

Laboratory Unique Test House, Village Sarsini, P.O. Lalru, Tehsil Derabassi, Mohali, Punjab

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-5616 (In lieu of T-1365 & T-1366)

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Validity 24.05.2017 to 23.05.2019

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. METALIC COATING & TREATMENT SOLUTIONS				
1.	Surface Coating	Galvanizing Zinc Coating (Thickness/Wt)	IS 6745-1994 / RA 2006	1 gm/m ² to 800 gm/m ²
		Uniformity	IS 2633-1986 / RA 2006	Qualitative
II. METALS & ALLOYS				
1.	Carbon Steel (Steel)	Carbon	IS:228 P-1	0.05 % to 1.0 %
		Silicon	IS:228 P-8	0.05 % to 2.0 %
		Manganese	IS:228 P-2	0.5 % to 2.0 %
		Sulphur	IS:228 P-9	0.005 % to 0.5 %
		Phosphorus	IS:228 P-3	0.008 % to 0.5 %
		Chromium	IS:228 P-6	0.1 % to 20.0 %
		Molybdenum	IS:228 P-7	0.05 % to 2.0 %
		Nickel	IS:228 P-5	0.5 % to 10.0 %
		Copper	IS 228 P-15	0.1 % to 2.0 %
		2.	Low Alloy Steel	Carbon
Silicon	IS:228 P-8			0.01 % to 1.5 %
Manganese	IS:228 P-2			0.02 % to 2.0 %
Sulphur	IS:228 P-9			0.005 % to 0.5 %
Phosphorus	IS:228 P-3			0.008 % to 0.5 %
Chromium	IS:228 P-6			0.10 % to 2.0 %
Molybdenum	IS:228 P-7			0.5 % to 2.0 %
3.	Cast Iron/ DI Casting	Nickel	IS:228 P-5	0.01 % to 2.0 %
		Carbon	IS:228 P-1	0.05 % to 10 %
		Silicon	IS:228 P-8	0.05 % to 3.0 %
		Manganese	IS:228 P-2	0.05 % to 2.0 %
		Sulphur	IS:228 P-9	0.01 % to 0.8 %
		Phosphorus	IS:228 P-3	0.005 % to 0.5 %

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4.	Aluminium & Its Alloys	Copper	IS:504	0.5 % to 5 %
		Magnesium	IS:504	0.1 % to 12 %
		Iron	IS:504	0.05 % to 2 %
		Nickel	IS:504	0.05 % to 2 %
		Manganese	IS:504	0.1 % to 1.5 %
		Zinc	IS:504	0.1 % to 4 %
		Chromium	IS:504	0.1 % to 0.5 %
		Silicon	IS:504	0.5 % to 10 %
		Copper	IS:11123	10 mg/kg to 2000 mg/kg
		Magnesium	IS:12491	10 mg/kg to 120 mg/kg
		Iron	IS:13320	10 mg/kg to 20 mg/kg
		Nickel	IS:12122	10 mg/kg to 20 mg/kg
		Manganese	IS:12046	10 mg/kg to 15 mg/kg
		Zinc	IS:9958	10 mg/kg to 40 mg/kg
5.	Copper & Its Alloys	Chromium	IS:13319	10 mg/kg to 2.5 mg/kg
		Lead	IS:12074	10 mg/kg to 5000 mg/kg
a.	(Brass)	Tin	IS 3685	0.5 % to 10 %
		Lead	IS:4027(P-11) IS 3685	0.1 % to 10 %
		Iron	IS:4027(P-8 IS 3685	0.1 % to 2 %
		Nickel	IS:4027(P-6) IS 3685	0.5 % to 10 %
		Manganese	IS 3685	0.5 % to 3.6 %
		Phosphorus	IS:4027(P-3) IS 3685	0.1 % to 0.5 %
		Zinc	IS:4027(P-6) IS 3685	30 % to 45 %
		Copper	IS 3685	40 % to 80 %
		Lead	IS:12074	10 mg/kg to 200 mg/kg
		Iron	IS:13320	10 mg/kg to 10 mg/kg
		Manganese	IS:12046	10 to 40 mg/kg
		Zinc	IS:9958	10 to 450 mg/kg

