

BEAMS

BEAMS



2016 Dec 20 163 300 S-275-JR 75325 12.2 B



COMFER S.p.A. - SALES AND PRE-PROCESSING OF IRON AND STEEL PRODUCTS - PRADAMANO (UD)



LAMINATION TOLERANCE

Section Profilo		IPE HE	
Norme/Standard		EN 10034:1995	
Depth h Height (mm)		$h \leq 180$ $180 < h \leq 400$ $400 < h \leq 700$ $/h > 700$	$+3/-2$ $+4/-2$ $+5/-3$ $+5/-5$
Flange width b Larghezza ala (mm)		$b \leq 110$ $110 < b \leq 210$ $210 < h \leq 325$ $b > 235$	$+4/-1$ $+4/-2$ $+4/-4$ $+6/-5$
Web thickness t_w Thickness Anima (mm)		$t_w < 7$ $7 \leq t_w < 10$ $10 \leq t_w < 20$ $20 \leq t_w < 40$ $40 \leq t_w < 60$ $t_w > 60$	± 0.7 ± 1 ± 1.5 ± 2 ± 2.5 ± 3
Flange thickness t_f Thickness ala (mm)		$t_f < 6.5$ $6.5 \leq t_f \leq 10$ $10 \leq t_f < 20$ $20 \leq t_f < 30$ $30 \leq t_f < 40$ $40 \leq t_f < 60$ $t_f \geq 60$	$+1.5/-0.5$ $+2/-1$ $+2.5/-1.5$ $+2.5/-2$ ± 2.5 ± 3 ± 4
Out-of-square $k+k^1$ Perpendicolarità (mm)		$b \leq 180$ $b > 700$	1.5 $0.02b$ (max 6.5)
Wep-of-center e Simmetria (mm)		$t_f < 40$ $b \leq 110$ $110 < b \leq 325$ $b > 235$ $t_f \geq 40$: $110 < b \leq 325$ $b > 235$	2.5 3.5 5 5 8
Straightness $q_{yy}; q_{zz}$ Rettilineita (mm)		$80 < h \leq 180$ $180 < h \leq 360$ $h > 360$	$0.003 L$ $0.0015 L$ $0.001 L$
Length L Larghezza (mm)		$-0/+1001)3)$ ± 50	
Mass G (%) Massa G (%)		± 4	

LAMINATION TOLERANCE

IPN		UPN		Section Profilo
EN 10024:1996		EN 10279:2002		Norme/Standard
$h \leq 200$ $200 < h \leq 400$ $h > 400$	± 2 ± 3 ± 4	$65 \leq h \leq 200$ $200 < h \leq 400$ $h > 400$	± 1 ± 2 ± 3 ± 4	Depth h Height (mm)
$b \leq 75$ $75 < b \leq 100$ $100 < h \leq 125$ $b > 125$	± 1.5 ± 2 ± 2.5 ± 3	$b < 50$ $50 < b \leq 100$ $100 < h \leq 125$ $b > 125$	± 1.5 ± 2 ± 2.5 ± 3	Flange width b Larghezza ala (mm)
$t_w \leq 7$ $7 \leq t_w < 10$ $t_w > 10$	$\pm 0.5/-1$ $\pm 0.7/-1.5$ $\pm 1/-2$	$t_w \leq 10$ $t_w > 10$	± 0.5 ± 0.7	Web thickness t_w Thickness Anima (mm)
$t_f \leq 7$ $7 \leq t_f \leq 10$ $10 < t_f \leq 20$ $t_f > 20$	$+1.5/-0.5$ $+2/-1$ $+2.5/-1.5$ $+2.5/-2$	$t_f \leq 10$ $10 < t_f \leq 15$ $t_f > 15$	-0.5 -1 -1.5	Flange thickness t_f Thickness ala (mm)
		$80 \leq h \leq 400$	$\leq 0.3 t_f$	
$b \leq 100$ $b > 100$	2 $0.02b$	$b \leq 100$ $b > 100$	$k+k^1 \leq 2$ $k+k^1 \leq 0.025b$	Out-of-square $k+k^1$ Perpendicolarità (mm)
$b \leq 100$ $b > 100$	2 3	$h \leq 100$ $100 < h \leq 120$ $200 < h \leq 400$	± 0.5 ± 1 ± 1.5	Wep-of-center e Simmetria (mm)
$h \leq 180$ $180 < h \leq 360$ $h > 360$	$0.001 L$	$h \leq 100$ $150 < h \leq 300$ $h > 300$	$q_{yy} \leq 0.003L$ $q_{zz} \leq 0.005L$ $q_{yy} \leq 0.002L$ $q_{zz} \leq 0.003L$ $q_{yy} \leq 0.0015L$ $q_{yy} \leq 0.003L$	Straightness $q_{yy}; q_{zz}$ Rettilineità (mm)
$-0/+100$ ± 50		$-0/+100$ ± 50		Length L Larghezza (mm)
± 4		$h \leq 125$ $h > 125$	± 6 ± 4	Mass G (%) Massa G (%)

