

Atlas HSS Section Properties (Round) - CSA G40

Shape	OD (in.)	Nominal Wall Thickness, t (in.)	Design Wall Thickness, td (in.)	Nominal Wt. (lb/ft)	Area, A (in. ²)	D/t	I (in. ⁴)	S (in. ³)	r (in.)	Z (in. ³)	Torsion		Surface Area (ft ² /ft)
											J (in. ⁴)	C (in. ³)	
HSS 20 x 0.625	20	0.625	0.625	129.45	38.0	32.0	1790	179	6.86	235	3580	358	5.24
HSS 20 x 0.500	20	0.500	0.500	104.23	30.6	40.0	1460	146	6.91	190	2920	292	5.24
HSS 20 x 0.375	20	0.375	0.375	78.67	23.1	53.3	1110	111	6.93	144	2220	222	5.24
HSS 20 x 0.250	20	0.250	0.250	52.78	15.5	80.0	756	75.6	6.98	97.5	1510	151	5.24
HSS 18 x 0.625	18	0.625	0.625	116.09	34.1	28.8	1290	143	6.15	189	2580	287	4.71
HSS 18 x 0.500	18	0.500	0.500	93.54	27.5	36.0	1053	117	6.19	153	2110	234	4.71
HSS 18 x 0.375	18	0.375	0.375	70.66	20.8	48.0	807	89.7	6.23	117	1610	179	4.71
HSS 18 x 0.250	18	0.250	0.250	47.44	13.9	72.0	549	61.0	6.28	78.8	1100	122	4.71
HSS 16 x 0.625	16	0.625	0.625	102.73	30.2	25.6	894	112	5.44	148	1790	224	4.19
HSS 16 x 0.500	16	0.500	0.500	82.85	24.3	32.0	732	91.5	5.49	120	1460	183	4.19
HSS 16 x 0.375	16	0.375	0.375	62.64	18.4	42.7	562	70.3	5.53	91.6	1120	140	4.19
HSS 16 x 0.250	16	0.250	0.250	42.09	12.4	64.0	384	48.0	5.56	62.0	768	96.0	4.19
HSS 14 x 0.625	14	0.625	0.625	89.36	26.3	22.4	589	84.1	4.73	112	1180	169	3.67
HSS 14 x 0.500	14	0.500	0.500	72.16	21.2	28.0	484	69.1	4.78	91.2	968	138	3.67
HSS 14 x 0.437	14	0.437	0.437	63.36	18.6	32.0	429	61.3	4.80	80.4	858	123	3.67
HSS 14 x 0.375	14	0.375	0.375	54.62	16.1	37.3	373	53.3	4.81	69.6	746	107	3.67
HSS 14 x 0.250	14	0.250	0.250	36.75	10.8	56.0	255	36.4	4.86	47.3	510	72.9	3.67
HSS 12.75 x 0.625	12.75	0.625	0.625	81.01	23.8	20.4	439	68.9	4.29	92.0	878	138	3.34
HSS 12.75 x 0.500	12.75	0.500	0.500	65.48	19.2	25.5	362	56.8	4.34	75.1	724	114	3.34
HSS 12.75 x 0.375	12.75	0.375	0.375	49.61	14.6	34.0	279	43.8	4.37	57.4	558	87.5	3.34
HSS 12.75 x 0.250	12.75	0.250	0.250	33.41	9.82	51.0	192	30.1	4.42	39.1	384	60.2	3.34
HSS 10.75 x 0.625	10.75	0.625	0.625	67.65	19.9	17.2	256	47.6	3.59	64.2	512	95.3	2.81
HSS 10.75 x 0.500	10.75	0.500	0.500	54.79	16.1	21.5	212	39.4	3.63	52.6	424	78.9	2.81
HSS 10.75 x 0.375	10.75	0.375	0.375	41.59	12.2	28.7	165	30.7	3.68	40.4	330	61.4	2.81
HSS 10.75 x 0.365	10.75	0.365	0.365	40.52	11.9	29.5	161	30.0	3.68	39.4	322	59.9	2.81
HSS 10.75 x 0.313	10.75	0.313	0.313	34.87	10.26	34.3	140	26.0	3.69	34.1	280	52.1	2.81
HSS 10.75 x 0.250	10.75	0.250	0.250	28.06	8.25	43.0	114	21.2	3.72	27.6	228	42.4	2.81
HSS 10.75 x 0.188	10.75	0.188	0.188	21.17	6.24	57.2	87.0	16.2	3.73	21.0	174	32.4	2.81

