

<b>Laboratory</b>	<b>ANULAB Industrial Testing &amp; Analytical Laboratories, 33, Gandhi Nagar, Agra</b>		
<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
<b>Field</b>	<b>Chemical Testing</b>	<b>Issue Date</b>	<b>08.10.2013</b>
<b>Certificate Number</b>	<b>T-0197</b>	<b>Valid Until</b>	<b>07.10.2015</b>
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<b>S.No.</b>	<b>Product / Material of Test</b>	<b>Specific Test Performed</b>	<b>Test Method Specification against which tests are performed</b>	<b>Range of Testing / Limits of Detection</b>
<b>I. BUILDING MATERIALS</b>				
<b>1.</b>	<b>Clays &amp; Soil</b>	pH Value	IS 2720 Part 26 :1987 RA 2007	04 to 12
		Soluble Sulphates	IS 2720 Part 27 :1977 RA 2010/ BS:1377 Test 10:1990	10 to1000 mg/l
		Soluble Chlorides	IS 2720 Part 27 :1977 RA 2010/ BS 1377 Test 10:1990	10 to 1000 mg/l
		Organic Matter	IS 2720 Part 22 :1972, RA 2010	10 to 1000 mg/l
		Soluble Solids	IS 2720 Part 21 :1977, RA 2010	50 to 5000 mg/l
		Calcium Carbonate	IS 2720 Part 23 :1976, RA 2010	50 to 1000 mg/l
<b>2.</b>	<b>Flyash</b>	pH Value	Indian Roads Congress Publication SP 58-2001, IS 2720 Part 26 :1987 RA 2007	04 to 12
		Water Soluble Sulphates	Indian Roads Congress Publication SP 58-2001, IS 2720 Part 27 :1977 RA 2010/ BS:1377 Test 10:1990	5 to1000 mg/l
		Water Soluble Chlorides	Indian Roads Congress Publication SP 58-2001, IS 2720 Part 27 :1977 RA 2010/ BS 1377 Test 10:1990	5 to 1000 mg/l
		Water Soluble Solids	Indian Roads Congress Publication SP 58-2001, IS 2720 Part 21 :1977, RA 2010	50 to 5000 mg/l

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<b>3.</b>	<b>Cement OPC &amp; PPC</b>	Silica as SiO <sub>2</sub>	Cl. 4.3, IS 4032:1985, RA 2009	06 to 30 %
		Lime as CaO	Cl. 4.7, IS 4032:1985, RA 2009	05 to 70 %
		Loss on Ignition-LOI	Cl. 4.2, IS 4032:1985, RA 2009	0.1 to 20 %
		Insoluble Residue-IR	Cl. 4.10, IS 4032:1985, RA 2009	0.1 to 10.0 %
		Iron as Fe <sub>2</sub> O <sub>3</sub>	Cl. 4.5, IS 4032:1985, RA 2009	1.0 to 6.0 %
		Alumina as Al <sub>2</sub> O <sub>3</sub>	Cl. 4.6, IS 4032:1985, RA 2009	1.0 to 10 %
		Sulphuric Anhydride	Cl. 4.9, IS 4032:1985, RA 2009	0.5 to 5 %
		Magnesia as MgO	Cl. 4.8, IS 4032:1985, RA 2009	0.5 to 10 %
<b>4.</b>	<b>Limestone Powder as Filler in Bitumen Mastics</b>	Calcium Carbonate	Annexure C, IS 1195:2002	75 to 98 %
<b>5.</b>	<b>Concrete Admixture</b>	pH	Annex E-5, IS 9103:1999, RA 2008	4.0 to 12.0
		Chloride Content	Annex E-4, IS 9103:1999, RA 2008	0.01 to 0.5 %
		Ash Content	Annex E-2, IS 9103:1999, RA 2008	1.0 to 15 %

