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LAMPIRAN

Lampiran 1 Contoh penggunaan material baja pada kapal kayu



Lampiran 2 Katalog Plat Baja Kapal

Sectional Dimension								Sectional Properties							
A x B mm mm	t mm	T mm	r1 mm	r2 mm	Sec. of Area cm ²	Unit Weight kg/m	Geometrical Moment of Inertia (cm ⁴)		Radius of Gyration of Area (cm)		Modulus of Section (cm ³)				
							Ix	Iy	ix	iy	Sx	Sy			
2L 25 x 25	3,0	9,0	4,0	2,0	2,86	2,25	1,60	5,51	0,75	1,39	0,90	1,87			
2L 30 x 30	3,0	9,0	4,0	2,0	3,46	2,72	2,84	8,60	0,91	1,58	1,31	2,49			
2L 40 x 40	3,0	9,0	4,5	2,0	4,68	3,67	7,06	18,16	1,23	1,97	2,43	4,08			
	4,0	9,0	6,0	3,0	6,16	4,84	8,96	24,14	1,21	1,98	3,11	5,43			
	5,0	9,0	4,5	3,0	7,52	5,90	10,84	30,58	1,20	2,02	3,83	6,87			
2L 45 x 45	4,0	9,0	6,5	3,0	6,98	5,48	13,00	32,94	1,36	2,17	3,99	6,65			
	5,0	9,0	6,5	3,0	8,60	6,75	15,82	41,56	1,36	2,20	4,91	8,40			
	4,0	9,0	6,5	3,0	7,78	6,11	18,12	43,89	1,53	2,38	4,99	8,05			
2L 50 x 50	5,0	9,0	6,5	3,0	9,60	7,54	22,20	55,41	1,52	2,40	6,18	10,17			
	6,0	9,0	6,5	4,5	11,28	8,85	25,20	65,49	1,49	2,41	7,08	12,02			
	4,0	9,0	6,5	3,0	9,38	7,36	32,00	71,80	1,85	2,77	7,29	11,13			
2L 60 x 60	5,0	9,0	6,5	3,0	11,60	9,11	39,20	90,84	1,84	2,80	9,03	14,08			
	6,0	9,0	8,0	4,0	13,82	10,85	45,60	108,89	1,82	2,81	10,58	16,88			
	4,0	9,0	6,5	3,0	9,38	7,36	32,00	71,80	1,85	2,77	7,29	11,13			
2L 65 x 65	5,0	9,0	8,5	3,0	12,74	10,00	50,60	113,39	1,99	2,98	10,70	16,31			
	6,0	9,0	8,5	4,0	15,06	11,82	58,80	135,72	1,98	3,00	12,54	19,53			
	8,0	9,0	8,5	6,0	19,52	15,32	73,60	179,57	1,94	3,03	15,93	25,84			
2L 70 x 70	6,0	9,0	8,5	4,0	16,26	12,76	74,20	166,30	2,14	3,20	14,64	22,32			
	7,0	9,0	9,0	4,5	18,80	14,76	84,80	194,90	2,12	3,22	16,86	26,16			
	8,0	9,0	10,0	5,0	23,00	18,05	117,80	270,90	2,26	3,43	21,94	34,08			
2L 75 x 75	9,0	9,0	8,5	6,0	25,38	19,92	128,80	303,02	2,25	3,46	24,17	38,12			
	12,0	9,0	8,5	6,0	33,12	26,00	163,80	412,45	2,22	3,53	31,44	51,88			
	6,0	9,0	8,5	4,0	18,66	14,65	112,80	241,87	2,46	3,60	19,38	28,62			
2L 80 x 80	8,0	9,0	10,0	5,0	24,60	19,31	144,60	325,26	2,42	3,64	25,19	38,49			
	6,0	9,0	10,0	5,00	21,10	16,56	161,40	335,20	2,77	3,99	24,53	35,47			
	7,0	9,0	10,0	5,0	24,44	19,19	186,00	392,96	2,76	4,01	28,44	41,58			
2L 90 x 90	9,0	9,0	11,0	5,5	31,00	24,33	232,00	509,14	2,74	4,05	35,91	53,88			
	10,0	9,0	10,0	7,0	34,00	26,69	250,00	560,09	2,71	4,06	38,88	59,27			
	13,0	9,0	10,0	7,0	43,42	34,08	312,00	740,10	2,68	4,13	49,45	78,32			
	6,0	9,0	10,0	5,0	27,24	21,38	258,00	530,01	3,08	4,41	35,39	50,72			
2L 100 x 100	8,0	9,0	10,0	5,0	30,94	24,29	292,00	608,83	3,07	4,44	40,28	58,26			
	10,0	9,0	10,0	7,0	38,00	29,83	350,00	756,33	3,03	4,46	48,75	72,38			
	13,0	9,0	10,0	7,0	48,62	38,17	440,00	998,75	3,01	4,53	62,32	95,57			
	8,0	9,0	12,0	5,0	37,52	29,45	516,00	1026,88	3,71	5,23	58,90	82,48			
2L 120 x 120	11,0	9,0	13,0	6,5	50,80	39,88	682,00	1419,42	3,66	5,29	78,94	114,01			
	12,0	9,0	13,0	6,5	55,00	43,17	736,00	1551,24	3,66	5,31	85,58	124,60			
	9,0	9,0	12,0	6,0	45,48	35,70	732,00	1452,42	4,01	5,65	77,30	107,99			
2L 130 x 130	12,0	9,0	12,0	8,5	59,52	46,72	934,00	1929,66	3,96	5,69	99,79	143,47			
	15,0	9,0	12,0	8,5	73,50	57,70	1136,00	2438,72	3,93	5,76	122,94	181,32			
	4,0	7,0			69,54	54,59	1480,00	3042,40	4,61	6,61	136,28	195,03			
4,0	10,0			85,48	67,10	1776,00	3778,42	4,56	6,65	165,06	242,21				
4,0	10,0			106,76	83,81	2180,00	4849,00	4,52	6,74	205,66	310,83				
5,0	11,0			81,04	63,62	2340,00	4642,26	5,37	7,57	183,24	256,48				
5,0	11,0			100,42	78,83	2880,00	5862,73	5,36	7,64	227,67	323,91				