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											J (in. ⁴)	C (in. ³)	
HSS 10 x 0.625	10	0.625	0.625	62.64	18.4	16.0	203	40.6	3.32	55.0	406	81.2	2.62
HSS 10 x 0.500	10	0.500	0.500	50.78	14.9	20.0	169	33.8	3.37	45.2	338	67.6	2.62
HSS 10 x 0.375	10	0.375	0.375	38.58	11.3	26.7	132	26.4	3.42	34.8	264	52.8	2.62
HSS 10 x 0.313	10	0.313	0.313	32.36	9.53	31.9	112	22.4	3.43	29.4	224	44.8	2.62
HSS 10 x 0.250	10	0.250	0.250	26.06	7.66	40.0	91	18.2	3.45	23.8	182	36.4	2.62
HSS 10 x 0.188	10	0.188	0.188	19.67	5.80	53.2	69.8	14.0	3.47	18.1	140	28.0	2.62
HSS 9.625 x 0.625	9.625	0.625	0.625	60.13	17.7	15.4	180	37.4	3.19	50.7	360	74.8	2.52
HSS 9.625 x 0.500	9.625	0.500	0.500	48.77	14.3	19.3	150	31.2	3.24	41.7	300	62.3	2.52
HSS 9.625 x 0.375	9.625	0.375	0.375	37.08	10.9	25.7	117	24.3	3.28	32.1	234	48.6	2.52
HSS 9.625 x 0.313	9.625	0.313	0.313	31.11	9.16	30.8	99.4	20.7	3.29	27.2	199	41.4	2.52
HSS 9.625 x 0.250	9.625	0.250	0.250	25.06	7.36	38.5	81.0	16.8	3.32	22.0	162	33.7	2.52
HSS 9.625 x 0.188	9.625	0.188	0.188	18.92	5.57	51.2	62.1	12.9	3.34	16.7	124	25.8	2.52
HSS 8.625 x 0.625	8.625	0.625	0.625	53.45	15.7	13.8	126	29.2	2.83	40.1	252	58.4	2.26
HSS 8.625 x 0.500	8.625	0.500	0.500	43.43	12.8	17.3	106	24.6	2.88	33.0	212	49.2	2.26
HSS 8.625 x 0.375	8.625	0.375	0.375	33.07	9.72	23.0	82.9	19.2	2.92	25.5	166	38.5	2.26
HSS 8.625 x 0.322	8.625	0.322	0.322	28.58	8.40	26.8	72.5	16.8	2.94	22.2	145	33.6	2.26
HSS 8.625 x 0.250	8.625	0.250	0.250	22.38	6.58	34.5	57.7	13.4	2.96	17.5	115	26.7	2.26
HSS 8.625 x 0.188	8.625	0.188	0.188	16.91	4.98	45.9	44.4	10.30	2.99	13.4	88.8	20.6	2.26
HSS 6.625 x 0.500	6.625	0.500	0.500	32.74	9.62	13.3	45.4	13.7	2.17	18.8	90.8	27.4	1.73
HSS 6.625 x 0.375	6.625	0.375	0.375	25.06	7.36	17.7	36.1	10.9	2.21	14.7	72.2	21.8	1.73
HSS 6.625 x 0.313	6.625	0.313	0.313	21.09	6.21	21.2	31.0	9.36	2.23	12.5	62.0	18.7	1.73
HSS 6.625 x 0.280	6.625	0.280	0.280	18.99	5.58	23.7	28.1	8.48	2.24	11.3	56.2	17.0	1.73
HSS 6.625 x 0.250	6.625	0.250	0.250	17.04	5.01	26.5	25.5	7.70	2.26	10.17	51.0	15.4	1.73
HSS 6.625 x 0.188	6.625	0.188	0.188	12.90	3.80	35.2	19.7	5.95	2.28	7.79	39.4	11.9	1.73
HSS 6.625 x 0.125	6.625	0.125	0.125	8.69	2.55	53.0	13.5	4.08	2.30	5.28	27.0	8.15	1.73
HSS 6 x 0.313	6.625	0.313	0.313	21.09	6.21	21.2	31.0	9.36	2.23	12.5	62.0	18.7	1.73
HSS 6 x 0.250	6.625	0.250	0.250	17.04	5.01	26.5	25.5	7.70	2.26	10.2	51.0	15.4	1.73
HSS 6 x 0.188	6.625	0.188	0.188	12.94	3.80	35.2	19.7	5.95	2.28	7.8	39.4	11.9	1.73

