

<b>Laboratory</b>	<b>Eco-Care Instruments Private Limited, RZ-F-1, II<sup>nd</sup> &amp; III<sup>rd</sup> Floor, Mahaveer Enclave, New Delhi</b>		
<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
<b>Discipline</b>	<b>Chemical Testing</b>	<b>Issue Date</b>	<b>20.11.2016</b>
<b>Certificate Number</b>	<b>T-2386</b>	<b>Valid Until</b>	<b>19.11.2018</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.</b>	<b>WATER</b>			
<b>1.</b>	<b>Surface Water</b>	Colour	APHA (22 <sup>nd</sup> Edition) 2120 C: 2012	2 Hazen to 150 Hazen
		pH Value	APHA (22 <sup>nd</sup> Edition) 4500 B: 2012	4 to 10.5
		Total Hardness (as CaCO <sub>3</sub> )	IS 3025 (Part 21) : 2005	2 mg/l to 1000 mg/l
		Fluoride (as F)	APHA (22 <sup>nd</sup> Edition) 4500-F <sup>-</sup> D:2012	0.1 mg/l to 2 mg/l
		Chloride (as Cl)	APHA (22 <sup>nd</sup> Edition) 4500 B: 2012	1 mg/l to 1000 mg/l
		Iron (as Fe)	IS 3025 (Part 53) : 2003 (1-10, Phenanthroline Method)	0.1 mg/l to 10 mg/l
		Total Dissolved Solids	APHA (22 <sup>nd</sup> Edition) 2540 C: 2012 (Dried at 180°C)	1 mg/l to 2000 mg/l
		Boron (as B)	APHA (22 <sup>nd</sup> Edition) 4500-B B.: 2012	0.1 mg/l to 10 mg/l
		Calcium (as Ca)	IS 3025 (Part 40) 1991 EDTA Titrimetric Method	1 mg/l to 1000 mg/l
		Copper (as Cu)	IS 3025(Part 42) :1992 Neocuproine Method	0.04 mg/l to 10 mg/l
		Magnesium (as Mg)	APHA (22 <sup>nd</sup> Edition) 3500 Mg : 2012	1 mg/l to 1000 mg/l
		Manganese (as Mn)	IS 3025(Part 59) :2006 Potassium Periodate Method	0.05 mg/l to 10 mg/l
		Nitrate (as NO <sub>3</sub> )	IS 3025 (Part 34) 1988 Chromotropic Acid Method	0.5 mg/l to 50 mg/l

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	<b>Surface Water</b>	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	IS 3025 (Part 43):1992 4-AAP Method	0.001 mg/l to 1 mg/l
		Sulphate (as SO <sub>4</sub> )	APHA (22 <sup>nd</sup> Edition) 4500-SO <sub>4</sub> <sup>2-</sup> E :2012	1 mg/l to 100 mg/l
		Total Chromium (as Cr)	IS 3025 (Part 52) : 2003, DPC method	0.04 mg/l to 10 mg/l
		Biochemical Oxygen Demand (3 days 27°C)	IS 3025 (Part 44): 1993	2 mg/l to 500 mg/l
<b>2.</b>	<b>Raw Water</b>	Colour	APHA (22 <sup>nd</sup> Edition) 2120 C:2012	2 Hazen to 150 Hazen
		Turbidity	IS : 3025 (Part 10) : 1984	1 NTU to 1000 NTU
		pH Value	APHA (22 <sup>nd</sup> Edition) 4500 B: 2012	4 to 10.5
		Total Hardness (as CaCO <sub>3</sub> )	IS 3025 (Part 21) : 2005	2 mg/l to 1000 mg/l
		Fluoride (as F)	APHA (22 <sup>nd</sup> Edition) 4500-F <sup>-</sup> D:2012	0.1 mg/l to 2 mg/l
		Chloride (as Cl)	APHA (22 <sup>nd</sup> Edition) 4500 B: 2012	1 mg/l to 1000 mg/l
		Iron (as Fe)	IS 3025 (Part 53) : 2003 (1-10, Phenanthroline Method)	0.1 mg/l to 10 mg/l
		Calcium (as Ca)	IS 3025 (Part 40) 1991 EDTA Titrimetric Method	1 mg/l to 1000 mg/l
		Copper (as Cu)	IS 3025(Part 42) :1992 Neocuproine Method	0.04 mg/l to 10 mg/l
		Magnesium (as Mg)	APHA (22 <sup>nd</sup> Edition) 3500 Mg : 2012	1 mg/l to 1000 mg/l

