	6,4
IPE 80	6,0	80,0	46,0	3,8	5,2	7,6
IPE AA 100	6,7	97,6	55,0	3,6	4,5	8,6
IPE A 100	6,9	98,0	55,0	3,6	4,7	8,8
IPE 100	8,1	100,0	55,0	4,1	5,7	10,3
IPE AA 120	8,4	117,0	64,0	3,8	4,8	10,7
IPE A 120	8,7	117,6	64,0	3,8	5,1	11,0
IPE 120	10,4	120,0	64,0	4,4	6,3	13,2
IPE AA 140	10,1	136,6	73,0	3,8	5,2	12,8
IPE A 140	10,5	137,4	73,0	3,8	5,6	13,4
IPE 140	12,9	140,0	73,0	4,7	6,9	16,4
IPE AA 160	12,1	156,4	82,0	4,0	5,6	15,4
IPE A 160	12,7	157,0	82,0	4,0	5,9	16,2
IPE 160	15,8	160,0	82,0	5,0	7,4	20,1
IPE AA 180	14,9	176,4	91,0	4,3	6,2	19,0
IPE A 180	15,4	177,0	91,0	4,3	6,5	19,6
IPE 180	18,8	180,0	91,0	5,3	8,0	23,9
IPE O 180	21,3	182,0	92,0	6,0	9,0	27,1
IPE AA 200	18,0	196,4	100,0	4,5	6,7	22,9
IPE A 200	18,4	197,0	100,0	4,5	7,0	23,5
IPE 200	22,4	200,0	100,0	5,6	8,5	28,5
IPE O 200	25,1	202,0	102,0	6,2	9,5	32,0

Designation	G	Dimensions				A
		h	b	t_w	t_f	
	kg/m	mm	mm	mm	mm	cm^2
IPE AA 220	21,2	216,4	110,0	4,7	7,4	27,0
IPE A 220	22,2	217,0	110,0	5,0	7,7	28,3
IPE 220	26,2	220,0	110,0	5,9	9,2	33,4
IPE O 220	29,4	222,0	112,0	6,6	10,2	37,4
IPE AA 240	24,9	236,4	120,0	4,8	8,0	31,7
IPE A 240	26,2	237,0	120,0	5,2	8,3	33,3
IPE 240	30,7	240,0	120,0	6,2	9,8	39,1
IPE O 240	34,3	242,0	122,0	7,0	10,8	43,7
IPE A 270	30,7	267,0	135,0	5,5	8,7	39,2
IPE 270	36,1	270,0	135,0	6,6	10,2	45,9
IPE O 270	42,3	274,0	136,0	7,5	12,2	53,8
IPE A 300	36,5	297,0	150,0	6,1	9,2	46,5
IPE 300	42,2	300,0	150,0	7,1	10,7	53,8
IPE O 300	49,3	304,0	152,0	8,0	12,7	62,8
IPE A 330	43,0	327,0	160,0	6,5	10,0	54,7
IPE 330	49,1	330,0	160,0	7,5	11,5	62,6
IPE O 330	57,0	334,0	162,0	8,5	13,5	72,6
IPE A 360	50,2	357,6	170,0	6,6	11,5	64,0
IPE 360	57,1	360,0	170,0	8,0	12,7	72,7
IPE O 360	66,0	364,0	172,0	9,2	14,7	84,1
IPE A 400	57,4	397,0	180,0	7,0	12,0	73,1
IPE 400	66,3	400,0	180,0	8,6	13,5	84,5
IPE O 400	75,7	404,0	182,0	9,7	15,5	96,4
IPE V 400	84,0	408,0	182,0	10,6	17,5	107,0
IPE A 450	67,2	447,0	190,0	7,6	13,1	85,6
IPE 450	77,6	450,0	190,0	9,4	14,6	98,8
IPE O 450	92,4	456,0	192,0	11,0	17,6	117,7
IPE V 450	107	460,0	194,0	12,4	19,6	132,0
IPE A 500	79,4	497,0	200,0	8,4	14,5	101,1
IPE 500	90,7	500,0	200,0	10,2	16,0	115,5
IPE O 500	107	506,0	202,0	12,0	19,0	136,7
IPE V 500	129	514,0	204,0	14,2	23,0	164,1
IPE A 550	92,1	547,0	210,0	9,0	15,7	117,3
IPE 550	106	550,0	210,0	11,1	17,2	134,4
IPE O 550	123	556,0	212,0	12,7	20,2	156,1
IPE V 550	159	566,0	216,0	17,1	25,2	202,0