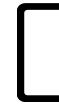
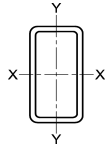


ASTM A1085 Rectangular HSS

Dimensions and Properties

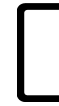


Shape	Design Wall Thickness, t	Nominal Wt.	Area, A	b/t	h/t	Axis X-X				Axis Y-Y				Torsion		Surface Area
						I	S	r	Z	I	S	r	Z	J	C	
						in. ⁴	in. ³	in.	in. ³	in. ⁴	in. ³	in.	in. ³	in. ⁴	in. ³	
HSS24×12× $\frac{3}{4}$	0.750	171.16	50.3	13.0	29.0	3650	304	8.52	382	1240	207	4.97	235	3030	391	5.79
× $\frac{5}{8}$	0.625	144.39	42.4	16.2	35.4	3130	261	8.59	325	1070	178	5.02	201	2590	331	5.82
× $\frac{1}{2}$	0.500	116.91	34.4	21.0	45.0	2580	215	8.66	266	883	147	5.07	164	2120	270	5.86
HSS20×12× $\frac{3}{4}$	0.750	150.75	44.3	13.0	23.7	2320	232	7.24	287	1050	175	4.87	202	2360	323	5.12
× $\frac{5}{8}$	0.625	127.37	37.4	16.2	29.0	2000	200	7.31	245	904	151	4.92	172	2010	275	5.15
× $\frac{1}{2}$	0.500	103.30	30.4	21.0	37.0	1650	165	7.37	201	750	125	4.97	141	1650	224	5.19
× $\frac{3}{8}$	0.375	78.52	23.1	29.0	50.3	1280	128	7.44	154	583	97.2	5.02	109	1270	171	5.23
× $\frac{5}{16}$	0.313	65.87	19.4	35.3	60.9	1080	108	7.46	130	495	82.5	5.05	91.9	1070	144	5.24
HSS20×8× $\frac{5}{8}$	0.625	110.36	32.4	9.80	29.0	1530	153	6.87	197	358	89.5	3.32	103	973	178	4.49
× $\frac{1}{2}$	0.500	89.68	26.4	13.0	37.0	1270	127	6.94	162	300	75.0	3.37	84.7	806	146	4.52
× $\frac{3}{8}$	0.375	68.31	20.1	18.3	50.3	988	98.8	7.01	125	236	59.0	3.43	65.6	625	112	4.56
× $\frac{5}{16}$	0.313	57.36	16.9	22.6	60.9	840	84.0	7.05	106	202	50.5	3.46	55.6	530	94.6	4.58
HSS20×4× $\frac{1}{2}$	0.500	76.07	22.4	5.00	37.0	889	88.9	6.30	123	61.6	30.8	1.66	36.0	205	67.8	3.86
× $\frac{3}{8}$	0.375	58.10	17.1	7.67	50.3	699	69.9	6.39	95.3	50.3	25.2	1.72	28.5	165	53.2	3.89
× $\frac{5}{16}$	0.313	48.86	14.4	9.78	60.9	597	59.7	6.44	80.9	43.7	21.9	1.74	24.4	143	45.3	3.91
× $\frac{1}{4}$	0.250	39.43	11.6	13.0	77.0	488	48.8	6.49	65.7	36.4	18.2	1.77	20.0	118	37.0	3.93
HSS18×6× $\frac{5}{8}$	0.625	93.34	27.4	6.60	25.8	977	109	5.97	144	166	55.3	2.46	64.6	489	116	3.82
× $\frac{1}{2}$	0.500	76.07	22.4	9.00	33.0	818	90.9	6.04	119	142	47.3	2.52	53.9	410	95.8	3.86
× $\frac{3}{8}$	0.375	58.10	17.1	13.0	45.0	641	71.2	6.12	92.2	113	37.7	2.57	42.1	322	74.2	3.89
× $\frac{5}{16}$	0.313	48.86	14.4	16.2	54.5	547	60.8	6.16	78.2	97.1	32.4	2.60	35.8	275	62.8	3.91
× $\frac{1}{4}$	0.250	39.43	11.6	21.0	69.0	447	49.7	6.21	63.5	80.0	26.7	2.63	29.2	224	51.0	3.93
HSS16×12× $\frac{3}{4}$	0.750	130.33	38.3	13.0	18.3	1340	168	5.91	205	856	143	4.73	168	1710	256	4.45
× $\frac{5}{8}$	0.625	110.36	32.4	16.2	22.6	1160	145	5.98	175	742	124	4.79	144	1460	218	4.49
× $\frac{1}{2}$	0.500	89.68	26.4	21.0	29.0	962	120	6.04	144	618	103	4.84	118	1200	178	4.52
× $\frac{3}{8}$	0.375	68.31	20.1	29.0	39.7	748	93.5	6.10	111	482	80.3	4.90	91.3	922	136	4.56
× $\frac{5}{16}$	0.313	57.36	16.9	35.3	48.1	636	79.5	6.13	93.9	410	68.3	4.93	77.3	779	115	4.58

