

ASIA PLYWOOD COMPANY SDN. BHD. (5653-H)

Technical Information (WBP Plywood) – Tropical Hardwood 18mm (Marine)

Technical Characteristic (Average)

Property		Unit	Mean Value	Test Method	BSI Standard Reference
Bonding Quality (Shear Strength)	Pretreatment 5.1.1	N/mm ²	1.36~1.88	Immersion 24 hours in water 20°C & Pull Test	EN314-1:1993
	Apparent Wood Failure	%	68		
	Pretreatment 5.1.4	N/mm ²	0.99~1.26	Immersion 72 hours in boiling water 100°C, then immersion 1 hour in cold water 20°C & Pull Test	EN314-2 :1993
	Apparent Wood Failure	%	76		
Bending Strength / Modulus of Elasticity	Lateral	N/mm ²	38	Push Test	EN310 :1993
	Longitudinal	N/mm ²	50		
	Lateral	N/mm ²	5624		
	Longitudinal	N/mm ²	6374		
Density		kg/m ³	488	Weighing	EN323 :1993
Moisture content		%	10~12	Weighing	EN322 :1993

Note: The technical data was produced from I.T.T Testing results.

Please refer to the texts of the British and European standards mentioned for further detail. A complete list of British and European Standards, together with brief summaries of each, may be found on the BSI website: www.bsi.org.uk

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QA Officer

ASIA PLYWOOD COMPANY SDN BHD (5653-H)

BONDING TEST SUMMARY REPORT FOR WBP PLYWOOD - ITT (CE MARKING)

PRODUCTION DATE	03.06.2010 - 28.06.2010	TESTING DATE	23.08.2010 - 03.09.2010
SAMPLING DATE / HOT PRESS NO.	03.06.2010 - 28.06.2010	LOG SPECIES	Kedondong, Mersawa, Keruing, Pipit
PRODUCT SIZE (mm)	T = 18.00 L = 2440.0 W = 1220.0	GLUE TYPE	WBP Glue
TECHNICAL / SERVICE CLASS	1 - DRY	TEST METHOD / CUTTING PLAN	EN314-1, EN314-2, EN326-1, EN326-2; [APC-CP-03]
	2 - HUMID		
	3 - EXTERIOR		
NUMBER OF PANELS	13	NUMBER OF TEST PIECES / PANEL	30
SAMPLE SIZE	EN 326-1 : 1994 (Double Sampling Plan); (13panels for each test); (30 test pieces/panel)		

PRE-TREATMENT METHOD		REMARKS	
EN 314-1:1993,	5.1.1		
IMMERSION	20 °C	24 HRs	
VENTILATED OVEN	°C	HR	
BOILING	°C	HR	
COOLING	°C	HR	
ROOM TEMPERATURE / HUMIDITY	20 °C	65%	

PRODUCTION DATE	PANEL NO.	TEST RESULT (5.1.1)				
		TOTAL TEST PIECE (PCS)	PIECE ACCEPTED (PCS)	PIECE REJECTED (PCS)	SHEAR STRENGTH (N/mm ²)	TEST STATUS ACCEPTED / REJECTED
03.06.2010	P01	30	30	0	1.680	ACCEPTED
03.06.2010	P02	30	30	0	1.596	ACCEPTED
03.06.2010	P03	30	30	0	1.394	ACCEPTED
10.06.2010	P04	30	30	0	1.413	ACCEPTED
10.06.2010	P05	30	30	0	1.878	ACCEPTED
10.06.2010	P06	30	30	0	1.597	ACCEPTED
17.06.2010	P07	30	30	0	1.643	ACCEPTED
17.06.2010	P08	30	30	0	1.542	ACCEPTED
17.06.2010	P09	30	30	0	1.356	ACCEPTED
28.06.2010	P10	30	30	0	1.661	ACCEPTED
28.06.2010	P11	30	30	0	1.559	ACCEPTED
28.06.2010	P12	30	30	0	1.467	ACCEPTED
MEAN					1.566	
STD DEVIATION BTW PANEL MEANS					0.146	
VARIANCE BTW PANEL MEANS					0.021	
COEFFICIENT OF VAR BTW PANELS					0.093	
CALCULATED LOWER 5% LIMIT, L_{5%}					1.303	
CALCULATED UPPER 5% LIMIT, U_{5%}					1.828	

CONCLUSION:
 There are no defectives in the first sample for all the testing, the inspection lot fulfills the glue bond quality requirement in EN 314-2:1993 of pre-treatment 5.1.1 according to EN 314-1:1993.