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											J (in. ⁴)	C (in. ³)	
HSS 5.563 x 0.500	5.563	0.500	0.500	27.06	7.95	11.1	25.7	9.24	1.80	12.9	51.4	18.5	1.46
HSS 5.563 x 0.375	5.563	0.375	0.375	20.80	6.11	14.8	20.7	7.44	1.84	10.11	41.4	14.9	1.46
HSS 5.563 x 0.250	5.563	0.250	0.250	14.20	4.17	22.3	14.8	5.32	1.88	7.06	29.6	10.64	1.46
HSS 5.563 x 0.188	5.563	0.188	0.188	10.77	3.17	29.6	11.5	4.13	1.90	5.43	23.0	8.27	1.46
HSS 5.000 x 0.500	5	0.500	0.500	24.05	7.07	10.0	18.1	7.24	1.60	10.17	36.2	14.5	1.31
HSS 5.000 x 0.375	5	0.375	0.375	18.54	5.45	13.3	14.7	5.88	1.64	8.04	29.4	11.8	1.31
HSS 5.000 x 0.313	5	0.313	0.313	15.66	4.61	16.0	12.7	5.08	1.66	6.89	25.4	10.16	1.31
HSS 5.000 x 0.188	5	0.188	0.188	9.65	2.84	26.6	8.24	3.30	1.70	4.36	16.5	6.60	1.31
HSS 5.000 x 0.125	5	0.125	0.125	6.51	1.91	40.0	5.69	2.28	1.73	2.97	11.4	4.56	1.31
HSS 4.500 x 0.337	4.5	0.337	0.337	15.00	4.41	13.4	9.61	4.27	1.48	5.85	19.2	8.53	1.18
HSS 4.500 x 0.250	4.5	0.250	0.250	11.36	3.34	18.0	7.56	3.36	1.50	4.52	15.1	6.71	1.18
HSS 4.500 x 0.237	4.5	0.237	0.237	10.80	3.17	19.0	7.23	3.21	1.51	4.31	14.5	6.44	1.18
HSS 4.500 x 0.188	4.5	0.188	0.188	8.64	2.55	23.9	5.93	2.64	1.52	3.50	11.9	5.29	1.18
HSS 4.500 x 0.125	4.5	0.125	0.125	5.85	1.72	36.0	4.11	1.83	1.55	2.39	8.22	3.65	1.18
HSS 4.000 x 0.250	4	0.250	0.250	10.02	2.95	16.0	5.20	2.60	1.33	3.52	10.40	5.20	1.05
HSS 4.000 x 0.188	4	0.188	0.188	7.64	2.25	21.3	4.10	2.05	1.35	2.73	8.20	4.10	1.05
HSS 4.000 x 0.125	4	0.125	0.125	5.18	1.52	32.0	2.86	1.43	1.37	1.88	5.72	2.86	1.05
HSS 3.500 x 0.250	3.5	0.250	0.250	8.69	2.55	14.0	3.39	1.94	1.15	2.65	6.78	3.87	0.916
HSS 3.500 x 0.216	3.5	0.216	0.216	7.58	2.23	16.2	3.02	1.73	1.16	2.33	6.04	3.45	0.916
HSS 3.500 x 0.188	3.5	0.188	0.188	6.64	1.96	18.6	2.69	1.54	1.17	2.06	5.38	3.07	0.916
HSS 3.500 x 0.125	3.5	0.125	0.125	4.51	1.33	28.0	1.89	1.08	1.19	1.42	3.78	2.16	0.916
HSS 3.000 x 0.250	3	0.250	0.250	7.35	2.16	12.0	2.06	1.37	0.977	1.90	4.12	2.75	0.785
HSS 3.000 x 0.188	3	0.188	0.188	5.64	1.66	16.0	1.65	1.10	1.00	1.49	3.30	2.20	0.785
HSS 3.000 x 0.125	3	0.125	0.125	3.84	1.13	24.0	1.17	0.780	1.02	1.034	2.34	1.56	0.785
HSS 2.875 x 0.188	2.875	0.188	0.188	5.39	1.59	15.3	1.44	1.002	0.952	1.36	2.88	2.00	0.753
HSS 2.875 x 0.125	2.875	0.125	0.125	3.67	1.08	23.0	1.023	0.712	0.973	0.946	2.05	1.43	0.753
HSS 2.500 x 0.250	2.5	0.250	0.250	6.01	1.77	10.0	1.13	0.904	0.799	1.27	2.26	1.81	0.654
HSS 2.500 x 0.188	2.5	0.188	0.188	4.64	1.37	13.3	0.918	0.734	0.819	1.007	1.84	1.47	0.654
HSS 2.500 x 0.125	2.5	0.125	0.125	3.17	0.933	20.0	0.659	0.527	0.840	0.706	1.32	1.056	0.654