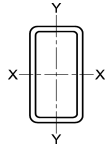


ASTM A1085 Rectangular HSS

Dimensions and Properties

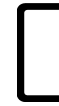


Shape	Design Wall Thickness, t	Nominal Wt.	Area, A	b/t	h/t	Axis X-X				Axis Y-Y				Torsion		Surface Area
						I	S	r	Z	I	S	r	Z	J	C	
						in. ⁴	in. ³	in.	in. ³	in. ⁴	in. ³	in.	in. ³	in. ⁴	in. ³	
HSS16×8× $\frac{5}{8}$	0.625	93.34	27.4	9.80	22.6	863	108	5.61	137	290	72.5	3.25	84.1	723	141	3.82
× $\frac{1}{2}$	0.500	76.07	22.4	13.0	29.0	722	90.3	5.68	113	244	61.0	3.30	69.7	599	116	3.86
× $\frac{3}{8}$	0.375	58.10	17.1	18.3	39.7	565	70.6	5.75	87.6	193	48.3	3.36	54.2	465	89.2	3.89
× $\frac{9}{16}$	0.313	48.86	14.4	22.6	48.1	482	60.3	5.79	74.3	165	41.3	3.39	46.0	395	75.4	3.91
× $\frac{1}{4}$	0.250	39.43	11.6	29.0	61.0	393	49.1	5.82	60.3	135	33.8	3.41	37.4	321	61.0	3.93
HSS16×4× $\frac{5}{8}$	0.625	76.33	22.4	3.40	22.6	568	71.0	5.04	98.5	56.4	28.2	1.59	34.2	182	63.9	3.15
× $\frac{1}{2}$	0.500	62.46	18.4	5.00	29.0	481	60.1	5.11	82.2	49.3	24.7	1.64	29.0	157	53.8	3.19
× $\frac{3}{8}$	0.375	47.90	14.1	7.67	39.7	382	47.8	5.21	64.2	40.4	20.2	1.69	23.0	127	42.3	3.23
× $\frac{9}{16}$	0.313	40.35	11.9	9.78	48.1	328	41.0	5.25	54.6	35.2	17.6	1.72	19.8	110	36.1	3.24
× $\frac{1}{4}$	0.250	32.63	9.59	13.0	61.0	269	33.6	5.30	44.5	29.3	14.7	1.75	16.2	90.6	29.5	3.26
× $\frac{3}{16}$	0.188	24.73	7.29	18.3	82.1	208	26.0	5.34	34.1	23.0	11.5	1.78	12.5	70.3	22.6	3.28
HSS14×10× $\frac{5}{8}$	0.625	93.34	27.4	13.0	19.4	728	104	5.15	127	431	86.2	3.97	101	885	156	3.82
× $\frac{1}{2}$	0.500	76.07	22.4	17.0	25.0	608	86.9	5.21	105	361	72.2	4.01	83.6	730	128	3.86
× $\frac{3}{8}$	0.375	58.10	17.1	23.7	34.3	476	68.0	5.28	81.5	284	56.8	4.08	64.8	564	98.2	3.89
× $\frac{9}{16}$	0.313	48.86	14.4	28.9	41.7	406	58.0	5.31	69.1	242	48.4	4.10	55.0	478	82.9	3.91
× $\frac{1}{4}$	0.250	39.43	11.6	37.0	53.0	331	47.3	5.34	56.0	198	39.6	4.13	44.6	387	67.0	3.93
HSS14×6× $\frac{5}{8}$	0.625	76.33	22.4	6.60	19.4	504	72.0	4.74	94.0	130	43.3	2.41	51.2	352	88.9	3.15
× $\frac{1}{2}$	0.500	62.46	18.4	9.00	25.0	426	60.9	4.81	78.3	111	37.0	2.46	42.9	296	73.8	3.19
× $\frac{3}{8}$	0.375	47.90	14.1	13.0	34.3	337	48.1	4.89	61.1	89.1	29.7	2.51	33.6	233	57.3	3.23
× $\frac{9}{16}$	0.313	40.35	11.9	16.2	41.7	289	41.3	4.93	51.9	76.9	25.6	2.54	28.7	199	48.6	3.24
× $\frac{1}{4}$	0.250	32.63	9.59	21.0	53.0	237	33.9	4.97	42.3	63.4	21.1	2.57	23.4	162	39.5	3.26
× $\frac{3}{16}$	0.188	24.73	7.29	28.9	71.5	182	26.0	5.00	32.4	49.2	16.4	2.60	18.0	125	30.2	3.28
HSS14×4× $\frac{5}{8}$	0.625	67.82	19.9	3.40	19.4	392	56.0	4.44	77.3	49.2	24.6	1.57	30.0	154	55.5	2.82
× $\frac{1}{2}$	0.500	55.66	16.4	5.00	25.0	335	47.9	4.52	64.8	43.1	21.6	1.62	25.5	134	46.8	2.86
× $\frac{3}{8}$	0.375	42.79	12.6	7.67	34.3	267	38.1	4.60	50.8	35.4	17.7	1.68	20.3	108	36.8	2.89
× $\frac{9}{16}$	0.313	36.10	10.6	9.78	41.7	230	32.9	4.66	43.4	30.9	15.5	1.71	17.4	93.2	31.5	2.91
× $\frac{1}{4}$	0.250	29.23	8.59	13.0	53.0	189	27.0	4.69	35.4	25.8	12.9	1.73	14.3	77.0	25.7	2.93
× $\frac{3}{16}$	0.188	22.18	6.54	18.3	71.5	147	21.0	4.74	27.2	20.3	10.2	1.76	11.1	59.8	19.8	2.95

