Laboratory	**Pragna Test House and Engineering Services Private Limited (Engineering Laboratory), Sy. No. 454 & 492, NH-16, Boppudi, Chilakaluripet, Guntur, Andhra Pradesh**
Accreditation Standard	**ISO/IEC 17025: 2005**
Certificate Number	**TC-7749** ***(in lieu of T-4126)*** **Page 1 of 4**
Validity	**22.09.2018 to 21.09.2020** **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

MECHANICALTESTING

I.	**BUILDING MATERIALS**			
1.	**Fine Aggregate**	Sieve Analysis	IS 2386-1963 (RA 2011) Part 1	10 mm to 75 µm
		Specific Gravity	IS 2386-1963 (RA 2011) Part 3	2 to 4
		Bulk Density Loose	IS 2386-1963 (RA 2011) Part 3	1000 kg/m^3 to 2500 kg/m^3
		Bulk Density Rodded	IS 2386-1963 (RA 2011) Part 3	1000 kg/m^3 to 2500 kg/m^3
		Materials finer than 75 microns	IS 2386-1963 (RA 2011) Part 1	0.1 % to 20 %
		Water Absorption	IS 2386-196 (RA 2011) Part 3	0.1 % to 5 %
		Bulking	IS 2386-1963 (RA 2011) Part 3	1 % to 20 %
2.	**Coarse Aggregate**	Sieve Analysis	IS 2386-1963 (RA 2011) Part 1	75 mm to 4.75 mm
		Specific Gravity	IS 2386-1963 (RA 2011) Part 3	2 to 4
		Flakiness Index	IS 2386-1963 (RA 2011) Part 1	0.1 % to 50 %
		Elongation Index	IS 2386-1963 (RA 2011) Part 1	0.1 % to 50 %
		Impact value	IS 2386-1963 (RA 2011) Part 4	5 % to 50 %
		Crushing value	IS 2386-1963 (RA 2011) Part 4	5 % to 50 %

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3.	**Bricks**	Water absorption	IS 3495-1992 (RA 2011) Part-2	1 % to 20 %
		Compressive strength	IS 3495-1992 (RA 2011) Part-1	2 MPa to 50 MPa
4.	**Concrete**	Compressive strength	IS 516-1959 (RA 2013)	5 MPa to 80 MPa
5.	**Cement**	Consistency	IS 4031 (Part 4)-1988 (RA 2014)	20 % to 50 %
		Initial setting time	IS 4031 (Part 5)-1988 (RA 2014)	30 minutes to 400 minutes
		Final setting time	IS 4031 (Part 5)-1988 (RA 2014)	30 minutes to 800 minutes
		Fineness (Blane's method)	IS 4031 (Part 2)-1999 (RA 2013)	100 m^2/kg to 600 m^2/kg
		Compressive strength	IS 4031 (Part 6)-1988 (RA 2014)	10 Mpa to 70 Mpa
		Soundness (Le-Chatelier's method)	IS 4031 (Part 3)-1988 (RA 2014)	0.5 mm to 10 mm
		Density	IS 4031 (Part 11)-1988 (RA 2014)	2.7 g/cc to 3.3 g/cc
6.	**Concrete Blocks Hollow / Solid**	Dimensional Analysis	IS 2185 (Part 1)-2005 (RA 2010)	50 mm to 450 mm
		Water absorption	IS 2185 (Part 1)-2005 (RA 2010)	1 % to 20 %
		Compressive Strength	IS 2185 (Part 1)-2005 (RA 2010)	5 MPa to 70 MPa
		Block Density	IS 2185 (Part 1)-2005 (RA 2010)	1000 kg/m^3 to 2200 kg/m^3
7.	**Pavers Block**	Water Absorption	IS 15658-2006 (RA 2011)	0.1% to 20 %
		Compressive Strength	IS 15658-2006 (RA 2011)	5 MPa to 70 MPa
8.	**Bitumen**	Softening Point	IS 1205-1978 (RA 2009)	30 °C to 120 °C
		Penetration	IS 1203-1978 (RA 2008)	(50 to 100) (1/10)th mm

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		Ductility	IS 1208-1978 (RA 2009)	5 cm to 100 cm
		Specific Gravity	IS 1202-1978 (RA 2008)	0.8 to 1.2
9.	**Bitumen Emulsion**	Residue by sieving on 600 Micron	IS 8887-2004 (RA 2014)	0.01 % to 0.1 %
		Viscosity	IS 8887-2004 (RA 2014)	10 sec to 500 sec
		Storage Stability	IS 8887-2004 (RA 2014)	0.01 % to 2.0 %
		Miscibility with water	IS 8887-2004 (RA 2014)	Qualitative
		Particle charge	IS 8887-2004 (RA 2014)	Qualitative
		% Residue by Evaporation	IS 8887-2004 (RA 2014)	50 % to 100 %
		Penetration	IS 8887-2004 (RA 2014)	(50 to 100) (1/10)th mm
		Ductility	IS 8887-2004 (RA 2014)	5 cm to 100 cm
II.	**SOIL & ROCK**			
1.	**Soil**	Liquid Limit	IS 2720 (Part 5) 1985 (RA 2015)	15 % to 150 %
		Plastic Limit.	IS 2720 (Part 5) 1985 (RA 2015)	10 % to 70 %
		Moisture Content	IS 2720 (Part 2) 1973 (RA 2015)	1 % to 30 %
		Grain Size Analysis by sieving	IS 2720 (Part 4) 1985 (RA 2015)	4.75 mm to 0.075 mm
		Standard Proctor Compaction	IS 2720 (Part 7) 1985 (RA 2015)	OMC =6 % to 30 % MDD =1.2 g/cc to 2.2 g/cc
		Modified proctor Compaction	IS 2720 (Part 8) 1985 (RA 2015)	OMC =5% to 25 % MDD =1.3 g/cc to 2.4 g/cc
		Specific Gravity	IS 2720 (Part 3, Sec 1 & 2) 1985 (RA 2015)	2.0 to 2.8
		Free Swell Index	IS 2720 (Part 40) 1977 (RA 2011)	0.5 % to 200 %
		California Bearing Ratio	IS 2720 (Part 16) 1987	0.5 % to 100 %

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		(CBR)	(RA 2011)	

Sachin Tomar
Convenor

Battal Singh
Program Manager