National Accreditation Board for Testing and Calibration Laboratories

SCOPE OF ACCREDITATION

Laboratory Name : CENTRE FOR APPLIED RESEARCH AND DEVELOPMENT (CARD), NLC INDIA LIMITED, NLC INDIA LIMITED 'NAVRATNA' - GOVERNMENT OF INDIA ENTERPRISE, CENTRE FOR APPLIED RESEARCH AND DEVELOPMENT, CUDDALORE, NEYVELI, TAMIL NADU, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number TC-6175 **Page No** 1 of 5

Validity 03/05/2021 to 02/05/2023 **Last Amended on** -

S.No	Discipline / Group	Materials or Products tested	Component, parameter or characteristic tested / Specific Test Performed / Tests or type of tests performed	Test Method Specification against which tests are performed and / or the techniques / equipment used
Permanent Facility				
1	BIOLOGICAL- WATER	Drinking water	Standard plate count	IS1622
2	BIOLOGICAL- WATER	Drinking water	Total coliforms	IS1622
3	CHEMICAL- ATMOSPHERIC POLLUTION	Ambient Air Quality Monitoring	Ambient Noise Level	IS 9989
4	CHEMICAL- ATMOSPHERIC POLLUTION	Ambient Air Quality Monitoring	Oxides of Nitrogen (NOx)	IS 5182 (Part 6)
5	CHEMICAL- ATMOSPHERIC POLLUTION	Ambient Air Quality Monitoring	Respirable Suspended Particulate Matter (PM10)	IS 5182 (Part 23)
6	CHEMICAL- ATMOSPHERIC POLLUTION	Ambient Air Quality Monitoring	Sulphur Dioxide (SO2)	IS 5182 (Part 2)
7	CHEMICAL- BUILDING MATERIAL	Flyash	Alumina	IS 1727
8	CHEMICAL- BUILDING MATERIAL	Flyash	Calcium oxide	IS 1727
9	CHEMICAL- BUILDING MATERIAL	Flyash	Iron oxide	IS 1727
10	CHEMICAL- BUILDING MATERIAL	Flyash	Loss on Ignition	IS 1727
11	CHEMICAL- BUILDING MATERIAL	Flyash	Magnesium oxide	IS 1727
12	CHEMICAL- BUILDING MATERIAL	Flyash	Silica	IS 1727
13	CHEMICAL- BUILDING MATERIAL	Flyash	Sulphuric anhydride	IS 1727
14	CHEMICAL- METALLIC COATINGS & TREATMENT SOLUTIONS	Metallic Coatings GI wire & plate	Mass of Zinc Coating	IS 6745
15	CHEMICAL- METALS & ALLOYS	Gun Metal / Bronze	Copper	BSEN 15079 OES
16	CHEMICAL- METALS & ALLOYS	Gun Metal / Bronze	Iron	BSEN 15079 OES
17	CHEMICAL- METALS & ALLOYS	Gun Metal / Bronze	Lead	BSEN 15079 OES
18	CHEMICAL- METALS & ALLOYS	Gun Metal / Bronze	Nickel	BSEN 15079 OES
19	CHEMICAL- METALS & ALLOYS	Gun Metal / Bronze	Phosphorus	BSEN 15079 OES

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Accreditation Standard ISO/IEC 17025:2017