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	<b>Raw Water</b>	Manganese (as Mn)	IS 3025(Part 59) :2006 Potassium Periodate Method	0.05 mg/l to 10 mg/l
		Nitrate (as NO <sub>3</sub> )	IS 3025 (Part 34) 1988 Chromotropic Acid Method	0.5 mg/l to 50 mg/l
		Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	IS 3025 (Part 43):1992 4-AAP Method	0.001 mg/l to 1 mg/l
		Sulphate (as SO <sub>4</sub> )	APHA (22 <sup>nd</sup> Edition) 4500-SO <sub>4</sub> <sup>2-</sup> E :2012	1 mg/l to 100 mg/l
		Total Solids	APHA (22 <sup>nd</sup> Edition) 2540 B: 2012	1 mg/l to 2000 mg/l
		Sodium (as Na)	APHA (22 <sup>nd</sup> Edition) 3500 Na-B: 2012	1 mg/l to 100 mg/l
		Potassium (as K)	APHA (22 <sup>nd</sup> Edition) 3500 K-B: 2012	1 mg/l to 100 mg/l
		Hexavalent Chromium (as Cr <sup>6+</sup> )	IS 3025 (Part 52) : 2003, DPC method	0.04 mg/l to 10 mg/l
		Zinc (as Zn)	APHA (22 <sup>nd</sup> Edition) 3111 A & B :2012	0.5 mg/l to 50mg/l
		Lead (as Pb)	APHA (22 <sup>nd</sup> Edition) 3111 A & B :2012	0.1 mg/l to 10 mg/l
<b>3.</b>	<b>Drinking Water</b>	Colour	APHA (22 <sup>nd</sup> Edition) 2120 C:2012	2Hazen to 150Hazen
		Turbidity	IS : 3025 (Part 10) : 1984	1 NTU 1000 NTU
		pH Value	APHA (22 <sup>nd</sup> Edition) 4500 B: 2012	4 to 10.5
		Total Hardness (as CaCO <sub>3</sub> )	IS 3025 (Part 21) : 2005	2 mg/l to 1000 mg/l

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	<b>Drinking water</b>	Fluoride (as F)	APHA (22 <sup>nd</sup> Edition) 4500-F <sup>-</sup> D:2012	0.1 mg/l to 2 mg/l
		Chloride (as Cl)	APHA (22 <sup>nd</sup> Edition) 4500 B: 2012	1 mg/l to 1000 mg/l
		Iron (as Fe)	IS 3025 (Part 53) : 2003 (1-10, Phenanthroline Method)	0.1 mg/l to 10 mg/l
		Total Dissolved Solids	APHA (22 <sup>nd</sup> Edition) 2540 C: 2012 (Dried at 180°C)	1 mg/l to 2000 mg/l
		Aluminium (as Al)	APHA (22 <sup>nd</sup> Edition) 3500-Al (B). : 2012	0.01 mg/l to 10 mg/l
		Ammonia (as NH <sub>3</sub> )	IS 3025 (Part 34) 1988 Phenate method	0.1 mg/l to 10 mg/l
		Boron (as B)	APHA (22 <sup>nd</sup> Edition) 4500-B B. : 2012	0.1 mg/l to 10 mg/l
		Calcium (as Ca)	IS 3025 (Part 40) 1991 EDTA Titrimetric Method	1 mg/l to 1000 mg/l
		Copper (as Cu)	IS 3025(Part 42) :1992 Neocuproine Method	0.04 mg/l to 10 mg/l
		Magnesium (as Mg)	3500 Mg : 2012	1 mg/l to 1000 mg/l
		Manganese (as Mn)	IS 3025(Part 59) :2006 Potassium Periodate Method	0.05 mg/l to 10 mg/l
		Nitrate (as NO <sub>3</sub> )	IS 3025 (Part 34) 1988 Chromotropic Acid Method	0.5 mg/l to 50 mg/l

