



Universal Columns

Table 15 Universal Columns - Dimensions and Properties

Designation	Depth of Section d	Flange		Web Thickness t_w	Root Radius r_1	Depth Between Flanges d_1	$(b_f - t_w)$		Gross Area of Cross Section A_g	About x-axis				About y-axis				Torsion Constant J	Warping Constant I_w	Designation
		Width b_f	Thickness t_f				t_w	$2t_f$		I_x	Z_x	S_x	r_x	I_y	Z_y	S_y	r_y			
kg/m	mm	mm	mm	mm	mm	mm	mm	mm	mm ²	10 ⁶ mm ⁴	10 ³ mm ³	10 ³ mm ³	mm	10 ⁶ mm ⁴	10 ³ mm ³	10 ³ mm ³	mm	10 ³ mm ⁴	10 ⁹ mm ⁶	
310 UC 158	327	311	25.0	15.7	16.5	277	17.7	5.91	20100	388	2370	2680	139	125	807	1230	78.9	3810	2860	310 UC 158
137	321	309	21.7	13.8	16.5	277	20.1	6.80	17500	329	2050	2300	137	107	691	1050	78.2	2520	2390	137
118	315	307	18.7	11.9	16.5	277	23.3	7.89	15000	277	1760	1960	136	90.2	588	893	77.5	1630	1980	118
96.8	308	305	15.4	9.9	16.5	277	28.0	9.58	12400	223	1450	1600	134	72.9	478	725	76.7	928	1560	96.8
250 UC 89.5	260	256	17.3	10.5	14.0	225	21.5	7.10	11400	143	1100	1230	112	48.4	378	575	65.2	1040	713	250 UC 89.5
72.9	254	254	14.2	8.6	14.0	225	26.2	8.64	9320	114	897	992	111	38.8	306	463	64.5	586	557	72.9
200 UC 59.5	210	205	14.2	9.3	11.4	181	19.5	6.89	7620	61.3	584	656	89.7	20.4	199	303	51.7	477	195	200 UC 59.5
52.2	206	204	12.5	8.0	11.4	181	22.7	7.84	6660	52.8	512	570	89.1	17.7	174	264	51.5	325	166	52.2
46.2	203	203	11.0	7.3	11.4	181	24.8	8.90	5900	45.9	451	500	88.2	15.3	151	230	51.0	228	142	46.2
150 UC 37.2	162	154	11.5	8.1	8.9	139	17.1	6.34	4730	22.2	274	310	68.4	7.01	91.0	139	38.5	197	39.6	150 UC 37.2
30.0	158	153	9.4	6.6	8.9	139	21.0	7.79	3860	17.6	223	250	67.5	5.62	73.4	112	38.1	109	30.8	30.0
23.4	152	152	6.8	6.1	8.9	139	22.8	10.7	2980	12.6	166	184	65.1	3.98	52.4	80.2	36.6	50.2	21.1	23.4
100 UC 14.8	97	99	7.0	5.0	10.0	83.0	16.6	6.71	1890	3.18	65.6	74.4	41.1	1.14	22.9	35.2	24.5	34.9	2.30	100 UC 14.8

Universal Columns

Table 16 Universal Columns - Properties for Assessing Section Capacity

Designation	Yield Stress		Form Factor k_f	About x-axis		About y-axis		Yield Stress Flange f_y MPa	Yield Stress Web f_y MPa	Form Factor k_f	About x-axis		About y-axis		Designation
	Flange f_y MPa	Web f_y MPa		Compactness	Z_{ex} 10^3mm^3	Compactness	Z_{ey} 10^3mm^3				Compactness	Z_{ex} 10^3mm^3	Compactness	Z_{ey} 10^3mm^3	
300PLUS® *								AS/NZS 3679.1-350							
310 UC 158	280	300	1.00	C	2680	C	1210	340	340	1.00	C	2680	C	1210	310 UC 158
137	280	300	1.00	C	2300	C	1040	340	340	1.00	C	2300	C	1040	137
118	280	300	1.00	C	1960	C	882	340	340	1.00	N	1950	N	878	118
96.8	300	320	1.00	N	1560	N	694	340	360	1.00	N	1550	N	684	96.8
250 UC 89.5	280	320	1.00	C	1230	C	567	340	360	1.00	C	1230	C	567	250 UC 89.5
72.9	300	320	1.00	N	986	N	454	340	360	1.00	N	977	N	448	72.9
200 UC 59.5	300	320	1.00	C	656	C	299	340	360	1.00	C	656	C	299	200 UC 59.5
52.2	300	320	1.00	C	570	C	260	340	360	1.00	N	569	N	260	52.2
46.2	300	320	1.00	N	494	N	223	340	360	1.00	N	490	N	219	46.2
150 UC 37.2	300	320	1.00	C	310	C	137	340	360	1.00	C	310	C	137	150 UC 37.2
30.0	320	320	1.00	C	250	C	110	360	360	1.00	N	248	N	109	30.0
23.4	320	320	1.00	N	176	N	73.5	360	360	1.00	N	174	N	72.3	23.4
100 UC 14.8	320	320	1.00	C	74.4	C	34.4	360	360	1.00	C	74.4	C	34.4	100 UC 14.8

* 300PLUS® replaced Grade 250 as the base grade for these sections in 1994.
300PLUS® hot rolled sections are produced to exceed the minimum requirements of AS/NZS 3679.1-300.

Notes

1. For 300PLUS® sections the tensile strength (f_u) is 440 MPa.
2. For Grade 350 sections the tensile strength (f_u) is 480 MPa.
3. C: Compact Section; N: Non-compact Section; S: Slender Section.

