

Laboratory Hindustaan Test House, Plot No. 36, Sector-1, HSIIDC IGC Saha, Ambala, Haryana

Accreditation Standard ISO/IEC 17025: 2017

Certificate Number TC-7509

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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.	INDUSTRIAL & FINE CHEMICALS			
1.	Formaldehyde-37%	Acidity as formic acid	IS 3321:1973 (RA 2015) (Appendix A-2)	0.001 % to 5.0 %
		Aldehyde content as HCHO	IS 3321:1973 (RA 2015) (Appendix A-3)	25.0 % to 40.0 %
2.	Phenol	Assay	IS 538:2000 (RA 2015) (Appendix D-2)	10 % to 99.5 %
3.	Extenders for use in Synthetic Resin adhesive	Moisture Content	IS 1508:1972 (RA 2014) (Appendix B)	0.01 % to 25 %
		Ash Content	IS 1508:1972 (RA 2014) (Appendix C)	0.01 % to 7 %
4.	Synthetic Resin Adhesive	Acidity and Alkalinity (pH)	IS 848:2006 (RA 2017) Amd.2 (Annex B)	1 to 13
5.	Block Boards/ Timber Panel & Glazed Shutters	Spot Test	IS 1659:2004 (RA 2014) Amd.2 (Annex - L) IS 1003 (Part 1): 2003 (RA 2018) (Annex B)	Qualitative (Visual)
6.	Particle Board	Formaldehyde content	IS 13745:1993 (RA 2013) Amd.1	3 mg/100g to 100 mg/100g
II.	WATER			
1.	Construction Water	Volume of 0.02 N NaOH require to neutralize 100 ml of water	IS 3025 (Part 22): 1986 (RA 2019)	0.1 ml to 50 ml
		Volume of 0.02 N H ₂ SO ₄ require to neutralize 100 ml of water	IS 3025 (Part 23): 1986 (RA 2019)	0.1 ml to 50 ml

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		Organic Solids	IS 3025 (Part 18) 1984 (RA 2017)	10 mg/l to 1000 mg/l
		Inorganic Solids	IS 3025 (Part 18) 1984 (RA 2017)	10 mg/l to 1000 mg/l
		pH value	IS 3025 (Part 11) 1983 (RA 2017)	3 to 12
		Suspended Solids	IS 3025 (Part 17) 1984 (RA 2017)	10 mg/l to 4000 mg/l
		Chloride	IS 3025 (Part 32) 1988 (RA 2019)	0.5 mg/l to 4500 mg/l
		Sulphate	IS 3025 (Part 24) 1986 (RA 2019)	1 mg/l to 4000 mg/l
III.	BUILDING MATERIALS			
1.	Aggregates	Alkali Aggregate Reactivity	IS 2386 (Part 7): 1963 (RA 2016)	2.5 millimoles/l to 2500 millimoles/l
		Total Alkali Content, Na ₂ O & K ₂ O	IS 4032:1985 (RA 2019)	0.02 % to 3.5 %
		Total Sulphate Content, SO ₃	IS 4032:1985 (RA 2019)	0.003 % to 5.0 %
		Water Soluble Chloride Content	IS 14959 (Part 2): 2001 (RA 2016)	0.001 % to 1.0 %

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MECHANICAL TESTING

I.	WOOD AND WOOD PRODUCT			
1.	Plywood	Dimensions a) Length b) Width c) Thickness d) Squareness e) Edge straightness	IS 303-1989 (RA 2013) Amd.6 IS 710:2010 (RA 2017) IS 4990:2011 (RA 2017) IS 1328:1996 (RA 2017) Amd.6 IS 5509:2000 (RA 2015) Amd.3 IS 10701:2012 (RA 2017)	1000 mm to 2500 mm 600 mm to 1800 mm 2 mm to 45 mm Upto 5 % Upto 5 %
		Moisture Content	IS 1734 (Part 1): 1983 (RA 2013)	Upto 25 %
		Defects	IS 303:1989 (RA 2013) Amd.6	Qualitative (Visual)
		Density	IS 1734 (Part 1): 1983 (RA 2013)	200 kg/m ³ to 1200 kg/m ³
		Retention of Preservative	IS 2753 (Part 1): 1991 Method-I (RA 2015)	4 kg/m ³ to 25 kg/m ³
		Glue Adhesion a) Glue Shear strength b) Mycological Test c) Water Resistance Test	IS 1734 (Part 4): 1983 (RA 2013) IS 1734 (Part 7): 1983 (RA 2013) IS 1734 (Part 6): 1983 (RA 2013) & Relevant IS	100 N to 30 KN Qualitative (Visual) Qualitative (Visual)
		Static Bending Strength a) Modulus of Rupture b) Modulus of Elasticity	IS 1734 (Part 11): 1983 (RA 2013)	10 N/mm ² to 200 N/mm ² 500 N/mm ² to 50000 N/mm ² (UTM Capacity: 100 kN)

