UDC 669.14-122.4-423

March 1994

Hot rolled I and H sections
(IPBl series)
Dimensions, mass and static parameters

DIN 1025 Part 3

Warmgewalzte I-Träger; breite I-Träger, leichte Ausführung, IPBl-Reihe; Maße, Masse, statische Werte

This standard, together with DIN EN 10 034, supersedes October 1963 edition.

In keeping with current practice in standards published by the International Organization for Standardization (ISO), a comma has been used throughout as the decimal marker.

Dimensions in mm

1 Scope and field of application

This standard specifies hot rolled I and H sections ('H sections', for short) that have parallel flanges and thinner webs and flanges than the sections specified in DIN 1025 Part 2 (IPBl series), preferably made from DIN EN 10 025 steel.

This standard does not cover:

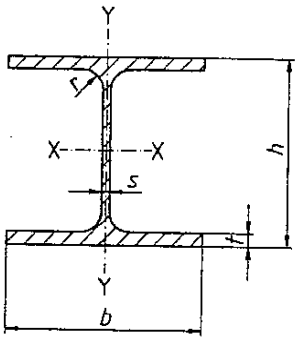
a) hot rolled I sections (I series, with a smaller ratio of flange width to web height; cf. DIN 1025 Part 1);

b) hot rolled I and H sections (IPB and IB series, with thicker webs and flanges and/or tapered flanges; cf. DIN 1025 Part 2);

c) hot rolled I and H sections (IPBv series, with thicker webs and flanges; cf. DIN 1025 Part 4);

d) hot rolled I and H sections (IPE series, with narrower flanges; cf. DIN 1025 Part 5).

2 Designation



The standard designation shall give, in the following order:

a) name of product (H section);

b) DIN number (DIN 1025);

c) material designation or number;

d) section symbol in accordance with table 1.

EXAMPLE:

A hot rolled H section complying with this standard (IPBl series), made from steel grade S235JR (material number 1.0037) as specified in DIN EN 10 025, with a height, h, of 360 mm shall be designated:

H section DIN 1025 – S235JR – IPBl 360

or H section DIN 1025 – 1.0037 – IPBl 360

Continued on pages 2 and 3.

3 Dimensions and mass

3.1 Hot rolled H sections shall have the dimensions specified in table 1.

3.2 The nominal length shall be specified at the time of ordering.

3.3 The values of mass specified in table 1 have been calculated taking the density as 7,85 kg/dm^3.

4 Tolerances on shape and dimensions

The dimensions of sections are subject to the tolerances specified in DIN EN 10 034.

5 Material

Sections shall preferably be made from DIN EN 10 025 steel, the particular steel grade being specified at the time of ordering.

Standards referred to

DIN EN 10 025	Hot rolled unalloyed structural steel products; technical delivery conditions
DIN EN 10 034	Structural steel I and H sections; tolerances on shape and dimensions
EURONORM 53-62	Wide-flanged steel beams with parallel flanges; dimensions

Other relevant standards

DIN 1025 Part 1	Steel sections; hot rolled I beams; dimensions, mass, limit deviations and static values
DIN 1025 Part 2	Hot rolled I and H sections (IPB and IB series); dimensions, mass and static parameters
DIN 1025 Part 4	Hot rolled I and H sections (IPBv series); dimensions, mass and static parameters
DIN 1025 Part 5	Hot rolled I and H sections (IPE series); dimensions, mass and static parameters

Previous editions

DIN 1612: 09.24, 01.32, 03.43x; DIN 1025 Part 3: 07.59, 10.63.

Amendments

In comparison with the October 1963 edition, the following amendments have been made.

a) All specifications with regard to tolerances have been deleted, a reference being made instead to DIN EN 10 034.

b) The references to standards have been updated.

Explanatory notes

With the publication of European Standard EN 10 034, it became necessary to revise the DIN Standard on I and H sections. Since the European Standard deals with tolerances on shape and dimensions, the scope of the present standard has been restricted to nominal sizes and the associated static parameters, these having been taken without revision from the previous edition. At the European level, ECISS/TC 11 is currently reviewing standardized sizes for sections and bearing piles with parallel flanges. Upon publication of the relevant European Standard, DIN 1025 Parts 2 to 5 will be withdrawn.