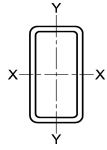


ASTM A1085 Rectangular HSS

Dimensions and Properties

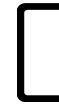


Shape	Design Wall Thickness, t	Nominal Wt.	Area, A	b/t	h/t	Axis X-X				Axis Y-Y				Torsion		Surface Area
						I	S	r	Z	I	S	r	Z	J	C	
	in.	lb/ft	in. ²			in. ⁴	in. ³	in.	in. ³	in. ⁴	in. ³	in.	in. ³	in. ⁴	in. ³	ft ² /ft
HSS12×10× $\frac{1}{2}$	0.500	69.27	20.4	17.0	21.0	419	69.8	4.53	83.9	316	63.2	3.94	74.1	581	109	3.52
× $\frac{3}{8}$	0.375	53.00	15.6	23.7	29.0	330	55.0	4.60	65.2	249	49.8	4.00	57.6	450	83.7	3.56
× $\frac{5}{16}$	0.313	44.60	13.1	28.9	35.3	282	47.0	4.64	55.3	213	42.6	4.03	48.9	381	70.8	3.58
× $\frac{1}{4}$	0.250	36.03	10.6	37.0	45.0	230	38.3	4.66	44.9	174	34.8	4.05	39.7	309	57.2	3.60
HSS12×8× $\frac{5}{8}$	0.625	76.33	22.4	9.80	16.2	419	69.8	4.32	87.1	221	55.3	3.14	65.6	481	104	3.15
× $\frac{1}{2}$	0.500	62.46	18.4	13.0	21.0	353	58.8	4.38	72.4	188	47.0	3.20	54.7	401	85.8	3.19
× $\frac{3}{8}$	0.375	47.90	14.1	18.3	29.0	279	46.5	4.45	56.5	149	37.3	3.25	42.7	312	66.3	3.23
× $\frac{5}{16}$	0.313	40.35	11.9	22.6	35.3	239	39.8	4.48	48.0	128	32.0	3.28	36.4	265	56.1	3.24
× $\frac{1}{4}$	0.250	32.63	9.59	29.0	45.0	196	32.7	4.52	39.1	105	26.3	3.31	29.6	216	45.5	3.26
× $\frac{3}{16}$	0.188	24.73	7.29	39.6	60.8	151	25.2	4.55	29.9	81.3	20.3	3.34	22.7	165	34.7	3.28
HSS12×6× $\frac{5}{8}$	0.625	67.82	19.9	6.60	16.2	338	56.3	4.12	72.9	112	37.3	2.37	44.5	286	75.5	2.82
× $\frac{1}{2}$	0.500	55.66	16.4	9.00	21.0	287	47.8	4.18	60.9	96.0	32.0	2.42	37.4	241	62.8	2.86
× $\frac{3}{8}$	0.375	42.79	12.6	13.0	29.0	228	38.0	4.25	47.7	77.3	25.8	2.48	29.4	190	48.8	2.89
× $\frac{5}{16}$	0.313	36.10	10.6	16.2	35.3	196	32.7	4.30	40.7	66.7	22.2	2.51	25.1	162	41.5	2.91
× $\frac{1}{4}$	0.250	29.23	8.59	21.0	45.0	161	26.8	4.33	33.2	55.2	18.4	2.53	20.6	132	33.7	2.93
× $\frac{3}{16}$	0.188	22.18	6.54	28.9	60.8	125	20.8	4.37	25.5	42.9	14.3	2.56	15.8	102	25.8	2.95
HSS12×4× $\frac{5}{8}$	0.625	59.32	17.4	3.40	16.2	257	42.8	3.84	58.6	42.0	21.0	1.55	25.8	127	47.0	2.49
× $\frac{1}{2}$	0.500	48.85	14.4	5.00	21.0	221	36.8	3.92	49.4	37.0	18.5	1.60	22.0	110	39.8	2.52
× $\frac{3}{8}$	0.375	37.69	11.1	7.67	29.0	178	29.7	4.00	39.0	30.5	15.3	1.66	17.6	89.0	31.4	2.56
× $\frac{5}{16}$	0.313	31.84	9.37	9.78	35.3	153	25.5	4.04	33.4	26.7	13.4	1.69	15.1	77.0	26.9	2.58
× $\frac{1}{4}$	0.250	25.82	7.59	13.0	45.0	127	21.2	4.09	27.3	22.3	11.2	1.71	12.5	63.6	22.0	2.60
× $\frac{3}{16}$	0.188	19.63	5.78	18.3	60.8	98.4	16.4	4.13	21.0	17.5	8.75	1.74	9.66	49.4	16.9	2.61
HSS12×3 $\frac{1}{2}$ × $\frac{3}{8}$	0.375	36.41	10.7	6.33	29.0	165	27.5	3.93	36.8	22.4	12.8	1.45	14.9	68.3	27.0	2.48
× $\frac{5}{16}$	0.313	30.78	9.06	8.18	35.3	143	23.8	3.97	31.6	19.7	11.3	1.47	12.8	59.4	23.2	2.49
HSS12×3× $\frac{5}{16}$	0.313	29.72	8.75	6.58	35.3	132	22.0	3.88	29.7	13.8	9.20	1.26	10.6	43.7	19.5	2.41
× $\frac{1}{4}$	0.250	24.12	7.09	9.00	45.0	109	18.2	3.92	24.4	11.7	7.80	1.28	8.80	36.5	16.1	2.43
× $\frac{3}{16}$	0.188	18.35	5.41	13.0	60.8	85.3	14.2	3.97	18.8	9.30	6.20	1.31	6.86	28.7	12.5	2.45

