

Laboratory Indian Testing Centre Pvt. Ltd., 101, Sashco Bhawan, Azadpur, Delhi

Accreditation Standard ISO/IEC 17025: 2005

Discipline Mechanical Testing **Issue Date** 24.10.2014

Certificate Number T-1699 **Valid Until** 23.10.2016

Last Amended on - **Page** 1 of 9

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.	Cement	Fineness by Blaine air Permeability	IS 4031(Part 2): 1999 (RA 2008)	100 m ² /kg to 400 m ² /kg
		Setting Time (Initial & Final)	IS 4031 (Part 5): 1988 (RA 2009)	5 min. to 600 min.
		Density	IS 4031(Part 11): 1988 (RA 2009)	1 g/cc to 3.5 g/cc
		Consistency	IS 4031(Part 4):1988 (RA 2009)	10 % to 50 %
		Soundness – Le Chatelier Expansion	IS 4031(Part 3): 1988 (RA 2009)	0.5 mm to 12 mm
		Soundness – Autoclave Expansion	IS 4031(Part 3): 1988 (RA 2009)	0.01% to 4 %
		Compressive Strength	IS 4031(Part 6): 1988 (RA 2009)	5 MPa to 80 MPa
2.	Pozzolonic Materials	Fineness	IS 1727: 1967 (RA 2008)	100 m ² /kg to 600 m ² /kg
		Specific Gravity	IS 1727: 1967 (RA 2008)	1 to 3
		Retention on 45 µm sieve	IS 1727: 1967 (RA 2008)	0 % to 100 %
3.	Coarse Aggregates	Specific Gravity	IS 2386 (Part 3): 1963 (RA 2011)	1.5 to 3.0
		Bulk Density	IS 2386 (Part 3): 1963 (RA 2011)	1 kg/L to 2.5 kg/L

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Certificate Number T-1699 **Valid Until** 23.10.2016
Last Amended on - **Page** 2 of 9

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	Coarse Aggregates	Surface Moisture	IS 2386 (Part 3): 1963 (RA 2011)	0.1 % to 2 %
		Water Absorption	IS 2386 (Part 3): 1963 (RA 2011)	0.1% to 5 %
		Flakiness Index	IS 2386 (Part 1): 1963 (RA 2011)	1 % to 90 %
		Elongation Index	IS 2386 (Part 1): 1963 (RA 2011)	1 % to 90 %
		Material finer than 75 µm	IS 2386 (Part 1): 1963 (RA 2011)	0.1% to 20 %
		Clay & Lumps	IS 2386 (Part 2): 1963 (RA 2011)	0 % to 10 %
		Organic Impurities	IS 2386 (Part 2): 1963 (RA 2011)	Qualitative (Visual Observations Lighter to Darker)
		Soundness	IS 2386 (Part 5): 1963 (RA 2011)	0.1 % to 20 %
		Impact Value	IS 2386 (Part 4): 1963 (RA 2011)	10 % to 60 %
		Sieve Analysis	IS 2386 (Part 1): 1963 (RA 2011)	1 % to 100 %
		Crushing Value	IS 2386 (Part 1): 1963 (RA 2011)	5 % to 60 %

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Certificate Number T-1699 **Valid Until** 23.10.2016

Last Amended on - **Page** 3 of 9

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	Coarse Aggregates	Los Angeles Abrasion Value	IS 2386 (Part 4): 1963 (RA 2011)	5 % to 60 %
		10 % Fine Value	IS 2386 (Part 4): 1963 (RA 2011)	10 kN to 400 kN
4.	Fine Aggregates	Specific Gravity	IS 2386 (Part 3): 1963 (RA 2011)	1.5 to 3.0
		Bulk Density	IS 2386 (Part 1): 1963 (RA 2011)	1 kg/L to 2.5 kg/L
		Surface Moisture	IS 2386 (Part 1): 1963 (RA 2011)	0.1% to 2 %
		Water Absorption	IS 2386 (Part 1): 1963 (RA 2011)	0.1% to 5 %
		Material finer than 75µm	IS 2386 (Part 1): 1963 (RA 2011)	0 % to 20 %
		Clay & Lumps	IS 2386 (Part 2): 1963 (RA 2007)	0 % to 10 %
		Organic Impurities	IS 2386 (Part 2): 1963 (RA 2007)	Qualitative (Visual Observations Lighter to Darker)
		Soundness	IS 2386 (Part 5): 1963 (RA 2011)	1 % to 20 %

