

Laboratory Center for Testing and Evaluation of Wood Composites, IPIRTI,  
Yeshwanthpur, Tumkur Road, Bangalore, Karnataka

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-6595 (in lieu of T-1578 & T-1579)

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Validity 17.12.2017 to 16.12.2019

Last Amended on --

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
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**CHEMICAL TESTING**

I.	<b>BUILDING MATERIALS</b>				
1.	<b>Phenolic and Amino Resins (BWP, BWR, MR Grade)</b>	Cyclic Boil Dry Test	IS 848:2006 Cl.no.4,7.3.2	Qualitative	
		pH	IS 848:2006 Cl.no.7.4, Annexure B	1 to 14	
2.	<b>Shuttering Plywood</b>	Moisture content	IS 1734 (Part I): 1983 (RA 2008)	1 % to 20 %	
		Density	IS 1734 (Part I): 1983 (RA 2008)	500 kg/m <sup>3</sup> to 900 kg/m <sup>3</sup>	
		<b>Preservative Chemical</b>			
		Copper	IS 2753 (Part I): 1991 (RA 2010)	0.1 kg/m <sup>3</sup> to 40 kg/m <sup>3</sup>	
		Chromium	IS 2753(Part I): 1991 (RA 2010)	0.1 kg/m <sup>3</sup> to 40 kg/m <sup>3</sup>	
		Arsenic	IS 2753(Part I): 1991 (RA 2010)	0.1 kg/m <sup>3</sup> to 10 kg/m <sup>3</sup>	
		Boron	IS 2753(Part I): 1991 (RA 2010)	0.1 kg/m <sup>3</sup> to 5 kg/m <sup>3</sup>	
		Total Preservative Retention of Chemicals	IS 4990:2011 IS 2753 (Part I): 1991 (RA 2010)	0.1 kg/m <sup>3</sup> to 40 kg/m <sup>3</sup>	
3.	<b>Marine Plywood</b>	Moisture content	IS 1734 (Part I): 1983 (RA 1998)	0.1 % to 20 %	
		Density	IS 1734 (Part I): 1983 (RA 1998)	500 kg/m <sup>3</sup> to 900 kg/m <sup>3</sup>	
		<b>Preservative Chemical</b>			
		Copper	IS 2753(Part I):1991 (RA 2010)	0.1 kg/m <sup>3</sup> to 40 kg/m <sup>3</sup>	
		Chromium	IS 2753(Part I):1991 (RA 2010)	0.1 kg/m <sup>3</sup> to 40 kg/m <sup>3</sup>	

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		Arsenic	IS 2753 (Part I) :1991 (RA 2010)	0.1 kg/m <sup>3</sup> to 10 kg/m <sup>3</sup>
		Boron	IS 2753(Part I): 1991 (RA 2010)	0.1 kg/m <sup>3</sup> to 5 kg/m <sup>3</sup>
		Total Preservative Retention of Chemicals	IS 710:2010 IS 2753 (Part I): 1991 (RA 2010)	0.1 kg/m <sup>3</sup> to 40 kg/m <sup>3</sup>

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**MECHANICAL TESTING**

I.	<b>BUILDING MATERIALS</b>				
1.	<b>General Purpose Plywood</b>	Moisture content	IS 1734 (Part I): 1983 (RA 1998)	0.1 % to 20 %	
		Glue adhesion			
		Resistance to water (Cyclic test)	IS 303:1989, Amd. 4	Qualitative	
		Adhesion of plies	IS 1734 (Part 5):1983 RA 2008	Qualitative	
		Resistance to Micro-organisms, Adhesion of plies		Qualitative	
		<b>Modulus of elasticity</b>		IS 1734 (Part 11):1983 RA 2008	1 MPa to 12000 MPa
		Along the grain			1 MPa to 12000 MPa
		Across the grain			
2.	<b>Shuttering Plywood/Marine Plywood</b>	Moisture content	IS 1734 (Part I): 1983 (RA 2008)	0.1 % to 20 %	
		<b>Glue adhesion strength in Dry State</b>	IS 1734 (Part 4) :1983 (RA 2008)	1 N to 4000 N	
		Glue shear strength			
		Adhesion of plies (Knife test)	IS 1734 (Part 5) :1983 (RA 2008)	Qualitative	
		<b>Resistance to water (After 72 hr. of boiling)</b>	IS 1734 (Part 4 and Part 6): 1983 (RA 2008)	1 N to 4000N	
		Glue shear strength			
Adhesion of plies (Knife test)	IS 1734 (Part 5 and Part 6): 1983 (RA 2008)	Qualitative			

