Laboratory	**National Building Material Lab, Raipur-Bilaspur Road, Urkura Chouk, Urkura Nagar, Rawabhata Village, Raipur, Chhattisgarh**
Accreditation Standard	**ISO/IEC 17025: 2005**
Certificate Number	**TC-7769** **Page 1 of 4**
Validity	**30.08.2018 to 29.08.2020** **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

MECHANICAL TESTING

I.	**METALS & ALLOYS**			
1.	**Ferrous & Non-Ferrous**	**Tensile Testing** Tensile Strength Yield Strength % of Elongation % of reduction	 IS 1608 IS 1786	 40 kN to 1000 kN 40 kN to 1000 kN 15 % to 40 % 40 % to 60 %
		Bend Test	IS 1599	Diameter of Mandrel 16 mm, 25 mm, 36 mm, 32 mm, 24 mm, 50 mm, 45 mm, 32 mm, 60 mm, 130 mm, 145 mm, 155 mm, 220 mm, 225 mm, 280 mm
		Rebend Test	IS 1786	Diameter of Mandrel 16 mm, 25 mm, 36 mm, 32 mm, 24 mm, 50 mm, 45 mm, 32 mm, 60 mm, 130 mm,145 mm, 155 mm, 220 mm, 225 mm, 280 mm
		Nominal mass (TMT)	IS 1786	0.1 kg/m to 10 kg/m
2.	**Steel (Structural Steel, Plate, Pipes & Tubes)**	**Dimension** Depth Flange Width Thickness of web Thickness of Flange	IS 808	4 mm to 250 mm
3.	**Welded Steel Plate & Pipe**	Transverse Tensile strength	ASME (Sec IX) IS 3600 (Part 3)	40 N/mm^2 to 1000 N/mm^2

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		Tensile Testing Longitudinal Tensile testing on Cylindrical test piece Tensile Strength Yield/ Proof Strength % of Elongation	IS 3600 (Part 4)	 40 kN to 1000 kN 40 kN to 1000 kN 15 % to 40 %
		Transverse Side Bend Test	ASME (Sex IX) IS 3600 Part 6	Diameter of Mandrel 16 mm, 25 mm, 36 mm, 32 mm, 24 mm, 50 mm, 45 mm, 32 mm, 60 mm, 130 mm, 145 mm, 155 mm, 220 mm, 225 mm, 280 mm
II.	**BUILDING MATERIAL**			
1.	**Aggregate (Fine)**	Sieve Analysis	IS 2386(Part 1)	10 mm to 0.150 mm (Upto 100 %)
		Specific gravity	IS 2386(Part 3)	2 to 4
		Water absorption	IS 2386 (Part 3)	0.1 % to 10 %
		Bulk Density(Loose)	IS 2386(Part 3)	500 kg/m^3 to 3000 kg/m^3
		Bulk Density(Compacted)	IS 2386(Part 3)	500 kg/m^3 to 3000 kg/m^3
2.	**Aggregate (Coarse)**	Sieve Analysis	IS 2386(Part 1)	125 mm to 4.75 mm (Upto 100 %)
		Specific gravity	IS:2386(Part 3)	2 to 4
		Water absorption	IS 2386 (Part 3)	0.1% to 10%
		Flakiness Index	IS 2386(Part 1)	1 % to 50 %
		Elongation Index	IS 2386(Part 1)	1 % to 50 %
		Impact Value	IS 2386(Part 4)	1 % to 50 %
		Crushing Value	IS 2386(Part 4)	1 % to 50 %

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		Los Angles Abrasion Value	IS 2386(Part 4)	1 % to 60 %
		10% Fine Value	IS 2386(Part 4)	1 t to 50 t
3.	**Cement OPC, PPC, PSC**	Consistency, %	IS:4031(Part 4)	20 % to 40 %
		Initial Setting Time	IS 4031(Part 5)	30 min to 500 min
		Final Setting Time	IS 4031(Part 5)	30 min to 600 min
		Fineness by Blain Air Permeability	IS 4031(Part 2)	200 m^2/kg to 600 m^2/kg
		Soundness by Lechatlier	IS 4031(Part 3)	0.1mm to10 mm
		Soundness by Autoclave	IS 4031(Part 3)	0.01 % to 2.0 %
		Compressive Strength, N/mm^2	IS 4031(Part 6)	5 N/mm^2 to 80 N/mm^2
4.	**Hardened concrete**	Compresive Strenght	IS 516	1 N/mm^2 to 80 N/mm^2
5.	**Burnt Clay Building Bricks\Fly Ash Bricks**	Dimention	IS 1077	20 mm to 6000 mm
		Water Absorption	IS 3495 (Part 2)	1 % to 50 %
		Compressive strength N/mm^2	IS 3495 (Part 1)	1 N/mm^2 to 20 N/mm^2
		Efflorescence	IS 3495 (Part 3)	Qualitative (Visual)
6.	**Soil**	Moisture Content	IS 2720(Part 2)	1 % to 65 %
		Liquid Limit	IS 2720(Part 5)	10 % to 200 %
		Plastic limit, %	IS 2720(Part 5)	NP to 80 %
		Specific gravity	IS 2720(Part 3/Sec-1)	2 to 4
		Sieve Analysis	IS 2720(Part 4)	0.075 mm to 125 mm (Upto 100 %)

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		Compact Test:- Light Compaction	IS 2720(Part 7)	MDD 1.2 gm/cc to 3.0 gm/cc OMC 4 % to 30 %
		Compact Test:- Heavy Compaction	IS 2720(Part 8)	MDD 1.2 gm/cc to 3.0 gm/cc OMC 4 % to 30 %
		California Bearing Ratio	IS 2720(Part 16)	1 % to 50 %

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