TESTED BY _____
 Date: _____

APPROVED BY _____
 Date: _____

ASIA PLYWOOD COMPANY SDN BHD (5653-H)

BONDING TEST SUMMARY REPORT FOR WBP PLYWOOD - ITT (CE MARKING)

PRODUCTION DATE	03.06.2010 - 28.06.2010	TESTING DATE	25.08.2010 - 05.09.2010
SAMPLING DATE / HOT PRESS NO.	03.06.2010 - 28.06.2010	LOG SPECIES	Kedondong, Mersawa, Keruing, Pipit
PRODUCT SIZE (mm)	T = 18.00 L = 2440.0 W = 1220.0	GLUE TYPE	WBP Glue
TECHNICAL / SERVICE CLASS	1 - DRY	TEST METHOD / CUTTING PLAN	EN314-1, EN314-2, EN326-1, EN326-2; [APC-CP-03]
	2 - HUMID		
	3 - EXTERIOR		
NUMBER OF PANELS	30	NUMBER OF TEST PIECES / PANEL	30
SAMPLE SIZE	EN 326-1 : 1994 (Double Sampling Plan); (13panels for each test); (30 test pieces/panel)		

PRE-TREATMENT METHOD		REMARKS	
EN 314-1:1993,	5.1.4		
IMMERSION	°C	HR	
VENTILATED OVEN	°C	HR	
BOILING	100 °C	6 HRs	
COOLING	20 °C	> 1 HR	
ROOM TEMPERATURE / HUMIDITY	20 °C	65%	

PRODUCTION DATE	PANEL NO.	TEST RESULT (5.1.4)				
		TOTAL TEST PIECE (PCS)	PIECE ACCEPTED (PCS)	PIECE REJECTED (PCS)	SHEAR STRENGTH (N/mm ²)	TEST STATUS ACCEPTED / REJECTED
03.06.2010	P01	30	30	0	1.153	ACCEPTED
03.06.2010	P02	30	30	0	1.140	ACCEPTED
03.06.2010	P03	30	30	0	1.162	ACCEPTED
10.06.2010	P04	30	30	0	1.257	ACCEPTED
10.06.2010	P05	30	30	0	1.136	ACCEPTED
10.06.2010	P06	30	30	0	1.216	ACCEPTED
17.06.2010	P07	30	30	0	1.017	ACCEPTED
17.06.2010	P08	30	30	0	1.056	ACCEPTED
17.06.2010	P09	30	30	0	1.209	ACCEPTED
28.06.2010	P10	30	30	0	1.262	ACCEPTED
28.06.2010	P11	30	30	0	0.993	ACCEPTED
28.06.2010	P12	30	30	0	1.011	ACCEPTED
MEAN					1.134	
STD DEVIATION BTW PANEL MEANS					0.095	
VARIANCE BTW PANEL MEANS					0.009	
COEFFICIENT OF VAR BTW PANELS					0.084	
CALCULATED LOWER 5% LIMIT, L_{5%}					0.963	
CALCULATED UPPER 5% LIMIT, U_{5%}					1.306	

CONCLUSION:
 There are no defectives in the first sample for all the testing, the inspection lot fulfills the glue bond quality requirement in EN 314-2:1993 of pre-treatment 5.1.4 according to EN 314-1:1993.