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		Maximum Load Modulus of Rapture Modulus of Elasticity	IICL TB-001	700 lbf to 2400 lbf 4000to14500 psi 400000to1450000 psi
		Boiling Test	IICL TB-001	Qualitative (Visual)
		Tensile Strength	IS 1734 (Part 9): 1983 (RA 2013)	10to 200 N/mm ² (UTM Capacity to 100kN)
		Adhesion of Plies	IS 1734 (Part 5): 1983 (RA 2013)	Qualitative (Visual)
		Fire Resistance Test	IS 1734 (Part 3): 1983 (RA 2013)	5 to 60 min
		Cyclic Test	IS 848:2006 (RA 2017) Amd.2	Qualitative (Visual)
2.	Block Boards	Dimensions Length Width Thickness Squareness Edge straightness Thickness Variation	IS 1659:2004 (RA 2014) Amd.2	1000 mm to 2500 mm 600 mm to 1800 mm 2 mm to 45 mm Upto 5 % Upto 5 % Upto 5 mm
		Dimensions Change Caused By Humidity	IS: 1659-2004(RA 2014) Amd.2	0.10 mm to 25 mm
		Resistance to Water	IS: 1659-2004(RA 2014) Amd.2	Qualitative (Visual)
		Adhesion of Plies	IS: 1659-2004(RA 2014) Amd.2	Qualitative (Visual)
		Mycological Test	IS: 1659-2004(RA 2014) Amd.2	Qualitative (Visual)
		Modulus of Rupture Modulus of Elasticity	IS: 1659-2004(RA 2014) Amd.2 IS: 1659-2004(RA 2014) Amd.2	10 N/mm ² to 200 N/mm ² 500 N/mm ² to 50000 N/mm ² (UTM Capacity to 100kN)

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3.	Flush Door Shutter/ Timber Panelled and Glazed Shutters	Dimensions a)Height b)Width c)Thickness d)Squareness e) Thickness Variation	IS 4020 (Part 2): 1998 (RA 2018) IS 2202 (Part 1): 1999 (RA 2017) Amd.4 IS 1003 (Part 1): 2003 (RA 2018)	1000 mm to 2500 mm 600 mm to 1800 mm 2 mm to 45 mm Upto 5 % Upto 5 mm
		General Flatness Test	IS 4020 (Part 3): 1998 (RA 2018)	0.1 mm to 15 mm
		Local Planeness Test	IS 4020 (Part 4): 1998 (RA 2018)	0.01 mm to 5 mm
		Impact Indentation Test	IS 4020 (Part 5): 1998 (RA 2018)	0.01 mm to 5 mm
		Flexure Test	IS 4020 (Part 6): 1998 (RA 2018)	1 to 50mm
		Edge Loading Test	IS 4020 (Part 7): 1998 (RA 2018)	2 to 50 mm
		Shock Resistance Test	IS 4020 (Part 8): 1998 (RA 2018)	Observation
		Buckling Test	IS 4020 (Part 9): 1998 (RA 2018)	2 mm to 50 mm
		Slamming Test	IS4020 (Part 10): 1998 (RA 2018)	Qualitative (Visual)
		Misuse Test	IS4020 (Part 11): 1998 (RA 2018)	Qualitative (Visual)
		Varying Humidity Test	IS4020 (Part 12): 1998 (RA 2018)	0.01 mm to 2500 mm
		End Immersion Test	IS 4020 (Part 13): 1998 (RA 2018)	Qualitative (Visual)
		Knife Test	IS4020 (Part 14): 1998 (RA 2018)	Qualitative (Visual)
		Glue Adhesion Test	IS4020 (Part 15): 1998 (RA 2018)	Qualitative (Visual)
		Screw Withdrawal Resistance Test	IS4020 (Part 16): 1998 (RA 2018)	100 N to 50 kN

