National Accreditation Board for Testing and Calibration Laboratories

SCOPE OF ACCREDITATION

Laboratory Name : ISGEC HITACHI ZOSEN LTD., PLOT NO.13-B, G.I.D.C. INDUSTRIAL ESTATE, DAHEJ, BHARUCH, GUJARAT, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number TC-6146 **Page No** 1 of 6

Validity 28/07/2021 to 27/07/2023 **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	CHEMICAL- METALS & ALLOYS	Nickel & Nickel Alloys	Niobium	ASTM E 3047
2	CHEMICAL- METALS & ALLOYS	Nickel & Nickel Alloys	Phosphorous	ASTM E 3047
3	CHEMICAL- METALS & ALLOYS	Nickel & Nickel Alloys	Silicon	ASTM E 3047
4	CHEMICAL- METALS & ALLOYS	Nickel & Nickel Alloys	Sulphur	ASTM E 3047
5	CHEMICAL- METALS & ALLOYS	Nickel & Nickel Alloys	Tantalum	ASTM E 3047
6	CHEMICAL- METALS & ALLOYS	Nickel and Nickel Alloys	Aluminum	ASTM E 3047
7	CHEMICAL- METALS & ALLOYS	Nickel and Nickel Alloys	Carbon	ASTM E 3047
8	CHEMICAL- METALS & ALLOYS	Nickel and Nickel Alloys	Chromium	ASTM E 3047
9	CHEMICAL- METALS & ALLOYS	Nickel and Nickel Alloys	Cobalt	ASTM E 3047
10	CHEMICAL- METALS & ALLOYS	Nickel and Nickel Alloys	Copper	ASTM E 3047
11	CHEMICAL- METALS & ALLOYS	Nickel and Nickel Alloys	Iron	ASTM E 3047
12	CHEMICAL- METALS & ALLOYS	Nickel and Nickel Alloys	Manganese	ASTM E 3047
13	CHEMICAL- METALS & ALLOYS	Nickel and Nickel Alloys	Molybdenum	ASTM E 3047
14	CHEMICAL- METALS & ALLOYS	Nickel and Nickel Alloys	Nickel	ASTM E 3047
15	CHEMICAL- METALS & ALLOYS	Plain Carbon Steel and Low Alloy Steel	Aluminum	ASTM E 415
16	CHEMICAL- METALS & ALLOYS	Plain Carbon Steel and Low Alloy Steel	Boron	ASTM E 415
17	CHEMICAL- METALS & ALLOYS	Plain Carbon Steel and Low Alloy Steel	Carbon	ASTM E 415
18	CHEMICAL- METALS & ALLOYS	Plain Carbon Steel and Low Alloy Steel	Chromium	ASTM E 415

SCOPE OF ACCREDITATION

Laboratory Name : ISGEC HITACHI ZOSEN LTD., PLOT NO.13-B, G.I.D.C. INDUSTRIAL ESTATE, DAHEJ, BHARUCH, GUJARAT, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number TC-6146 **Page No** 2 of 6

Validity 28/07/2021 to 27/07/2023 **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
19	CHEMICAL- METALS & ALLOYS	Plain Carbon Steel and Low Alloy Steel	Copper	ASTM E 415
20	CHEMICAL- METALS & ALLOYS	Plain Carbon Steel and Low Alloy Steel	Manganese	ASTM E 415
21	CHEMICAL- METALS & ALLOYS	Plain Carbon Steel and Low Alloy Steel	Molybdenum	ASTM E 415
22	CHEMICAL- METALS & ALLOYS	Plain Carbon Steel and Low Alloy Steel	Nickel	ASTM E 415
23	CHEMICAL- METALS & ALLOYS	Plain Carbon Steel and Low Alloy Steel	Niobium	ASTM E 415
24	CHEMICAL- METALS & ALLOYS	Plain Carbon Steel and Low Alloy Steel	Nitrogen	ASTM E 415
25	CHEMICAL- METALS & ALLOYS	Plain Carbon Steel and Low Alloy Steel	Phosphorous	ASTM E 415
26	CHEMICAL- METALS & ALLOYS	Plain Carbon Steel and Low Alloy Steel	Silicon	ASTM E 415
27	CHEMICAL- METALS & ALLOYS	Plain Carbon Steel and Low Alloy Steel	Sulphur	ASTM E 415
28	CHEMICAL- METALS & ALLOYS	Plain Carbon Steel and Low Alloy Steel	Titanium	ASTM E 415
29	CHEMICAL- METALS & ALLOYS	Plain Carbon Steel and Low Alloy Steel	Vanadium	ASTM E 415
30	CHEMICAL- METALS & ALLOYS	Stainless Steel	Carbon	ASTM E 1086
31	CHEMICAL- METALS & ALLOYS	Stainless Steel	Chromium	ASTM E 1086
32	CHEMICAL- METALS & ALLOYS	Stainless Steel	Copper	ASTM E 1086
33	CHEMICAL- METALS & ALLOYS	Stainless Steel	Manganese	ASTM E 1086
34	CHEMICAL- METALS & ALLOYS	Stainless Steel	Molybdenum	ASTM E 1086
35	CHEMICAL- METALS & ALLOYS	Stainless Steel	Nickel	ASTM E 1086
36	CHEMICAL- METALS & ALLOYS	Stainless Steel	Phosphorous	ASTM E 1086
37	CHEMICAL- METALS & ALLOYS	Stainless Steel	Silicon	ASTM E 1086

