

Laboratory	Bureau Veritas (India) Pvt. Ltd. - Construction Services Laboratory, Plot B3/B4, TTC Industrial Area, Off Thane-Belapur Road, M.I.D.C., Digha, Navi Mumbai, Maharashtra		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Chemical Testing	Issue Date	06.05.2015
Certificate Number	T-2521	Valid Until	05.05.2017
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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. WATER				
1.	Water (for Construction Purpose)	Alkalinity (Volume of 0.02 N H ₂ SO ₄ consumed to 100 ml of water sample)	IS 3025 (Part 23): 1986 (RA 2009) IS 456: 2000	0.1 ml to 50 ml
		Acidity (Volume of 0.02 N NaOH Consumed to neutralized 100 ml of water sample)	IS 3025 (Part 22): 1986 (RA 2009) IS 456: 2000	0.1 ml to 15 ml
		pH value	IS 3025 (Part 11): 1983 (RA 2012)	4 to 10
		Chloride content	IS 3025 (Part 32): 1988 (RA 2009)	5 mg/l to 5000 mg/l
		Sulphate content	IS 3025 (Part 24): 1986 (RA 2009)	1 mg/l to 2000 mg/l
		Inorganic Solids (Fixed Residue)	IS 3025 (Part 18): 1984 (RA 2012)	1 mg/l to 10000 mg/l
		Organic Solids (Volatile Residue)	IS 3025 (Part 15): 1984 (RA2009)	1 mg/l to 4000 mg/l
		Suspended Matter	IS 3025 (Part 17): 1984 (RA 2012)	1 mg/l to 3000 mg/l
II. BUILDING MATERIALS				
1.	Cement [Ordinary Portland Cement, Portland Pozzolana Cement (PPC), Portland Slag Cement (PSC)]	Insoluble Residue	IS 4032: 1985 (RA 2009)	0.5 % to 40 %
		Loss on Ignition	IS 4032: 1985 (RA 2009)	0.5 % to 08 %
		Silica Content (SiO ₂)	IS 4032: 1985 (RA 2009)	5.0 % to 40 %
		Alumina (Al ₂ O ₃)	IS 4032: 1985 (RA 2009)	0.2 % to 15 %

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	Cement [Ordinary Portland Cement, Portland Pozzolana Cement (PPC), Portland Slag Cement (PSC)]	Ferric Oxide (Fe ₂ O ₃)	IS 4032: 1985 (RA 2009)	0.2 % to 6 %
		Calcium Oxide (CaO)	IS 4032: 1985 (RA 2009)	5 % to 75 %
		Sulphuric Anhydride (SO ₃)	IS 4032: 1985 (RA 2009)	0.1 % to 5 %
		Magnesia (MgO)	IS 4032: 1985 (RA 2009)	0.5 % to 10 %
		Sodium Alkali (Na ₂ O)	IS 4032: 1985 (RA 2009)	0.03 % to 3 %
		Potassium Alkali (K ₂ O)	IS 4032: 1985 (RA 2009)	0.03 % to 3 %
		Alkalies equivalent Sodium Oxide (Na ₂ O)	IS 4032: 1985 (RA 2009)	0.03 % to 3 %
		Sulphur as Sulfide	IS 4032: 1985 (RA 2009)	0.01 % to 5 %
		Chloride	IS 4032: 1985 (RA 2009) Amd 2	0.005 % to 1.0 %
2.	Admixture/ Water Proofing Compound	Chloride Content	IS 6925: 1973 (RA 2008)	0.001 % to 2.0 %
		Ash Content	IS 9103: 1999 (RA 2008)	1 % to 35 %
		pH	IS 9103: 1999 (RA 2008)	4 to 10
		Dry Material Content	IS 9103: 1999 (RA 2008)	1 % to 70 %
		Relative density	IS 9103: 1999 (RA 2008)	0.8 to 3.0
3.	Ceramic Tiles- Unglazed tiles	Chemical Resistance	IS 13630 (Part 7): 2006 (RA 2012)	Qualitative (Visual test)

