

Appendix A Wood and Plywood Properties

No.	Vernacular name	Family	Genus	Symbol
1	Binuang	Datisceae	Octomeles	BNG
2	Batai	Leguminosae	Albizia	BTI
3	Kapur	Dipterocarpaceae	Dryobalanops	KPR
4	Keruing	Dipterocarpaceae	Dipterocarpus	KRG
5	Laran	Rubiaceae	Neolamarckia	LRN
6	Magas	Sonneratiaceae	Duabanga	MGS
7	Red Seraya	Dipterocarpaceae	Shorea	RSY
8	Sedaman	Euphorbiaceae	Macaranga	SDM
9	White Seraya	Dipterocarpaceae	Parashorea	WSY
10	Yellow Seraya	Dipterocarpaceae	Shorea	YSY

Wood	Colour Intensity (from light to dark colour)	
BNG	Light yellow with a greenish tinge	Y1
LRN	Light yellow	Y2
YSY	Yellow brownish	Y3
MGS	Yellow grayish	Y4
WSY	Light pink with reddish tint	R1
BTI	Pink	R2
SDM	Pink with a reddish tint	R3
KRG	Light brown	R4
RSY	Dark Red	R5
KPR	Dark brown with yellowish nut-brown streaks	R6

Wood	pH @ 25°C						SD
	1	2	3	4	5	AVG	
BNG	6.23	6.26	6.29	6.16	6.27	6.24	0.05
BTI	5.79	5.72	5.76	5.77	5.76	5.76	0.03
KPR	4.77	4.79	4.69	4.72	4.69	4.73	0.05
KRG	5.27	5.34	5.32	5.34	5.33	5.32	0.03
LRN	6.21	6.15	6.19	6.20	6.22	6.19	0.03
MGS	5.49	5.54	5.56	5.46	5.57	5.52	0.05
RSY	4.84	4.95	4.93	5.05	4.89	4.93	0.08
SDM	5.36	5.38	5.25	5.36	5.33	5.34	0.05
WSY	5.87	5.91	5.94	5.88	5.86	5.89	0.03
YSY	6.09	6.05	6.12	6.08	6.07	6.08	0.03

BNG	Length (mm)	Width (mm)	Thickness (mm)	Mass (g)	Density (Kg/m ³)	Porosity (%)
P1	50.4	50.3	2.65	2.22	330.5	78.4%
P2	50.5	50.5	2.65	2.40	355.1	76.8%
P3	50.6	50.6	2.75	2.36	335.2	78.1%
P4	50.2	50.4	2.75	2.28	327.7	78.6%
P5	50.3	50.5	2.75	2.20	314.9	79.4%
				AVG	332.7	77.8%
				SD	14.6	0.9%

Length, width accuracy to 0.1 mm

Thickness, mass accuracy to 0.01g

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BTI	Length (mm)	Width (mm)	Thickness (mm)	Final Mass (g)	Density (Kg/m3)	Porosity (%)
P1	49.9	50.3	2.75	2.74	397.0	74.1%
P2	49.9	50.3	2.70	2.76	407.3	73.4%
P3	50.4	50.6	2.55	2.59	398.3	74.0%
P4	50.4	50.4	2.55	2.51	387.5	74.7%
P5	50.2	50.3	2.75	2.91	419.1	72.6%
				AVG	401.8	73.7%
<i>Length, width accuracy to 0.1 mm</i>				SD	11.9	0.8%
<i>Thickness, mass accuracy to 0.01g</i>						

KPR	Length (mm)	Width (mm)	Thickness (mm)	Final Mass (g)	Density (Kg/m3)	Porosity (%)
P1	50.4	50.5	2.65	4.04	599.0	60.9%
P2	50.5	50.6	2.65	4.28	632.1	58.7%
P3	50.1	50.2	2.75	4.27	617.4	59.6%
P4	50.5	50.5	2.75	4.31	614.6	59.8%
P5	50.4	50.1	2.75	4.48	645.2	57.8%
				AVG	621.6	59.4%
<i>Length, width accuracy to 0.1 mm</i>				SD	17.6	1.2%
<i>Thickness, mass accuracy to 0.01g</i>						

KRG	Length (mm)	Width (mm)	Thickness (mm)	Final Mass (g)	Density (Kg/m3)	Porosity (%)
P1	50.4	50.6	2.75	4.86	693.0	54.7%
P2	50.3	50.6	2.65	4.55	674.6	55.9%
P3	50.2	50.2	2.65	4.56	682.8	55.4%
P4	50.1	50.4	2.70	4.55	667.4	56.4%
P5	50.4	50.4	2.75	4.64	664.2	56.6%
				Avg	676.4	55.8%
<i>Length, width accuracy to 0.1 mm</i>				SD	11.7	0.8%
<i>Thickness, Mass accuracy to 0.01g</i>						