2L 200 x 200	15,0	12,0	17,0	12,0	115,50	90,67	4360,00	8601,58	6,14	8,63	299,86	417,55
	20,0	12,0	17,0	12,0	152,00	119,32	5640,00	11615,56	6,09	8,74	393,58	563,86
	25,0	12,0	17,0	12,0	187,50	147,19	6840,00	14664,68	6,04	8,84	483,73	711,88
2L 250 x 250	25,0	12,0	24,0	12,0	238,80	187,46	13900,00	28058,45	7,63	10,84	776,54	1096,03
	35,0	12,0	24,0	18,0	325,20	255,28	18220,00	39293,77	7,49	10,99	1038,18	1534,91
2L 250 x 250	25,0	10,0	24,0	12,0	238,80	187,46	13900,00	27693,09	7,63	10,77	776,54	1086,00
	35,0	10,0	24,0	18,0	325,20	255,28	18220,00	38773,45	7,49	10,92	1038,18	1520,53

Universal beam
Spesifikasi: BS 10025-2:2004 dimensi: Toleransi BS4-1:2005: BS EN 10034:1993

Penamaan	h	b	s	t	Area	ix	isy	ix	iy	ZX	ZY
mmxmmxkg/m	mm	mm	mm	mm	cm ²	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³
127x76x13	127.0	76.0	4.0	7.6	16.5	473	55.7	5.35	1.84	74.6	14.7
152x89x16	152.4	88.7	4.5	7.7	20.3	834	89.8	6.41	2.10	110	20.2
178x102x19	177.8	101.2	4.8	7.9	24.3	1,356	137	7.48	2.37	153	27.0
2010x102x23	203.2	101.8	5.4	9.3	29.4	2,105	164	8.46	2.36	207	32.2
203x133x25	203.2	133.2	5.7	7.8	32.0	2,340	308	8.56	3.10	230	46.0
203x133x30	206.8	133.9	6.4	9.6	38.2	2,896	385	8.71	3.17	280	57.5
254x102x22	254.0	101.6	5.7	6.8	28.0	2,841	119	10.10	2.06	224	23.5
254x102x25	257.2	101.9	6.0	8.4	32.0	3,415	149	10.30	2.15	266	29.0
254x102x28	260.4	102.2	6.3	10.0	36.1	4,005	179	10.50	2.22	308	35.0
254x146x31	251.4	146.1	6.0	8.6	39.7	4,413	448	10.55	3.36	351	61.0
254x146x37	256.0	146.4	6.3	10.9	47.2	5,537	571	10.80	3.48	433	78.0
254x146x43	259.6	147.3	7.2	12.7	54.8	6,544	677	10.90	3.52	504	92.0
305x102x25	305.1	101.6	5.8	7.0	31.6	4,455	123	11.87	1.97	292	24.2
305x102x28	308.7	101.8	6.0	8.8	35.9	5,366	155	12.23	2.08	348	30.5
305x102x33	312.7	102.4	6.6	10.8	41.8	6,501	194	12.47	2.15	416	37.9
305x127x37	304.4	123.4	7.1	10.7	47.2	7,171	336	12.30	2.67	471	54.5
305x127x42	307.2	124.3	8.0	12.1	53.4	8,196	389	12.40	2.70	534	62.6
305x127x48	311.0	125.3	9.0	14.0	61.2	9,575	461	12.50	2.74	616	73.6
305x165x40	303.4	165.0	6.0	10.2	51.3	8,503	764	12.90	3.86	560	93.0
305x165x46	306.6	165.7	6.7	11.8	58.7	9,899	896	13.00	3.90	646	108
305x165x54	310.4	166.9	7.9	13.7	68.8	11,700	1063	13.00	3.93	754	127
356x127x33	349.0	125.4	6.0	8.5	42.1	8,249	280	14.00	2.58	473	45.0
356x127x39	353.4	126.0	6.6	10.7	49.8	10,172	358	14.30	2.68	576	57.0
356x171x45	351.4	171.1	7.0	9.7	57.3	12,070	811	14.50	3.76	687	95.0
356x171x51	355.0	171.5	7.4	11.5	64.9	14,140	968	14.80	3.86	796	113
356x171x57	358.0	172.2	8.1	13.0	72.6	16,040	1108	14.90	3.91	896	129
356x171x67	363.4	173.2	9.1	15.7	85.5	19,460	1362	15.10	3.99	1,071	157
406x140x39	398.0	141.8	6.4	8.6	49.7	12,508	410	15.90	2.87	629	58.0
406x140x46	403.2	142.2	6.8	11.2	58.6	15,685	538	16.40	3.03	778	76.0
406x178x54	402.6	177.7	7.7	10.9	69.0	18,720	1021	16.50	3.85	930	115
406x178x60	406.4	177.9	7.9	12.8	76.5	21,600	1203	16.80	3.97	1,063	135
406x178x67	409.4	178.8	8.8	14.3	85.5	24,330	1365	16.90	3.99	1,189	153
406x178x74	412.8	179.5	9.5	16.0	94.5	27,310	1545	17.00	4.04	1,323	172
457152x52	449.8	152.4	7.6	10.9	66.6	21,370	645	17.90	3.11	950	85.0
356x171x67	363.4	173.2	9.1	15.7	85.5	19,460	1362	15.10	3.99	1,071	157
406x140x39	398.0	141.8	6.4	8.6	49.7	12,508	410	15.90	2.87	629	58.0
		142.2	6.8	11.2	58.6	15,685	538	16.40	3.03	778	76.0
		177.7	7.7	10.9	69.0	18,720	1021	16.50	3.85	930	115
		177.9	7.9	12.8	76.5	21,600	1203	16.80	3.97	1,063	135
		178.8	8.8	14.3	85.5	24,330	1365	16.90	3.99	1,189	153
		179.5	9.5	16.0	94.5	27,310	1545	17.00	4.04	1,323	172