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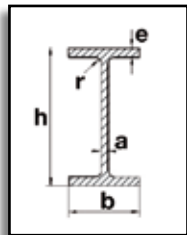


Table of evenly shared net loads for
 $\sigma = 1600 \text{ Kg/cm}^2$

Calculation is made with formula

$$Q \text{ (Kg)} = \frac{8 \times Wx \times 1600}{L \text{ (cm)}} - \text{Weight of beam}$$

PROFILE					Weight Kg/m	Sez. cm ²	Wx cm ³	Jx cm ⁴	DISTANCE BETWEEN THE SUPPORTS IN METRES														
h	b	a	e	r					2,50	3,00	3,50	4,00	4,50	5,00	5,50	6,00	7,00	8,00	9,00	10,00	11,00	12,00	
80	46	3,8	5,2	5,0	6,0	7,6	20,0	80	1009	835	710	616	542	482	-	-	-	-	-	-	-	-	-
100	55	4,1	5,7	7,0	8,1	10,3	34,2	171	1731	1435	1222	1062	936	835	751	681	-	-	-	-	-	-	-
120	64	4,4	6,3	7,0	10,4	13,2	53,0	318	2687	2230	1902	1654	1460	1305	1176	1068	896	-	-	-	-	-	-
140	73	4,7	6,9	7,0	12,9	16,4	77,3	541	3925	3259	2782	2422	2140	1914	1728	1571	1323	1133	-	-	-	-	-
160	82	5,0	7,4	9,0	15,8	20,1	109	869	5541	4603	3931	3425	3029	2711	2450	2230	1882	1617	1408	-	-	-	-
180	91	5,3	8,0	9,0	18,8	23,9	146	1317	7428	6173	5273	4597	4068	3643	3294	3002	2538	2185	1907	1681	1492	-	-
200	100	5,6	8,5	12,0	22,4	28,5	194	1943	9876	8210	7016	6118	5417	4854	4391	4004	3390	2925	2557	2259	2011	1800	-
220	110	5,9	9,2	12,0	26,2	33,4	252	2772	12837	10673	9124	7959	7050	6320	5720	5219	4424	3822	3348	2963	2644	2373	-
240	120	6,2	9,8	15,0	30,7	39,1	324	3892	16512	13732	11741	10246	9078	8141	7371	6728	5709	4939	4332	3840	3432	3087	-
270	135	6,6	10,2	15,0	36,1	45,9	429	5790	21874	18195	15563	13583	12040	10802	9785	8935	7592	6575	5776	5130	4595	4143	-
300	150	7,1	10,7	15,0	42,2	53,8	557	8356	28413	23638	20222	17655	15653	14048	12731	11629	9889	8574	7542	6707	6017	5435	-
330	160	7,5	11,5	18,0	49,1	62,6	713	11770	36383	30274	25904	22620	20060	18007	16323	14916	12694	11016	9698	8635	7756	7016	-
360	170	8,0	12,7	18,0	57,1	72,7	904	16270	46142	38399	32860	28700	25457	22857	20724	18942	16130	14007	12343	11000	9891	8957	-
400	180	8,6	13,5	21,0	66,3	84,5	1160	23130	59226	49294	42191	36855	32697	29364	26631	24350	20747	18029	15901	14185	12769	11577	-
450	190	9,4	14,6	21,0	77,6	98,8	1500	33740	76606	63767	54585	47689	42317	38012	34482	31534	26885	23379	20635	18424	16601	15069	-
500	200	10,2	16,0	21,0	90,7	116	1930	48200	98589	82074	70265	61397	54490	48954	44417	40629	34656	30154	26632	23797	21460	19498	-
550	210	11,1	17,2	24,0	106	134	2440	67120	124663	103788	88863	77656	68927	61934	56202	51417	43875	38192	33748	30172	27226	24754	-
600	220	12,0	19,0	24,0	122	156	3070	92080	156879	130620	111847	97752	86775	77982	70776	64761	55283	48144	42564	38076	34381	31282	-

