

Laboratory **KDM Engineers (India) Private Limited, D.No. 38-22-148, Ward No. 41A, Unit No. C1-C2, Survey No. 39, Kapparada (Vill.), Industrial Estate, Kancharapalem, Visakhapatnam, Andhra Pradesh**

Accreditation Standard **ISO/IEC 17025: 2017**

Certificate Number **TC-7644**

Page 1 of 3

Validity **19.08.2019 to 05.09.2020**

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
-----	----------------------------	-------------------------	---	--

MECHANICAL TESTING

I.	BUILDING MATERIALS			
1.	Fine Aggregate	Sieve Analysis	IS 2386 (Part 1)	10.0 mm to 0.15 mm
		Materials Finer than 75 micron	IS 2386 (Part 1)	0.1% to 30 %
		Water Absorption	IS 2386 (Part 3)	0.1 % to 10%
		Specific Gravity	IS 2386 (Part 3)	2.0 to 4.0
		Bulk Density	IS 2386 (Part 3)	1.0 kg/lit to 3.0 kg/lit
		Soundness	IS 2386 (Part 5)	0.1 % to 25 %
2.	Coarse Aggregate	Sieve Analysis	IS 2386 (Part 1)	80 mm to 2.36 mm
		Water absorption	IS 2386 (Part 3)	0.1 % to 10 %
		Specific Gravity	IS 2386 (Part 3)	2 to 4
		Bulk Density	IS 2386 (Part 3)	1.2 kg/lit to 2.6 kg/lit
		Flakiness Index	IS 2386 (Part 1)	1 % to 60 %
		Elongation Index	IS 2386 (Part 1)	1 % to 60 %
		Crushing Value	IS 2386 (Part 4)	5 % to 50 %
		Impact Value	IS 2386 (Part 4)	2 % to 50 %
		Los-Angeles Abrasion value	IS 2386 (Part 4)	5 % to 60 %
		Soundness	IS 2386 (Part 5)	0.1 % to 25 %
		10 % Fines Value	IS 2386 (Part 4)	50 kN to 250 kN
		Materials Finer than 75 micron	IS 2386 (Part 1)	0.1 % to 10 %
		3.	Hardened Concrete (Cube/Beam/Core)	Compressive Strength
Flexural Strength	IS 516			2 N/mm ² to 10 N/mm ²
Permeability	DIN 1048			Upto 100 mm
Accelerated Compressive Strength	IS 9013			5 N/mm ² to 95 N/mm ²

Laboratory

KDM Engineers (India) Private Limited, D.No. 38-22-148, Ward No. 41A, Unit No. C1-C2, Survey No. 39, Kapparada (Vill.), Industrial Estate, Kancharapalem, Visakhapatnam, Andhra Pradesh

Accreditation Standard ISO/IEC 17025: 2017

Certificate Number

TC-7644

Page 2 of 3

Validity

19.08.2019 to 05.09.2020

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
4.	Flyash Bricks/ Flyash Lime Bricks	Compressive Strength	IS 3495 (Part 1)	1.0 N/mm ² to 30 N/mm ²
		Water Absorption	IS 3495 (Part 2)	1 % to 35 %
		Dimension	IS 12894	L-4520 mm to 4680 mm W-2160 mm to 2240 mm H-1360 mm to 1440 mm
		Efflorescence	IS 3495 (Part 3)	Qualitative
5.	Burnt Clay Bricks	Compressive Strength	IS 3495 (Part 1)	1.0 N/mm ² to 30 N/mm ²
		Water Absorption	IS 3495 (Part 2)	1 % to 35 %
		Efflorescence	IS 3495 (Part 3)	Qualitative
		Dimension	IS 1077	L-4520 mm to 4680 mm W-2160 mm to 2240 mm H-1360 mm to 1440 mm
6.	Concrete Paving Blocks	Compressive Strength	IS 15658	10 N/mm ² to 75 N/mm ²
		Water Absorption	IS 15658	1 % to 30 %
7.	Hollow & Solid Concrete Blocks	Dimension	IS 2185 (Part 1)	L-200 mm to 450 mm W-100 mm to 250 mm H-100 mm to 250 mm
		Water Absorption	IS 2185 (Part 1)	1% to 35 %
		Compressive Strength	IS 2185 (Part 1)	2 N/mm ² to 35 N/mm ²
8.	Hollow and Solid light weight concrete Blocks	Dimension	IS 2185-(Part 2)	L-200 mm to 450 mm W-100 mm to 250 mm H-100 mm to 250 mm
		Water Absorption	IS 2185 (Part 2)	1 % to 35 %
		Compressive Strength	IS 2185 (Part 2)	2 N/mm ² to 35 N/mm ²
II.	SOIL & ROCK			
1.	Soil/GSB/WMM	Grain Size Analysis	IS 2720 (Part 4)	80 mm to 0.075 mm
		Liquid Limit	IS 2720 (Part 5)	10 % to 80 %
		Plastic Limit	IS 2720 (Part 5)	5 % to 50 %
		Free Swell Index	IS 2720 (Part 40)	1 % to 90 %

Laboratory KDM Engineers (India) Private Limited, D.No. 38-22-148, Ward No. 41A, Unit No. C1-C2, Survey No. 39, Kapparada (Vill.), Industrial Estate, Kancharapalem, Visakhapatnam, Andhra Pradesh

Accreditation Standard ISO/IEC 17025: 2017

Certificate Number TC-7644

Page 3 of 3

Validity 19.08.2019 to 05.09.2020

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
		Light Compaction MDD OMC	IS 2720 (Part 7)	1.0 g/cc to 3.00 g/cc 1.0 % to 30 %
		Heavy Compaction MDD OMC	IS 2720 (Part 8)	1.0 g/cc to 3.00 g/cc 1.0 % to 30 %
		Moisture Content	IS 2720 (Part 2)	0.1 % to 35 %
III.	MECHANICAL PROPERTIES OF METALS			
1.	Steel (Reinforcement/ Structural)	Mass per meter	IS 1786	0.1 kg/m to 9.5 kg/m
		Tensile Strength	IS 1608	100 N/mm ² to 900 N/mm ²
		0.2%Proof Stress/ Yield Strength	IS 1608	100 N/mm ² to 800 N/mm ²
		Elongation	IS 1608	10 % to 40 %
		Bend Test	IS 1599	Mandrel diameter in mm 24, 30, 32, 36, 40, 48, 50, 60, 64, 80, 100, 125, 128, 150, 160, 192
		Re bend Test	IS 1786	Mandrel diameter 32,40, 48, 50, 56, 60, 70, 72, 84, 96, 112, 120, 128, 140, 150, 160, 175,192, 200, 224, 256