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	<b>Drinking water</b>	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	IS 3025 (Part 43):1992 4-AAP Method	0.001 mg/l to 1 mg/l
		Sulphate (as SO <sub>4</sub> )	APHA (22 <sup>nd</sup> Edition) 4500-SO <sub>4</sub> <sup>2-</sup> E :2012	1 mg/l to 100 mg/l
		Sulphide (as H <sub>2</sub> S)	APHA (22 <sup>nd</sup> Edition) 4500 S <sup>2-</sup> F:2012	0.05 mg/l to 100 mg/l
		Total Alkalinity ( as CaCO <sub>3</sub> )	APHA (22 <sup>nd</sup> Edition) 2320 B 2012	10 mg/l to 2000 mg/l
		Total Chromium (as Cr)	IS 3025 (Part 52) : 2003, DPC method	0.04 mg/l to 10 mg/l
		Zinc (as Zn)	APHA (22 <sup>nd</sup> Edition) 3111 A &B :2012	0.5 mg/l to 50 mg/l
<b>4.</b>	<b>Construction water</b>	pH Value	APHA (22 <sup>nd</sup> Edition) 4500 B: 2012	4 to 10.5
		Chloride (as Cl)	APHA (22 <sup>nd</sup> Edition) 4500 B: 2012	1 mg/l to 1000 mg/l
		Sulphate (as SO <sub>4</sub> )	APHA (22 <sup>nd</sup> Edition) 4500-SO <sub>4</sub> <sup>2-</sup> E :2012	1 mg/l to 100 mg/l
		Total Alkalinity (as CaCO <sub>3</sub> )	APHA (22 <sup>nd</sup> Edition) 2320 B 2012	10 mg/l to 2000 mg/l
		Total Suspended Solids	APHA (22 <sup>nd</sup> Edition) 2540 D: 2012 (Dried at 103-105°C)	1 mg/l to 1000 mg/l
<b>5.</b>	<b>Irrigation water</b>	pH Value	APHA (22 <sup>nd</sup> Edition) 4500 B: 2012	4 to 10.5
		Boron (as B)	APHA (22 <sup>nd</sup> Edition) 4500-B B. : 2012	0.1 mg/l to 10 mg/l

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	<b>Irrigation water</b>	Calcium (as Ca)	IS 3025 (Part 40) 1991 EDTA Titrimetric Method	1 mg/l to 1000 mg/l
		Magnesium (as Mg)	APHA (22 <sup>nd</sup> Edition) 3500 Mg : 2012	1 mg/l to 1000 mg/l
		Sodium (as Na)	APHA (22 <sup>nd</sup> Edition) 3500 Na-B: 2012	1 mg/l to 100 mg/l
		Potassium (as K)	APHA (22 <sup>nd</sup> Edition) 3500 K-B: 2012	1 mg/l to 100 mg/l

## **II. POLLUTION AND ENVIRONMENT**

<b>1.</b>	<b>Waste Water (Effluent / Sewage)</b>	pH Value	APHA (22 <sup>nd</sup> Edition) 4500 B : 2012	4 to 10.5
		Total Dissolved Solids	APHA (22 <sup>nd</sup> Edition) 2540 C:: 2012 (Dried at 180°C)	1 mg/l to 2000 mg/l
		Total Suspended Solids	APHA (22 <sup>nd</sup> Edition) 2540 D: 2012 (Dried at 103-105°C)	1 mg/l to 1000 mg/l
		Oil and Grease	APHA (22 <sup>nd</sup> Edition) 5520 B: 2012	1 mg/l to 500 mg/l
		Chemical Oxygen Demand	IS 3025 (Part 58): 2006	8 mg/l to 2000 mg/l
		Biochemical Oxygen Demand (3 days 27°C)	IS 3025 (Part 44): 1993	2 mg/l to 500 mg/l
		Ammonical Nitrogen (as N)	IS 3025 (Part 34) 1988, Titrimetric Method	5 mg/l to 100 mg/l
		Total Kjeldhal Nitrogen (TKN)	IS 3025 (Part 34) 1988, Titrimetric Method	5 mg/l to 3000 mg/l