SCOPE OF ACCREDITATION

Laboratory Name : ISGEC HITACHI ZOSEN LTD., PLOT NO.13-B, G.I.D.C. INDUSTRIAL ESTATE, DAHEJ, BHARUCH, GUJARAT, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number TC-6146 **Page No** 3 of 6

Validity 28/07/2021 to 27/07/2023 **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
38	CHEMICAL- METALS & ALLOYS	Stainless Steel	Sulphur	ASTM E 1086
39	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Austenitic Stainless Steel	IGC Practice E	ASTM A 262
40	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Carbon Steel, Low Alloy Steel, Austenitic Stainless Steel, Duplex Steel & Nickel Alloy	Pull out test	ASME SEC VIII DIV 1
41	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Carbon Steel, Low Alloy Steel, Austenitic Stainless Steel, Duplex Steel & Nickel Alloy	Vickers Hardness (HV10 kgf Load)	ASME SEC IX
42	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Carbon Steel, Low Alloy Steel, Austenitic Stainless Steel & Nickel Alloy	% Elongation	ASME SEC II C
43	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Carbon Steel, Low Alloy Steel, Austenitic Stainless Steel & Nickel Alloy	Bend Test guided by Roller (Mandrel Size : 3,5,8,10,12,20,40,45,60,90,180 mm)	ASME SEC IX
44	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Carbon Steel, Low Alloy Steel, Austenitic Stainless Steel & Nickel Alloy	Brinell Hardness (2.5/187.5 kgf Load)	ASME SEC IX
45	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Carbon Steel, Low Alloy Steel, Austenitic Stainless Steel & Nickel Alloy	Charpy 'V' Notch Impact Test Temperature (+ 50 °C to -101 °C & Minus 196 °C)	ASTM E 23
46	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Carbon Steel, Low Alloy Steel, Austenitic Stainless Steel & Nickel Alloy	Ultimate Tensile Strength	ASME SEC IX
47	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Carbon Steel, Low Alloy Steel, Austenitic Stainless Steel & Nickel Alloy	Yield Strength (0.2 % proof Strength)	ASME SEC IX
48	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Forgings ,Sheets and Plates ,Weldments ,Castings	Macro etch Test	ASTM E 340
49	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Metals & Alloys	Elevated Temperature Tension Test @ 35 Deg. C to 700 Deg. C (% Elongation)	ASTM E 21
50	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Metals & Alloys	Elevated Temperature Tension Test @ 35 Deg. C to 700 Deg. C (% Reduction Area)	ASTM E 21
51	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Metals & Alloys	Elevated Temperature Tension Test @ 35 Deg. C to 700 Deg. C (Ultimate Tensile Strength)	ASTM E 21

SCOPE OF ACCREDITATION

Laboratory Name : ISGEC HITACHI ZOSEN LTD., PLOT NO.13-B, G.I.D.C. INDUSTRIAL ESTATE, DAHEJ, BHARUCH, GUJARAT, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number TC-6146 **Page No** 4 of 6

Validity 28/07/2021 to 27/07/2023 **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
52	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Metals & Alloys	Elevated Temperature Tension Test @ 35 Deg. C to 700 Deg. C (% Elongation)	ASTM E 21
53	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Metals & Alloys	Elevated Temperature Tension Test @ 35 Deg. C to 700 Deg. C (Ultimate Tensile Strength)	ASTM E 21
54	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Metals and Alloys	Elevated Temperature Tension Test @35 Deg C to 700 Deg. C (Yield Strength)	ASTM E 21
55	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Metals and Alloys	Bend Test guided by Roller (Mandrel Size : 3,5,8,10,12,20,40,45,60,90,180 mm)	ASTM E 190
56	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Metals and Alloys	Elevated Temperature Tension Test @ 35 Deg. C to 700 Deg. C (% Reduction Area)	ASTM E 21
57	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Metals and Alloys	Elevated Temperature Tension Test @35 Deg C to 700 Deg. C (Yield Strength)	ASTM E 21
58	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Plate ,Pipe, Forging ,Tubes ,Casting	Charpy 'V' Notch Impact Test Temperature (+ 50 °C to -101 °C & Minus 196 °C)	ASTM E 23
59	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Plate ,Pipe, Forging ,Tubes, Casting	% Elongation	ASTM A 370
60	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Plate ,Pipe, Forging ,Tubes, Casting	% Elongation	ASTM E8/E8M
61	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Plate ,Pipe, Forging ,Tubes, Casting	% Reduction Area	ASTM A 370
62	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Plate ,Pipe, Forging ,Tubes, Casting	% Reduction Area	ASTM E8/E8M
63	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Plate ,Pipe, Forging ,Tubes, Casting	Bend Test guided by Roller (Mandrel Size : 3,5,8,10,12,20,40,45,60,90,180 mm)	ASTM A 370
64	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Plate ,Pipe, Forging ,Tubes, Casting	Bend Test guided by Roller (Mandrel Size : 3,5,8,10,12,20,40,45,60,90,180 mm)	ASTM E 290