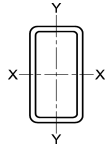


ASTM A1085 Rectangular HSS

Dimensions and Properties

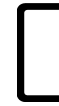


Shape	Design Wall Thickness, t	Nominal Wt.	Area, A	b/t	h/t	Axis X-X				Axis Y-Y				Torsion		Surface Area
	t					I	S	r	Z	I	S	r	Z	J	C	
	in.	lb/ft	in. ²			in. ⁴	in. ³	in.	in. ³	in. ⁴	in. ³	in.	in. ³	in. ⁴	in. ³	ft ² /ft
HSS12×2× $\frac{5}{16}$	0.313	27.59	8.12	3.39	35.3	111	18.5	3.70	26.1	5.33	5.33	0.810	6.39	18.4	12.2	2.24
× $\frac{1}{4}$	0.250	22.42	6.59	5.00	45.0	92.2	15.4	3.74	21.4	4.62	4.62	0.837	5.38	15.9	10.2	2.26
× $\frac{3}{16}$	0.188	17.08	5.03	7.64	60.8	72.2	12.0	3.79	16.6	3.77	3.77	0.866	4.25	12.8	8.02	2.28
HSS10×8× $\frac{5}{8}$	0.625	67.82	19.9	9.80	13.0	266	53.2	3.66	65.9	187	46.8	3.07	56.4	367	85.5	2.82
× $\frac{1}{2}$	0.500	55.66	16.4	13.0	17.0	226	45.2	3.71	55.1	160	40.0	3.12	47.2	306	70.8	2.86
× $\frac{3}{8}$	0.375	42.79	12.6	18.3	23.7	180	36.0	3.78	43.1	127	31.8	3.17	37.0	239	54.8	2.89
× $\frac{5}{16}$	0.313	36.10	10.6	22.6	28.9	154	30.8	3.81	36.8	110	27.5	3.22	31.6	203	46.5	2.91
× $\frac{1}{4}$	0.250	29.23	8.59	29.0	37.0	127	25.4	3.85	30.0	90.2	22.6	3.24	25.8	166	37.7	2.93
× $\frac{3}{16}$	0.188	22.18	6.54	39.6	50.2	98.1	19.6	3.87	23.0	69.8	17.5	3.27	19.8	127	28.8	2.95
HSS10×6× $\frac{5}{8}$	0.625	59.32	17.4	6.60	13.0	211	42.2	3.48	54.2	93.6	31.2	2.32	37.7	221	62.0	2.49
× $\frac{1}{2}$	0.500	48.85	14.4	9.00	17.0	181	36.2	3.55	45.6	80.9	27.0	2.37	31.9	187	51.8	2.52
× $\frac{3}{8}$	0.375	37.69	11.1	13.0	23.7	145	29.0	3.61	35.9	65.4	21.8	2.43	25.2	147	40.4	2.56
× $\frac{5}{16}$	0.313	31.84	9.37	16.2	28.9	125	25.0	3.65	30.7	56.6	18.9	2.46	21.6	126	34.4	2.58
× $\frac{1}{4}$	0.250	25.82	7.59	21.0	37.0	103	20.6	3.68	25.1	46.9	15.6	2.49	17.7	103	28.0	2.60
× $\frac{3}{16}$	0.188	19.63	5.78	28.9	50.2	80.0	16.0	3.72	19.3	36.5	12.2	2.51	13.6	79.3	21.4	2.61
HSS10×5× $\frac{3}{8}$	0.375	35.13	10.3	10.3	23.7	128	25.6	3.53	32.3	42.9	17.2	2.04	19.9	107	33.2	2.39
× $\frac{5}{16}$	0.313	29.72	8.75	13.0	28.9	110	22.0	3.55	27.7	37.3	14.9	2.06	17.0	91.6	28.3	2.41
× $\frac{1}{4}$	0.250	24.12	7.09	17.0	37.0	91.2	18.2	3.59	22.7	31.1	12.4	2.09	14.0	75.2	23.1	2.43
× $\frac{3}{16}$	0.188	18.35	5.41	23.6	50.2	70.9	14.2	3.62	17.5	24.3	9.72	2.12	10.8	58.1	17.7	2.45
HSS10×4× $\frac{5}{8}$	0.625	50.81	14.9	3.40	13.0	156	31.2	3.24	42.5	34.8	17.4	1.53	21.6	99.8	38.6	2.15
× $\frac{1}{2}$	0.500	42.05	12.4	5.00	17.0	136	27.2	3.31	36.1	30.8	15.4	1.58	18.5	86.9	32.8	2.19
× $\frac{3}{8}$	0.375	32.58	9.58	7.67	23.7	110	22.0	3.39	28.7	25.5	12.8	1.63	14.9	70.4	26.0	2.23
× $\frac{5}{16}$	0.313	27.59	8.12	9.78	28.9	95.6	19.1	3.43	24.6	22.4	11.2	1.66	12.8	60.9	22.2	2.24
× $\frac{1}{4}$	0.250	22.42	6.59	13.0	37.0	79.3	15.9	3.47	20.2	18.8	9.40	1.69	10.6	50.4	18.2	2.26
× $\frac{3}{16}$	0.188	17.08	5.03	18.3	50.2	61.9	12.4	3.51	15.6	14.8	7.40	1.72	8.22	39.2	14.0	2.28

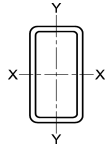


ASTM A1085 Rectangular HSS

Dimensions and Properties

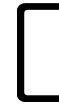


Shape	Design Wall Thickness, t	Nominal Wt.	Area, A	b/t	h/t	Axis X-X				Axis Y-Y				Torsion		Surface Area
						I	S	r	Z	I	S	r	Z	J	C	
						in. ⁴	in. ³	in.	in. ³	in. ⁴	in. ³	in.	in. ³	in. ⁴	in. ³	
HSS10×3½×½	0.500	40.34	11.9	4.00	17.0	124	24.8	3.23	33.7	22.3	12.7	1.37	15.5	66.2	28.0	2.11
×¾	0.375	31.31	9.20	6.33	23.7	102	20.4	3.33	26.9	18.7	10.7	1.43	12.5	54.3	22.4	2.14
×⅝	0.313	26.53	7.81	8.18	28.9	88.2	17.6	3.36	23.1	16.5	9.43	1.45	10.8	47.3	19.2	2.16
×¼	0.250	21.57	6.34	11.0	37.0	73.4	14.7	3.40	19.0	13.9	7.94	1.48	8.98	39.3	15.8	2.18
×⅜	0.188	16.44	4.84	15.6	50.2	57.4	11.5	3.44	14.7	11.0	6.29	1.51	6.99	30.7	12.2	2.20
HSS10×3×¾	0.375	30.03	8.83	5.00	23.7	92.8	18.6	3.24	25.1	13.0	8.67	1.21	10.3	39.8	18.7	2.06
×⅝	0.313	25.46	7.49	6.58	28.9	80.9	16.2	3.29	21.6	11.5	7.67	1.24	8.93	34.9	16.2	2.08
×¼	0.250	20.72	6.09	9.00	37.0	67.4	13.5	3.33	17.8	9.79	6.53	1.27	7.42	29.3	13.3	2.10
×⅜	0.188	15.80	4.66	13.0	50.2	52.8	10.6	3.37	13.8	7.82	5.21	1.30	5.80	23.0	10.3	2.11
HSS10×2×¾	0.375	27.48	8.08	2.33	23.7	75.4	15.1	3.05	21.5	4.87	4.87	0.776	6.05	16.5	11.5	1.89
×⅝	0.313	23.34	6.87	3.39	28.9	66.2	13.2	3.10	18.6	4.43	4.43	0.803	5.34	14.9	10.1	1.91
×¼	0.250	19.02	5.59	5.00	37.0	55.6	11.1	3.15	15.4	3.85	3.85	0.830	4.50	12.8	8.47	1.93
×⅜	0.188	14.53	4.28	7.64	50.2	43.8	8.76	3.20	11.9	3.15	3.15	0.858	3.57	10.4	6.66	1.95
HSS9×7×⅝	0.625	59.32	17.4	8.20	11.4	183	40.7	3.24	51.0	123	35.1	2.66	42.8	248	65.8	2.49
×½	0.500	48.85	14.4	11.0	15.0	157	34.9	3.30	42.9	106	30.3	2.71	36.1	209	54.8	2.52
×¾	0.375	37.69	11.1	15.7	21.0	126	28.0	3.37	33.8	85.2	24.3	2.77	28.4	164	42.7	2.56
×⅝	0.313	31.84	9.37	19.4	25.8	108	24.0	3.40	28.9	73.6	21.0	2.80	24.3	140	36.2	2.58
×¼	0.250	25.82	7.59	25.0	33.0	89.4	19.9	3.43	23.6	60.8	17.4	2.83	19.9	114	29.5	2.60
×⅜	0.188	19.63	5.78	34.2	44.9	69.4	15.4	3.47	18.2	47.3	13.5	2.86	15.3	87.9	22.5	2.61
HSS9×5×⅝	0.625	50.81	14.9	5.00	11.4	139	30.9	3.05	40.5	54.1	21.6	1.91	26.6	135	44.9	2.15
×½	0.500	42.05	12.4	7.00	15.0	121	26.9	3.12	34.4	47.4	19.0	1.96	22.7	115	37.8	2.19
×¾	0.375	32.58	9.58	10.3	21.0	97.8	21.7	3.20	27.3	38.9	15.6	2.02	18.1	92.2	29.7	2.23
×⅝	0.313	27.59	8.12	13.0	25.8	84.7	18.8	3.23	23.4	33.9	13.6	2.04	15.6	79.3	25.4	2.24
×¼	0.250	22.42	6.59	17.0	33.0	70.3	15.6	3.27	19.3	28.2	11.3	2.07	12.8	65.2	20.7	2.26
×⅜	0.188	17.08	5.03	23.6	44.9	54.8	12.2	3.30	14.9	22.1	8.84	2.10	9.93	50.4	15.9	2.28