- 1) The loads on left of the line entail a cursor lower than 1/400 L, those on right a greater cursor.
- 2) If wanting to realise a stress different from 1600 Kg/cm², the loads must be proportionally varied.
- 3) For loads concentrating in the middle of the beam, half the table values.

BEAMS I.P.N.

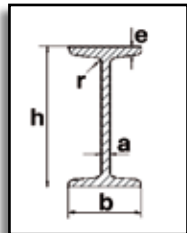


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Calculation is made with formula

$$Q \text{ (Kg)} = \frac{8 \times W_x \times 1600}{L \text{ (cm)}} - \text{Weight of beam}$$

PROFILE					Weight Kg/m	Sez. cm ²	Wx cm ³	Jx cm ⁴	DISTANCE BETWEEN THE SUPPORTS IN METRES										
h	b	a	e	r					2,50	3,00	3,50	4,00	4,50	5,00	5,50	6,00	7,00	8,00	9,00
80	42	3,9	5,9	3,9	5,9	7,6	19,4	78	978	810	689	597	525	467	-	-	-	-	-
100	50	4,5	6,8	4,5	8,3	10,6	34,1	170	1725	1430	1218	1058	932	831	747	677	-	-	-
120	58	5,1	7,7	5,1	11,1	14,2	54,5	327	2763	2232	1954	1700	1500	1340	1207	1096	919	-	-
140	66	5,7	8,6	5,7	14,3	18,2	81,8	572	4152	3477	2941	2560	2262	2022	1825	1659	1395	1194	1035
160	74	6,3	9,5	6,3	17,9	22,8	117	934	5946	4938	4216	3672	3247	2906	2624	2389	2014	1729	1503
180	82	6,9	10,4	6,9	21,9	27,9	161	1444	8188	6804	5811	5064	4481	4012	3626	3303	2791	2401	2093
200	90	7,5	11,3	7,5	26,2	33,4	214	2138	10891	9052	7734	6743	5969	5347	4836	4408	3730	3214	2808
220	98	8,1	12,2	8,1	31,0	39,5	278	3050	14156	11768	10058	8772	7763	6962	6300	5745	4866	4200	3675
240	106	8,7	13,1	8,7	36,2	46,1	353	4239	17983	14953	12783	11151	9878	8856	8016	7313	6201	5358	4695
260	113	9,4	14,1	9,4	41,9	53,3	441	5735	22474	18690	15981	13944	12355	11080	10032	9157	7770	6721	5895
280	119	10,1	15,2	10,1	47,9	61,0	541	7575	25757	22939	19617	17120	15172	13610	12327	11254	9557	8273	7263
300	125	10,8	16,2	10,8	54,2	69,0	652	9785	33247	27656	23654	20648	18302	16421	14875	13584	11544	10000	8786
320	131	11,5	17,3	11,5	61,0	77,7	781	12490	39825	33140	28343	24748	21341	19689	17840	16295	13854	12008	10558
340	138	12,2	18,3	12,2	68,0	86,7	922	15670	47036	39135	33481	29232	25920	23263	21083	19261	16383	14208	12501
360	143	13,0	19,5	13,0	76,1	97	1087	19580	55464	46150	39487	34480	30577	27447	24878	22733	19344	16784	14774
380	149	13,7	20,5	13,7	84,0	107	1262	23980	64824	53593	45859	40048	35518	31887	28908	26418	22488	19520	17192
400	155	14,4	21,6	14,4	92,5	118	1461	29210	74572	62059	53107	46382	41141	36940	33492	30613	26068	22636	19946
425	163	15,3	23,0	15,3	104	132	1738	36930	88726	73842	63197	55200	48968	43972	39876	36453	31052	26976	23782
450	170	16,2	24,3	16,2	115	147	2035	45790	103904	86481	74020	64660	57366	51521	46727	42723	36406	31640	27907
475	178	17,1	25,6	17,1	128	163	2375	56410	121280	100950	86409	75488	66980	60160	54568	49898	42532	36976	32625
500	185	18,0	27,0	18,0	141	180	2746	68650	140243	116740	99932	87308	77474	69592	63131	57735	49225	42808	37785
550	200	19,0	30,0	19,0	166	212	3598	98950	183802	153016	131003	114472	101596	91278	82822	75761	64630	56240	49677
600	215	21,6	32,4	21,6	199	254	4626	138800	236353	196779	168483	147236	130688	117430	106565	97494	83196	72424	64000