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		<b>Mycological test</b>		
		Glue shear strength	IS 1734 (Part 4 and Part 7): 1983 (RA 2008)	1 N to 4000 N
		Adhesion of plies (Knife test)	IS 1734 (Part 5 and Part 7): 1983 (RA 2008)	Qualitative
		<b>Tensile test</b>	IS 1734 (Part 9):1983 (RA 2008)	
		Along the grain		1 to 120 MPa
		Across the grain		1 to 120 MPa
		Sum of tensile strengths		1 to 240 MPa
		<b>Modulus of elasticity</b>		
		Along the grain	IS 1734 (Part 11):1983 (RA 2008)	1 to 12000 MPa
		Across the grain		1 to 12000 MPa
		<b>Modulus of Rupture</b>	IS 1734 (Part 11) : 1983 (RA 2008)	
		Along the grain		1 to 120 MPa
		Across the grain		1 to 120 MPa
3.	<b>Flush Door/Panel Door Shutters</b>	<b>Performance tests</b>		
		Dimensions	IS 4020 (Part 2):1998 (RA 2008)	1 mm to 2500 mm
		Thickness	IS 4020 (Part 2) :1998 (RA 2008)	0.01 mm to 50 mm
		Squareness	IS 4020 (Part 2):1998 (RA 2008)	0.1 mm to 5 mm
		General flatness	IS 4020 (Part 3):1998 (RA 2008)	0.5 to 10 mm
		Local planeness	IS 4020 (Part 4):1998 (RA 2008)	0.1 mm to 2 mm
		Impact indentation	IS 4020 (Part 5):1998 (RA 2008)	0.1 mm to 2 mm
		End immersion test	IS 4020 (Part 13):1998 (RA 2008)	Qualitative
		Glue adhesion test	IS 4020 (Part 15):1998 (RA 2008)	Qualitative

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		Knife test	IS 4020 (Part 14):1998 (RA 2008)	Qualitative
		Slamming test	IS 4020 (Part 10):1998 (RA 2008)	Qualitative
		Flexure test	IS 4020 (Part 6):1998 (RA 2008)	1 mm to 100 mm
		Shock resistance test	IS 4020 (Part 8):1998 (RA2008)	Qualitative
		Buckling test	IS 4020 (Part 9):1998 (RA 2008)	1 mm to 100 mm
		Edge loading test	IS 4020 (Part 7):1998 (RA 2008)	1 mm to 100 mm
		Screw withdrawal strength	IS 4020 (Part 16):1998 (RA 2008)	1 N to 6000 N
		Misuse test	IS 4020 (Part 11):1998 (RA 2008)	Qualitative
		<b>Varying humidity test</b>		
		No Visible Twisting or delamination	IS 4020 (Part 12):1998 (RA 2008)	Qualitative
		Max Departure from general purpose		0.1 mm to 5 mm
		Recovery		0.1 % to 100 %
4.	<b>Block Board</b>	Dimensional changes caused by humidity	IS 1659 :2004 (RA 2009)	1 mm to 200 mm Qualitative
		Resistance to water		Qualitative
		Adhesion of plies		Qualitative
		Mycological test		Qualitative
		Modulus of elasticity		1 to 12000 MPa
		Modulus of rupture		1 to 120 MPa