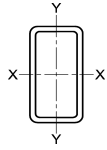


ASTM A1085 Rectangular HSS

Dimensions and Properties

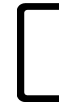


Shape	Design Wall Thickness, t	Nominal Wt.	Area, A	b/t	h/t	Axis X-X				Axis Y-Y				Torsion		Surface Area
						I	S	r	Z	I	S	r	Z	J	C	
	in.	lb/ft	in. ²			in. ⁴	in. ³	in.	in. ³	in. ⁴	in. ³	in.	in. ³	in. ⁴	in. ³	ft ² /ft
HSS9×3×1/2	0.500	35.24	10.4	3.00	15.0	84.5	18.8	2.85	25.9	13.7	9.13	1.15	11.3	41.6	20.8	1.86
×3/8	0.375	27.48	8.08	5.00	21.0	69.9	15.5	2.94	20.9	11.7	7.80	1.20	9.29	34.9	16.8	1.89
×5/16	0.313	23.34	6.87	6.58	25.8	61.1	13.6	2.98	18.0	10.4	6.93	1.23	8.09	30.6	14.5	1.91
×1/4	0.250	19.02	5.59	9.00	33.0	51.1	11.4	3.02	14.9	8.85	5.90	1.26	6.73	25.6	12.0	1.93
×3/16	0.188	14.53	4.28	13.0	44.9	40.2	8.93	3.06	11.6	7.07	4.71	1.29	5.27	20.2	9.29	1.95
HSS8×6×5/8	0.625	50.81	14.9	6.60	9.80	119	29.8	2.83	38.0	75.5	25.2	2.25	31.0	158	48.6	2.15
×1/2	0.500	42.05	12.4	9.00	13.0	103	25.8	2.88	32.2	65.7	21.9	2.30	26.4	135	40.8	2.19
×3/8	0.375	32.58	9.58	13.0	18.3	83.7	20.9	2.96	25.6	53.5	17.8	2.36	21.0	107	32.0	2.23
×5/16	0.313	27.59	8.12	16.2	22.6	72.5	18.1	2.99	22.0	46.5	15.5	2.39	18.0	91.4	27.2	2.24
×1/4	0.250	22.42	6.59	21.0	29.0	60.1	15.0	3.02	18.0	38.6	12.9	2.42	14.8	74.9	22.2	2.26
×3/16	0.188	17.08	5.03	28.9	39.6	46.9	11.7	3.05	13.9	30.2	10.1	2.45	11.4	57.7	17.0	2.28
HSS8×4×5/8	0.625	42.30	12.4	3.40	9.80	85.2	21.3	2.62	28.8	27.6	13.8	1.49	17.3	73.2	30.2	1.82
×1/2	0.500	35.24	10.4	5.00	13.0	75.2	18.8	2.69	24.7	24.6	12.3	1.54	15.0	64.1	25.8	1.86
×3/8	0.375	27.48	8.08	7.67	18.3	61.9	15.5	2.77	19.9	20.6	10.3	1.60	12.2	52.2	20.5	1.89
×5/16	0.313	23.34	6.87	9.78	22.6	54.0	13.5	2.80	17.1	18.1	9.05	1.62	10.5	45.2	17.6	1.91
×1/4	0.250	19.02	5.59	13.0	29.0	45.1	11.3	2.84	14.1	15.3	7.65	1.65	8.72	37.5	14.5	1.93
×3/16	0.188	14.53	4.28	18.3	39.6	35.4	8.85	2.88	11.0	12.1	6.05	1.68	6.79	29.2	11.2	1.95
HSS8×3×1/2	0.500	31.84	9.36	3.00	13.0	61.1	15.3	2.55	21.0	12.1	8.07	1.14	10.1	35.7	18.3	1.69
×3/8	0.375	24.93	7.33	5.00	18.3	51.0	12.8	2.64	17.0	10.4	6.93	1.19	8.31	29.9	14.8	1.73
×5/16	0.313	21.21	6.24	6.58	22.6	44.8	11.2	2.68	14.7	9.26	6.17	1.22	7.25	26.3	12.8	1.74
×1/4	0.250	17.32	5.09	9.00	29.0	37.6	9.40	2.72	12.2	7.90	5.27	1.25	6.05	22.1	10.6	1.76
×3/16	0.188	13.25	3.90	13.0	39.6	29.7	7.43	2.76	9.51	6.33	4.22	1.27	4.74	17.4	8.23	1.78
HSS8×2×3/8	0.375	22.37	6.58	2.33	18.3	40.1	10.0	2.47	14.2	3.86	3.86	0.766	4.83	12.6	9.09	1.56
×5/16	0.313	19.08	5.62	3.39	22.6	35.5	8.88	2.51	12.3	3.53	3.53	0.793	4.28	11.4	8.00	1.58
×1/4	0.250	15.62	4.59	5.00	29.0	30.1	7.53	2.56	10.3	3.08	3.08	0.819	3.63	9.84	6.72	1.60
×3/16	0.188	11.97	3.53	7.64	39.6	23.9	5.98	2.60	8.04	2.53	2.53	0.847	2.89	7.95	5.30	1.61