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b.	Bronzes	Tin	IS 3685	0.5 % to 12 %
		Lead	IS:4027(P-11) IS 3685	0.1 % to 20 %
		Iron	IS:4027(P-8) IS 3685	0.1 % to 1 %
		Nickel	IS:4027(P-6) IS 3685	0.5 % to 20 %
		Manganese	IS 3685	0.1 % to 4 %
		Phosphorus	IS:4027(P-3) IS 3685	0.1 % to 0.5 %
		Zinc	IS:4027(P-6) IS 3685	30 % to 45 %
		Copper	IS 3685	40 % to 80 %
		Lead	IS:12074	10 mg/kg to 200 mg/kg
		Iron	IS:13320	10 mg/kg to 10 mg/kg
		Manganese	IS:12046	10 mg/kg to 40 mg/kg
		Zinc	IS:9958	10 mg/kg to 450 mg/kg

Malancha Das
Convenor

N. Venkateswaran
Program Director

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MECHANICAL TESTING

I. MECHANICAL PROPERTIES OF METALS				
1.	Ferrous & Non-Ferrous Alloy (CI Fittings, Sanitary Fittings, Valves, Steel Tubes & Sockets, Structural Steel, HSD/TMT bar, Square/Hollow Sections, Widow sections as per Relevant Product Standards)	i) Tensile Strength	IS 1608 (UTH/SOP/M/002)01	Upto 600 kN
		Yield Strength/ 0.2% Proof Stress)		Upto 300 kN
		% Elongation		Upto 60 %
		ii) Brinell Hardness	IS 1500-1	Upto 350 HBW
		iii) Rockwell Hardness	IS 1586-1	20 HRC to 100 HRC
				20 HRB to 100 HRB
		iv) Bend	IS 1599 (UTH/SOP/M/OO3) 01	Qualitative Mandrel Dia. (2, 2.65, 3, 4, 5, 6, 7, 8, 9, 10, 12, 14, 15, 16, 18, 20, 22, 22.5, 24, 26, 27, 28, 30, 32, 34, 35, 36, 40, 42, 44, 46, 48, 50 mm)
II. PERFORMANCE/DURABILITY/ SAFETY TEST				
1.	Domestic Gas Stoves (For use with LPG)	Test on burners	IS 4246 IS 5116 CL.17 Annex D	10 l/h to 450 l/h
		a) Gas consumption	IS 4246	
		b)Thermal efficiency	CL.26 Annex F IS 4246	64 % to 85 %
III. BUILDINGS MATERIALS				
1.	CI Fittings, Sanitary Fittings, Valves, Steel Tubes & Sockets,	Dimensions –Linear Measurements	UTH/SOP/M/001/01	Upto 3000 mm Upto 5000 mm Upto 15000 mm

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	Structural Steel, HSD/TMT bar, Square/Hollow Sections, Widow sections as per relevant product Standards	Diameter Width Length		Upto 200 mm Upto 300 mm Upto 1500 mm
		Thickness		Flat 25mm to 50 mm Pointed Upto 25 mm End Upto 25 mm
		Angle measurement (Angular Measurement, Webb Off Center & Sweep)	IS 1852 IS 7452	Upto 360 °
		Thread Gauging (1 BA to 6")	IS 554 IS 2643	Qualitative
2.	CI Fittings, Sanitary Fittings, Valves, Steel Tubes & Sockets, Structural Steel, HSD/TMT bar, Square/Hollow Sections, Widow Sections as per Relevant Product Standards	Mass	UTH/SOP/M/004/01	Upto 600 gm Upto 10 Kg Upto 200 Kg
3.	MCI Pipe Fittings	Compression NB: 12.5- 150mm	IS 1879	Qualitative
4.	MS/GI Tubes & Sockets	Flattening OD: 10 – 600mm	IS 2328	Qualitative
		Drift Expansion Test OD:15-150 mm	IS 2335	Qualitative
5.	Wooden Flush Door Shutter	Length	IS 4020(Pt.-2)	500 mm to 2500 mm
		Width	IS 4020(Pt.-2)	200 mm to 1500 mm
		Thickness		25 mm to 50 mm
		Squarness	IS 4020(Pt.-2)	0.02 mm to 5 mm