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Certificate Number T-1699 **Valid Until** 23.10.2016

Last Amended on - **Page** 4 of 9

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Fine Aggregates	Bulking	IS 2386 (Part 3): 1963 (RA 2011)	1 % to 25 %
		Sieve Analysis	IS 2386 (Part 1): 1963 (RA 2011)	1 % to 100 %
5.	Cement Concrete / Mortar - Fresh / Hardened & Precast Concrete Kerbs, Concrete Blocks	Slump	IS 1199: 1959 (RA 2008)	10 mm to 200 mm
		Compaction Factor	IS 1199: 1959 (RA 2008)	0.1 to 0.99
		Compressive Strength	IS 516:1959 (RA 2008)	5 N/mm ² to 60 N/mm ²
		Flexural Strength	IS 516:1959 (RA 2008)	1 N/mm ² to 10 N/mm ²
		Density	IS 2185 (Part 1):1983 (RA 2005)	1.50 to 3.50
		Dimensions	IS 5758: 1984 (RA 2005) IS 2185 (Part 1): 1983 (RA 2005)	25 mm to 3000 mm
		Transverse Strength	IS 5758: 1984 (RA 2005)	1 N/mm ² to 10 N/mm ²
		Water Absorption	IS 5758: 1984 (RA 2005) IS 2185 (Part 1): 1983 (RA 2005)	0.05 % to 50 %
6.	Cement Concrete Paver Blocks	Dimensions	IS 15658 (Annex-B): 2006 (RA 2011)	25 mm to 3000 mm
		Water Absorption	IS 15658 (Annex-C): 2006 (RA 2011)	0.5 % to 50 %

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Certificate Number T-1699 **Valid Until** 23.10.2016

Last Amended on - **Page** 5 of 9

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	Cement Concrete Paver Blocks	Compressive Strength	IS 15658: 2006 (RA 2011), Annex-D	5 N/mm ² to 60 N/mm ²
		Flexural Strength & Thickness of Wearing Layer	IS 15658: 2006 (RA 2011), Annex-G	2 N/mm ² to 70 N/mm ²
7.	Burnt Clay Building Bricks / Fly Ash Lime Bricks	Dimensions	IS 1077: 1992 (RA 2011) IS 2894: 2002 (RA 2012)	100 mm to 6000 mm
		Compressive Strength	IS 3495 (Part 1): 1992 (RA 2011)	5 N/mm ² to 40 N/mm ²
		Water Absorption	IS 3495 (Part 2):1992 (RA 2011)	0.5% to 50 %
		Efflorescence	IS 3495 (Part 3):1992 (RA 2011)	Qualitative (Visual Observations Nil to serious)
8.	Cement Concrete Tiles – Chequered / Terrazo	Dimensions and Difference in Length & Difference in Thickness & Thickness of Wearing Layer	IS 13801: 2013 IS 1237: 2012	5 mm to 600 mm
		Water Absorption	IS 13801: 2013 IS 1237: 2012	0.5 % to 50 %
		Flatness of Surface	IS 13801: 2013 IS 1237: 2012	0.05 mm to 5 mm
		Straightness	IS 13801: 2013 IS 1237: 2012	0.1 % to 5 %

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Certificate Number T-1699 **Valid Until** 23.10.2016

Last Amended on - **Page** 6 of 9

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	Cement Concrete Tiles – Chequered / Terrazo	Perpendicularity	IS 13801: 2013 IS 1237: 2012	0.1 % to 5 %
		Resistance to Wear	IS 13801: 2013 IS 1237: 2012	0.02 mm to 10 mm
		Finish	IS 13801: 2013 IS 1237: 2012	Qualitative (Visual Observations Uniform to Non uniform)
9.	Ceramic Tiles	Dimensions	IS 13630 (Part 1): 2006 (RA 2011)	6 mm to 600 mm
		Water Absorption	IS 13630 (Part 2): 2006 (RA 2011)	0.01% to 50 %
		Scratch Hardness at Moh's Scale	IS 13630 (Part 13): 2006 (RA 2011)	1 to 9
10.	Natural Stones	Specific Gravity	IS 1122: 1974 (RA 2008)	1 to 3.5
		Water Absorption	IS 1124: 1974 (RA 2008)	0.01 % to 2.5 %
		Moh's Scale Hardness	IS 13630 (Part 13): 2006 (RA 2011)	1 to 9
		Compressive Strength	IS 1121 (Part 1): 1974 (RA 2008)	5 N/mm ² to 300 N/mm ²
		Transverse Strength	IS 1121 (Part 2): 1974 (RA 2008)	2 N/mm ² to 70 N/mm ²