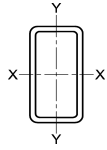


ASTM A1085 Rectangular HSS

Dimensions and Properties

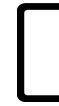


Shape	Design Wall Thickness, t	Nominal Wt.	Area, A	b/t	h/t	Axis X-X				Axis Y-Y				Torsion		Surface Area
						I	S	r	Z	I	S	r	Z	J	C	
	in.	lb/ft	in. ²			in. ⁴	in. ³	in.	in. ³	in. ⁴	in. ³	in.	in. ³	in. ⁴	in. ³	ft ² /ft
HSS7×5×½	0.500	35.24	10.4	7.00	11.0	63.5	18.1	2.47	23.1	37.3	14.9	1.89	18.2	79.9	28.8	1.86
	×¾	0.375	27.48	8.08	10.3	52.2	14.9	2.54	18.5	30.8	12.3	1.95	14.6	64.2	22.8	1.89
	×⅝	0.313	23.34	6.87	13.0	45.5	13.0	2.57	16.0	27.0	10.8	1.98	12.6	55.4	19.5	1.91
	×¼	0.250	19.02	5.59	17.0	38.0	10.9	2.61	13.2	22.6	9.04	2.01	10.4	45.6	16.0	1.93
	×⅜	0.188	14.53	4.28	23.6	29.8	8.51	2.64	10.2	17.8	7.12	2.04	8.12	35.3	12.3	1.95
HSS7×4×½	0.500	31.84	9.36	5.00	11.0	52.9	15.1	2.38	19.8	21.6	10.8	1.52	13.3	53.0	22.3	1.69
	×¾	0.375	24.93	7.33	7.67	44.0	12.6	2.45	16.0	18.1	9.05	1.57	10.8	43.3	17.8	1.73
	×⅝	0.313	21.21	6.24	9.78	38.5	11.0	2.48	13.9	16.0	8.00	1.60	9.37	37.6	15.3	1.74
	×¼	0.250	17.32	5.09	13.0	32.3	9.23	2.52	11.5	13.5	6.75	1.63	7.78	31.2	12.6	1.76
	×⅜	0.188	13.25	3.90	18.3	25.5	7.29	2.56	8.93	10.7	5.35	1.66	6.07	24.3	9.74	1.78
HSS7×3×½	0.500	28.43	8.36	3.00	11.0	42.3	12.1	2.25	16.6	10.5	7.00	1.12	8.84	29.8	15.8	1.52
	×¾	0.375	22.37	6.58	5.00	35.7	10.2	2.33	13.5	9.10	6.07	1.18	7.32	25.1	12.8	1.56
	×⅝	0.313	19.08	5.62	6.58	31.5	9.00	2.37	11.8	8.13	5.42	1.20	6.41	22.1	11.1	1.58
	×¼	0.250	15.62	4.59	9.00	26.6	7.60	2.41	9.79	6.95	4.63	1.23	5.36	18.5	9.22	1.60
	×⅜	0.188	11.97	3.53	13.0	21.1	6.03	2.44	7.65	5.58	3.72	1.26	4.21	14.6	7.18	1.61
HSS7×2×¼	0.250	13.91	4.09	5.00	25.0	20.9	5.97	2.26	8.10	2.70	2.70	0.812	3.19	8.36	5.85	1.43
	×⅜	0.188	10.70	3.15	7.64	16.7	4.77	2.30	6.37	2.22	2.22	0.840	2.54	6.76	4.62	1.45
HSS6×5×½	0.500	31.84	9.36	7.00	9.00	43.0	14.3	2.14	18.1	32.2	12.9	1.85	16.0	62.9	24.3	1.69
	×¾	0.375	24.93	7.33	10.3	35.7	11.9	2.21	14.7	26.8	10.7	1.91	12.9	50.9	19.3	1.73
	×⅝	0.313	21.21	6.24	13.0	31.3	10.4	2.24	12.7	23.5	9.40	1.94	11.2	44.0	16.6	1.74
	×¼	0.250	17.32	5.09	17.0	26.2	8.73	2.27	10.5	19.8	7.92	1.97	9.26	36.3	13.6	1.76
	×⅜	0.188	13.25	3.90	23.6	20.7	6.90	2.30	8.17	15.6	6.24	2.00	7.21	28.2	10.5	1.78
HSS6×4×½	0.500	28.43	8.36	5.00	9.00	35.4	11.8	2.06	15.4	18.5	9.25	1.49	11.5	42.1	18.8	1.52
	×¾	0.375	22.37	6.58	7.67	29.7	9.9	2.12	12.5	15.7	7.85	1.54	9.44	34.6	15.1	1.56
	×⅝	0.313	19.08	5.62	9.78	26.2	8.73	2.16	10.9	13.9	6.95	1.57	8.22	30.1	13.0	1.58
	×¼	0.250	15.62	4.59	13.0	22.1	7.37	2.19	9.06	11.7	5.85	1.60	6.84	25.0	10.7	1.60
	×⅜	0.188	11.97	3.53	18.3	17.5	5.83	2.23	7.07	9.34	4.67	1.63	5.36	19.6	8.30	1.61

