

Laboratory	Independent Testing Laboratories, National Council for Cement and Building Materials, 34 km Stone, Delhi-Mathura Road (NH-2), Ballabgarh, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Mechanical Testing	Issue Date	04.10.2014
Certificate Number	T-0105	Valid Until	03.10.2016
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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. BUILDING MATERIALS				
1.	Cement (OPC/PPC/PSC & White Cement)	Specific Surface area by Blaine Air Permeability Method	IS 4031 (Part 2):1999 (RA 2008)	(150 to 600) m ² /kg
		Soundness (Le Chatelier Expansion)	IS 4031 (Part 3):1988 (RA 2009)	0.5 mm to 10 mm
		Soundness (Autoclave Expansion)	IS 4031 (Part 3):1988 (RA 2009)	0.01% to 2.0%
		Standard Consistency	IS 4031 (Part 4):1988 (RA 2009)	20% to 45%
		Initial Setting Time	IS 4031 (Part 5):1988 (RA 2009)	(10 to 300) minutes
		Final Setting Time	IS 4031 (Part 5):1988 (RA 2009)	(100 to 600) minutes
		Compressive Strength	IS 4031 (Part 6):1988 (RA 2009)	10 MPa to 80 MPa
		Heat of Hydration	IS 4031 (Part 9):1988 (RA 2009)	50 KJ/kg to 450 KJ/kg
		Drying Shrinkage	IS 4031 (Part 10):1988 (RA 2009)	0.01% to 0.75%
		Density	IS 4031 (Part 11):1988 (RA 2009)	1.5 g/cc to 4.0 g/cc
	Whiteness of Cement	IS 8042:1989 (RA 2009)	40% to 90%	

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2.	Pulverized Fuel Ash	Specific Surface area by Blaine air Permeability Method	IS 1727 : 1967 (RA 2008)	(150 to 700) m ² /kg
		Specific Gravity	IS 1727 : 1967 (RA 2008)	1.5 to 4.0
		Lime Reactivity	IS 1727 : 1967 (RA 2008)	4 MPa to 20 MPa
		Compressive Strength at 28 days (w.r.t. control sample)	IS 1727 : 1967 (RA 2008)	60% to 100%
		Soundness (Autoclave Expansion)	IS 1727 : 1967 (RA 2008)	0.01% to 2.0%
		Retained on 45 micron sieve	IS 1727 : 1967 (RA 2008)	10% to 50%
3.	Aggregate (Coarse / Fine)	Sieve Analysis	IS 2386 (Part 1):1963 (RA 2011)	75 μ to 80 mm
		Material finer than 75μ	IS 2386 (Part 1):1963 (RA 2011)	0.5% to 20%
		Flakiness Index	IS 2386 (Part 1):1963 (RA 2011)	5% to 50%
		Elongation Index	IS 2386 (Part 1):1963 (RA 2011)	5% to 50%
		Water absorption (Coarse Aggregate)	IS 2386 (Part 3):1963 (RA 2011)	0.01% to 15.0%
		Water absorption (Fine Aggregate)	IS 2386 (Part 3):1963 (RA 2011)	0.01% to 15.0%

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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
	Aggregate (Coarse / Fine)	Specific Gravity (Coarse Aggregate)	IS 2386 (Part 3):1963 (RA 2011)	0.01% to 15.0%
		Specific Gravity (Fine Aggregate)	IS 2386 (Part 3):1963 (RA 2011)	0.01% to 15.0%
		Bulk density	IS 2386 (Part 3):1963 (RA 2011)	(1.50 to 4.50) kg/l
		Voids	IS 2386 (Part 3):1963 (RA 2011)	10% to 60%
		Impact Value	IS 2386 (Part 4):1963 (RA 2011)	5% to 60%
		Abrasion Value (Los Angles)	IS 2386 (Part 4):1963 (RA 2011)	5% to 60%
		Crushing Value	IS 2386 (Part 4):1963 (RA 2011)	5% to 60%
		10% Fine Value	IS 2386 (Part 4):1963 (RA 2011)	5 T to 50 T
		Soundness	IS 2386 (Part 5):1963 (RA 2011)	0.01% to 20%
		Mortar Making Properties	IS 2386 (Part 6):1963 (RA 2011)	50% to 100 %
		Alkali Aggregate Reactivity	IS 2386 (Part 7):1963 (RA 2011)	0.01% to 2.0 %
		Deleterious Material	IS 2386 (Part 2):1963 (RA 2011)	0.1% to 10 %
		Organic Impurities	IS 2386 (Part 2):1963 (RA 2011)	Qualitative

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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
4.	Building Bricks (Burnt Clay & Lime Pulverized Fuel ash)	Compressive Strength	IS 3495 (Part I):1992 (RA 2011)	(1 to 50) N/mm ²
		Water Absorption	IS 3495 (Part II):1992 (RA 2011)	1% to 30%
		Dimension	IS 1077: 1992 (RA 2011)	L: (3000 to 6000) mm W: (1500 to 3000) mm H: (1000 to 3000) mm
		Efflorescence	IS 3495 (Part III):1992 (RA 2011)	Qualitative
5.	Concrete	Compressive Strength	IS 516:1959 (RA 2008)	(100 to 800) kg/cm ²
		Flexural Strength	IS 516: 1959 (RA 2008)	(20 to 100) kg/cm ²
II.	COAL	Hard grove Grindability Index	IS 4433:1979 ASTM D409 : 2002	35% to 90% 30% to 90%

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