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Convenor

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Program Manager

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4.	Plain and Pre-laminated Particle & MDF Boards	Dimensions a) Length b) Width c) Thickness d) Squareness e) Edge straightness f) Dubbing	IS 2380 (Part 2) 1977 (RA 2013)	500 mm to 3000 mm 200 mm to 2000 mm 2 mm to 48 mm Upto 5 % Upto 5 % Upto 5mm
		Density	IS 2380 (Part 3): 1977 (RA 2013)	400 kg/m ³ to 1400 kg/m ³
		Moisture Content	IS 2380 (Part 3): 1977 (RA 2013)	Upto 25%
		Water Absorption Test	IS 2380 (Part 16): 1977 (RA 2013)	2 to 60 %
		Swelling in Water	IS 2380 (Part 17): 1977 (RA 2013)	0.5 to 25%
		Swelling due to surface absorption	IS 2380 (Part 17): 1977 (RA 2013)	0.5 to 25%
		Modulus of Rupture	IS 2380 (Part 4): 1977 (RA 2013)	10 N/mm ² to 100 N/mm ² (UTM Capacity to 100kN)
		Modulus of Elasticity	IS 2380 (Part 4): 1977 (RA 2013)	500 N/mm ² to 15000 N/mm ² (UTM Capacity to 100kN)
		Tensile Strength perpendicular to surface	IS 2380 (Part 5): 1977 (RA 2013)	Upto 25 N/mm ² (UTM Capacity to 100kN)
		Screw Withdrawal Strength	IS 2380 (Part 14): 1977 (RA 2013)	50 N to 20 kN
		Abrasion Resistance Test	IS 12823:2015 Amd.1 IS 14587:1998 (RA 2013) Amd.8	20 to 1500 revolution
		Resistance to Steam	IS 12823:2015 Amd.1 IS 14587:1998 (RA 2013) Amd.8	Qualitative (Visual)

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		Crack Resistance Test	IS 12823:2015 Amd.1 IS 14587:1998 (RA 2013) Amd.8	Qualitative (Visual)
		Resistance to Cigarette Burn Test	IS 12823-2015 Amd.1 IS 14587:1998 (RA 2013) Amd.8	Qualitative (Visual)
		Resistance to Stain Test	IS 12823-2015 Amd.1 IS 14587:1998 (RA 2013) Amd.8	Qualitative (Visual)
5.	Resin Treated Compressed Wood Laminates	Specific Gravity	IS 1708 (Part 2): 1986 (RA 2015)	0.6 to 1.6
		Moisture Content & Volatile Matter	IS 1708 (Part 1): 1986 (RA 2015)	Upto 25 %
		Water Absorption at 27 ± 2°C	IS 3513 (Part 4): 1966 (RA 2014) (Cl. 3.1)	0.2 % to 10.0 %
		Sporadic Working Temperature	IS 3513 (Part 4): 1966 (RA 2014) (Cl. 3.2)	Qualitative (Visual)
		Tensile Strength	IS 1734 (Part 9): 1983 (RA 2013)	10 MPa to 250 MPa (UTM Capacity to 100 kN)
		Static Bending Strength	IS 1998:1962 (RA 2013) (Cl. 6) Amd.1	10 MPa to 250 MPa (UTM Capacity to 100 kN)
		Hardness (Rockwell H Scale)	IS 1586 (Part 3): 2012 (RA 2017)	30to110
		Impact Strength	IS 1998:1962 (RA 2013) (Cl. 9) Amd.1	0.01 kgtom to1.0 kgtom
6.	Timber and Timber Product	Moisture content	IS 287:1993 (RA 2017) IS 1708 (Part 1): 1986 (RA 2015) IS 11215:1991 (RA 2015) (Cl. 4)	Upto 30 %
		Density	IS 1708 (Part 2): 1986 (RA 2015)	200 kg/m ³ to 1200 kg/m ³
		Volumetric shrinkage	IS 1708 (Part 3): 1986 (RA 2015)	1 % to 10 %

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		Tensile strength parallel to grain	IS 1708 (Part 12): 1986 (RA 2015)	0.1 N/mm ² to 100 N/mm ² (UTM Capacity to 100kN)
		Tensile strength perpendicular to grain	IS 1708 (Part 13): 1986 (RA 2015)	0.1 N/mm ² to 100 N/mm ² (UTM Capacity to 100kN)
		Nail & Screw Holding Power	IS 1708 (Part 15): 1986 (RA 2015)	100 N to 50 KN
II.	BUILDING MATERIAL			
1.	Concrete Paving Blocks	Visual Inspection	IS 15658:2006 (RA 2017) (Cl. 7.1)	Qualitative (Visual)
		Dimensions	IS 15658:2006 (RA 2017) (Annex-B)	10 mm to 5000 mm
		Water absorption	IS 15658:2006 (RA 2017) (Annex-C)	0.5 % to 25 %
		Compressive strength	IS 15658:2006 (RA 2017) (Annex-D)	10 N/mm ² to 500 N/mm ²
		Abrasion Resistance	IS 15658:2006 (RA 2017) (Annex-E)	1000 mm ³ to 50000 mm ³ /5000 mm ²
		Flexure Strength/ Breaking Load	IS 15658:2006 (RA 2017)	2 N/mm ² to 15 N/mm ²
		Tensile Splitting Strength	IS 15658:2006 (RA 2017)	2 N/mm ² to 30 N/mm ²
		Freeze-Thaw Durability	IS 15658:2006 (RA 2017)	Qualitative (Visual)
2.	Building Bricks	Dimensions	IS 3495:1992 (RA 2016)	100 to 5000 mm
		Water absorption	IS 3495:1992 (RA 2016)	5 % to 30 %
		Compressive strength	IS 3495 (Part 1): 1992 (RA 2016)	2 N/mm ² to 25 N/mm ²
3.	Door Closure	Endurance Test (with Conditioning)	IS 3564:1995 (RA 2013)	Qualitative (Visual Upto 900000 cycles)
		Visual Inspection (Nominal Size, Door	IS 3564:1995 (RA 2013)	Qualitative (Visual)