- 1) The loads on left of the line entail a cursor lower than $1/400 L$, those on right a greater cursor.
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BEAMS H.E.A.

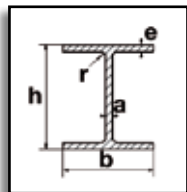


Table of evenly shared net loads for
 $\sigma = 1600 \text{ Kg/cm}^2$

Calculation is made with formula

$$Q \text{ (Kg)} = \frac{8 \times Wx \times 1600}{L \text{ (cm)}} - \text{Weight of beam}$$

PROFILE						Weight Kg/m	cm ²	Wx cm ³	Jx ₄ cm	DISTANCE BETWEEN THE SUPPORTS IN METRES						
H.E.A.	h	b	a	e	r					3	4	5	6	7	8	9
100	96	100	5,0	8,0	12,0	16,7	21,2	73	349	3064	2269	1785	1457	-	-	-
120	114	120	5,0	8,0	12,0	19,9	25,3	106	606	4463	3312	2614	2142	1800	-	-
140	133	140	5,5	8,5	12,0	24,7	31,4	155	1033	6539	4861	3844	3158	2661	2282	-
160	152	160	6,0	9,0	15,0	30,4	38,8	220	1673	9295	6918	5488	4511	3810	3276	2855
180	171	180	6,0	9,5	15,0	35,5	45,3	294	2510	12437	9265	7348	6059	5127	4419	3861
200	190	200	6,5	10,0	18,0	42,3	53,8	389	3692	16470	12278	9748	8044	6816	5885	5151
220	210	220	7,0	11,0	18,0	50,5	64,3	515	5410	21821	16277	12931	10683	9063	7835	6869
240	230	240	7,5	12,0	21,0	60,3	76,8	675	7763	28618	21358	16978	14037	11920	10317	9057
260	250	260	7,5	12,5	24,0	68,2	86,8	836	10455	35464	26478	21060	17425	14809	12830	11275
280	270	280	8,0	13,0	24,0	76,4	97,3	1010	13673	42863	32013	25473	21087	17933	15548	13676
300	290	300	8,5	14,0	27,0	88,3	112	1260	18263	53493	39965	31813	26349	22421	19453	17125
320	310	300	9,0	15,5	27,0	97,6	124	1480	22928	62852	46368	37400	30987	26379	22898	20170
340	330	300	9,5	16,5	27,0	105	133	1680	27693	71363	53338	42481	35209	29984	26039	22947
360	350	300	10,0	17,5	27,0	112	143	1890	33090	80301	60034	47822	39646	33775	29343	25871
400	390	300	11,0	19,0	27,0	125	159	2310	45069	98182	73418	58509	48528	41364	35959	31790
450	440	300	11,5	21,0	27,0	140	178	2900	63722	123310	92237	73538	61025	52047	45278	39983
500	490	300	12,0	23,0	27,0	155	197	3550	86975	150997	112977	90102	74801	63827	55558	49092
550	540	300	12,5	24,0	27,0	166	212	4150	111932	176564	132132	105407	87535	74721	65070	57526
600	590	300	13,0	25,0	27,0	178	226	4790	141203	203834	152564	121731	101116	86340	75214	66520
650	640	300	13,5	26,0	27,0	190	241	5470	175178	232816	174280	139082	115553	98692	86000	76085
700	690	300	14,5	27,0	27,0	204	260	6240	215301	265628	198864	158724	131896	112674	98200	86910
800	790	300	15,0	28,0	30,0	224	286	7680	303442	327008	244864	195488	162496	138866	121088	107210
900	890	300	16,0	30,0	30,0	252	320	9480	422075	403724	302352	241428	200728	171584	149664	132558
1000	990	300	16,5	31,0	30,0	272	347	11190	553846	476624	356992	285104	237088	202713	176864	156698

