PSB Singapore

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SUBJECT:

Testing of fibre cement boards submitted by Everest Industries Ltd

TESTED FOR:

Everest Industries Limited The Genesis, A-32 Mohan Cooperative Industrial Estate Mathura Road New Delhi 110048 India

Attn: Mr Subrata Dutta

TEST METHODS:

 Adopted ASTM D1037 : 2006a Standard Test Methods for Evaluating Properties of Wood-Base Fiber and Particle Panel Materials

Section 11 - Tension Perpendicular To Surface (Internal Bond)

Cross-reference ASTM D4541 : 2009 Standard Test Method For Pull-Off Strength Of Coatings Using Portable Adhesion Testers

Cross-reference BS EN 319: 1993 - Particleboards And Fibreboards - Determination Of Tensile Strength Perpendicular To The Plane Of The Board

 Adopted ASTM D1037 : 2006a Standard Test Methods for Evaluating Properties of Wood-Base Fiber and Particle Panel Materials

Section 16 - Direct Screw Withdrawal

DESCRIPTION OF SAMPLE:

Fibre Cement board 'Everest Heavy Duty Board'

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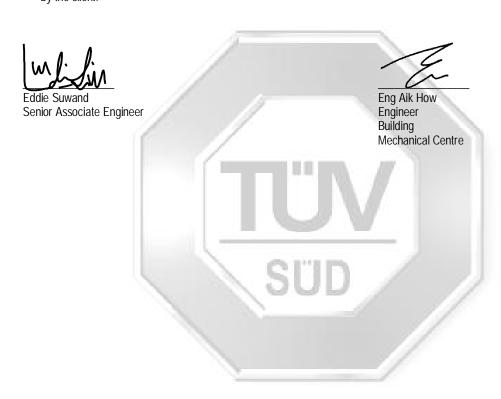
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REMARKS:

- The test samples were cut to 50 mm x 50 mm from 305 mm x 152 mm and stacked to a thickness of 25 mm minimum (3-ply) with epoxy adhesive for inter laminar bond strength test.
 2.
 - a. The test samples 152 mm x 76 mm were stacked to a thickness of 25 mm minimum (2-ply) with epoxy adhesive for direct screw withdrawal test.
 - b. The screw was embedded to 16 threads or 17 mm depth into the test sample.
- 3. The average values of two directions for inter laminar bond strength and direct screw withdrawal tests are reported as requested by the client.





TEST RESULTS:

'Everest Heavy Duty Board', size 50 mm x 50 mm, 3-ply

Section 11 - Tension Perpendicular To Surface (Internal Bond)

Direction : Grain

Crosshead speed: 5 mm/min

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Sample Reference	1	2	3
Maximum Load (N)	1847.57	1808.93	1976.15
Length of Specimen (mm)	50	50	50
Width of Specimen (mm)	50	50	50
Inter Laminar Bond Strength (MPa)	0.74	0.72	0.79
Average Inter Laminar Bond Strength (MPa)		0.75	

Direction : Across Grain	AL OFTE		
Sample Reference	DUD DUD	2	3
Maximum Load (N)	2070.98	2123.54	2043.73
Length of Specimen (mm)	50	50	50
Width of Specimen (mm)	50	50	50
Inter Laminar Bond Strength (MPa)	0.83	0.85	0.82
Average Inter Laminar Bond Strength (MPa)	0.83		

Average Inter Laminar Bond Strength, two directions (MPa)	0.79
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TEST RESULTS:

'Everest Heavy Duty Board', size: 152 mm x 76 mm, 2-ply

Section 16 - Direct Screw Withdrawal

Direction : Grain

Crosshead speed: 1.5 mm/min

Sample Reference	1	2	3	4	5
Maximum Load (N)	1668.49	1696.07	1849.37	1614.32	1585.37
Average Maximum Load (N)			1682.72		

Direction : Across Grain

Sample Reference	1	2	3	4	5
Maximum Load (N)	1821.28	1778.67	1810.04	1964.02	1719.35
Average Maximum Load (N)		SUID	1818.67		

Average Maximum Load, two directions (N)	-1 11	1750.70
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