SCOPE OF ACCREDITATION

Laboratory Name : ISGEC HITACHI ZOSEN LTD., PLOT NO.13-B, G.I.D.C. INDUSTRIAL ESTATE, DAHEJ, BHARUCH, GUJARAT, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number TC-6146 **Page No** 5 of 6

Validity 28/07/2021 to 27/07/2023 **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
65	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Plate ,Pipe, Forging ,Tubes, Casting	Brinell Hardness (2.5/187.5 kgf Load)	ASTM A 370
66	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Plate ,Pipe, Forging ,Tubes, Casting	Brinell Hardness (2.5/187.5 kgf Load)	ASTM E 10
67	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Plate ,Pipe, Forging ,Tubes, Casting	Charpy 'V' Notch Impact Test Temperature (+ 50 °C to -101 °C & Minus 196 °C)	ASTM A 370
68	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Plate ,Pipe, Forging ,Tubes, Casting	Charpy 'V' Notch Impact Test Temperature (+ 50 °C to -101°C & Minus 196 °C)	ASME SEC VIII DIV I
69	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Plate ,Pipe, Forging ,Tubes, Casting	Charpy 'V' Notch Impact Test Temperature (+ 50 °C to -101°C & Minus 196 °C)	ASME SEC VIII DIV II
70	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Plate ,Pipe, Forging ,Tubes, Casting	Ultimate Tensile Strength	ASTM A 370
71	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Plate ,Pipe, Forging ,Tubes, Casting	Ultimate Tensile Strength	ASTM E8/E8M
72	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Plate ,Pipe, Forging ,Tubes, Casting	Vickers Hardness (HV10 kgf Load)	ASTM A 370
73	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Plate ,Pipe, Forging ,Tubes, Casting	Vickers Hardness (HV10 kgf Load)	ASTM E 92
74	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Plate ,Pipe, Forging ,Tubes, Casting	Yield Strength (0.2 % proof Strength)	ASTM E8/E8M
75	MECHANICAL-MECHANICAL PROPERTIES OF METALS	Plate ,Pipe, Forging ,Tubes, Casting	Yield Strength (0.2% Proof Strength)	ASTM A 370
76	MECHANICAL-METALLOGRAPHY TEST	Austenitic Stainless Steel	IGC Practice E	ASTM A 262
77	MECHANICAL-METALLOGRAPHY TEST	Austenitic Stainless Steel	IGC Practice E	ASTM A 262
78	MECHANICAL-METALLOGRAPHY TEST	Carbon Steel, Low Alloy Steel, Austenitic Stainless Steel, Duplex Steel & Nickel Alloy	Micro Examination (General Structure)	ASM Metal Hand Book Microstructure & Atlas Volume 9

SCOPE OF ACCREDITATION

Laboratory Name : ISGEC HITACHI ZOSEN LTD., PLOT NO.13-B, G.I.D.C. INDUSTRIAL ESTATE, DAHEJ, BHARUCH, GUJARAT, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number TC-6146 **Page No** 6 of 6

Validity 28/07/2021 to 27/07/2023 **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
79	MECHANICAL-METALLOGRAPHY TEST	Carbon Steel, Low Alloy Steel, Austenitic Stainless Steel, Duplex Steel & Nickel Alloy	Micro Examination (Grain size by Comparison method)	ASTM E 112
80	MECHANICAL-METALLOGRAPHY TEST	Plate, Pipe, Forging, Tubes, Casting	Micro Examination (General Structure)	ASM Metal Hand Book Microstructure & Atlas Volume 9
81	MECHANICAL-METALLOGRAPHY TEST	Plate, Pipe, Forging, Tubes, Casting	Micro Examination (General Structure)	ASM Metal Hand Bok Microstructure & Atlas Volume 9
82	MECHANICAL-METALLOGRAPHY TEST	Plate, Pipe, Forging, Tubes, Casting	Micro Examination (Grain size by Comparison method)	ASTM E 112
83	MECHANICAL-METALLOGRAPHY TEST	Plate, Pipe, Forging, Tubes, Casting	Micro Examination (Grain size by Comparison method)	ASTM E 112