TESTED BY

 Date:

APPROVED BY

 Date:

ASIA PLYWOOD COMPANY SDN BHD (5653-H)

BENDING TEST SUMMARY REPORT FOR WBP PLYWOOD - ITT (CE MARKING)

PRODUCTION DATE	03.06.2010 - 28.06.2010			TESTING DATE	24.08.2010 - 06.09.2010
SAMPLING DATE / HOT PRESS NO.	03.06.2010 - 28.06.2010		HP02	LOG SPECIES	Kedondong, Mersawa, Keruing, Pipit
PRODUCT SIZE (mm)	T = 18.00	L = 2440.0	W = 1220.0	GLUE TYPE	WBP Glue
TECHNICAL / SERVICE CLASS	1 - DRY		2 - HUMID	TEST METHOD / CUTTING PLAN	EN310, EN326-1, EN326-2, EN636; [APC-CP-03]
	D (REACTION TO FIRE)		E1 (FORMALDEHYDE RELEASE)		
NUMBER OF PANELS	12			NUMBER OF TEST PIECES / PANE	12

PRODUCTION DATE	PANEL NO.	LONG CORE (N/mm ²)						SHORT CORE (N/mm ²)					
		f _m 0			E _m 0			f _m 90			E _m 90		
		MEAN	SD	VAR	MEAN	SD	VAR	MEAN	SD	VAR	MEAN	SD	VAR
03.06.2010	P01	34.883	4.845	23.477	4939.489	541.393	293106.479	53.242	12.488	155.938	6882.179	1213.025	1471429.421
03.06.2010	P02	41.675	5.178	26.814	5989.918	587.850	345567.064	53.431	4.993	24.928	6565.200	1141.407	1302808.828
03.06.2010	P03	36.892	7.032	49.456	5700.191	617.437	381228.805	46.905	7.559	57.139	6430.910	1027.276	1055296.714
10.06.2010	P04	42.387	6.956	48.389	5975.456	712.986	508349.528	54.437	10.855	117.826	6548.338	788.768	622154.803
10.06.2010	P05	42.863	6.191	38.334	6186.153	1386.355	1921979.505	54.644	7.404	54.825	6990.725	1358.573	1845721.194
10.06.2010	P06	37.158	6.873	47.237	5698.070	439.935	193542.919	52.455	6.187	38.279	6304.028	1139.631	1298757.891
17.06.2010	P07	34.644	5.780	33.408	5615.138	578.888	335111.064	48.567	9.958	99.163	6192.118	1340.217	1796181.985
17.06.2010	P08	37.462	5.971	35.651	5582.214	329.850	108801.281	48.613	8.279	68.542	5866.665	1164.651	1356411.493
17.06.2010	P09	30.673	3.752	14.080	4211.747	939.960	883524.621	41.208	3.785	14.328	5910.782	278.932	77802.906
28.06.2010	P10	40.789	4.095	16.772	5803.773	236.343	55857.798	45.570	2.066	4.268	5933.343	316.889	100418.512
28.06.2010	P11	37.255	3.858	14.884	5567.645	901.991	813587.953	45.440	1.743	3.039	5880.887	254.324	64680.854
28.06.2010	P12	42.325	5.449	29.696	6220.536	281.860	79444.959	55.935	6.973	48.626	6981.710	824.265	679412.809
MEAN (A), (B), (C)		38.251	5.498	31.517	5624.194	629.571	493341.831	50.037	6.858	57.242	6373.907	903.997	972589.784
STD DEVIATION BTW PANEL MEANS		3.809			559.294			4.632			429.098		
VARIANCE BTW PANEL MEANS		14.507			312810.20			21.459			184124.80		
COEFFICIENT OF VAR BTW PANELS		0.100			0.099			0.093			0.067		
CALCULATED LOWER 5% LIMIT, L _{5%}		31.395			4617.464			41.699			5601.531		
CALCULATED UPPER 5% LIMIT, U _{5%}		45.106			6630.924			58.375			7146.283		
CLASS		F20			E40			F25			E50		
LOWER 5% LIMIT VALUE		31.395			4617.464			41.699			5601.531		
JUDGEMENT		OK			OK			OK			OK		

NOTE: (A) GRAND MEAN (B) MEAN STD DEVIATION WITHIN PANELS (C) MEAN VARIANCE WITHIN PANELS

REMARKS:

TESTED BY:

APPROVED BY:

ASIA PLYWOOD COMPANY SDN BHD (5653-H)

DENSITY TEST SUMMARY REPORT FOR WBP PLYWOOD - ITT (CE MARKING)

