

Propiedades de escuadría para madera														
Dimensiones						Area cm ²	Eje X		Eje Y		m ³ de madera por m ³ (*)	Peso por m (**)		
Real (cm)			Comercial (plg)				Ix (cm ⁴)	Zx (cm ³)	Iy (cm ⁴)	Zy (cm ³)		Grupo		
b	x	h	b	x	h							A (kg/m)	B (kg/m)	C (kg/m)
1.50	x	2.00	3/4	x	1	3.00	1.00	1.00	0.60	0.70	0.00048	0.33	0.30	0.27
1.50	x	4.00	3/4	x	2	6.00	8.00	4.00	1.10	1.50	0.00097	0.66	0.60	0.54
1.50	x	6.50	3/4	x	3	9.70	34.30	10.60	1.80	2.40	0.00144	1.07	0.98	0.88
1.50	x	9.00	3/4	x	4	13.50	91.10	20.20	2.50	3.30	0.00193	1.49	1.35	1.22
1.50	x	14.00	3/4	x	6	21.00	343.00	49.00	3.90	5.20	0.00290	2.31	2.10	1.89
1.50	x	19.00	3/4	x	8	28.50	857.40	90.20	5.30	7.10	0.00387	3.14	2.85	2.57
1.50	x	24.00	3/4	x	10	36.00	1,728.00	144.00	6.70	9.00	0.00484	3.96	3.60	3.24
1.50	x	29.00	3/4	x	12	43.50	3,048.60	210.20	8.10	10.90	0.00580	4.79	4.35	3.92
2.00	x	2.00	1	x	1	4.00	1.30	1.30	1.30	1.30	0.00064	0.44	0.40	0.36
2.00	x	4.00	1	x	2	8.00	10.70	5.30	2.70	2.60	0.00130	0.88	0.80	0.72
2.00	x	6.50	1	x	3	13.00	45.80	14.10	4.30	4.30	0.00193	1.43	1.30	1.17
2.00	x	9.00	1	x	4	18.00	121.50	27.00	6.00	6.00	0.00257	1.98	1.80	1.62
2.00	x	14.00	1	x	6	28.00	457.30	65.30	9.30	9.30	0.00387	3.08	2.80	2.52
2.00	x	19.00	1	x	8	38.00	1,143.20	120.30	12.70	12.60	0.00517	4.18	3.80	3.42
2.00	x	24.00	1	x	10	48.00	2,304.00	192.00	16.00	16.00	0.00644	5.28	4.80	4.32
2.00	x	29.00	1	x	12	58.00	4,064.80	280.30	19.30	19.30	0.00774	6.38	5.80	5.22
3.00	x	3.00	1 1/2	x	1 1/2	9.00	6.70	4.50	6.70	4.50	0.00144	0.99	0.90	0.81
3.00	x	4.00	1 1/2	x	2	12.00	16.00	8.00	9.00	6.00	0.00193	1.32	1.20	1.08
3.00	x	6.50	1 1/2	x	3	19.50	68.60	21.10	14.60	97.50	0.00290	2.15	1.95	1.76
3.00	x	9.00	1 1/2	x	4	27.00	182.20	40.50	20.20	13.50	0.00387	2.97	2.70	2.43
3.00	x	14.00	1 1/2	x	6	42.00	686.00	98.00	31.50	21.00	0.00580	4.62	4.20	3.78
3.00	x	19.00	1 1/2	x	8	57.00	1,714.70	180.50	42.70	28.50	0.00774	6.27	5.70	5.13
3.00	x	24.00	1 1/2	x	10	72.00	3,456.00	288.00	54.00	36.00	0.00967	7.92	7.20	6.48
3.00	x	29.00	1 1/2	x	12	87.00	6,097.30	420.50	65.20	43.50	0.01161	9.57	8.70	7.83
4.00	x	4.00	2	x	2	16.00	21.30	10.70	21.30	10.70	0.00257	1.76	1.60	1.44
4.00	x	6.50	2	x	3	26.00	91.50	28.20	34.70	17.30	0.00387	2.86	2.60	2.34
4.00	x	9.00	2	x	4	36.00	243.00	54.00	48.00	24.00	0.00517	3.96	3.60	3.24
4.00	x	14.00	2	x	6	56.00	914.60	130.70	74.70	37.30	0.00774	6.16	5.60	5.04
4.00	x	16.50	2	x	7	66.00	1,497.40	181.50	88.00	49.00	0.00904	7.26	6.60	5.94
4.00	x	19.00	2	x	8	76.00	2,286.30	240.60	101.30	50.70	0.01031	8.36	7.60	6.84
4.00	x	24.00	2	x	10	96.00	4,608.00	384.00	128.00	64.00	0.01291	10.56	9.60	8.64
4.00	x	29.00	2	x	12	116.00	8,129.70	560.60	154.70	77.30	0.01548	12.76	11.60	10.44
5.00	x	5.00	2 1/2	x	2 1/2	25.00	52.10	20.80	52.10	20.80	0.00404	2.75	2.50	2.25
5.00	x	6.50	2 1/2	x	3	32.50	114.40	35.20	67.70	27.10	0.00484	3.58	3.25	2.93
