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S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
I. BUILDING MATERIALS				
1.	**Coarse Aggregate**	Specific gravity	IS 2386 (Part 3)-1963, Reaffirmed 2011	1 to 6
		Bulk density	IS 2386 (Part 3)-1963, Reaffirmed 2011	1 g/cc to 2 g/cc
		Ten percent fines value	IS 2386 (Part 4)-1963, Reaffirmed 2011, Amd.3	5 kN to 250 kN
		Particle size distribution	IS 2386 (Part 1)-1963, Reaffirmed 2011, Amd.4	4.75 mm to 125 mm
		Water absorption	IS 2386 (Part 3)-1963, Reaffirmed 2011	0.1% to 10%
		Impact value	IS 2386 (Part 4)-1963, Reaffirmed 2011, Amd.3	5% to 60%
		Crushing value	IS 2386 (Part 4)-1963, Reaffirmed 2011, Amd.3	5% to 60%
		Elongation / Flakiness Index	IS 2386 (Part 1)-1963, Reaffirmed 2011, Amd.4	1% to 50%
		Abrasion Resistance (Los Angele's abrasion value)	IS 2386 (Part 4)-1963, Reaffirmed 2011, Amd.3	5% to 60%

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2.	**Fine Aggregate**	Specific gravity	IS 2386 (Part 3)-1963, Reaffirmed Apr 2011	1 to 6
		Bulkage	IS 2386 (Part 3)-1963, Reaffirmed Apr 2011	1% to 50%
		Determination of materials finer than 75 micron	IS 2386 (Part 1)-1963, Reaffirmed Apr 2011, Amd.4	0.1% to 50 %
		Bulk density	IS 2386 (Part 3)-1963, Reaffirmed 2011	0.5 to 4 g /cc
		Sieve analysis	IS 2386 (Part 1)-1963, Reaffirmed Apr 2011, Amd.4	75µ to 10 mm
		Water absorption	IS 2386 (Part 3)-1963, Reaffirmed Apr 2011	0.1% to 20 %
3.	**Concrete Core / Cube / Cylinder**	Determination of compressive strength	IS 456-2000, Reaffirmed Feb 2011, Amd.4 IS 516-1959 , Reaffirmed Oct 2008, Amd.2	5 N/mm^2 to 80 N/mm^2
4.	**Masonry Blocks**	Determination of density	IS 2185 (Part 1)- 2005, Reaffirmed Aug 2010	100 kg/m^3 to 2500 kg/m^3
		Determination of water absorption	IS 2185 (Part 1)- 2005, Reaffirmed Aug 2010	1% to 30 %
		Determination of compressive strength	IS 2185 (Part 1)- 2005, Reaffirmed Aug 2010	1 N/mm^2 to 30 N/mm^2

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5.	**Bricks**	Determination of water absorption	IS 3495 (Part 2)- 1992, Reaffirmed 2011	5% to 50%
		Determination of compressive strength	IS 3495 (Part 1)- 1992, Reaffirmed 2011	5 N/mm^2 to 50 N/mm^2
		Determination of efflorescence	IS 3495 (Part 3)- 1992, Reaffirmed 2011	Visual
6.	**Timber**	Determination of moisture content	IS 1708 (Part 1)- 1986, Reaffirmed 2010, Amd.2	1% to 30 %
		Determination of specific gravity	IS 1708 (Part 2)- 1986, Reaffirmed 2010, Amd.2	0.5 g/cc to 1.5g/cc
7.	**Particle Board**	Moisture content	IS 2380 (Part 3)- 1977, Reaffirmed Feb 2013, Amd.4	1% to 20%
		Density	IS 2380 (Part 3)- 1977, Reaffirmed Feb 2013, Amd.4	0.5 g/cc to 2 g/cc
8.	**Door Shutter**	Determination of measurement of dimension and squareness	IS 4020 (Part 2)- 1998, Reaffirmed Aug 2008, Amd.1	25 mm to 5000 mm
		Determination of measurement of general flatness	IS 4020 (Part 3)- 1998, Reaffirmed Aug 2008, Amd.1	0.1 mm to 5 mm
		Determination of test to examine the general planeness of the surface	IS 4020 (Part 4)- 1998, Reaffirmed Aug 2008, Amd.1	0.1 mm to 5 mm

