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SI.	Product / Material	Specific Test	Test Method Specification	Range of Testing /
	of Test	Performed	against which tests are	Limits of Detection
			performed	

MECHANICAL TESTING

I.	BUILDINGS MATERIALS			
1.	Concrete	Compressive strength	IS 516-1959 (RA 2013)	5 N/mm ² to 80 N/mm ²
 		Slump Test	IS 1199-1959 (RA 2013)	1 mm to 200 mm
2.	Paver Block	Compressive strength	IS 15658:2006 (RA 2016)	1 N/mm ² to 65 N/mm ²
		Water Absorption	IS 15658:2006 (RA 2016)	0.5 % to 30 %
3.	Bricks (Burnt clay)	Compressive strength	IS 3495-1992,(Part 1) (RA 2011)	1.0 N/mm ² to 30.0 N/mm ²
		Water absorption	IS 3495-1992,(Part 2) (RA 2011)	1 % to 30 %
		Efflorescence	IS 3495-1992,(Part 3) (RA 2011)	Qualitative
		Dimension	IS 1077-1992 (RA 2011)	L=100mm to 5000 mm W=50mm to 2500 mm H=40mm to 2000 mm
4.	Bitumen			
Α.	Bitumen	Softening Point	IS 1205-1978 (RA 2014)	40°C to 150 °C
		Penetration	IS 1203-1978 (RA 2014)	1 Div. to 400 1/10 th
		Ductility	IS 1208-1978 (RA 2014)	10 cm to 100 cm
		Absolute Viscosity	IS 1206(Part-2)-1978 (RA 2004)	360 Poise to 4000 Poise
		Kinematic viscosity	IS 1206(Part-3)-1978 (RA 2004)	60 cst to 600 cst
		Specific Gravity	IS 1202:1978 (RA 2014)	0.8 to 1.5

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SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
В.	Bituminous Mix	Marshal Stability	ASTM D 6927-05	1 kN to 25 kN
		Flow Value	ASTM D 6927-05	1 mm to 6 mm
		Binder Content	ASTM D 2172:2011	1 % to 10 %
[Density	ASTM D 2014:2011	1.5 g/cc to 3.0 g/cc
5.	Aggregates			
A.	Coarse	Sieve Analysis	IS 2386-1963,(Part 1),	1% to 100 %
	Aggregates		(RA 2016)	(4.75 mm to 80 mm)
		Specific Gravity	IS 2386-1963,(Part 3), (RA 2016)	1.5.0 to 3.5
		Water absorption	IS 2386-1963,(Part 3), (RA 2016)	0.1 % to 10 %
		Flakiness Index	IS 2386-1963,(Part 1), (RA 2016)	2 % to 40 %
		Elongation Index	IS 2386-1963,(Part 1), (RA 2016)	2 % to 40 %
		Impact Value	IS 2386-1963,(Part 4), (RA 2016)	1 % to 50 %
		Crushing Value	IS 2386:1963 (Part 4) (RA 2016)	1 % to 60 %
		Bulk Density	IS:2386-1963 (Part-3) (RA 2016)	1.2 gm/cc to 2.5 gm/cc
В.	Fine Aggregates	Sieve Analysis	IS 2386-1963,(Part-1), (RA 2016)	1 % to 100 % (75 Micron to 4.75 mm)
		Specific Gravity	IS 2386-1963 (Part-3), (RA 2016)	1.5 to 3.5
		Water absorption	IS 2386-1963,(Part-3), (RA 2016)	0.1 % to 10 %
		Bulk Density	IS:2386-1963(Part-3) (RA 2016)	1.2 gm/cc to 2.5 gm/cc
6.	Cement (OPC/PPC)	Consistency	IS 4031-1988,(Part-4) (RA 2016)	10 % to 40 %
		Initial Setting Time	IS 4031-1988,(Part-5) (RA 2014)	30 minute to 300minute
		Final Setting time	IS 4031-1988,(Part-5) (RA 2014)	30 minute to 600 minute

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		Compressive strength	IS 4031-1988,(Part-6) (RA 2014)	10 N/mm ² to 80 N/mm ²
		Soundness with Le- Chattalier method	IS 4031-1988,(Part-3), (RA 2014)	0.5 mm to 10 mm
		Blain air Permeability	IS 4031-1999 (Part 2), (RA 2013)	100 m ² /kg to 600 m ² /kg
II.	MECHANICAL PRO	PERTIES OF METAL		
1.	Steel (Reinforcing and Structural Steel)	Yield Strength UltimateStrength	IS 1608 (Part 1)-2018 IS 1608 (Part 1)-2018	20kN to 1000kN Load 100 N/mm² to 800 N/mm²
		Elongation	IS 1608 (Part 1)-2018	5 % to 80 %
		Nominal Mass	IS 1786-2008	0.1kg/m to 10 Kg/m
		Bend Test	IS 1786-2008 IS 1599-2012	8mm to 20 mm (Mandrel-16, 20, 24, 30, 32, 36, 40, 48, 50 56, 60, 64, 75, 80, 96, 100, 125, 128, 150, 160, 192) Qualitative
		Re Bend Test	IS 1786-2008	8 mm to 20 mm (Mandrel-32, 40, 48, 50, 56, 60, 72, 84, 96, 112, 120, 140, 150, 160) Qualitative
III.	SOIL & ROCK			
1.	Soil	Grain Size analysis	IS 2720 (P 04)-1985 (RA 2015)	75micron to 4.75mm
		Liquid limit	IS 2720 (P-5)-1985, (RA 2015)	25 % to 300 %
		Plastic Limit	IS 2720 (P-5)-1985, (RA 2015)	NP to 80 %
		Specific Gravity	IS 2720 (P-3)-1980, (RA 2011)	2.0 to 3.0

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		Light Compac	MDD	IS 2720 (P 7)-1980, (RA 2011)	1.2 gm/cc to 2.5 gm/cc
		tion	OMC	IS 2720 (P 7)-1980, (RA 2011)	5 % to 40 %
		Heavy Compac	MDD	IS 2720 (P 8)-1980, (RA 2015)	1.4 gm/cc to 2.8 gm/cc
		tion	OMC	IS 2720 (P 8)-1980, RA 2015	5 % to 40 %
		California Bearing Ratio		IS 2720 (P 16)-1987 (RA 2011)	1 % to 60 %
		Direct Shear	Cohesion (C)	IS 2720 (Part 13)-1986 (RA 2011)	0.01 kg/cm ² to 4 kg/cm ²
			Angle of internal friction(phi)	IS 2720 (Part 13)-1986 (RA 2011)	Upto 45 ⁰
		Free Swell Index Unconfined Compressive Strength		IS 2720 (P 40)-1977 (RA 2011)	1 % to 300 %
				IS 2720 (Part 10)-1991 (RA 2010)	0.1 kg/cm ² to 3 kg/cm ²

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