457152x52	449.8	152.4	7.6	10.9	66.6	21,370	645	17.90	3.11	950	85.0
457152x60	454.6	152.9	8.1	13.3	76.2	25,500	795	18.30	3.23	1,122	104
457152x67	458.0	153.8	9.0	15.0	85.6	28,930	913	18.40	3.27	1,263	119
457152x74	462.0	154.4	9.6	17.0	94.5	32,670	1047	18.60	3.33	1,414	136
457152x82	465.8	155.3	10.5	18.9	104.5	36,590	1185	18.70	3.37	1,571	152.5
457x191x67	453.4	189.9	8.5	12.7	85.5	29,380	1452	18.50	4.12	1,296	153
457x191x74	457.0	190.4	9.0	14.5	94.6	33,320	1671	18.80	4.20	1,458	176
457x191x82	460.0	191.3	9.9	16.0	104.5	37,050	1871	18.80	4.23	1,611	196
457x191x89	463.4	191.9	10.5	17.7	113.8	41,020	2089	19.00	4.29	1,770	218
457x191x98	467.2	192.8	11.4	19.6	125.3	45,730	2347	19.10	4.33	1,957	243
533x210x82	528.3	208.8	9.6	13.2	104.7	47,540	2007	21.30	4.38	1,800	192
533x210x92	533.1	209.3	10.1	15.6	117.4	55,230	2389	21.70	4.51	2,072	228
533x210x101	536.7	210.0	10.8	17.4	128.7	61,520	2692	21.90	4.57	2,292	256
533x210x109	539.5	210.8	11.6	18.8	138.9	66,820	2943	21.90	4.60	2,477	279
533x210x122	544.5	211.9	12.7	21.3	155.4	76,040	3388	22.10	4.67	2,793	320
610x229x101	602.6	227.6	10.5	14.8	128.9	75,780	2915	24.20	4.75	2,515	256
610x229x113	607.6	228.2	11.1	17.3	143.9	87,320	3434	24.60	4.88	2,874	301
610x229x125	612.2	229.0	11.9	19.6	159.3	98,610	3932	24.90	4.97	3,221	343
610x229x140	617.2	203.2	13.1	22.1	178.2	111,800	4505	25.00	5.03	3,622	391
610x309	612.4	304.8	11.8	19.7	190.0	125,900	9308	25.70	7.00	4,111	611
610x305x179	620.2	307.1	14.1	23.6	228.0	153,000	11408	25.90	7.07	4,935	743
610x305x238	635.8	311.4	18.4	31.4	303.3	209,500	15837	26.28	7.22	6,589	1,017
686x254x125	677.9	253.0	11.7	16.2	159.5	118,000	4383	27.20	5.24	3,481	346
686x254x140	683.5	253.7	12.4	19.0	178.4	136,300	5183	27.60	5.39	3,987	409
686x254x152	687.5	254.5	13.2	21.0	194.1	150,400	5784	27.80	5.46	4,374	455
686x254x170	692.9	255.8	14.5	23.7	216.8	170,300	6630	28.00	5.53	4,916	518
762x267x134	750.0	264.4	12.0	15.5	171.0	150,700	4788	29.70	5.30	4,018	362
762x267x147	754.0	265.2	12.8	17.5	187.2	168,500	5455	30.00	5.40	4,470	411.4
762x267x173	762.2	266.7	14.3	21.6	220.4	205,300	6850	30.52	5.58	5,387	513.7