- 1) The loads on left of the line entail a cursor lower than 1/400 L, those on right a greater cursor.
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BEAMS H.E.B.

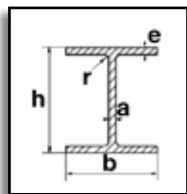


Table of evenly
shared net loads for
 $\sigma = 1600 \text{ Kg/cm}^2$

Calculation is made with formula

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PROFILE						Weight Kg/m	Sez. cm ²	Wx cm ³	Jx cm ⁴	DISTANCE BETWEEN THE SUPPORTS IN METRES						
H.E.B.	h	b	a	e	r					3	4	5	6	7	8	9
100	100	100	6,0	10,0	12,0	20,4	26,0	90	450	3778	2798	2202	1797	1502	-	-
120	120	120	6,5	11,0	12,0	26,7	34,0	144	864	6063	4501	3553	2911	2446	2090	-
140	140	140	7,0	12,0	12,0	33,7	43,0	216	1509	9114	6777	5361	4405	3713	3186	2768
160	160	160	8,0	13,0	15,0	42,6	54,3	311	2492	13141	9781	7748	6379	5388	4635	4039
180	180	180	8,5	14,0	15,0	51,2	65,3	426	3831	18022	13427	10649	8780	7431	6406	5597
200	200	200	9,0	15,0	18,0	61,3	78,1	570	5696	24135	17994	14285	11792	9993	8629	7554
220	220	220	9,5	16,0	18,0	71,5	91,0	736	8091	31187	23265	18483	15272	12957	11203	9823
240	240	240	10,0	17,0	21,0	83,2	106	938	11259	39770	29682	23596	19511	16569	14342	12591
260	260	260	10,0	17,5	24,0	93,0	118	1150	14919	48786	36427	28974	23974	20377	17655	15518
280	280	280	10,5	18,0	24,0	103	131	1380	19270	58569	43747	34812	28821	24512	21255	18700
300	300	300	11,0	19,0	27,0	117	149	1680	25166	71327	53290	42422	35137	29900	25943	22839
320	320	300	11,5	20,5	27,0	127	161	1930	30823	81963	61250	48771	40410	34401	29863	26305
340	340	300	12,0	21,5	27,0	134	171	2160	36656	91755	68582	54624	45274	38558	33487	29513
360	360	300	12,5	22,5	27,0	142	181	2400	43193	101971	76130	60728	50346	42890	37263	32854
400	400	300	13,5	24,0	27,0	155	198	2880	57680	122412	91568	72951	60508	51576	44838	39641
450	450	300	14,0	26,0	27,0	171	218	3550	79887	150949	112913	90022	74705	63715	55430	49948
500	500	300	14,5	28,0	27,0	187	239	4290	107176	182474	136528	108886	90395	77134	67142	59328
550	550	300	15,0	29,0	27,0	199	254	4970	136691	211451	158240	126234	104830	89484	77926	68891
600	600	300	15,5	30,0	27,0	212	270	5700	171041	242558	181547	144856	120325	102742	89501	79262
650	650	300	16,0	31,0	27,0	225	286	6480	210616	275805	206460	164763	136890	116916	101880	90135
700	700	300	17,0	32,0	27,0	241	306	7340	256888	312450	233916	186700	155140	132530	115512	102222
800	800	300	17,5	33,0	30,0	262	334	8980	359083	382360	286312	228578	190000	162371	141584	125357
900	900	300	18,5	35,0	30,0	291	371	10980	494065	467607	350196	279633	232494	198740	173352	153541
1000	1000	300	19,0	36,0	30,0	314	400	12890	644748	549031	411224	328414	273102	233504	203728	180498

- 1) The loads on left of the line entail a cursor lower than $1/400 L$, those on right a greater cursor.
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BEAMS H.E.M.