PRODUCTION DATE	03.06.2010 - 28.06.2010		TESTING DATE	30.08.2010 - 07.09.2010
PRODUCT SIZE (mm)	T = 18.00	L = 2440.0 W = 1220.0	GLUE TYPE	WBP Glue
SAMPLING DATE / HOT PRESS NO.	03.06.2010 - 28.06.2010		TEST METHOD / CUTTING PLAN	EN310, EN326-1, EN326-2, EN636; [APC-CP-03]
NUMBER OF PANELS	13		NUMBER OF TEST PIECES / PANEL	6
PRODUCTION DATE	PANEL NO.	MEAN	STANDARD DEVIATION	VARIANCE
03.06.2010	P01	483.037	14.508	210.482
03.06.2010	P02	488.314	10.647	113.363
03.06.2010	P03	481.132	8.574	73.509
10.06.2010	P04	488.058	11.513	132.558
10.06.2010	P05	495.812	21.653	468.854
10.06.2010	P06	490.564	9.233	85.251
17.06.2010	P07	503.011	18.384	337.956
17.06.2010	P08	489.444	6.931	48.039
17.06.2010	P09	486.497	10.841	117.520
28.06.2010	P10	483.572	7.757	60.164
28.06.2010	P11	484.784	5.566	30.981
28.06.2010	P12	480.472	3.354	11.251
MEAN (A), (B), (C)		487.891	10.747	140.827
STANDARD DEVIATION BTW PANEL MEANS		6.436		
VARIANCE BTW PANEL MEANS		41.423		
COEFFICIENT OF VARIATION BTW PANELS		0.013		
CALCULATED LOWER 5% LIMIT, L_{5%}		476.435		
CALCULATED UPPER 5% LIMIT, U_{5%}		499.348		

NOTE: (A) GRAND MEAN (B) MEAN STD DEVIATION WITHIN PANELS (C) MEAN VARIANCE WITHIN PANELS

REMARKS:

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ASIA PLYWOOD COMPANY SDN BHD (5653-H)

MOISTURE CONTENT TEST SUMMARY REPORT FOR WBP PLYWOOD - ITT (CE MARKING)

PRODUCTION DATE	03.06.2010 - 28.06.2010		TESTING DATE	28.08.2010 - 05.09.2010
PRODUCT SIZE (mm)	T = 18.00 L = 2440.0 W = 1220.0		GLUE TYPE	WBP Glue
SAMPLING DATE / HOT PRESS NO.	03.06.2010 - 28.06.2010 HP01		TEST METHOD / CUTTING PLAN	EN310, EN326-1, EN326-2, EN636; [APC-CP-03]
NUMBER OF PANELS	30		NUMBER OF TEST PIECES / PANEL	4
PRODUCTION DATE	PANEL NO.	MEAN	STANDARD DEVIATION	VARIANCE
03.06.2010	P01	10.765	0.781	0.610
03.06.2010	P02	12.132	0.861	0.742
03.06.2010	P03	11.325	1.388	1.928
10.06.2010	P04	10.010	1.244	1.547
10.06.2010	P05	12.021	0.633	0.401
10.06.2010	P06	12.487	1.492	2.227
17.06.2010	P07	11.683	0.640	0.410
17.06.2010	P08	11.126	1.250	1.562
17.06.2010	P09	10.976	1.283	1.645
28.06.2010	P10	11.100	0.377	0.142
28.06.2010	P11	10.315	0.517	0.268
28.06.2010	P12	10.601	0.700	0.490
MEAN (A), (B), (C)		11.212	0.931	0.998
STANDARD DEVIATION BTW PANEL MEANS		0.754		
VARIANCE BTW PANEL MEANS		0.569		
COEFFICIENT OF VARIATION BTW PANELS		0.067		
CALCULATED LOWER 5% LIMIT, L_{5%}		9.869		
CALCULATED UPPER 5% LIMIT, U_{5%}		12.554		

NOTE: (A) GRAND MEAN (B) MEAN STD DEVIATION WITHIN PANELS (C) MEAN VARIANCE WITHIN PANELS

REMARKS:

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