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4.	Soil	Determination of total soluble Sulphate content	IS 2720 (Part 27): 1977 (RA 2011)	0.005 % to 2.0 %
		pH value	IS 2720 (Part 26): 1977 (RA 2011)	4 to 10
5.	Pozzolanic Material / Pulverised Fuel Ash	Loss on Ignition	IS 1727: 1967 (RA 2008)	0.1 % to 30 %
		Sulphuric Anhydride (SO ₃)	IS 1727: 1967 (RA 2008)	0.1 % to 5 %
		Silica content (SiO ₂)	IS 1727 : 1967 (RA 2008)	20 % to 70 %
		Mixed Oxides	IS 1727: 1967 (RA 2008)	
		Fe ₂ O ₃		0.5 % to 8.0 %
		Al ₂ O ₃		5 % to 45 %
		Lime (CaO)	IS 1727: 1967 (RA 2008)	0.5 % to 20 %
		Magnesia (MgO)	IS 1727 : 1967 (RA 2008)	0.5 % to 10 %
		Sodium Alkali (Na ₂ O)	IS 3812 (Part 1): 2013	0.03 % to 3 %
		Potassium Alkali (K ₂ O)	IS 3812 (Part 1): 2013	0.03 % to 3 %
6.	Ground Granulated Blast Furnace Slag (GGBFS)	Available Alkalies as equivalent Sodium Oxide (Na ₂ O)	IS 3812 (Part 1): 2013	0.05 % to 3 %
		Chloride	IS 4032: 1985 (RA 2009) Amd. 2	0.004 % to 2.0 %
		Insoluble Residue	IS 4032: 1985 (RA 2009)	0.1% to 15 %
		Silica Content (SiO ₂)	IS 4032: 1985 (RA 2009)	5 % to 50 %
		Alumina (Al ₂ O ₃)	IS 4032: 1985 (RA 2009)	0.5 % to 25 %

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	Ground Granulated Blast Furnace Slag (GGBFS)	Ferric Oxide (Fe ₂ O ₃)	IS 4032: 1985 (RA 2009)	0.2 % to 6%
		Calcium Oxide (CaO)	IS 4032: 1985 (RA 2009)	5 % to 50 %
		Magnesia (MgO)	IS 4032: 1985 (RA 2009)	0.5 % to 15 %
		Sulphur as Sulfide	IS 4032: 1985 (RA 2009)	0.01 % to 5 %
		Manganese Oxide (MnO)	IS 4032: 1985 (RA 2009)	0.01 % to 10 %
7.	Microsilica/Silica Fume	Loss on Ignition	IS 1727: 1967 (RA 2008) IS 15388: 2003	0.1 % to 30 %
		Silica Content (SiO ₂)	IS 1727: 1967 (RA 2008) IS 15388: 2003	20 % to 96 %
		Moisture Content	IS 1727: 1967 (RA 2008) IS 15388: 2003	0.1 % to 20 %
		Sodium Alkali (Na ₂ O)	IS 4032: 1985 (RA 2009) IS 15388: 2003	0.03 % to 3 %
		Potassium Alkali (K ₂ O)	IS 4032: 1985 (RA 2009) IS 15388: 2003	0.03 % to 3 %
		Alkali equivalent sodium Oxide (Na ₂ O)	IS 4032: 1985 (RA 2009) IS 15388: 2003	0.05 % to 5 %
8.	Gypsum Plaster	Loss on Ignition	IS 2547 (Part 1): 1976 (RA 2002) IS 1288: 1982	1 % to 21 %
		Sulphuric Anhydride (SO ₃)	IS 2547 (Part 1): 1976 (RA 2002) IS 1288: 1982	0.1 % to 60 %

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	Gypsum Plaster	Calcium Oxide (CaO)	IS 2547 (Part 1): 1976 (RA 2002) IS 1288: 1982	5 % to 50 %
		Magnesium Oxide (MgO)	IS2547 (Part 1): 1976 (RA 2002) IS 1288: 1982	0.01 % to 0.5 %
		Soluble Salt of sodium Oxide (Na ₂ O)	IS 2547 (Part 1): 1976 (RA 2002) IS 1288: 1982	0.01 % to 3 %
		Free Lime	IS 2547 (Part 1): 1976 (RA 2002) IS 1288: 1982	0.0037 % to 0.4 %
9.	Coarse Aggregate	pH	IS 2720 (Part 26): 1977 (RA 2011)	4 to 10
		Chloride	BS EN 1744-1: 2009 Amd. 1: 2012	0.002 % to 0.5 %
		Sulphate	BS EN 1744-1: 2009 Amd. 1: 2012	0.002 % to 1 %
		Alkali Aggregate reactivity	IS 2386 (Part 7): 1963 (RA 2011)	
		a) Reduction in Alkalinity		10 milimoles/l to 500 milimoles/l
		b) Silica Content		2 milimoles/l to 100 milimoles/l
		Soundness by	IS 2386 (Part 5): 1963 (RA 2011)	0.1 % to 20 %
		a) Sodium Sulphate (Na ₂ SO ₄)-5 cycles		
		b) Magnesium Sulphate (MgSO ₄)-5 cycles		