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	Door Shutter	Determination of the impact indentation	IS 4020 (Part 5)- 1998, Reaffirmed Aug 2008	0.1 mm to 1 mm
		Determination of the deflection due to load applied at the edge (Edge loading test)	IS 4020 (Part 7)- 1998, Reaffirmed Aug 2008, Amd.1	1 mm to 25 mm
		Determination of the resistance to shock	IS 4020 (Part 8)- 1998, Reaffirmed Aug 2008, Amd.2	Visual
		Determination of the resistance to buckling	IS 4020 (Part 9)- 1998, Reaffirmed 2008	1 mm to 150 mm
		Determination of the resistance to misuse	IS 4020 (Part 11)- 1998, Reaffirmed 2008	Visual
		Determination of the effect on door shutter due to slamming actions	IS 4020 (Part 10)- 1998, Reaffirmed 2008	Visual
		Resistance to end immersion in water	IS 4020 (Part 13)- 1998, Reaffirmed 2008	Visual
		Glue adhesion strength with a knife	IS 4020 (Part 14)- 1998, Reaffirmed 2008	Visual
		Glue adhesion test	IS 4020 (Part 15)- 1998, Reaffirmed 2008	1 mm to 150 mm

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	Door Shutter	Determination of screw withdrawal resistance of door shutter	IS 4020 (Part 16)- 1998, Reaffirmed 2008	10 N to 5000 N
9.	**Cement**	Consistency	IS 4031 (Part 4)- 1988, Reaffirmed Jul 2009, Amd.2	10% to 50%
		Initial setting time	IS 4031 (Part 5)- 1988, Reaffirmed Jul 2009, Amd.2	5 minutes to 250 minutes
		Final setting time		30 minutes to 700 minutes
		Soundness by Le-Chatelier method	IS 4031 (Part 3)- 1988, Reaffirmed Jul 2009, Amd.2	1 mm to 30 mm
		Fineness by dry Sieving	IS 4031(Part 1)- 1996, Reaffirmed Feb 2011	1% to 30%
		Compressive strength	IS 4031(Part 6)- 1988, Reaffirmed Jul 2009, Amd.4 & IS 516-1959, Reaffirmed Oct 2008, Amd.2	5 N/mm^2 to 80 N/mm^2
		Fineness by specific surface by Blaine air permeability method	IS 4031 (Part 2)- 1999, Reaffirmed Oct 2008, Amd.1	200 m^2/kg to 500 m^2/kg
		Density	IS 4031 (Part 11)- 1988, Reaffirmed Jul 2009	1 g/cc to 4 g/cc
		Soundness by Autoclave method	IS 4031 (Part 3)- 1988, Reaffirmed Jul 2009, Amd.2	0.01% to 1%

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10.	**Bitumen**	Specific gravity	IS 1202-1978	0.5 to 2
		Penetration value	IS 1203-1978	0.1 to 400 (1/10 mm)
		Softening point	IS 1205-1978	5ºC to 90ºC
		Determination of Ductility	IS 1208-1978	1 cm to 100 cm
11.	**Pulverized Fuel Ash**	Standard Consistency	IS 4031 (Part 4)- 1988, Reaffirmed Jul 2009, Amd.2	1% to 45%
		Initial Setting Time	IS 4031 (Part 5)- 1988, Reaffirmed Jul-2009, Amd.2	5 minutes to 200 minutes
		Final Setting Time	IS 4031 (Part 5)- 1988, Reaffirmed Jul-2009, Amd.2	10 minutes to 700 minutes
		Sp. Gravity	IS 1727-1967, Reaffirmed Oct 2008, Amd.2	1 g/cc to 3 g/cc
		Fineness by specific surface by Blaine air permeability method	IS 1727-1967 , Reaffirmed Oct 2008, Amd.2	200 m^2/kg to 800 m^2/kg
		Fineness by wet sieving (Particles retained on 45 µ sieve)	IS 1727-1967, Reaffirmed Oct 2008, Amd.2	1 to 50 %
		Compressive Strength	IS 1727-1967, Reaffirmed Oct 2008, Amd.2	5 N/mm^2 to 80 N/mm^2

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S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
12.	**Plain, Chequered Cement Concrete Flooring Tiles**	Wet Transverse Test	IS 1237-1980 IS 13801-1993	1 N/mm^2 to 10 N/mm^2
		Water absorption		1% to 30%
		Resistance to wear		1 mm to 5 mm
13.	**Ceramic Tiles**	Determination of Water Absorption	IS 13630 (Part 2)- 1992	0.01% to 30%
		Determination of Modulus of Rupture	IS 13630 (Part 6)- 1993	5 N/mm^2 to 70 N/mm^2
		Determination of Crazing Resistance	IS 13630 (Part 9)- 1993	Visual
		Determination of Scratch Hardness surface according to Mohs'	IS 13630 (Part 13)- 1993	1 to 10 Mohs' Scale
14.	**Paving Block**	Water Absorption	IS 15658-2006, Reaffirmed Jul 2011, Amd.2	1% to 30%
		Compressive Strength		10 N/mm^2 to 70 N/mm^2
		Abrasion Resistance		500 mm^3 to 15000 mm^3
		Flexural Strength		1 N/mm^2 to 20 N/mm^2
15.	**Beam**	Flexural Strength	IS 516-1959, Reaffirmed Oct 2008, Amd.2	1 N/mm^2 to 15 N/mm^2

