Steel profiles

BASIC MECHANICAL CHARACTERISTICS													
H [mm]	e [mm]	b [mm]	c [mm]	p [kg/m]	A [cm²]	Y_G [mm]	I_y [cm⁴]	$W_{y\ top}$ [cm³]	Iz [cm⁴]	$W_{z\ top}$ [cm³]	I_t [cm⁴]	I_w [cm⁶]	REFERENCE
100	2	50	21	3.485	4.59	18.1	72.74	14.55	17.58	5.68	.06	465.65	**100 × 2**
100	2.5	50	21	4.357	5.71	17.8	89.55	17.91	21.41	6.92	.12	558.52	**100 × 2.5**
100	3	50	21	5.228	6.81	17.6	105.68	21.14	24.99	8.08	.20	641.99	**100 × 3**
125	2	50	21	3.878	5.08	16.3	122.62	19.62	19.02	5.82	.07	701.81	**125 × 2**
125	2.5	50	21	4.847	6.32	16.1	151.33	24.21	23.17	7.09	.13	844.46	**125 × 2.5**
125	3	50	21	5.817	7.55	15.9	179.03	28.64	27.06	8.28	.22	973.77	**125 × 3**
150	2	50	21	4.270	5.57	14.9	188.37	25.12	20.21	5.92	.07	1,004.76	**150 × 2**
150	2.5	50	21	5.338	6.94	14.7	232.87	31.05	24.63	7.22	.14	1,211.73	**150 × 2.5**
150	3	50	21	6.406	8.29	14.4	275.97	36.80	28.76	8.44	.24	1,400.47	**150 × 3**
175	2	50	21	4.663	6.06	13.7	271.50	31.03	21.21	6.00	.08	1,378.82	**175 × 2**
175	2.5	50	21	5.829	7.55	13.5	336.08	38.41	25.84	7.32	.15	1,665.61	**175 × 2.5**
175	3	50	21	6.994	9.03	13.3	398.81	45.58	30.18	8.56	.26	1,928.27	**175 × 3**
200	2	75	21	5.856	7.53	21.5	469.62	46.96	57.89	11.02	.10	4,664.15	**200 × 2**
200	2.5	75	21	7.300	9.40	21.3	582.85	58.29	71.14	13.55	.19	5,688.75	**200 × 2.5**
200	3	75	21	8.784	11.25	21.0	693.46	69.35	83.80	15.96	.33	6,650.64	**200 × 3**
200	4	75	21	11.712	14.89	20.6	906.91	90.69	107.39	20.48	.78	8,394.88	**200 × 4**
225	2	75	21	6.249	8.02	20.2	617.93	54.93	60.02	11.15	.10	6,012.12	**225 × 2**
225	2.5	75	21	7.811	10.01	20.0	767.48	68.22	73.75	13.70	.20	7,340.07	**225 × 2.5**
225	3	75	21	9.373	11.99	19.7	913.79	81.23	86.87	16.15	.35	8,589.66	**225 × 3**
225	4	75	21	12.497	15.88	19.3	1,196.84	106.39	111.33	20.72	.83	10,864.06	**225 × 4**
250	2	75	21	6.641	8.51	19.0	791.29	63.30	61.90	11.25	.11	7,569.31	**250 × 2**
250	2.5	75	21	8.301	10.63	18.8	983.39	78.67	76.06	13.84	.21	9,248.45	**250 × 2.5**
250	3	75	21	9.962	12.73	18.6	1,171.58	93.73	89.59	16.31	.37	10,831.44	**250 × 3**
250	4	75	21	13.282	16.87	18.2	1,536.38	122.91	114.82	20.93	.88	13,721.06	**250 × 4**
275	2	75	21	7.034	9.00	18.0	991.23	72.09	63.57	11.34	.12	9,342.87	**275 × 2**
275	2.5	75	21	8.792	11.24	17.8	1,232.51	89.64	78.12	13.95	.23	11,422.68	**275 × 2.5**
275	3	75	21	10.550	13.47	17.6	1,469.15	106.85	92.01	16.44	.39	13,386.31	**275 × 3**
275	4	75	21	14.067	17.86	17.2	1,928.64	140.27	117.92	21.11	.93	16,979.09	**275 × 4**
300	2	75	21	7.426	9.49	17.0	1,219.29	81.29	65.08	11.42	.12	11,339.13	**300 × 2**
300	2.5	75	21	9.283	11.86	16.8	1,516.77	101.12	79.96	14.05	.24	13,870.51	**300 × 2.5**
300	3	75	21	11.139	14.21	16.7	1,808.81	120.59	94.18	16.56	.41	16,263.38	**300 × 3**
300	4	75	21	14.852	18.85	16.3	2,376.72	158.45	120.69	21.26	.99	20,649.81	**300 × 4**
325	2.5	75	21	9.773	12.47	16.0	1,838.08	113.11	81.62	14.13	.25	16,598.84	**325 × 2.5**
325	3	75	21	11.728	14.95	15.8	2,192.87	134.95	96.14	16.66	.44	19,470.75	**325 × 3**
325	4	75	21	15.637	19.84	15.4	2,883.70	177.46	123.19	21.40	1.04	24,743.53	**325 × 4**
350	2.5	75	21	10.264	13.09	15.3	2,198.37	125.62	83.13	14.21	.26	19,613.79	**350 × 2.5**
350	3	75	21	12.317	15.69	15.1	2,623.64	149.92	97.91	16.75	.46	23,015.62	**350 × 3**
350	4	75	21	16.422	20.83	14.7	3,452.68	197.30	125.45	21.52	1.09	29,269.42	**350 × 4**
375	2.5	75	21	10.755	13.70	14.6	2,599.55	138.64	84.50	14.28	.28	22,920.85	**375 × 2.5**
375	3	75	21	12.905	16.43	14.4	3,103.43	165.52	99.52	16.83	.48	26,904.41	**375 × 3**
375	4	75	21	17.207	21.82	14.0	4,086.75	217.96	127.51	21.62	1.14	34,235.64	**375 × 4**
400	3	75	21	13.494	17.17	13.8	3,634.56	181.73	101.00	16.91	.50	31,142.89	**400 × 3**
400	4	75	21	17.992	22.81	13.4	4,789.01	239.45	129.39	21.72	1.19	39,649.50	**400 × 4**
					[mm²] × 10²		[mm⁴] × 10⁴	[mm³] × 10³	[mm⁴] × 10⁴	[mm⁴] × 10⁴	[mm⁴] × 10⁴	[mm⁶] × 10⁶	