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6.	<b>Potable Ground Water &amp; Water for Construction Purposes</b>	pH value	IS 3025 Part 11 :1983 RA 2006	4.0 to 12.0
		Limits of Acidity	IS 3025 Part 22 :1986 RA 2009 / Clause 1010 MORTH Specs. Clause 1010a	0.1 to 10 ml
		Limits of Alkalinity	IS 3025 Part 23 :1986 RA 2009 / Clause 1010 MORTH Specs. Clause 1010b	0.1 to 50 ml
		Inorganic Solids	IS 3025 Part 18 :1984, RA 2006	100 to 10000 mg/l
		Organic Solids	IS 3025 Part 18 :1984, RA 2006	10 to 500 mg/l
		Sulphates as SO <sub>4</sub>	IS 3025 Part 24 :1986, RA 2009	10 to 3000 mg/l
		Chloride as Cl	IS 3025 Part 32 :1988, RA 2009	05 to 3000 mg/l
		Suspended Matter	IS:3025 Part 17 :1984, RA 2006	05 to 3000 mg/l
		Odour-Smell	IS 3025 Part 5 :1983, RA 2006	Qualitative
		Taste- Palatability	IS 3025 Part 7 & 8:1984, RA 2006	Qualitative
		Total Hardness	IS 3025 Part 21:2009	05 to 3000 mg/l
		Dissolved Solids	IS 3025 Part 16:1984, RA 2006	50 to 5000 mg/l
		Calcium as Ca	IS 3025 Part 40:1991 RA 2009	05 to 300 mg/l
		Magnesium as Mg	IS 3025 Part 46: 2009	05 to 300 mg/l
		Alkalinity	IS 3025 Part 23:1986 RA 2009	25 to 600 mg/l
		Dissolved Oxygen	IS 3025 P 38:1989 RA 2009	0.10 to 50 mg/l

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<b>II. METALS &amp; ALLOYS</b>				
<b>1.</b>	<b>Cast Iron &amp; Pig Iron</b>	Carbon	IS 12308 Part 11:1991, RA 2006	2.00 to 4.50 %
		Silicon	IS 12308 Part 6:1991, RA 2006	0.50 to 3.50 %
		Manganese	IS 12308 Part 10 :1991, RA 2006	0.20 to 5.00 %
		Sulphur	IS 12308 Part 2 :1987, RA 2007	0.01 to 0.25 %
		Phosphorous	IS 12308 Part 5 :1991, RA 2006	0.01 to 0.50 %
		Nickel	IS 12308 Part 7 :1991, RA 2006	0.10 to 30.0 %
		Chromium	IS 12308 Part 8 :1997, RA 2007	0.10 to 10.0 %
<b>2.</b>	<b>Plain Steel &amp; Alloy Steel</b>	Carbon	IS 228 Part 1:1987, RA 2008	0.10 to 1.50 %
		Silicon	IS 228 Part 8:1989, RA 2009	0.10 to 3.50 %
		Manganese	IS 228 Part 2:1987, RA 2008	0.10 to 2.00 %
		Sulphur	IS 228 Part 9:1989, RA 2009	0.01 to 0.50 %
		Phosphorous	IS 228 Part 3:1987, RA 2008	0.01 to 0.50 %
		Chromium	IS 228 Part 6:1987, RA 2009	0.10 to 30.0 %
		Nickel	IS 228 Part 5:1987, RA 2009	0.10 to 30.0 %
<b>3.</b>	<b>Copper &amp; Alloys (Brass)</b>	Copper	IS 3685:1966, RA 2006	60.0 to 90.0 %

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	& Bronze)	Tin	IS 3685:1966, RA 2006	0.20 to 10.0 %
		Lead	IS 3685:1966, RA 2006	0.20 to 30.0 %
		Manganese	IS 3685:1966, RA 2006	0.10 to 6.0 %
		Nickel	IS 3685:1966, RA 2006	0.10 to 38.0 %
		Silicon	IS 3685:1966, RA 2006	0.10 to 3.00 %
III. METALLIC COATINGS & TREATMENT SOLUTIONS				
1.	Zinc Coating on Steel Products	Thickness & Mass	IS 6745:1972, RA 2006	5 to 800 g/m <sup>2</sup>
2.	Anodized Aluminum	Anodized Thickness	IS 5523:1983, RA 2006	5 to 500 micron
IV PLASTICS & PLASTIC PRODUCTS				
1.	PVC Pipe	Sulphated Ash Content	Annex B, IS 4985:200, RA 2007	2 to 20 %

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