

IPN

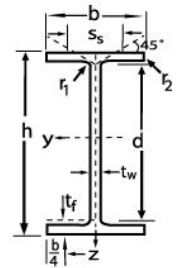
European Standard Beams

Flange slope : 14%

Dimensions : DIN 1025-1: 1963, NF A 45-209 (1983)

Tolerances : EN 10024: 1985

Surface Condition according to EN 10163-3: 1991, class C, subclass 1



Designation		Dimensions						Dimensions for Detailing				
G	h	b	t_w	t_f	r₁	r₂	A	d	Ø	P_{min}	P_{max}	
kg/m	mm	mm	mm	mm	mm	mm	mm ²	mm		mm	mm	
							x 10 ²					
IPN 80	5.94	80	42	3.9	5.9	3.9	2.3	7.58	59	-	-	-
IPN 100	8.34	100	50	4.5	6.8	4.5	2.7	10.6	75.7	-	-	-
IPN 120	11.1	120	58	5.1	7.7	5.1	3.1	14.2	92.4	-	-	-
IPN 140	14.3	140	66	5.7	8.6	5.7	3.4	18.3	109.1	-	-	-
IPN 160	17.9	160	74	6.3	9.5	6.3	3.8	22.8	125.8	-	-	-
IPN 180	21.9	180	82	6.9	10.4	6.9	4.1	27.9	142.4	-	-	-
IPN 200	26.2	200	90	7.5	11.3	7.5	4.5	33.4	159.1	-	-	-
IPN 220	31.1	220	98	8.1	12.2	8.1	4.9	39.5	175.8	M10	50	56
IPN 240	36.2	240	106	8.7	13.1	8.7	5.2	46.1	192.5	M10	54	60
IPN 260	41.9	260	113	9.4	14.1	9.4	5.6	53.3	208.9	M12	62	62
IPN 280	47.9	280	119	10.1	15.2	10.1	6.1	61	225.1	M12	68	68
IPN 300	54.2	300	125	10.8	16.2	10.8	6.5	69	241.6	M12	70	74
IPN 320	61.0	320	131	11.5	17.3	11.5	6.9	77.7	257.9	M12	70	80
IPN 340	68.0	340	137	12.2	18.3	12.2	7.3	86.7	274.3	M12	78	86
IPN 360	76.1	360	143	13	19.5	13	7.8	97	290.2	M12	78	92
IPN 380	84.0	380	149	13.7	20.5	13.7	8.2	107	306.7	M16	84	86
IPN 400	92.4	400	155	14.4	21.6	14.4	8.6	118	322.9	M16	86	92
IPN 450	115	450	170	16.2	24.3	16.2	9.7	147	363.6	M16	92	106
IPN 500	141	500	185	18	27	18	10.8	179	404.3	M20	102	110
IPN 550	166	550	200	19	30	19	11.9	212	445.6	M22	112	118
IPN 600	199	600	215	21.6	32.4	21.6	13	254	485.8	M24	126	128

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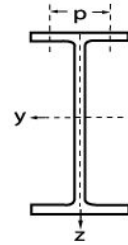
European Standard Beams

Flange slope : 14%

Dimensions : DIN 1025-1: 1963, NF A 45-209 (1983)

Tolerances : EN 10024: 1985

Surface Condition according to EN 10163-3: 1991, class C, subclass 1



Surface		Section Properties											
		Strong Axis y - y					Weak Axis z - z						
A_L	A_G	I_y	W_y	$W_{pl,y}$	i_y	A_{vz}	I_z	W_z	$W_{pl,z}$	i_z	S_s	I_t	$I_w \times 10^{-3}$
m^2/m	m^2/t	mm^4	mm^3	mm^3	mm	mm^2	mm^4	mm^3	mm^3	mm	mm	mm^4	mm^6
		$\times 10^4$	$\times 10^3$	$\times 10^3$	$\times 10$	$\times 10^2$	$\times 10^4$	$\times 10^3$	$\times 10^3$	$\times 10$		$\times 10^4$	$\times 10^9$
0.304	51.09	77.8	19.5	22.8	3.2	3.41	6.29	3	5	0.91	21.6	0.87	0.09
0.370	44.47	171	34.2	39.8	4.01	4.85	12.2	4.88	8.1	1.07	25	1.6	0.27
0.439	39.38	328	54.7	63.6	4.81	6.63	21.5	7.41	12.4	1.23	28.4	2.71	0.69
0.502	34.94	573	81.9	95.4	5.61	8.65	35.2	10.7	17.9	1.4	31.8	4.32	1.54
0.575	32.13	935	117	136	6.4	10.83	54.7	14.8	24.9	1.55	35.2	6.57	3.14
0.640	29.22	1450	161	187	7.2	13.35	81.3	19.8	33.2	1.71	38.6	9.58	5.92
0.709	27.04	2140	214	250	8.00	16.03	117	26	43.5	1.87	42	13.5	10.5
0.775	24.99	3060	278	324	8.80	19.06	162	33.1	55.7	2.02	45.4	18.6	17.8
0.844	23.32	4250	354	412	9.59	22.33	221	41.7	70	2.2	48.9	25	28.7
0.906	21.65	5740	442	514	10.4	26.08	288	51	85.9	2.32	52.6	33.5	44.1
0.966	20.17	7590	542	632	11.1	30.18	364	61.2	103	2.45	56.4	44.2	64.6
1.03	19.02	9800	653	762	11.9	34.58	451	72.2	121	2.56	60.1	56.8	91.8
1.09	17.87	12510	782	914	12.7	39.26	555	84.7	143	2.67	63.9	72.5	129
1.15	16.90	15700	923	1080	13.5	44.27	674	98.4	166	2.8	67.6	90.4	176
1.21	15.89	19610	1090	1276	14.2	49.95	818	114	194	2.9	71.8	115	240
1.27	15.12	24010	1260	1482	15.0	55.55	975	131	221	3.02	75.4	141	319
1.33	14.36	29210	1460	1714	15.7	61.69	1160	149	253	3.13	79.3	170	420
1.48	12.83	45850	2040	2400	17.7	77.79	1730	203	345	3.43	88.9	267	791
1.63	11.60	68740	2750	3240	19.6	95.6	2480	268	456	3.72	98.5	402	1400
1.80	10.80	99180	3610	4240	21.6	111.3	3490	349	592	4.02	107.3	544	2390
1.97	9.89	138800	4627	5452	23.39	138.0	4674	435	752	4.29	117.6	787	3814