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		General Flatness Test	IS 4020(Pt.-3)	0.03 mm to 10 mm
		Local Planeness Test	IS 4020(Pt.-4)	0.01 mm to 5 mm
		Slamming Test	IS 4020(Pt.-10)	Qualitative (Visual)
		End Immersion Test	IS 4020(Pt.-13)	Qualitative (Visual)
		Impact Indentation Test	IS 4020(Pt.-5)	0.01 mm to 5 mm
		Flexure Test	IS 4020(Pt.-6)	10 mm to 150 mm
		Edge Loading Test	IS 4020(Pt.-7)	0.1 mm to 25 mm
		Shock Resistance Test	IS 4020(Pt.-8)	Qualitative (Visual)
		Buckling Resistance Test	IS 4020(Pt.-9)	1 mm to 100 mm
		Misuse Test	IS 4020(Pt.-11)	Qualitative (Visual)
		Varying Humidity Test	IS 4020(Pt.-12)	0.1 mm to 25 mm
		Glue Adhesion Test	IS 4020(Pt.-15)	0 to 150 mm
		Screw Withdrawal Test	IS 4020(Pt.-16)	50 N to 5000 N
		Knife Test	IS 4020 (Pt.-14)	Qualitative (Visual)
6.	Adhesives for Pasting Gypsum Wall Board to Wood Framing Synthetic Resin Adhesive for Plywood	Cyclic Test	IS 848	Qualitative (Visual)
		pH Value	IS 848	0.05 to 10
IV.	WOOD AND WOOD PRODUCTS			
1.	Plywood, Marine Ply, Concrete Shuttering Ply, Veneered Decorative Ply	Length	IS 303 IS 710 IS 4990 IS 1328	500 mm to 2500 mm
		Width	IS 303 IS 710 IS 4990 IS 1328	100 mm to 500 mm

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		Thickness	IS 303 IS 710 IS 4990 IS 1328	2 mm to 30 mm
		Squareness	IS 303 IS 710 IS 4990 IS 1328	0.03 mm to 10 mm
		Straightness	IS 303 IS 710 IS 4990 IS 1328	0.03 mm to 10 mm
		Modulus of Rapture	IS 1734(Pt.-11)	5 N/mm ² to 150 N/mm ²
		Modulus of Elasticity	IS 1734(Pt.-11)	500 N/mm ² to 15000 N/mm ²
		Glue Shear Strength	IS 1734(Pt.-4)	10 N to 5000 N
		Adhesive of Plies	IS 1734(Pt.-5)	Qualitative
		Knife Test after Water Resistance Test	IS 1734(Pt.-5)	Qualitative
		Water Resistance Test	IS 1328	Qualitative
		Tensile Strength	IS 1734(Pt.-9)	5 N/mm ² to 100 N/mm ²
		Mycological Test	IS 1734(Pt.-7)	Qualitative
2.	Fire Retardant Ply	Flammability	IS 1734(Pt.-3)	5 Minutes to 60 Minutes
		Flame penetration	IS 1734(Pt.-3)	5 Minutes to 60 Minutes
		Rate of Burning	IS 1734(Pt.-3)	5 Minutes to 60 Minutes
3.	Block Board	Spot Test	IS 1659	Qualitative (Visual)

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