

Test Report No. 7191005793-MEC11-TYW
dated 30 MAY 2011



PSB Singapore

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SUBJECT:

Testing of Laminated Board Samples


TESTED FOR:

Greenply Industries Ltd
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23 Barakamba Road
New Delhi, India 110001
India

Attn: Mr Rakesh Budhiraja

SAMPLES DESCRIPTION:

The following Laminated Board Samples were submitted by Greenply Industries Ltd on 20 April 2011 for testing.

Laminated Board samples	Approximate Dimensions	Quantity
	50 mm x 50 mm x 12 mm	12 pcs
	100mm x 100mm x 12mm	4 pcs
	100mm x 100mm x 12mm (with 6.9mm hole at the centre)	6 pcs
	230 mm x 230 mm x 12 mm	13 pcs
	250 mm x 250 mm x 12 mm	4 pcs
	250 mm x 50 mm x 12 mm	16 pcs
	70 mm x 70 mm x 12 mm	10 pcs
	100mm x 80mm x 12mm	6 pcs



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TEST METHODS:

BS EN 438-2 : 2005

High-pressure decorative laminates (HPL) - Sheets based on thermosetting resins (Usually called Laminates) - Part 2 : Determination of properties

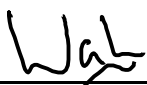
1. Determination of thickness
Nominal specimen dimensions : 50mm x 50mm x 12mm
No. of determinations : 2
2. Resistance to surface wear
Nominal specimen dimensions : 100mm x 100mm x 12mm
(with a hole of 6mm at the centre)
No. of determinations : 2
3. Resistance to immersion in boiling water
Nominal specimen dimensions : 50mm x 50mm x 12mm
No. of determinations : 3
4. Resistance to water vapour
Nominal specimen dimensions : 50mm x 50mm x 12mm
No. of determinations : 1
5. Resistance to dry heat
Nominal specimen dimensions : 230mm x 230mm x 12mm
No. of determinations : 1
6. Dimensional stability at elevated temperature
Nominal specimen dimensions : 250mm x 250mm x 12mm
No. of determinations : 8
7. Dimensional stability at ambient temperature
Nominal specimen dimensions : 250mm x 250mm x 12mm
No. of determinations : 8
8. Resistance to impact by large diameter ball
Nominal specimen dimensions : 230mm x 230mm x 12mm
No. of determinations : 5
9. Resistance to crazing (Compact laminates)
Nominal specimen dimensions : 230mm x 230mm x 12mm
No. of determinations : 2
10. Resistance to Staining
Nominal specimen dimensions : 250mm x 250mm x 12mm
Reagent used : a) Acetone (16h)
b) Coffee (16h)
c) 25% Sodium Hydroxide (10min)
d) 30% Hydrogen Peroxide (10min)
e) Shoe Polish (10min)
No. of determinations : 2
11. Lightfastness (xenon arc)
Nominal specimen dimensions : 100 mm x 80 mm x 12 mm
Duration : 100 hrs
No. of determinations : 1
12. Resistance to cigarette burns
Nominal specimen dimensions : 230 mm x 230 mm x 12 mm
No. of determinations : 1


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TEST RESULTS:

S/N	Characteristics	Unit	Results / Observations
1.	Determination of thickness	mm	12.19
2.	Resistance to surface wear	revolution	1150
3.	Resistance to immersion in boiling water	% % -	0.6 (increase in mass) 0.3 (increase in thickness) Rating 5 : no visible change in appearance
4.	Resistance to water vapour	-	Rating 5 : No visible change.
5.	Resistance to dry heat	-	Rating 5 : No visible change
6.	Dimensional stability at elevated temperature	%	0.15 (Machine Direction) 0.05 (Cross- machine Direction)
7.	Dimensional stability at ambient temperature	%	0 (Machine Direction) 0.05 (Cross- machine Direction)
8.	Resistance to impact by large diameter ball	-	No visible surface cracking was observed at 3 meters
9.	Resistance to crazing (Compact laminates)	-	Rating 5 : Surfaces and edges unchanged from 'as received' condition
10.	Resistance to Staining a) Acetone (16h) b) Coffee (16h) c) 25% Sodium Hydroxide (10min) d) 30% Hydrogen Peroxide (10min) e) Shoe Polish (10min)	-	a) Rating 5 : No visible change b) Rating 5 : No visible change c) Rating 5 : No visible change d) Rating 5 : No visible change e) Rating 4 : Slight change of gloss and/or colour, only visible at certain viewing angles
11.	Lightfastness (xenon arc), 100hrs	-	Greater than grade 4
12.	Resistance to cigarette burns	-	No visible discolouration, cracks or blisters was observed


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March 2010