Atlas HSS Section Properties (Round) - CSA G40

Shape	OD	Nominal Wall Thickness, t	Design Wall Thickness, td	Nominal Wt.	Area, A	D/t	I	S	r	Z	Torsion		Surface Area
											J	C	
	(in.)	(in.)	(in.)	(lb/ft)	(in. ²)		(in. ⁴)	(in. ³)	(in.)	(in. ³)	(in. ⁴)	(in. ³)	(ft ² /ft)
HSS 2.375 x 0.218	2.375	0.218	0.218	5.03	1.48	10.9	0.868	0.731	0.766	1.018	1.74	1.47	0.622
HSS 2.375 x 0.188	2.375	0.188	0.188	4.38	1.29	12.6	0.778	0.655	0.777	0.901	1.56	1.31	0.622
HSS 2.375 x 0.154	2.375	0.154	0.154	3.66	1.07	15.4	0.666	0.561	0.789	0.761	1.33	1.12	0.622
HSS 2.375 x 0.125	2.375	0.125	0.125	3.01	0.884	19.0	0.561	0.472	0.797	0.633	1.12	0.943	0.622
HSS 1.900 x 0.188	1.9	0.188	0.188	3.43	1.011	10.1	0.375	0.395	0.609	0.553	0.750	0.789	0.497
HSS 1.900 x 0.145	1.9	0.145	0.145	2.72	0.799	13.1	0.310	0.326	0.623	0.448	0.620	0.653	0.497
HSS 1.900 x 0.125	1.9	0.125	0.125	2.37	0.697	15.2	0.276	0.291	0.629	0.394	0.552	0.581	0.497
HSS 1.900 x 0.109	1.9	0.109	0.109	2.09	0.613	17.4	0.247	0.260	0.635	0.350	0.494	0.520	0.497
HSS 1.900 x 0.100	1.9	0.100	0.100	1.92	0.565	19.0	0.230	0.242	0.638	0.324	0.460	0.484	0.497
HSS 1.660 x 0.140	1.66	0.140	0.140	2.27	0.669	11.9	0.195	0.235	0.540	0.324	0.390	0.470	0.435
HSS 1.660 x 0.125	1.66	0.125	0.125	2.05	0.603	13.3	0.179	0.216	0.545	0.295	0.358	0.431	0.435
HSS 1.660 x 0.109	1.66	0.109	0.109	1.81	0.531	15.2	0.160	0.193	0.549	0.263	0.320	0.386	0.435
HSS 1.660 x 0.100	1.66	0.100	0.100	1.67	0.490	16.6	0.150	0.181	0.553	0.244	0.300	0.361	0.435
HSS 1.315 x 0.133	1.315	0.133	0.133	1.68	0.494	9.9	0.087	0.132	0.420	0.187	0.174	0.265	0.344
HSS 1.315 x 0.125	1.315	0.125	0.125	1.59	0.467	10.5	0.084	0.128	0.424	0.178	0.168	0.256	0.344
HSS 1.315 x 0.100	1.315	0.100	0.100	1.30	0.382	13.2	0.071	0.108	0.431	0.148	0.142	0.216	0.344
HSS 1.050 x 0.100	1.05	0.100	0.100	1.02	0.298	10.5	0.034	0.065	0.338	0.091	0.068	0.130	0.275

Notes:

Always refer to the Atlas Tube Availability Chart to avoid selecting sections that are more difficult to source.