International Patent Classification

F 16 S 003/00
E 04 B 001/24
E 04 C 003/04

Table 1: Dimensions, mass and static parameters for H sections (IPBl series)

Section symbol*) IPBl [1]	Dimensions for h	b	s	t	r	Section area, F, in cm^2	Mass, G, in kg/m	Surface area, U, in m^2/m	Static parameters [2] x-x I_x cm^4	W_x cm^3	i_x cm	y-y I_y cm^4	W_y cm^3	i_y cm	S_x [3] cm^3	s_x [4] cm
100	96	100	5	8	12	21,2	16,7	0,561	349	72,8	4,06	134	26,8	2,51	41,5	8,41
120	114	120	5	8	12	25,3	19,9	0,677	606	106	4,89	231	38,5	3,02	59,7	10,1
140	133	140	5,5	8,5	12	31,4	24,7	0,794	1 030	155	5,73	389	55,6	3,52	86,7	11,9
160	152	160	6	9	15	38,8	30,4	0,906	1 670	220	6,57	616	76,9	3,98	123	13,6
180	171	180	6	9,5	15	45,3	35,5	1,02	2 510	294	7,45	925	103	4,52	162	15,5
200	190	200	6,5	10	18	53,8	42,3	1,14	3 690	389	8,28	1 340	134	4,98	215	17,2
220	210	220	7	11	18	64,3	50,5	1,26	5 410	515	9,17	1 950	178	5,51	284	19,0
240	230	240	7,5	12	21	76,8	60,3	1,37	7 760	675	10,1	2 770	231	6,00	372	20,9
260	250	260	7,5	12,5	24	86,8	68,2	1,48	10 450	836	11,0	3 670	282	6,50	460	22,7
280	270	280	8	13	24	97,3	76,4	1,60	13 670	1 010	11,9	4 760	340	7,00	556	24,6
300	290	300	8,5	14	27	112	88,3	1,72	18 260	1 260	12,7	6 310	421	7,49	692	26,4
320	310	300	9	15,5	27	124	97,6	1,76	22 930	1 480	13,6	6 990	466	7,49	814	28,2
340	330	300	9,5	16,5	27	133	105	1,79	27 690	1 680	14,4	7 440	496	7,46	925	29,9
360	350	300	10	17,5	27	143	112	1,83	33 090	1 890	15,2	7 890	526	7,43	1 040	31,7
400	390	300	11	19	27	159	125	1,91	45 070	2 310	16,8	8 560	571	7,34	1 280	35,2
450	440	300	11,5	21	27	178	140	2,01	63 720	2 900	18,9	9 470	631	7,29	1 610	39,6
500	490	300	12	23	27	198	155	2,11	86 970	3 550	21,0	10 370	691	7,24	1 970	44,1
550	540	300	12,5	24	27	212	166	2,21	111 900	4 150	23,0	10 820	721	7,15	2 310	48,4
600	590	300	13	25	27	226	178	2,31	141 200	4 790	25,0	11 270	751	7,05	2 680	52,8
650	640	300	13,5	26	27	242	190	2,41	175 200	5 470	26,9	11 720	782	6,97	3 070	57,1
700	690	300	14,5	27	27	260	204	2,50	215 300	6 240	28,8	12 180	812	6,84	3 520	61,2
800	790	300	15	28	30	286	224	2,70	303 400	7 680	32,6	12 640	843	6,65	4 350	69,8
900	890	300	16	30	30	320	252	2,90	422 100	9 480	36,3	13 550	903	6,50	5 410	78,1
1 000	990	300	16,5	31	30	347	272	3,10	553 800	11 190	40,0	14 000	934	6,35	6 410	86,4

*) EURONORM 53-62 uses different symbols to designate sections, but they are equivalent to those specified here (i. e. an HE 300 A section complying with EU 53-62 is the same as an IPBl 300 section complying with this standard).

[1]) The sizes are the same as those specified for the IPBl series in DIN 1025 Part 2.

[2]) I = moment of inertia, W = section modulus, i = radius of gyration (subscripts x and y denoting the relevant axis).

[3]) S_x = moment of first order of half the cross section.

[4]) $s_x = I_x : S_x$ = distance between centre of pressure and centre of tension.

The values specified for cross-sectional area, mass, surface area and static parameters have been specified as a function of the other dimensions.