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Certificate Number T-1699 **Valid Until** 23.10.2016
Last Amended on - **Page** 7 of 9

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	Natural Stones	Resistance to Wear	IS 1706: 1972	0.01 mm to 10 mm
11.	Timber, Wood & Wood Products	Density	IS 2380 (Part 3): 1977 (RA 2013)	300 kg/m ³ to 900 kg/m ³
		Water Absorption	IS 2380 (Part 16): 1977 (RA 2013)	1% to 75 %
		Thickness Swelling	IS 2380 (Part 17):1977 (RA 2013)	0.1mm to 20 mm
		Moisture Content	IS 2380 (Part 3): 1977 (RA 2013) IS 401 (Annex-C): 2001 (RA 2006) IS 1708 (Part 1): 1986 (RA 2010) IS 1659: 2004 (RA 2009) IS 11215: 1991 (RA 2010) IS 1734 (Part 1): 1983 (RA 2008)	0.5 % to 25 %
		Resistance to Steam	IS 12823 (Annex-C) : 1990 (RA 2009) IS 2046 (Annex -T): 1995	Qualitative (Visual Observations Rating 5 to 1)
		Resistance to Cigarette Burn	IS12823 (Annex-E): 1990 (RA 2009) IS 2046 (Annex-Q): 1995 (RA 2010)	Qualitative (Visual Observations Rating 5 to 1))
		Resistance to Stain	IS 12823 (Annex-F): 1990 (RA 2009) IS 2046 (Annex-M): 1995 (RA 2010)	Qualitative (Visual Observations Rating 5 to 1)

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Certificate Number T-1699 **Valid Until** 23.10.2016

Last Amended on - **Page** 8 of 9

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	Timber, Wood & Wood Products	Resistance to Crack	IS 12823 : 1990 (RA 2009), Annex-D IS 2046: 1995 (RA 2010), Annex-K	Qualitative (Visual Observations Rating 5 to 1)
		End Immersion Test	IS 4020 (Part 13): 1998 (RA 2008)	Qualitative (Visual Observations Excellent to Poor Bond)
		Knife Test	IS 4020 (Part 14): 1998 (RA 2008) IS 1659 (Annex-G): 2004 (RA 2009)	Qualitative (Visual Observations Excellent to Poor Bond)
		Glue Adhesion Test / Test for Adhesion of Plies	IS 4020 (Part 15): 1998 (RA 2008) IS 159: 2004 (RA 2009), Annex-G	Qualitative (Visual Observations Excellent to Poor Bond)
		Swelling Due to Surface Absorption	IS 2380 (Part 17): 1977 (RA 2013)	0.5 mm to 20 mm
		Thickness & Variation in thickness	IS 1659: 2004 (RA 2009), Annex-D	1 % to 20 %
12.	Admixtures – Retarder, Accelerator, Water Reducer, Super Plasticizer	Compressive Strength	IS 516: 1959 (RA 2008)	10 MPa to 80 MPa
		Flexural Strength	IS 516: 1959 (RA 2008)	1 MPa to 27 MPa
		Relative Density	IS 9103: 1999 (RA 2008), Annex - E	0.5 to 3.00

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Last Amended on - **Page** 9 of 9

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II. SOIL & ROCK TESTING				
1.	Soil Testing	Natural Moisture Content	IS 2720 (Part 2): 1973 (RA 2010)	1 % to 25 %
		Plastic Limit	IS 2720 (Part 5): 1985 (RA 2010)	1 % to 75 %
		Liquid Limit	IS 2720 (Part 5): 1985 (RA 2010)	1 % to 75 %
		Maximum Dry Density	IS 2720 (Part 8): 1983 (RA 2010) IS 2720 (Part 7): 1980 (RA 2011)	1 gm/cc to 2.5 gm/cc
		Optimum Moisture Content	IS 2720 (Part 8): 1983 (RA 2010) IS 2720 (Part 7): 1980 (RA 2011)	1 % to 25 %
		Grain Size / Sieve Analysis (4.75mm to 75micron)	IS 2720 (Part 4): 1985 (RA 2010)	0 % to 50 %
		California Bearing Ratio Value	IS 2720 (Part 16): 1987 (RA 2011)	0 % to 50 %

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