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	Coarse Aggregate	Deleterious Material		
		a) Coal & Lignite	IS 2386 (Part 2): 1963 (RA 2011)	0.001 % to 3 %
		b) Material Finer than 75 microns IS Sieve	IS 2386 (Part 1): 1963 (RA 2011)	0.1 % to 30 %
		c) Soft Particle	IS 2386 (Part 2): 1963 (RA 2011)	0.1 % to 5 %
10.	Fine Aggregate	pH	IS 2720 (Part 26): 1977 (RA 2011)	4 to 10
		Chloride	BS EN 1744-1: 2009 Amd. 1: 2012	0.002 % to 0.5 %
		Sulphate	BS EN 1744-1: 2009 Amd. 1: 2012	0.002 % to 1 %
		Alkali Aggregate reactivity	IS 2386 (Part 7): 1963 (RA 2011)	
		a) Reduction in Alkalinity		10 milimoles/l to 500 milimoles/l
		b) Silica Content		2 milimoles/l to 100 milimoles/l
		Soundness by	IS 2386 (Part 5): 1963 (RA 2011)	0.1 % to 30 %
		a) Sodium Sulphate (Na ₂ SO ₄)-5 cycles		
		b) Magnesium Sulphate (MgSO ₄)-5 cycles		
		Organic impurities	IS 2386 (Part 2): 1963 (RA 2011)	Qualitative
		Deleterious Material		
		a) Coal & Lignite	IS 2386 (Part 2): 1963 (RA 2011)	0.001 % to 3 %
		b) Material finer than 75 microns IS Sieve	IS 2386 (Part 1): 1963 (RA 2011)	0.1 % to 30 %
		c) Clay Lumps	IS 2386 (Part 2): 1963 (RA 2011)	0.1 % to 50 %

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11.	Lime	Loss on Ignition	IS 6932 (Part 1): 1973 (RA 2009)	0.1 % to 35 %
		Silica Content (SiO ₂)	IS 6932 (Part 1): 1973 (RA 2009)	0.2 % to 25 %
		Mixed Oxides (Fe ₂ O ₃ & Al ₂ O ₃)	IS 6932 (Part 1): 1973 (RA 2009)	0.5 % to 15 %
		Calcium Oxide (CaO)	IS 6932 (Part 1): 1973 (RA 2009)	0.5 % to 90 %
		Magnesium Oxide (MgO)	IS 6932 (Part 1): 1973 (RA 2009)	0.5 % to 10 %
		Insoluble Residue	IS 6932 (Part 1): 1973 (RA 2009)	0.1 % to 30 %
12.	Hardened Concrete/Mortar	pH	IS 2720 (Part 26): 1977 (RA 2011)	4 to 14
		Chloride	BS 1881 (Part 124): 1988	0.001 % to 5 %
		Sulphate	BS 1881 (Part 124): 1988	0.1 % to 5 %
III. METALS AND ALLOYS				
1.	Steel (Reinforced, Mild Steel & Structural Steel)	Carbon	IS 228 (Part 1): 1987 (RA 2008)	0.05 % to 0.4 %
		Sulphur	IS 6226 (Part 2): 1987 (RA 2008)	0.005 % to 0.4 %
		Phosphorous	IS 228 (Part 3): 1987 (RA 2008)	0.005 % to 0.4 %
		Manganese	IS 228 (Part 2): 1987 (RA 2008)	0.1 % to 2.0 %
		Silicon	IS 228 (Part 8): 1987 (RA 2008)	0.01 % to 2 %

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