762x267x197	769.8	268.0	15.6	25.4	250.6	240,000	8175	30.94	5.71	6,234	610.1
838x292x176	834.9	291.7	14.0	18.8	224.0	246,000	7799	33.14	5.90	5,893	534.7
838x292x194	840.7	292.4	14.7	21.7	264.8	279,200	9066	33.63	6.06	6,641	620.1
838x292x226	850.9	293.8	16.1	26.8	288.6	339,700	11360	34.31	6.27	7,985	773.3
914x305x201	903.0	303.3	15.1	20.2	255.9	325,300	9423	35.65	6.07	7,204	621.4
914x305x224	910.4	304.1	15.9	23.9	285.6	376,400	11240	36.30	6.27	8,269	739
914x305x253	918.4	305.5	17.3	27.9	322.8	436,300	13300	36.76	6.42	9,501	870.8
914x305x289	926.6	307.7	19.5	32.0	368.3	504,200	15600	37.00	6.51	10,880	1,014
914x419x343	911.8	418.5	19.4	32.0	437.3	625,800	39160	37.83	9.46	13,730	1,871
914x419x388	921.0	420.5	21.4	36.6	494.2	719,600	45440	38.16	9.56	15,630	2,161

STANDARD SECTIONAL DIMENSIONS					SECTION AREA	UNIT WEIGHT		Informative Reference					
Nominal Dimensional	H x B	t1	t2	r				GEOMETRICAL MOMENT OF INERTIA		RADIUS OF GYRATION OF AREA		MODULUS OF SECTION	
mm	mm x mm	mm	mm	m	cm ²	Kg/m	Kg/12m	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³
200 x 100	198 x 99	4.5	7	11	23.18	18.20	218.4	1,580	114	8.28	2.21	160	23.0
	200 x 100	5.5	8	11	27.16	21.30	255.8	1,840	134	8.24	2.22	184	26.8
• 200 x 150	194 x 150	6	9	12	38.80	30.60	367.2	2,675	507	8.30	3.60	275.8	67.6
250 x 125	248 x 124	5	8	12	32.68	25.70	308.4	3,540	255	10.4	2.79	285	41.1
		6	9	12	37.66	29.80	355.2	4,050	294	10.4	2.79	324	47.0
		1.5	8	13	40.80	32.0	384	6,320	442	12.4	3.29	424	59.3
		1.5	9.1	3	46.78	36.70	440.47	7,210	508	12.4	3.29	481	67.7
		6	9	14	52.68	41.40	469.8	11,100	792	14.5	3.88	641	91.0
		7	11	14	63.14	49.60	595.2	13,600	984	14.7	3.95	775	112
		7	11	16	72.16	56.60	679.2	20,000	1,450	16.7	4.48	1,010	145
		8	13	16	84.1	66.0	792	23,700	1,740	16.8	4.54	1,190	174
		9	14	18	96.8	76.0	912	33,500	1,870	18.6	4.40	1,490	187
		10	16	20	114.2	89.6	1075.2	47,800	2,140	20.5	4.43	1,910	214
		11	17	22	134.4	106	1272	77,600	2,280	24.0	4.12	2,590	228
		2	20	28	192.5	151	1812	181,000	9,020	24.80	6.85	4,020	601



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