

Laboratory	Arun Soil Lab Pvt. Ltd., 636/110, Budh Vihar, Takrohi, Lucknow, Uttar Pradesh		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Mechanical Testing	Issue Date	13.01.2015
Certificate Number	T-2398	Valid Until	12.01.2017
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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.	SOIL AND ROCK			
1.	Soil	Particle Size Analysis	IS 2720 (Part 4): 1985 (RA 2006)	75 micron to 4.75 mm
		Atterberg's Limits	IS 2720 (Part 5): 1985 (RA 2006)	
		Liquid Limit		20 % to 80 %
		Plastic Limit		5 % to 40 %
		Moisture Content	IS 2720 (Part 2): 1973 (RA 2010)	1 % to 50 %
		Specific Gravity	IS 2720 (Part 3): 1980 (RA 2002)	2 to 3.5
		Direct Shear Test	IS 2720 (Part 13): 1986 (RA 2002)	0.05 kg/ cm ² to 0.5 kg/ cm ² 5 ° to 45 °
		Triaxial Compression Test	IS 2720 (Part 11): 1993 (RA 2011)	0.05 kg/ cm ² to 2.5 kg/ cm ² 5 ° to 45 °
		Unconfined Compressive Strength	IS 2720 (Part 10): 1991 (RA 2006)	0.1 Mpa to 2 Mpa
		Consolidation Test	IS 2720 (Part 15): 1986 (RA 2002)	0.005 Mpa to 1 Mpa
		California Bearing Ratio (CBR)	IS 2720 (Part 16): 1987 (RA 2002)	1 % to 70 %
		Proctor Test	IS 2720 (Part 7): 1980 (RA 2011)	MDD: 1.50 gm/cc to 3.00 gm/cc
		Light Compaction	IS 2720 (Part 8): 1983 (RA 2006)	OMC: 1 % to 20 %
		Heavy Compaction		MDD: 1.50 gm/cc to 3.00 gm/cc OMC: 1 % to 20 %
		Permeability	IS 2720 (Part 17): 1986 (RA 2002)	10 ⁻² cm/s to 10 ⁻⁷ cm/s
		Free Swell Index	IS 2720 (Part 40): 1977 (RA 2002)	1 % to 100 %
		Swelling Pressure	IS 2720 (Part 41): 1977 (RA 2002)	0.05 kg/cm ² to 2.5 kg/cm ²

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II. BUILDING MATERIALS				
1.	Aggregate (Coarse & Fine)	Sieve Analysis	IS 2386 (Part 1): 1963 (RA 2011)	6.00 mm to 100 mm
		Finer than 75 micron	IS 2386 (Part 1): 1963 (RA 2011)	1 to 15 %
		Flakiness Index	IS 2386 (Part I): 1963 (RA 2011)	1 % to 50 %
		Elongation Index	IS 2386 (Part I): 1963 (RA 2011)	1 % to 50 %
		Specific Gravity	IS 2386 (Part 3): 1963 (RA 2011)	2.00 to 3.50
		Water Absorption	IS 2386 (Part 3): 1963 (RA 2011)	0.1 % to 50 %
		Bulk Density	IS 2386 (Part 3): 1963 (RA 2011)	1 gm/cc to 5 gm/cc
		Crushing Value	IS 2386 (Part 4): 1963 (RA 2011)	1 % to 80 %
		Los Angles Abrasion Value	IS 2386 (Part IV): 1963 (RA 2011)	1 % to 80 %
		Impact Value	IS 2386 (Part 4): 1963 (RA 2011)	1 % to 50 %
		Soundness by Sodium Sulphate	IS 2386 (Part V): 1963 (RA 2011)	0.5 % to 20 %
		10 % Fine Value	IS 2386 (Part 4): 1963 (RA 2011)	50 kN to 250 kN
2.	Brick	Dimension	IS 1077: 1992 (RA 2007)	Length: 4600 ± 80 mm Width: 2200 ± 40 mm Height: 1400 ± 40 mm
		Compressive Strength	IS 3495 (Part 1): 1992 (RA 2011)	1 Mpa to 50 Mpa
		Water Absorption	IS 3495 (Part 2): 1992 (RA 2011)	0.1 % to 15 %
		Efflorescence	IS 3495 (Part 3): 1992 (RA 2011)	Qualitative

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3.	Cement (OPC & PPC)	Standard Consistency	IS 4031 (Part 4): 1988 (RA 2009)	20 % to 40 %
		Initial Setting Time	IS 4031 (Part 5): 1988 (RA 2009)	5 min to 300 min
		Final Setting Time	IS 4031 (Part 5): 1988 (RA 2009)	60 min to 600 min
		Soundness by Le Chatelier's	IS 4031 (Part 3): 1988 (RA 2009)	0 to 10 mm
		Fineness by blaine	IS 4031 (Part 2): 1999	200 m ² /kg to 500 m ² /kg
		Compressive Strength	IS 4031 (Part 7): 1988 (RA 2009)	1 Mpa to 65 Mpa
4.	Bitumen	Penetration	IS 1203: 1978	40 to 100
		Softening Point	IS 1205: 1978	40 ° C to 140 ° C
		Specific Gravity	IS 1202: 1978	0.5 to 1.5
		Flash Point	IS 1209: 1978	100 ° C to 350 ° C
		Fire Point	IS 1209: 1978	150 ° C to 350 ° C
		Ductility	IS 1208: 1978	5 cm to 100 cm

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