- **H** *Total profile height*
- **e** *Profile thickness*
- **b** *Flange width*
- **c** *Tab width*
- **p** *Profile weight per linear metre*
- **A** *Profile crude section*
- **Y_G** *Position of the centre of gravity, G, with respect to the web midpoint*
- **I_y** *Crude section moment of inertia with respect to the principal y-y axis*
- **W_y** *Crude section resistant module with respect to the y-y axis*
- **I_z** *Crude section moment of inertia with respect to the principal z-z axis*
- **W_z** *Crude section resistant module with respect to the z-z axis*
- **I_t** *Crude section moment of inertia to torsion*
- **I_w** *Crude section warp module*

** For further effective mechanical characteristics, please contact* **BRAUSA.**

CEBRAU profile

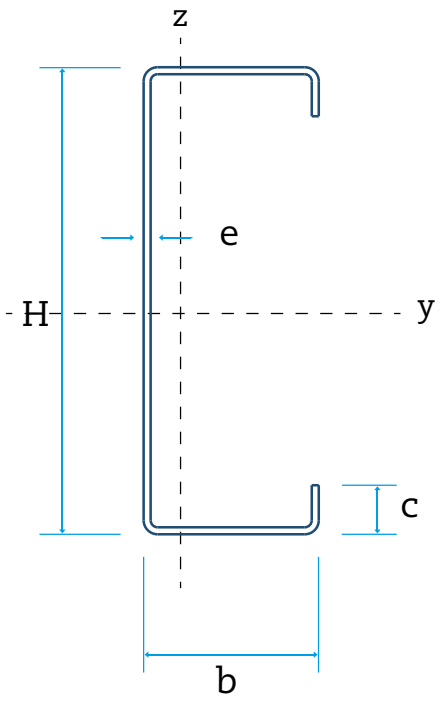
Proof strength used 250 N/mm²

REFERENCE	EUROCODE CHARACTERISTICS $A_{eff.}$ [cm²]	$I_{eff.y}$ [cm⁴]	$W_{eff.y\ top}$ [cm³]
100 × 2	4.27	72.74	14.55
100 × 2.5	5.62	89.55	17.91
100 × 3	6.81	105.68	21.14
125 × 2	4.37	122.62	19.62
125 × 2.5	5.83	151.33	24.21
125 × 3	7.34	179.03	28.64
150 × 2	4.44	188.37	25.12
150 × 2.5	5.97	232.87	31.05
150 × 3	7.58	275.97	36.80
175 × 2	4.48	271.06	31.01
175 × 2.5	6.07	336.08	38.41
175 × 3	7.76	398.81	45.58
200 × 2	5.06	448.64	46.21
200 × 2.5	7.02	566.73	57.71
200 × 3	9.12	682.48	68.95
200 × 4	13.65	906.91	90.69
225 × 2	5.05	588.86	53.95
225 × 2.5	7.04	744.38	67.45
225 × 3	9.18	897.07	80.67
225 × 4	13.85	1194.32	106.30
250 × 2	5.04	742.24	62.07
250 × 2.5	7.04	951.76	77.68
250 × 3	9.21	1147.66	92.97
250 × 4	13.99	1,529.78	122.70
275 × 2	5.03	912.39	70.54
275 × 2.5	7.04	1,190.70	88.39
275 × 3	9.24	1,436.45	105.88
275 × 4	14.10	1,916.64	139.91
300 × 2	5.01	1,101.75	79.34
300 × 2.5	7.04	1,454.46	99.57
300 × 3	9.26	1,765.67	119.37
300 × 4	14.19	2,357.87	157.92
325 × 2.5	7.03	1,733.38	111.15
325 × 3	9.27	2,137.53	133.47
325 × 4	14.25	2,856.46	176.73
350 × 2.5	7.02	2,039.51	123.15
350 × 3	9.27	2,554.25	148.16
350 × 4	14.31	3,415.41	196.35
375 × 2.5	7.01	2,373.24	135.56
375 × 3	9.27	2,977.31	163.22
375 × 4	14.35	4,037.73	216.77
400 × 3	9.27	3,435.47	178.78
400 × 4	14.39	4,726.40	238.00
	[mm²]	[mm⁴]	[mm³]
	× 10²	× 10⁴	× 10³

$A_{eff.}$ *Profile cross section under uniform compression*

$I_{eff.y}$ *Cross section moment of inertia under bending with respect to the y-y axis*

$W_{eff.y}$ *Cross section resistant module under bending with respect to the y-y axis*



Manufacturing possibilities
H: 80 to 450 mm
e: 1.5 to 4 mm
b standard: 50 or 75 mm
b special: 60 / 70 / 80 / 85 mm

Parametric verification of the purlins used in the roof and facade enclosures. Analysis in line with European standard Eurocode-3 Part 1-3 EN 1993-1-3 "Design of steel structures. Supplementary rules for cold formed thin gauge members and sheeting" (version 2006).