Certificate Number TC-6175 **Page No** 2 of 5

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20	CHEMICAL- METALS & ALLOYS	Gun Metal / Bronze	Tin	BSEN 15079 OES
21	CHEMICAL- METALS & ALLOYS	Gun Metal / Bronze	Zinc	BSEN 15079 OES
22	CHEMICAL- METALS & ALLOYS	Gun Metal/Bronze	Aluminium	BSEN 15079 OES
23	CHEMICAL- METALS & ALLOYS	High Alloy steel, Stainless steel	Manganese	ASTM E 1086-2014 (OES), IS 9879
24	CHEMICAL- METALS & ALLOYS	High Alloy steel, Stainless steel	Sulphur	ASTM E 1086-2014 (OES), IS 9879
25	CHEMICAL- METALS & ALLOYS	High Alloy steel, Stainless steel	Carbon	ASTM E 1086-2014 (OES), IS 9879
26	CHEMICAL- METALS & ALLOYS	High Alloy steel, Stainless steel	Chromium	ASTM E 1086-2014 (OES), IS 9879
27	CHEMICAL- METALS & ALLOYS	High Alloy steel, Stainless steel	Molybdenum	ASTM E 1086-2014 (OES), IS 9879
28	CHEMICAL- METALS & ALLOYS	High Alloy steel, Stainless steel	Nickel	ASTM E 1086-2014 (OES), IS 9879
29	CHEMICAL- METALS & ALLOYS	High Alloy steel, Stainless steel	Phosphorus	ASTM E 1086-2014 (OES), IS 9879
30	CHEMICAL- METALS & ALLOYS	High Alloy steel, Stainless steel	Silicon	ASTM E 1086-2014 (OES), IS 9879
31	CHEMICAL- METALS & ALLOYS	Plain Carbon Steel and Low Alloy Steel	Carbon	ASTM E 415 - 2017 (OES Method), IS 8811
32	CHEMICAL- METALS & ALLOYS	Plain Carbon Steel and Low Alloy Steel	Chromium	ASTM E 415 - 2017 (OES Method), IS 8811
33	CHEMICAL- METALS & ALLOYS	Plain Carbon Steel and Low Alloy Steel	Manganese	ASTM E 415 - 2017 (OES Method), IS 8811
34	CHEMICAL- METALS & ALLOYS	Plain Carbon Steel and Low Alloy Steel	Molybdenum	ASTM E 415 - 2017 (OES Method), IS 8811
35	CHEMICAL- METALS & ALLOYS	Plain Carbon Steel and Low Alloy Steel	Nickel	ASTM E 415 - 2017 (OES Method), IS 8811
36	CHEMICAL- METALS & ALLOYS	Plain Carbon Steel and Low Alloy Steel	Phosphorus	ASTM E 415 - 2017 (OES Method), IS 8811
37	CHEMICAL- METALS & ALLOYS	Plain Carbon Steel and Low Alloy Steel	Silicon	ASTM E 415 - 2017 (OES Method), IS 8811
38	CHEMICAL- METALS & ALLOYS	Plain Carbon Steel and Low Alloy Steel	Sulphur	ASTM E 415 - 2017 (OES Method), IS 8811

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Accreditation Standard ISO/IEC 17025:2017

Certificate Number TC-6175 **Page No** 3 of 5

Validity 03/05/2021 to 02/05/2023 **Last Amended on** -

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39	CHEMICAL- METALS & ALLOYS	Plain Carbon Steel and Low Alloy Steel	Vanadium	ASTM E 415 - 2017 (OES Method), IS 8811
40	CHEMICAL- PETROLEUM AND PRODUCTS	Furnace Oil	Density @ 15 °C	IS 1448 (Part-16)
41	CHEMICAL- PETROLEUM AND PRODUCTS	Furnace Oil	Gross Calorific Value (cal/g)	IS 1448 (Part-6)
42	CHEMICAL- PETROLEUM AND PRODUCTS	Furnace Oil	Kinematic Viscosity @ 50 °C	IS 1448 (Part-25)
43	CHEMICAL- PETROLEUM AND PRODUCTS	Furnace Oil	Total Acidity (mg of KOH/g of oil)	IS 1448 (Part-2)
44	CHEMICAL- PETROLEUM AND PRODUCTS	Furnace Oil	Water Content (percent by volume)	IS 1448 (Part-40)
45	CHEMICAL- PETROLEUM AND PRODUCTS	Lubricating Oil	Density @ 15 °C	IS 1448 (Part-16)
46	CHEMICAL- PETROLEUM AND PRODUCTS	Lubricating Oil	Flash point (PMCC)	IS 1448 (Part-21)
47	CHEMICAL- PETROLEUM AND PRODUCTS	Lubricating Oil	Kinematic Viscosity @ 40 °C	IS 1448 (Part-25)
48	CHEMICAL- PETROLEUM AND PRODUCTS	Lubricating Oil	Total Acidity (mg of KOH/g of oil)	IS 1448 (Part-2)
49	CHEMICAL- POLLUTION & ENVIRONMENT	Effluent Water	Calcium as Ca	IS 3025 (Part 40)
50	CHEMICAL- POLLUTION & ENVIRONMENT	Effluent Water	Chloride as Cl	IS 3025 (Part 32)
51	CHEMICAL- POLLUTION & ENVIRONMENT	Effluent Water	Magnesium as Mg	IS:3025 (Part 46)
52	CHEMICAL- POLLUTION & ENVIRONMENT	Effluent Water	pH @ 25°C	IS:3025 (Part-11)
53	CHEMICAL- POLLUTION & ENVIRONMENT	Effluent Water	Sodium as Na	IS:3025 (Part-45)
54	CHEMICAL- POLLUTION & ENVIRONMENT	Effluent Water	Sulphate as SO4	IS:3025 (Part-24)
55	CHEMICAL- POLLUTION & ENVIRONMENT	Effluent Water	Total Alkalinity as CaCO3	IS:3025 (Part-23)
56	CHEMICAL- POLLUTION & ENVIRONMENT	Effluent Water	Total Hardness as CaCO3	IS:3025 (Part-21)
57	CHEMICAL- SOLID FUELS	Lignite	Ash	IS: 1350 (Part I)
58	CHEMICAL- SOLID FUELS	Lignite	Gross Calorific Value (GCV)	IS 1350 (Part-2)

