SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

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MECHANICAL

Valid To: February 28, 2027 Certificate Number: 5669.09

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests on metals, alloys, welded joints, manhole tops, rubbers, and elastomers:

Test(s):	**Test Method(s):**
Corrosion Test:	
Susceptibility to Intergranular Attack	ASTM G28 Method A, ASTM A262 Practice A, B&E
Pitting Resistance	ASTM G48 Methods A, ASTM A923 Method A&C
Mechanical Tests:	
Hardness Test:	
Rockwell (A, B and C Scales)	ASTM E18 ; BS EN ISO 6508-1
Vickers (HV 0.5, 1, 5 & 10)	ASTM E92, ASTM E384 ; BS EN ISO 6507-1, BS EN ISO 9015-1
Brinell Hardness Test	ASTM E10 ; BS 6506-1
Portable Hardness (LEEB & UCI)	ASTM A956, ASTM A 103B
Rubbers / Elastomers Hardness (Shore A & D Scale)	ASTM D2240
Charpy Impact including Expansion and Shear (-196 °C and -101°C to ambient)	ASTM A370 ASTM E23, BS EN ISO 148-1
Fracture Toughness CTOD (77K to 360K) (Under Liquid or Air)	BS 7448-1:1991 (Withdrawn), BS 7448-2:1997 (Withdrawn), BS ISO 12135, BS EN ISO 15653

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Test(s):	**Test Method(s):**
Tensile (Parent & Weldments) at Ambient Temperature	ASTM A370, ASTM A770/770M, ASTM B557 & B557M, ASTM E8/E8M ; BS EN ISO 6892-1&2, BS EN 10164, BS EN ISO 4136, BS EN ISO 5178
Rebar Test (Tensile, Rib geometry, Bend & Rebend)	ASTM A615/A615M, ASTM A775/A775M; BS 4449, BS EN ISO 15630-1, BS 6744 ; ISO 6935-2
Bolts, Nuts, and Studs Tensile, Surface Hardness & Proof Load (In full Section and Machined test Pieces)	ASTM F606/F606M ; BS EN ISO 898-1 & 2 BS EN ISO 3506-1 & 2
Multi Wire Steel Strand, Tensile Strength	ASTM A1061/A1061M; BS EN ISO 15630-3
HDPE & Plastic Pipe (Parent & Weld sample) Tensile	ASTM D638; BS ISO 13953; DVS 2203-2; ISO 527-1 & 2
Tensile, Bend, Fillet fracture, Macro & Nick Break Test for Material, Welding and Welder Qualification in accordance with specification.	ASME IX ; API 1104, API 5L ; AWS D1.1/D1.1M,; AWS D1.6/D1.6M; BS EN ISO 15614-1&2, BS EN 287-1, BS EN ISO 9017, BS EN ISO 5173, BS EN 10025-1, BS EN ISO 9606-1&2, BS 4515-1&2, DNV-OS-F101; DNV-ST-F101, DNVGL-ST-F101, DVS 2203-5 ; ISO 15156 -1&2

Test(s):	**Test Method(s):**
Flattening	ABS, Lloyd's Rules; ASTM A370, ASTM A530/A530M, ASTM A500/A500M, ASTM A999; API 5L , BS EN ISO 8492
Manhole Tops Loading Deflection (up to 1000 kN)	BS EN 124-1
Metallic Fiber Concrete, Measuring Flexural Tensile Strength (Limit Proportionality, Residual)	BS EN 14651
Chemical Analysis of Steels, Stainless Steels and Nickel Alloys (By OES)	ASTM A751, ASTM E415, ASTM E1086, ASTM E3047
Positive Material Identification	APIRP 578; ASTM E1476
Coating Testing:	
Metallic Coating-Hot Dip Galvanized Coating Thickness (stripping method)	ASTM A90; BS EN ISO 1460
Non-Magnetic Coatings Thickness (Elco Meter)	ASTM B499
Coating Thickness	ASTM 7091, ASTM D6132, ASTM D1186; G12, SSPC-PA 2; ISO 2808
Gel Time	NACE SP 0394
Coating Porosity	ASTM E 2109; NACE SP 0394
Hot Water Soak	ASTM D870; ISO 2812-2, ISO 21809-3; NACE SP 0394
Pull Off Adhesion	ASTM D4541, ASTM D3359 ; BS EN ISO 4624 ; ISO 21809-3
Moisture and Volatile Content	NACE SP 0394
Flexibility Test	NACE SP 0394
Impact Test	ASTM G14, ASTM D2794 ; BS EN ISO 6272-1, BS EN ISO 21809-2 ; NACE SP 0394

Test(s):	**Test Method(s):**
Holiday Testing	ASTM D4787, ASTM G62, ASTM D5162; ISO 21809-3 ; NACE SP 0188, NACE SP0490
Metallurgical Testing:	
Metallographic Preparation	ASTM E3
Grain Size Measurement	ASTM E112
Microstructure of Cast Irons	ASTM A247; ISO 945-1
Replica Surface Microstructure	ASTM E1351; EL-M-OP-MEC-DOH-MD009
Determination of Ferrite Content Fischer Feritscope MP30 / Volume Fraction	ASTM E562; EL-M-OP-MEC-DOH-MD022
Macro Examination	ASTM A380/380M; AWS D1.6/D1.6M; BS EN ISO 17639
Micro Examination	BS EN ISO 17639
Failure Analysis	ASM Handbook Vol 11, API 571 and Methods listed on scopes
SEM and EDS	ASTM B 748, ASTM E 1508; EL-M-OP-MET-DOH-MD011

Accredited Laboratory

A2LA has accredited

ELEMENT DOHA LLC

Doha, Qatar

for technical competence in the field of

Mechanical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (*refer to joint ISO-ILAC-IAF Communiqué dated April 2017*).

Presented this 18th day of March 2025.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 5669.09
Valid to February 28, 2027

For the tests to which this accreditation applies, please refer to the laboratory's Mechanical Scope of Accreditation.