LRN	Length (mm)	Width (mm)	Thickness (mm)	Final Mass (g)	Density (Kg/m3)	Porosity (%)
P1	50.5	50.4	2.65	2.48	367.7	76.0%
P2	50.6	50.5	2.70	2.42	350.8	77.1%
P3	50.4	50.6	2.75	2.74	390.7	74.5%
P4	50.3	50.6	2.70	2.68	390.0	74.5%
P5	50.3	50.2	2.55	2.38	369.6	75.8%
				AVG	373.8	75.6%
<i>Length, width accuracy to 0.1 mm</i>				SD	16.8	1.1%
<i>Thickness, mass accuracy to 0.01g</i>						

MGS	Length (mm)	Width (mm)	Thickness (mm)	Final Mass (g)	Density (Kg/m3)	Porosity (%)
P1	50.5	50.2	2.65	2.62	390.0	74.5%
P2	49.9	50.5	2.55	2.56	398.4	74.0%
P3	50.5	50.3	2.75	2.76	395.1	74.2%
P4	50.2	50.1	2.75	2.60	375.9	75.4%
P5	50.3	50.2	2.75	2.67	384.5	74.9%
				AVG	388.8	74.6%
<i>Length, width accuracy to 0.1 mm</i>				SD	8.9	0.6%
<i>Thickness, mass accuracy to 0.01g</i>						

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RSY	Length (mm)	Width (mm)	Thickness (mm)	Final Mass (g)	Density (Kg/m3)	Porosity (%)
P1	50.5	50.1	2.75	3.33	478.6	68.7%
P2	50.6	50.2	2.70	3.57	520.5	66.0%
P3	50.1	50.4	2.75	3.66	527.1	65.6%
P4	50.3	50.5	2.70	3.42	498.7	67.4%
P5	50.2	50.6	2.75	3.74	535.4	65.0%
				AVG	512.1	66.5%
<i>Length, width accuracy to 0.1 mm</i>				SD	23.1	1.5%
<i>Thickness, mass accuracy to 0.01g</i>						

SDM	Length (mm)	Width (mm)	Thickness (mm)	Final Mass (g)	Density (Kg/m3)	Porosity (%)
P1	50.5	50.2	2.65	2.65	394.5	74.2%
P2	50.1	50.5	2.65	2.94	438.5	71.3%
P3	50.2	49.9	2.75	2.81	407.9	73.3%
P4	50.2	50.3	2.75	2.91	419.1	72.6%
P5	50.3	50.2	2.65	2.86	427.4	72.1%
				AVG	417.5	72.7%
<i>Length, width accuracy to 0.1 mm</i>				SD	17.1	1.1%
<i>Thickness, mass accuracy to 0.01g</i>						

WSY	Length (mm)	Width (mm)	Thickness (mm)	Final Mass (g)	Density (Kg/m3)	Porosity (%)
P1	50.3	50.5	2.75	3.54	506.8	66.9%
P2	50.6	50.7	2.70	3.65	527.0	65.6%
P3	50.4	50.6	2.75	3.50	499.1	67.4%
P4	50.3	50.2	2.60	3.31	504.2	67.0%
P5	50.2	50.3	2.55	3.10	481.4	68.5%
				AVG	503.7	67.1%
<i>Length, width accuracy to 0.1 mm</i>				SD	16.3	1.1%
<i>Thickness, mass accuracy to 0.01g</i>						

YSY	Length (mm)	Width (mm)	Thickness (mm)	Final Mass (g)	Density (Kg/m3)	Porosity (%)
P1	50.5	50.5	2.75	3.68	524.7	65.7%
P2	50.2	50.1	2.65	3.76	564.2	63.1%
P3	50.6	50.4	2.55	3.46	532.1	65.2%
P4	50.2	50.3	2.75	3.84	553.0	63.9%
P5	50.3	50.3	2.75	4.07	585.0	61.8%
				AVG	551.8	63.9%
<i>Length, width accuracy to 0.1 mm</i>				SD	24.4	1.6%
<i>Thickness, mass accuracy to 0.01g</i>						

Summary :

Wood	Colour	Properties	
		pH @ 25°C	Porosity (%)
BNG	Yellowish	6.24	77.8%
BTI	Reddish	5.76	73.7%
KPR	Reddish	4.73	59.4%
KRG	Reddish	5.32	55.8%
LRN	Yellowish	6.19	75.6%
MGS	Yellowish	5.52	74.6%
RSY	Reddish	4.93	66.5%
SDM	Reddish	5.34	72.7%
WSY	Reddish	5.89	67.1%
YSY	Yellowish	6.08	63.9%