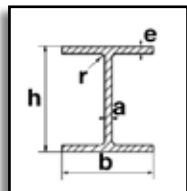


Table of evenly shared net loads for
 $\sigma = 1600 \text{ Kg/cm}^2$

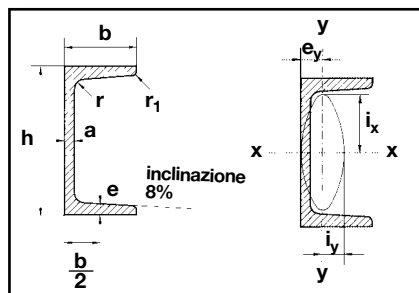
Calculation is made with formula

$$Q \text{ (Kg)} = \frac{8 \times Wx \times 1600}{L \text{ (cm)}} - \text{Weight of beam}$$

PROFILE						Weight Kg/m	Sez. cm ²	Wx cm ³	Jx cm ⁴	DISTANCE BETWEEN THE SUPPORTS IN METRES						
H.E.M.	h	b	a	e	r					3	4	5	6	7	8	9
100	120	106	12,0	20,0	12,0	41,8	53,2	190	1143	7981	5912	4654	3802	3181	2705	-
120	140	126	12,5	21,0	12,0	52,1	66,4	288	2018	12131	9007	7112	5771	4901	4191	3627
140	160	146	13,0	22,0	12,0	63,2	80,6	441	3291	17346	12900	10205	8388	7072	6070	5276
160	180	166	14,0	23,0	15,0	76,2	97,1	566	5098	23929	17806	14108	11617	9816	8446	7363
180	200	186	14,5	24,0	15,0	88,9	113	748	7483	31647	23580	18704	15423	13055	11256	9837
200	220	206	15,0	25,0	18,0	103	131	967	10642	40948	30531	24239	20011	16961	14647	12825
220	240	226	15,5	26,0	18,0	117	149	1220	14605	51701	38571	30646	25324	21489	18583	16297
240	270	248	18,0	32,0	21,0	157	200	1800	24289	76327	56970	45294	37457	31814	27543	24186
260	290	268	18,0	32,5	24,0	172	220	2160	31307	91641	68430	54434	45047	38292	33183	29171
280	310	288	18,5	33,0	24,0	189	240	2550	39547	108230	80842	64333	53264	45304	39287	34564
300	340	310	21,0	39,0	27,0	238	303	3480	59201	147762	110405	87895	72810	61966	53774	47350
320	359	309	21,0	40,0	27,0	245	312	3800	68135	161394	120617	96052	79594	67769	58838	51838
340	377	309	21,0	40,0	27,0	248	316	4050	76372	172451	128604	102437	84909	72319	62814	55366
360	395	308	21,0	40,0	27,0	250	319	4300	84867	182712	136596	108827	90231	76876	66798	58904
400	432	307	21,0	40,0	27,0	256	326	4820	104119	204880	153212	124748	101288	86342	75070	66245
450	478	307	21,0	40,0	27,0	263	335	5500	131484	233871	174943	139481	115752	98727	85893	75853
500	524	306	21,0	40,0	27,0	270	344	6180	161929	262863	196675	156854	130216	111112	96717	85461
550	572	306	21,0	40,0	27,0	278	354	6920	197984	294467	220322	175757	145955	124588	108493	95913
600	620	305	21,0	40,0	27,0	285	364	7660	237447	325963	243974	194666	161700	138070	120277	106374
650	668	305	21,0	40,0	27,0	293	374	8430	281667	358801	268588	214343	178082	152097	132536	117256
700	716	304	21,0	40,0	27,0	301	383	9200	329278	391630	293196	234015	194460	166121	144792	128135
800	814	303	21,0	40,0	30,0	317	404	10870	442598	462835	346572	276687	229991	196546	171384	151742
900	910	302	21,0	40,0	30,0	333	424	12540	570434	534041	399948	319359	265522	226971	197976	175349
1000	1008	302	21,0	40,0	30,0	349	444	14330	722299	610366	457164	365103	303612	259591	226488	200663

- 1) The loads on left of the line entail a cursor lower than $1/400 L$, those on right a greater cursor.
- 2) If wanting to realise a stress different from 1600 Kg/cm^2 , the loads must be proportionally varied.
- 3) For loads concentrating in the middle of the beam, half the table values.