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16.	**Plywood**	Moisture content	IS 1734 (Part 1)-1983, Reaffirmed Feb 2013	1% to 20%
		Density	IS 1734 (Part 1)-1983, Reaffirmed Feb 2013	0.5 g/cc to 2 g/cc
		Adhesion of plies	IS 1734 (Part 5)-1983, Reaffirmed Feb 2013	Visual observation
		Water Resistance	IS 1734 (Part 6)-1983, Reaffirmed Feb 2013, Amd.2	Visual observation
17.	**Flyash**	Soundness by Autoclave method	IS 1727-1967, Reaffirmed Oct 2008, Amd.2	0.01% to 1%
18.	**Concrete cube**	Permeability test on concrete cube	DIN 1048 (Part 5) June 1991	1 mm to 150 mm
II. SOIL & ROCK TESTING				
1.	**Soil**	Classification of soil: 1) Water Content	IS 2720 (Part 2)- 1973, Reaffirmed May 2010, Amd.1	5% to 100%
		2) Grain Size Analysis	IS 2720 (Part 4)- 1985, Reaffirmed May 2010	75 µm to 80 mm
		3) Liquid Limit	IS 2720 (Part 5)- 1985, Reaffirmed May 2010	5% to 60%

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	Soil	4) Plastic Limit	IS 2720 (Part 5)- 1985, Reaffirmed May 2010	5% to 60%
		5) Shrinkage limit	IS 2720 (Part 6)- 1972, Reaffirmed Dec 2011, Amd.1	1% to 30 %
		Determination of water content-Dry density relation using light compaction	IS 2720 (Part 7)- 1980, Reaffirmed Dec 2011, Amd.2	Maximum dry density 1.1 g/cc to 3 g/cc Optimum Moisture content 1% to 50%
		Determination of water content-Dry density relation using heavy compaction	IS 2720 (Part 8)- 1983, Reaffirmed May 2010	Maximum dry density 1.0 g/cc to 3 g/cc Optimum Moisture content 5% to 50%
		Field determination of California Bearing Ratio	IS 2720 (Part 31)- 1990, Reaffirmed May 2010	1% to 80%
		Laboratory determination of California Bearing Ratio	IS 2720 (Part 16)- 1987, Reaffirmed Dec 2011	1% to 60%
		Determination of dry density of soil in place, by the sand replacement method	IS 2720 (Part 28)- 1974, Reaffirmed May 2010, Amd.1	1 g/cc to 3 g/cc
		Determination of dry density of soils in place by the core-cutter method	IS 2720 (Part 29)- 1975, Reaffirmed May 2010	1000 kg/m^3 to 3000 kg/m^3

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	Soil	Determination of free Swell Index of soils	IS 2720 (Part 40)- 1977, Reaffirmed Dec 2011	1% to 80%
		Specific Gravity	IS 2720 (Part 3)- 1980, Reaffirmed Dec 2011	1 to 3
		Standard Penetration test	IS 2131-1981, Reaffirmed Dec 2011	N Value 1 to 60
		Plate Load test	IS 1888- 1982, Reaffirmed Dec 2011	0.1 mm to 25 mm 1 km to 50 km
2.	**Natural Building Stones / Rocks**	Specific Gravity	IS 1122-1974, Reaffirmed Jan 2013	1 to 4
		Water Absorption	IS 1124-1974, Reaffirmed Jan 2013	0.1% to 20%
		Porosity	IS 1124-1974, Reaffirmed Jan 2013	1% to 50%
		Determination of Unconfined Compressive Strength of Rock materials	IS 9143-1979, Reaffirmed Apr 2011	5 N/mm^2 to 100 N/mm^2

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III. MECHANICAL PROPERTIES OF MATERIALS				
1.	**Steel**	Tensile test:		
		1) Tensile Strength	IS 1608-2005,	300 N/mm^2 to 800 N/mm^2
		2) Yield Strength (Pointed Draw Method)	Reaffirmed Aug 2009, Amd.1	300 N/mm^2 to 800 N/mm^2
		3) % Elongation		5% to 70%
		Weight / Meter	IS 1786-2008, Reaffirmed Jan 2013, Amd.1	0.20 kg/m to 10 kg/m
		Bend	IS 1599-1985	12 mm to 320 mm mandrels
		Rebend	IS 1599-1985	12 mm to 320 mm mandrels

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Anand Deep Gupta
Accreditation Officer-I

John Varughese
Technical Manager