



S605 Loading Tables

S605
Material Specification
Specific Gravity: 1.37 ± 0.02
Volume Solids: 68% ± 2%



Columns and Beams

	30 Minutes Fire Resistance				60 Minutes Fire Resistance				90 Minutes Fire Resistance				120 Minutes Fire Resistance			
	Hp/A	WFT	DFT	g/m ²	Hp/A	WFT	DFT	g/m ²	Hp/A	WFT	DFT	g/m ²	Hp/A	WFT	DFT	g/m ²
	4 Sided Universal Beams & Columns	0-110	0.25	0.17	349	0-50	0.28	0.19	377	0-20	1.74	1.18	2378	0-60	3.09	2.10
111-120		0.33	0.23	453	51-70	0.60	0.41	820	21-40	1.91	1.30	2620	61-90	4.16	2.83	5694
121-140		0.49	0.33	665	71-110	1.04	0.71	1421	41-75	2.21	1.50	3023	91-100	4.59	3.12	6293
141-150		0.56	0.38	770	111-140	1.16	0.79	1584	76-90	2.34	1.59	3204	101-110	5.03	3.42	6891
151-160		0.64	0.44	877	141-160	1.23	0.84	1691	91-100	2.43	1.65	3325	121-130	5.70	3.87	7804
161-170		0.72	0.49	981	161-170	1.27	0.87	1745	101-110	2.51	1.71	3446	131-140	6.02	4.10	8253
171-180		0.79	0.54	1088	171-180	1.33	0.90	1816	111-120	2.72	1.85	3732	141-145	6.19	4.21	8477
181-190		0.87	0.59	1193	181-190	1.48	1.01	2027	121-130	2.93	1.99	4018	146-150	6.35	4.32	8703
191-200		0.95	0.64	1298	191-200	1.63	1.11	2239	131-140	3.14	2.14	4306	151-155	6.51	4.43	8926
201-210		0.99	0.67	1350	201-210	1.79	1.22	2450	141-150	3.35	2.28	4592	156-160	6.81	4.63	9335
211-220		0.99	0.67	1358	211-220	1.94	1.32	2662	151-160	3.59	2.44	4921	161-165	7.11	4.84	9745
221-230		1.00	0.68	1376	221-230	2.10	1.43	2873	161-170	3.86	2.63	5289	166-170	7.41	5.04	10154
231-240		1.02	0.69	1392	231-240	2.25	1.53	3085	171-180	4.13	2.81	5658	171-175	7.71	5.24	10563
241-250		1.03	0.70	1408	241-250	2.41	1.64	3297	181-190	4.40	2.99	6029	176-180	8.01	5.45	10972
251-260		1.04	0.71	1427	251-260	2.56	1.74	3508	191-200	4.67	3.18	6398	181-185	8.31	5.65	11381
261-270		1.05	0.72	1443	261-270	2.71	1.85	3720	201-210	4.94	3.36	6766	186-190	8.60	5.85*	11790
271-280		1.07	0.73	1461	271-280	2.87	1.95	3931	211-220	5.43	3.69	7439	191-195	8.90	6.05*	12199
281-290		1.08	0.73	1477	281-290	3.02	2.06	4143	221-230	6.14	4.18	8415	196-200	9.20	6.26*	12606
291-300		1.09	0.74	1493	291-300	3.18	2.16	4354	231-240	6.85	4.66	9390	201-205	9.50	6.46*	13015
301-310		1.10	0.75	1511	301-310	3.33	2.27	4566	241-250	7.56	5.14	10365	206-210	9.80	6.66*	13424
311-320		1.12	0.76	1531	311-320	3.49	2.37	4784	251-260	8.28	5.63	11342	211-215	10.10	6.87*	13833
									261-270	8.99	6.11*	12318	216-220	10.39	7.07*	14242
									271-280	9.70	6.60*	13293				
									281-290	10.41	7.08*	14268				