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	<b>Waste Water (Effluent / Sewage)</b>	Total Chromium (as Cr)	APHA (22 <sup>nd</sup> Edition) 3111 A & B :2012	1 mg/l to 10 mg/l
		Hexavalent Chromium (as Cr <sup>6+</sup> )	IS 3025 (Part 52) : 2003, DPC Method	0.04 mg/l to 10 mg/l
		Copper (as Cu)	IS 3025(Part 42) :1992, Neocuproine Method	0.04 mg/l to 10 mg/l
		Fluoride (as F)	APHA (22 <sup>nd</sup> Edition) 4500-F D: : 2012	0.1 mg/l to 10 mg/l
		Sulfide (as H <sub>2</sub> S)	APHA (22 <sup>nd</sup> Edition) 4500 S <sup>2-</sup> F:2012	0.5 mg/l to 100 mg/l
		Vanadium (as V)	APHA (22 <sup>nd</sup> Edition) 3500 (B):: 2012	0.003 mg/l to 10 mg/l
		Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	IS 3025 (Part 43):1992, 4-AAP Method	0.001 mg/l to 10 mg/l
		Manganese (as Mg)	IS 3025(Part 59) :2006 Potassium Periodate Method	0.05 mg/l to 10 mg/l
		Iron (as Fe)	IS 3025 (Part 53) : 2003(1-10, Phenanthroline Method)	0.1 mg/l to 10 mg/l
		Dissolved Phosphate (as PO <sub>4</sub> )	IS 3025 (Part 31):1988 Vanadomolybdo – Phosphoric Acid Method	0.5 mg/l to 50 mg/l
		Nitrate Nitrogen(as NO <sub>3</sub> )	IS 3025 (Part 34) 1988 Chromotropic Acid Method	0.5 mg/l to 50 mg/l
		Sodium	APHA (22 <sup>nd</sup> Edition) 3500 Na-B: 2012	0.5 mg/l to 100 mg/l

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	<b>Waste Water (Effluent / Sewage)</b>	Potassium	APHA (22 <sup>nd</sup> Edition) 3500 K-B: 2012	0.5 mg/l to 100 mg/l
		Magnesium (as Mg)	APHA (22 <sup>nd</sup> Edition) 3500 Mg :2012	1 mg/l to 1000 mg/l
		Boron (as B)	APHA (22 <sup>nd</sup> Edition) 4500-B B: : 2012	0.1 mg/l to 10 mg/l
		Cadmium (as Cd)	APHA (22 <sup>nd</sup> Edition) 3111 A &B :2012	0.2 mg/l to 10 mg/l
		Zinc (Zn)	APHA (22 <sup>nd</sup> Edition) 3111 A &B :2012	0.5 mg/l to 50 mg/l
		Nickel (as Ni)	APHA (22 <sup>nd</sup> Edition) 3111 A &B :2012	0.5 mg/l to 10 mg/l
		Lead (as Pb)	APHA (22 <sup>nd</sup> Edition) 3111 A &B :2012	0.1 mg/l to 10 mg/l
<b>2.</b>	<b>Waste (Liquid/ Slurry/ Sludge/ Solid/ Semi solid)</b>	Cadmium (as Cd)	APHA (22 <sup>nd</sup> Edition) 3030, 3111 :2012	20 mg/kg to 5000 mg/kg
		Zinc (as Zn)	APHA (22 <sup>nd</sup> Edition) 3030, 3111 :2012	30 mg/kg to 5000 mg/kg
		Lead (as Pb)	APHA (22 <sup>nd</sup> Edition) 3030, 3111 :2012	200 mg/kg to 5000 mg/kg
		Nickel (as Ni)	APHA (22 <sup>nd</sup> Edition) 3030, 3111 :2012	200 mg/kg to 5000 mg/kg

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	<b>Waste (Liquid/ Slurry/ Sludge/ Solid/ Semi solid)</b>	Iron (as Fe)	APHA (22 <sup>nd</sup> Edition) 3030, 3111 :2012	100 mg/kg to 5000 mg/kg
		Copper (as Cu)	APHA (22 <sup>nd</sup> Edition) 3030, 3111 :2012	100 mg/kg to 5000mg/kg
<b>III.</b>	<b>ATMOSPHERIC POLLUTION</b>			
<b>1.</b>	<b>Work Environment and Indoor air Quality</b>	Noise	IS 7194: 1994	35 dB(A) to 130 dB(A)
		Light	IS 3646 (Part 1): 1992	0.1 Lux to 20000 Lux
		Temperature	EIPL-P-024/ R02-24/00, Effective date 15.09.2014	(-)10°C to 60°C
		Humidity	EIPL-P-024/ R02-24/00, Effective date 15.09.2014	10 % to 90 % RH
		Oxygen	EIPL-P-024/ R02-23/00, Effective date 15.09.2014	0.1 % to 30 %
		Carbon dioxide	EIPL-P-024/ R02-19/00, Effective date 15.09.2014	1 mg/l to 6000 mg/l
		Carbon monoxide	EIPL-P-024/ R02-22/00, Effective date 15.09.2014	1 mg/l to 1000 mg/l

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