NORMAL PROFILES "U"-SHAPED IRONS UNI 5680-73



Evenly shared loads (Q) supportable.
By "U"-shaped irons (excluding the Beam weight).
Safety load $K=1600 \text{ Kg/cm}^2$

Calculation is made with formula:
 $Q \text{ (Kg)} = \frac{8 \times W_x \times 1600}{L \text{ (cm)}} - \text{Weight of beam}$

INDICATION FOR DESIGNATION h	b	a	e	r	r1	SECTION	PER UNIT LENGTH MASS*	BARYCENTRE POSITION ey cm	QUADRATIC SURFACE MOMENTS		RESISTANCE MODULES		INERT RADIUS	
									ix cm	iy cm	Wx cm	Wy cm	ix cm	iy cm
25	12	4	-	-	-	-	1,30	-	-	-	-	-	-	-
30	15	4	-	-	-	-	1,74	-	-	-	-	-	-	-
30	15	5	-	-	-	-	2,20	-	-	-	-	-	-	-
30	33	5	-	-	-	5,44	4,27	-	-	-	4,26	-	-	-
35	17,5	4	-	-	-	-	2,15	-	-	-	-	-	-	-
40	20	5	-	-	-	-	2,87	-	-	-	-	-	-	-
40	35	5	-	-	-	6,21	4,87	-	-	-	7,07	-	-	-
50	25	5	-	-	-	-	3,86	-	-	-	-	-	-	-
50	38	5	-	-	-	7,12	5,59	-	-	-	10,60	-	-	-
60	28	5	-	-	-	-	5,59	-	-	-	-	-	-	-
60	30	6	-	-	-	-	5,07	-	-	-	-	-	-	-
60	40	6	-	-	-	-	6,30	-	-	-	-	-	-	-
65	42	5,5	-	-	-	9,03	7,09	-	-	-	17,70	-	-	-
70	40	6	-	-	-	-	6,72	-	-	-	-	-	-	-
80	45	6	8	8	4	11,0	8,65	1,45	106	19,4	26,5	6,35	3,10	1,33
100	50	6	8,5	8,5	4,5	13,5	10,6	1,55	205	29,1	41,1	8,45	3,91	1,47
120	55	7	9	9	4,5	17,0	13,3	1,61	364	43,1	60,7	11,1	4,63	1,59
140	60	7	10	10	5	20,4	16,0	1,76	605	62,5	86,4	14,7	5,45	1,75
160	65	7,5	10,5	10,5	5,5	24,0	18,9	1,84	925	85,1	116	18,2	6,21	1,88
180	70	8	11	11	5,5	28,0	22,0	1,93	1,354	114	150	22,4	6,96	2,01
200	75	8,5	11,5	11,5	6	32,2	25,3	2,01	1,911	148	191	26,9	7,71	2,14
220	80	9	12,5	12,5	6,5	37,4	29,4	2,14	2,691	196	245	33,5	8,48	2,29
240	85	9,5	13	13	6,5	42,3	33,2	2,24	3,599	247	300	39,5	9,22	2,42
260	90	10	14	14	7	48,3	37,9	2,37	4,824	317	371	47,8	10,0	2,56
280	95	10	15	15	7,5	53,4	41,9	2,53	6,276	398	448	57,2	10,8	2,73
300	100	10	16	16	8	58,8	46,1	2,70	8,028	493	535	67,6	1,7	2,90

TOLERANCES

Thickness mm.

h	h ≤ 65	65 < h ≤ 200	b	b ≤ 50	s	s ≤ 10
	±1,5	±2,0		±1,5		±0,5



 **FICEP**

 **FICEP**