Columns

	30 Minutes Fire Resistance				60 Minutes Fire Resistance				90 Minutes Fire Resistance				120 Minutes Fire Resistance				
	Hp/A	WFT	DFT	g/m ²	Hp/A	WFT	DFT	g/m ²	Hp/A	WFT	DFT	g/m ²	Hp/A	WFT	DFT	g/m ²	
	Circular Hollow	0-100	1.44	0.98	1975	0-40	1.43	0.97	1955	0-40	2.43	1.65	3325	0-29	3.72	2.53	5100
101-120		1.53	1.04	2095	41-60	1.66	1.13	2275	41-60	3.90	2.65	5340	29-38	4.87	3.31	6670	
121-140		1.60	1.09	2195	61-80	1.88	1.28	2580	61-70	4.12	2.80	5640					
141-160		1.69	1.15	2315	81-100	2.11	1.44	2900	71-80	4.26	2.90	5845					
161-180		1.78	1.21	2440	101-120	2.35	1.60	3225	81-90	4.43	3.01	6065					
181-200		1.87	1.27	2560	121-140	2.57	1.75	3525	91-100	4.57	3.11	6265					
201-220		1.94	1.32	2660	141-160	2.81	1.91	3850	101-105	4.65	3.16	6365					
221-240		2.03	1.38	2780	161-180	3.25	2.21	4455	106-110	4.74	3.22	6490					
241-260		2.12	1.44	2900	181-200	4.05	2.73	5500	111-115	4.81	3.27	6590					
261-280		2.21	1.50	3020	201-220	4.78	3.25	6550	116-120	4.88	3.32	6690					
281-300		2.28	1.55	3125													
301-320		2.37	1.61	3245													
4 Sided RHS		0-120	1.41	0.96	1935	0-40	1.32	0.90	1815	0-40	2.16	1.47	2960	0-38	4.85	3.3	6650
		121-140	1.54	1.05	2115	41-60	1.56	1.06	2135	41-60	3.41	2.32	4675				
	141-160	1.66	1.13	2275	61-80	1.90	1.29	2600	61-70	4.00	2.72	5480					
	161-180	1.79	1.22	2460	81-100	2.22	1.51	3040	71-80	4.28	2.91	5865					
	181-200	1.93	1.31	2640	101-120	2.56	1.74	3505	81-90	4.57	3.11	6265					
	201-220	2.06	1.40	2820	121-140	2.89	1.97	3970	91-100	4.85	3.30	6650					
	221-240	2.19	1.49	3000	141-160	3.68	2.50	5040									
	241-260	2.31	1.57	3165	161-180	4.22	2.87	5785									
	261-280	2.44	1.66	3345	181-200	4.60	3.13	6305									
	281-300	2.57	1.75	3525	201-215	4.90	3.33	6710									
	301-320	2.71	1.84	3705													

Notes
For castellated and cellular beam sections, please refer to our Technical Services Department for design specific calculations.
In a portal frame where the columns have a "Reasonable degree of fixity" at their bases, the rafters can be protected with a 3-sided beam loading applied on 3 sides.
* columns only

14-01-2016 v.2



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Beams

3-Sided Universal Beams	30 Minutes Fire Resistance				60 Minutes Fire Resistance				90 Minutes Fire Resistance				120 Minutes Fire Resistance			
	Hp/A	WFT	DFT	g/m ²	Hp/A	WFT	DFT	g/m ²	Hp/A	WFT	DFT	g/m ²	Hp/A	WFT	DFT	g/m ²
	0-150	0.23	0.15	308	0-140	0.23	0.15	308	0-35	1.17	0.80	1606	0-115	2.80	1.900	3837
151-160	0.25	0.17	347	141-150	0.31	0.21	431	36-60	1.47	1.00	2011	116-120	3.26	2.216	4465	
161-170	0.28	0.19	389	151-160	0.43	0.30	594	61-80	1.70	1.16	2335	121-125	3.72	2.527	5092	
171-180	0.31	0.21	429	161-170	0.55	0.38	760	81-100	1.94	1.32	2660	126-130	4.17	2.838	5719	
181-190	0.34	0.23	472	171-180	0.68	0.46	925	101-120	2.18	1.48	2982	131-135	4.63	3.149	6345	
191-200	0.38	0.26	514	181-190	0.80	0.54	1090	120-140	2.41	1.64	3305	136-140	5.09	3.460	6972	
201-210	0.40	0.28	554	191-200	0.92	0.62	1255	141-150	2.53	1.72	3466	141-145	5.44	3.702	7460	
211-220	0.44	0.30	596	201-210	1.04	0.71	1421	151-160	2.65	1.80	3631	146-150	5.80	3.943	7945	
221-230	0.47	0.32	639	211-220	1.16	0.79	1584	161-170	2.77	1.88	3792	151-155	6.15	4.185	8433	
231-240	0.50	0.34	679	221-230	1.28	0.87	1749	171-180	2.89	1.96	3953	156-160	6.51	4.427	8920	
241-250	0.53	0.36	721	231-240	1.40	0.95	1914	181-190	3.00	2.04	4117	161-165	6.86	4.668	9406	
251-260	0.56	0.38	764	241-250	1.54	1.05	2108	191-200	3.12	2.12	4278	166-170	7.22	4.910	9894	
261-270	0.59	0.40	804	251-260	1.68	1.14	2301	201-210	3.24	2.20	4439	171-175	7.58	5.152	10381	
271-280	0.62	0.42	846	261-270	1.82	1.24	2495	211-220	3.36	2.28	4602	176-180	7.93	5.393	10867	
281-290	0.65	0.44	887	271-280	1.96	1.33	2680	221-230	3.59	2.44	4915	181-185	8.29	5.635	11355	
291-300	0.68	0.46	929	281-290	2.10	1.43	2879	231-240	4.07	2.77	5578					
301-310	0.71	0.48	971	291-300	2.24	1.53	3073	241-250	4.56	3.10	6242					
311-320	0.74	0.50	1012	301-310	2.38	1.62	3266	251-260	5.04	3.43	6905					
				311-320	2.53	1.72	3466	261-270	5.52	3.76	7568					

Notes
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In a portal frame where the columns have a "Reasonable degree of fixity" at their bases, the rafters can be protected with a 3-sided beam loading applied on 3 sides.
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