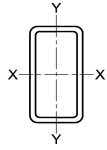


ASTM A1085 Rectangular HSS

Dimensions and Properties

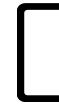


Shape	Design Wall Thickness, t	Nominal Wt.	Area, A	b/t	h/t	Axis X-X				Axis Y-Y				Torsion		Surface Area
						I	S	r	Z	I	S	r	Z	J	C	
	in.	lb/ft	in. ²			in. ⁴	in. ³	in.	in. ³	in. ⁴	in. ³	in.	in. ³	in. ⁴	in. ³	ft ² /ft
HSS6×3× $\frac{1}{2}$	0.500	25.03	7.36	3.00	9.00	27.8	9.27	1.94	12.6	8.96	5.97	1.10	7.59	23.9	13.3	1.36
× $\frac{3}{8}$	0.375	19.82	5.83	5.00	13.0	23.8	7.93	2.02	10.4	7.80	5.20	1.16	6.34	20.3	10.9	1.39
× $\frac{5}{16}$	0.313	16.96	4.99	6.58	16.2	21.1	7.03	2.06	9.12	6.99	4.66	1.18	5.56	17.9	9.45	1.41
× $\frac{1}{4}$	0.250	13.91	4.09	9.00	21.0	17.9	5.97	2.09	7.62	6.00	4.00	1.21	4.67	15.1	7.85	1.43
× $\frac{3}{16}$	0.188	10.70	3.15	13.0	28.9	14.3	4.77	2.13	5.98	4.84	3.23	1.24	3.69	11.9	6.12	1.45
HSS6×2× $\frac{3}{8}$	0.375	17.27	5.08	2.33	13.0	17.8	5.93	1.87	8.33	2.85	2.85	0.749	3.61	8.72	6.65	1.23
× $\frac{5}{16}$	0.313	14.83	4.36	3.39	16.2	16.1	5.37	1.92	7.34	2.62	2.62	0.775	3.23	7.94	5.89	1.24
× $\frac{1}{4}$	0.250	12.21	3.59	5.00	21.0	13.8	4.60	1.96	6.18	2.31	2.31	0.802	2.75	6.88	4.97	1.26
× $\frac{3}{16}$	0.188	9.42	2.78	7.64	28.9	11.1	3.70	2.00	4.89	1.91	1.91	0.829	2.20	5.58	3.93	1.28
HSS5×4× $\frac{1}{2}$	0.500	25.03	7.36	5.00	7.00	22.0	8.80	1.73	11.5	15.4	7.70	1.45	9.77	31.7	15.3	1.36
× $\frac{3}{8}$	0.375	19.82	5.83	7.67	10.3	18.8	7.52	1.80	9.44	13.2	6.60	1.50	8.08	26.3	12.4	1.39
× $\frac{5}{16}$	0.313	16.96	4.99	9.78	13.0	16.6	6.64	1.82	8.25	11.7	5.85	1.53	7.06	22.9	10.7	1.41
× $\frac{1}{4}$	0.250	13.91	4.09	13.0	17.0	14.1	5.64	1.86	6.89	9.98	4.99	1.56	5.90	19.1	8.85	1.43
× $\frac{3}{16}$	0.188	10.70	3.15	18.3	23.6	11.3	4.52	1.89	5.40	7.98	3.99	1.59	4.64	15.0	6.87	1.45
HSS5×3× $\frac{1}{2}$	0.500	21.63	6.36	3.00	7.00	16.9	6.76	1.63	9.20	7.37	4.91	1.08	6.34	18.2	10.8	1.19
× $\frac{3}{8}$	0.375	17.27	5.08	5.00	10.3	14.7	5.88	1.70	7.71	6.50	4.33	1.13	5.35	15.6	8.90	1.23
× $\frac{5}{16}$	0.313	14.83	4.36	6.58	13.0	13.2	5.28	1.74	6.78	5.86	3.91	1.16	4.72	13.8	7.77	1.24
× $\frac{1}{4}$	0.250	12.21	3.59	9.00	17.0	11.3	4.52	1.77	5.70	5.05	3.37	1.19	3.98	11.7	6.47	1.26
× $\frac{3}{16}$	0.188	9.42	2.78	13.0	23.6	9.08	3.63	1.81	4.50	4.09	2.73	1.21	3.16	9.23	5.06	1.28
HSS5×2 $\frac{1}{2}$ × $\frac{1}{4}$	0.250	11.36	3.34	7.00	17.0	9.89	3.96	1.72	5.11	3.28	2.62	0.991	3.12	8.36	5.28	1.18
× $\frac{3}{16}$	0.188	8.78	2.59	10.3	23.6	7.99	3.20	1.76	4.05	2.69	2.15	1.02	2.49	6.68	4.16	1.20
HSS5×2× $\frac{3}{8}$	0.375	14.72	4.33	2.33	10.3	10.7	4.28	1.57	5.98	2.35	2.35	0.737	3.00	6.82	5.43	1.06
× $\frac{5}{16}$	0.313	12.70	3.74	3.39	13.0	9.76	3.90	1.62	5.31	2.17	2.17	0.762	2.70	6.24	4.83	1.08
× $\frac{1}{4}$	0.250	10.51	3.09	5.00	17.0	8.48	3.39	1.66	4.51	1.93	1.93	0.790	2.32	5.43	4.10	1.10
× $\frac{3}{16}$	0.188	8.15	2.40	7.64	23.6	6.90	2.76	1.70	3.59	1.60	1.60	0.816	1.86	4.41	3.25	1.11