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		Cloer test after conditioning, Fitting of main Arm to Shaft, The Nut/Top Lid Assembly, Speed Regulator, Finish and Surface)		
		Performance Requirement	IS 3564:1995 (RA 2013)	Door swing back angle of $20^{\circ} \pm 5^{\circ}$ with closing time between 5 to 20 seconds
4.	Aggregates (Coarse)	Sieve Analysis	IS 2386 (Part 1): 1963 (RA 2016) Amd.4	0 to 100 % (80 mm to 4.75 mm)
		Flakiness Index	IS 2386 (Part 1): 1963 (RA 2016) Amd.4	1 % to 60 %
		Elongation Index	IS 2386 (Part 1): 1963 (RA 2016) Amd.4	1 % to 60 %
		Specific Gravity	IS 2386 (Part 3): 1963 (RA 2016)	1.5 g/cc to 3.5 g/cc
		Water Absorption	IS 2386 (Part 3): 1963 (RA 2016)	0.1 % to 10 %
		Bulk Density	IS 2386 (Part 3): 1963 (RA 2016)	1 g/cc to 2.5 g/cc
		Crushing Value	IS 2386 (Part 4): 1963 (RA 2016) Amd.3	5 % to 60 %
		10% fine Value	IS 2386 (Part 4): 1963 (RA 2016) Amd.3	50 kN to 400 kN
		Impact value	IS 2386 (Part 4): 1963 (RA 2016) Amd.3	5 % to 60 %
		Los Angles abrasion	IS 2386 (Part 4): 1963 (RA 2016) Amd.3	5 % to 60 %
		Soundness Test	IS 2386 (Part 5): 1963 (RA 2016)	0 to 30 %
5.	Aggregates (Fine)	Sieve Analysis	IS 2386 (Part 1): 1963 (RA 2016) Amd.4	0 to 100 % (10 mm to 150 μ)

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		Soundness Test	IS 2386 (Part 5): 1963 (RA 2016)	0 to 30 %
		Deleterious Material	IS 2386 (Part 1): 1963 (RA 2016) Amd.4 IS 2386 (Part 2): 1963 (RA 2016) Amd.1	1 % to 50 %
		Organic Impurities	IS 2386 (Part 2): 1963 (RA 2016) Amd.1	Qualitative (Visual)
		Specific Gravity	IS 2386 (Part 3): 1963 (RA 2016)	1.5 g/cc to 3.5 g/cc
		Water Absorption	IS 2386 (Part 3): 1963 (RA 2016)	0.1 % to 10%
		Bulk Density	IS 2386 (Part 3): 1963 (RA 2016)	1 g/cc to 2.5 g/cc
6.	Concrete Tiles	Dimensions	IS 1237: 2012 (RA 2017) IS 13801: 2013 (RA 2018)	10 mm to 500 mm
		Flatness	IS 1237: 2012 (RA 2017)	0.038 mm to 5 mm
		Perpendicularity	IS 1237: 2012 (RA 2017)	0.019 % to 5 %
		Straightness	IS 1237: 2012 (RA 2017)	0.019 % to 3 %
		Water Absorption	IS 1237: 2012 (RA 2017)	1 % to 20 %
		Wet Transverse Strength	IS 1237: 2012 (RA 2017)	1 N/mm ² to 15 N/mm ²
		Resistance to wear	IS 1237: 2012 (RA 2017)	0.1 mm to 10 mm
7.	Concrete Cube	Compressive strength	IS 516:1959 (RA 2013)	0.5 N/mm ² to 85 N/mm ²