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Accreditation Standard	ISO/IEC 17025:2017		
Certificate Number	TC-6175	**Page No**	4 of 5
Validity	03/05/2021 to 02/05/2023	**Last Amended on**	-

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59	CHEMICAL- SOLID FUELS	Lignite	Moisture	IS 1350 (Part I)
60	CHEMICAL- SOLID FUELS	Lignite	Volatile Matter	IS: 1350 (Part I)
61	CHEMICAL- WATER	Ground Water, Bore Well, Surface Water	Calcium as Ca	IS:3025 (Part-40)
62	CHEMICAL- WATER	Ground Water, Bore Well, Surface Water	Magnesium as Mg	IS:3025 (Part-46)
63	CHEMICAL- WATER	Ground Water, Bore Well, Surface Water	pH @ 25°C	IS:3025 (Part-11)
64	CHEMICAL- WATER	Ground Water, Bore Well, Surface Water	Sodium as Na	IS:3025 (Part-45)
65	CHEMICAL- WATER	Ground Water, Bore Well, Surface Water	Total Hardness as CaCO3	IS:3025 (Part-21)
66	MECHANICAL- BUILDINGS MATERIALS	Cement	Compressive Strength	IS: 4031 (Part 6)
67	MECHANICAL- BUILDINGS MATERIALS	Cement	Final Setting Time	IS: 4031 (Part 5)
68	MECHANICAL- BUILDINGS MATERIALS	Cement	Initial Setting Time	IS: 4031 (Part 5)
69	MECHANICAL- BUILDINGS MATERIALS	Cement	Sp gravity	IS: 4031 (Part 11)
70	MECHANICAL- BUILDINGS MATERIALS	Cement	Standard Consistency	IS: 4031 (Part 4)
71	MECHANICAL- BUILDINGS MATERIALS	Fine Aggregate	Bulk Density (Compacted)	IS: 2386 (Part III)
72	MECHANICAL- BUILDINGS MATERIALS	Fine Aggregate	Materials finer than 75-micron	IS: 2386 (Part I)
73	MECHANICAL- BUILDINGS MATERIALS	Fine Aggregate	Sieve Analysis Test Sieves (75 micron, 150 micron, 300 micron, 600 micron, 1.18 mm, 2.36 mm, 4.75 mm)	IS: 2386 (Part I)
74	MECHANICAL- BUILDINGS MATERIALS	Fine Aggregate	Specific gravity	IS: 2386 (Part III)
75	MECHANICAL- BUILDINGS MATERIALS	Fine Aggregate	Water Absorption	IS: 2386 (Part III)
76	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Steel and Copper alloy Products, Bars, Plates, Sections & welds	% Elongation	IS 1608:Part1
77	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Steel and Copper alloy Products, Bars, Plates, Sections & welds	Tensile strength	IS 1608:Part1
78	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Steel and Copper alloy Products, Bars, Plates, Sections & welds	Yield strength	IS 1608:Part1

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79	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Steel and Tungsten Carbide Inserts,Drills	Vickers Hardness test-(HV 5)	IS 1501(Part-1)
80	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Steel for Concrete Reinforcement & Structural Steel	Bend Test	IS 1599
81	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Steel for Concrete Reinforcement & Structural Steel	Mass per Metre	IS 1786
82	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Steel for Concrete Reinforcement & Structural Steel	Rebend Test	IS 1786
83	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Steel products	Brinell Hardness Test	IS: 1500(Part-1)
84	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Steel products & Hard facing materials	Rockwell Hardness test HRC	IS 1586:Part 1
85	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Steel products & Hard-facing materials	Rockwell Hardness test HRB	IS 1586:Part 1
86	MECHANICAL- PLASTICS AND PLASTIC PRODUCTS	Plastics & Hard Rubber products	Shore Hardness Test Shore-D	IS 13360 (Part-5/ Sec.11)
87	MECHANICAL- RUBBER AND RUBBER PRODUCTS	Conveyor Belts	Breaking strength in Transverse direction	IS: 1891 (part-1)
88	MECHANICAL- RUBBER AND RUBBER PRODUCTS	Conveyor Belts	Breaking strength in Longitudinal direction	IS 1891 (part-1)
89	MECHANICAL- RUBBER AND RUBBER PRODUCTS	Vulcanized Rubber products	Shore Hardness Test Shore A	IS 3400(Part-23/Sec1)