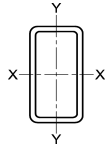


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Dimensions and Properties

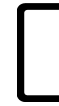


Shape	Design Wall Thickness, t	Nominal Wt.	Area, A	b/t	h/t	Axis X-X				Axis Y-Y				Torsion		Surface Area
						I	S	r	Z	I	S	r	Z	J	C	
						in. ⁴	in. ³	in.	in. ³	in. ⁴	in. ³	in.	in. ³	in. ⁴	in. ³	
HSS4×3× $\frac{3}{8}$	0.375	14.72	4.33	5.00	7.67	8.23	4.12	1.38	5.36	5.19	3.46	1.09	4.37	11.1	6.93	1.06
× $\frac{5}{16}$	0.313	12.70	3.74	6.58	9.78	7.46	3.73	1.41	4.75	4.72	3.15	1.12	3.88	9.90	6.08	1.08
× $\frac{1}{4}$	0.250	10.51	3.09	9.00	13.0	6.46	3.23	1.45	4.03	4.11	2.74	1.15	3.30	8.41	5.10	1.10
× $\frac{3}{16}$	0.188	8.15	2.40	13.0	18.3	5.24	2.62	1.48	3.21	3.35	2.23	1.18	2.63	6.68	4.00	1.11
HSS4×2½× $\frac{3}{8}$	0.375	13.44	3.95	3.67	7.67	7.00	3.50	1.33	4.68	3.27	2.62	0.910	3.33	7.86	5.57	0.976
× $\frac{5}{16}$	0.313	11.64	3.42	4.99	9.78	6.39	3.20	1.37	4.18	3.01	2.41	0.938	2.99	7.09	4.93	0.994
× $\frac{1}{4}$	0.250	9.66	2.84	7.00	13.0	5.58	2.79	1.40	3.56	2.65	2.12	0.966	2.56	6.09	4.16	1.01
× $\frac{3}{16}$	0.188	7.51	2.21	10.3	18.3	4.56	2.28	1.44	2.85	2.18	1.74	0.993	2.05	4.89	3.29	1.03
HSS4×2× $\frac{3}{8}$	0.375	12.17	3.58	2.33	7.67	5.76	2.88	1.27	4.00	1.84	1.84	0.717	2.39	4.97	4.21	0.893
× $\frac{5}{16}$	0.313	10.58	3.11	3.39	9.78	5.33	2.67	1.31	3.60	1.72	1.72	0.744	2.17	4.58	3.78	0.910
× $\frac{1}{4}$	0.250	8.81	2.59	5.00	13.0	4.70	2.35	1.35	3.09	1.54	1.54	0.771	1.88	4.01	3.22	0.928
× $\frac{3}{16}$	0.188	6.87	2.02	7.64	18.3	3.88	1.94	1.39	2.49	1.29	1.29	0.799	1.52	3.27	2.57	0.946
HSS3½×2½× $\frac{3}{8}$	0.375	12.17	3.58	3.67	6.33	4.90	2.80	1.17	3.74	2.84	2.27	0.891	2.94	6.38	4.78	0.893
× $\frac{5}{16}$	0.313	10.58	3.11	4.99	8.18	4.51	2.58	1.20	3.36	2.63	2.10	0.920	2.64	5.79	4.24	0.910
× $\frac{1}{4}$	0.250	8.81	2.59	7.00	11.0	3.97	2.27	1.24	2.88	2.33	1.86	0.948	2.28	4.99	3.60	0.928
× $\frac{3}{16}$	0.188	6.87	2.02	10.3	15.6	3.27	1.87	1.27	2.32	1.93	1.54	0.977	1.83	4.02	2.85	0.946
HSS3½×2× $\frac{1}{4}$	0.250	7.96	2.34	5.00	11.0	3.31	1.89	1.19	2.48	1.35	1.35	0.760	1.66	3.31	2.78	0.845
× $\frac{3}{16}$	0.188	6.23	1.84	7.64	15.6	2.75	1.57	1.22	2.01	1.13	1.13	0.784	1.35	2.71	2.23	0.863
HSS3½×1½× $\frac{1}{4}$	0.250	7.11	2.09	3.00	11.0	2.65	1.51	1.13	2.07	0.659	0.879	0.562	1.11	1.86	1.97	0.762
× $\frac{3}{16}$	0.188	5.59	1.65	4.98	15.6	2.24	1.28	1.17	1.70	0.569	0.759	0.587	0.917	1.57	1.61	0.780
HSS3×2½× $\frac{5}{16}$	0.313	9.51	2.80	4.99	6.58	3.02	2.01	1.04	2.62	2.26	1.81	0.898	2.30	4.53	3.56	0.827
× $\frac{1}{4}$	0.250	7.96	2.34	7.00	9.00	2.68	1.79	1.07	2.27	2.01	1.61	0.927	1.99	3.93	3.03	0.845
× $\frac{3}{16}$	0.188	6.23	1.84	10.3	13.0	2.23	1.49	1.10	1.84	1.68	1.34	0.956	1.62	3.19	2.42	0.863
HSS3×2× $\frac{5}{16}$	0.313	8.45	2.49	3.39	6.58	2.45	1.63	0.992	2.20	1.27	1.27	0.714	1.64	2.97	2.72	0.744
× $\frac{1}{4}$	0.250	7.11	2.09	5.00	9.00	2.21	1.47	1.03	1.92	1.15	1.15	0.742	1.44	2.63	2.35	0.762
× $\frac{3}{16}$	0.188	5.59	1.65	7.64	13.0	1.86	1.24	1.06	1.57	0.980	0.980	0.771	1.18	2.17	1.89	0.780



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Dimensions and Properties



Shape	Design Wall Thickness, t	Nominal Wt.	Area, A	b/t	h/t	Axis X-X				Axis Y-Y				Torsion		Surface Area
	t					I	S	r	Z	I	S	r	Z	J	C	
	in.	lb/ft	in. ²			in. ⁴	in. ³	in.	in. ³	in. ⁴	in. ³	in.	in. ³	in. ⁴	in. ³	ft ² /ft
HSS3×1½×¼	0.250	6.26	1.84	3.00	9.00	1.74	1.16	0.972	1.58	0.560	0.747	0.552	0.949	1.50	1.66	0.678
	×¾	0.188	4.96	4.98	13.0	1.49	0.993	1.01	1.31	0.488	0.651	0.578	0.794	1.27	1.36	0.696
HSS3×1×¾	0.188	4.32	1.27	2.32	13.0	1.12	0.747	0.939	1.04	0.178	0.356	0.374	0.452	0.546	0.833	0.613
HSS2½×2×¼	0.250	6.26	1.84	5.00	7.00	1.38	1.10	0.866	1.43	0.962	0.962	0.723	1.22	1.98	1.91	0.678
	×¾	0.188	4.96	7.64	10.3	1.17	0.936	0.895	1.18	0.825	0.825	0.752	1.01	1.64	1.55	0.696
HSS2½×1½×¼	0.250	5.41	1.59	3.00	7.00	1.06	0.848	0.816	1.15	0.461	0.615	0.538	0.793	1.14	1.35	0.595
HSS2½×1½×¾	0.188	4.32	1.27	4.98	10.3	0.923	0.738	0.853	0.965	0.407	0.543	0.566	0.670	0.977	1.11	0.613
HSS2½×1×¾	0.188	3.68	1.08	2.32	10.3	0.671	0.537	0.788	0.748	0.147	0.294	0.369	0.376	0.427	0.680	0.530
HSS2¼×2×¾	0.188	4.64	1.37	7.64	8.97	0.901	0.801	0.811	1.01	0.748	0.748	0.739	0.927	1.39	1.38	0.655
HSS2×1½×¾	0.188	3.68	1.08	4.98	7.64	0.515	0.515	0.691	0.671	0.325	0.433	0.549	0.547	0.696	0.868	0.530
HSS2×1×¾	0.188	3.04	0.896	2.32	7.64	0.360	0.360	0.634	0.501	0.115	0.230	0.358	0.300	0.311	0.528	0.446