5.00	x	9.00	2 1/2	x	4	45.00	303.70	67.50	93.70	37.50	0.00644	4.95	4.50	4.05
5.00	x	14.00	2 1/2	x	6	70.00	1,143.30	163.30	145.80	58.30	0.00967	7.70	7.00	6.30
5.00	x	16.50	2 1/2	x	7	82.50	1,871.70	226.90	171.90	68.70	0.01128	9.08	8.25	7.43
5.00	x	19.00	2 1/2	x	8	95.00	2,857.90	300.80	197.90	79.10	0.01291	10.45	9.50	8.55
5.00	x	24.00	2 1/2	x	10	120.00	5,760.00	480.00	250.00	100.00	0.01612	13.20	12.00	10.80
5.00	x	29.00	2 1/2	x	12	145.00	10,162.10	700.80	302.10	120.80	0.01935	15.95	14.50	13.05
6.50	x	6.50	3	x	3	42.20	148.70	45.70	148.70	45.70	0.00580	4.65	4.23	3.80
6.50	x	9.00	3	x	4	58.50	394.90	87.70	206.00	63.40	0.00774	6.44	5.85	5.27
6.50	x	14.00	3	x	6	91.00	1,486.30	212.30	320.40	98.80	0.01161	10.01	9.10	8.19
6.50	x	16.50	3	x	7	107.20	2,433.20	294.90	377.60	116.20	0.01354	11.80	10.73	9.65
6.50	x	19.00	3	x	8	123.50	3,715.30	391.10	434.80	133.80	0.01548	13.59	12.35	11.12
6.50	x	24.00	3	x	10	156.00	7,488.00	624.00	549.20	169.00	0.01935	17.16	15.60	14.04
6.50	x	29.00	3	x	12	188.50	13,210.70	911.10	663.70	204.20	0.02322	20.74	18.85	16.97
9.00	x	9.00	4	x	4	81.00	546.70	121.50	546.70	121.50	0.01031	8.91	8.10	7.29
9.00	x	14.00	4	x	6	126.00	2,058.00	294.00	850.50	189.00	0.01547	13.86	12.60	11.34
9.00	x	16.50	4	x	7	148.50	3,361.10	408.30	1,002.40	222.70	0.01808	16.34	14.85	13.37
9.00	x	19.00	4	x	8	171.00	5,144.20	541.50	1,154.20	256.50	0.02065	18.81	17.10	15.39
9.00	x	24.00	4	x	10	216.00	10,368.00	864.00	1,458.00	324.00	0.02579	23.76	21.60	19.44
9.00	x	29.00	4	x	12	261.00	18,291.80	1,261.00	1,761.70	391.50	0.03096	28.71	26.10	23.49
14.00	x	14.00	6	x	6	196.00	3,201.30	457.30	3,201.30	457.30	0.02322	21.56	19.60	17.64
14.00	x	16.50	6	x	7	231.00	5,240.80	635.20	3,773.00	539.00	0.02709	25.41	23.10	20.79
14.00	x	19.00	6	x	8	266.00	8,002.20	842.30	4,344.70	620.60	0.03096	29.26	26.60	23.94
14.00	x	24.00	6	x	10	336.00	16,128.00	1,344.00	5,488.00	784.00	0.03870	36.96	33.60	30.24
14.00	x	29.00	6	x	12	406.00	28,453.80	1,962.30	6,631.30	947.30	0.04646	44.66	40.60	36.54
19.00	x	19.00	8	x	8	361.00	10,860.10	1,143.20	10,860.10	1,143.20	0.03705	39.71	36.10	32.49
19.00	x	24.00	8	x	10	456.00	21,888.00	1,924.00	13,718.00	1,444.00	0.05161	50.16	45.60	41.04
19.00	x	29.00	8	x	12	551.00	38,615.90	2,663.20	16,575.90	1,744.80	0.06194	60.61	55.10	49.59
24.00	x	24.00	10	x	10	576.00	27,648.00	2,304.00	27,648.00	2,304.00	0.06428	63.36	57.60	51.84
24.00	x	29.00	10	x	12	696.00	48,778.00	3,364.00	33,408.00	2,784.00	0.07742	76.56	69.60	62.64
29.00	x	29.00	12	x	12	841.00	58,940.10	4,064.80	58,940.10	4,064.80	0.09288	92.51	84.10	75.69

(*) Calculado con las dimensiones comerciales. 1 metro cúbico=423.78 pies tablares

(**) Calculado usando dimensiones reales. Peso específico 1.10 para el grupo A, 1.0 para el grupo B y 0.90 para el grupo C

Fuente:

Manual de Diseño para Maderas del Grupo Andino