



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

ELEMENT MATERIALS TECHNOLOGY CANADA INC.

15 High Ridge Court  
Cambridge ON, Canada N1R7L3  
Roger Graham Phone: +1 519 621-8191  
[roger.graham@element.com](mailto:roger.graham@element.com)

MECHANICAL

Valid To: November 30, 2026

Certificate Number: 6526.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests on cast, forged, welded, or pressed metal components:

| <b><u>Test(s):</u></b>   | <b><u>Test Method(s):</u></b>                    |
|--|--|
| <b><u>Chemical</u></b>   |  |
| Standard Test Methods for Determination of Carbon, Sulfur, Nitrogen, and Oxygen in Steel, Iron, Nickel, and Cobalt Alloys by Various Combustion and Inert Gas Fusion Techniques  | ASTM E1019                                       |
| Chemical Analysis of Carbon, Low-Alloy Steel and Aluminum and Aluminum Alloys by OES (Optical Emission Spectroscopy)<br><br>Quantitative Analysis:<br>Aluminum Alloys<br>Carbon and Low Alloy Steels   | CHE-1;<br>ASTM E1251;<br>ASTM E415               |
| Analysis of Metals and Metal Alloys -<br>THERMO ICAP 6500 and THERMO iCAP PRO XP<br><br>Aluminum Alloys<br>Carbon and Low Alloy Steels<br>Cast Irons<br>Cobalt Alloys<br>Copper and Brass Alloys<br>Nickel Alloys<br>Stainless Steels<br>Titanium Alloys<br>Tool Steels<br>Zinc Alloys | CHEM-1004; CHEM-1007;<br>ASTM D1976 <sup>1</sup> |

| <b><u>Test(s):</u></b>  | <b><u>Test Method(s):</u></b>   |
|---|---|
| <b><u>Chemical continued</u></b>  |   |
| Analysis of Oxygen, Nitrogen and Hydrogen by<br>Eltra Elementrac ONH-p Combustion<br><br>Analysis of Hydrogen in Steel and Ferrous Alloy<br>Carbon and Low Alloy Steels<br>Cast Irons<br>Cobalt Alloys<br>Nickel Alloys<br>Stainless Steel<br>Titanium and Titanium Alloys<br>Tool Steels | CHEM-20;<br>ASTM E1409;<br>ASTM E1447;<br>ASTM E1937 <sup>1</sup> ;<br>ASTM E1019 <sup>1</sup>      |
| <b><u>Mechanical</u></b>  |   |
| Tension   | ASTM A370; ASTM B557/557M;<br>ASTM E8/E8M ( <i>except Annexes 2, 10 &amp; A1</i> ); ASTM A770/A770M |
| n – Value   | ASTM E646   |
| r – Value   | ASTM E517   |
| Impact (Charpy)   | ASTM E23  |
| Hardness<br>Rockwell (A, B, C, E, F, 15N, 30N, 45N, 15T, 30T, 45T)<br>Brinell (500kg to 3000kg)<br>Pencil   | ASTM E10; ASTM E18; ASTM D3363  |
| Mechanical Properties of Fasteners, Washers, and Rivets   | ASTM F606/F606M ( <i>except Sections 5 &amp; 6</i> )  |
| Tensile   | JIS Z 2241  |
| <b><u>Metallographic Evaluation</u></b>   |   |
| Metallographic Preparation  | ASTM E3   |
| Inclusion Ratings by Image Analysis   | ASTM E1245  |
| Intergranular Corrosion   | ASTM A262; ASTM G28   |
| Coating Thickness   | ASTM B487; ASTM B499; ASTM B244;<br>ASTM D7091; ISO 2808; ASTM D1400                                |
| Macroetching  | ASTM E340; ASTM E381  |
| Microetching  | ASTM E407   |
| Inclusion Content   | ASTM E45  |
| Microstructure of Cast Iron   | ASTM A247   |
| Dendrite Arm Spacing  | SAE ARP 1947 (Only for section 4.4)   |
| Density   | ASTM B962   |

| <b><u>Test(s):</u></b>  | <b><u>Test Method(s):</u></b>  |
|---|--|
| <b><u>Metallographic Evaluation continued</u></b>   |  |
| Moist SO <sub>2</sub>   | ASTM G87   |
| Abrasion  | ASTM D4060   |
| Visual and Macroscopic Evaluation of Welds  | ISO 5817 ( <i>excluded: beam welds</i> ); AWS D1.2 (Sections 3.6, 3.7, 3.8, 5.14, 5.2, 6.4, and 6.4.5.5); CSA-W47.1 (Sections 9.9, 9.10, 9.11, 9.14, 11.6, 11.7); AWS D1.1   |
| Determination and Acceptance of Boiler and Pressure Vessel Code (Sections II only)                        | SA-193/SA-193M; SA-194/SA-194M; SA-213/SA-213M; SA-240/SA-240M; SA-325, SA-370; SA-450/SA-450M; SA-530/SA-530M ( <i>except Section 20</i> ); SA-540/SA-540M; SA-962/SA-962M; III, Section VIII Only for: UG-84 and Section IX Only for: QW-144, QW-150, QW-160, QW-184, QW-193 ( <i>except Section I.2</i> ), QW-194, QW-462.1, QW-462.4, QW-462.5, QW-462.12<br><br>ASME Section II Part A, Section II Part B, Section VIII, Section IX |
| Microhardness<br>Knoop (25g to 1000g)<br>Vickers (50g to 1000g)<br>Macrohardness<br>Vickers (5kg to 30kg) | ASTM E384<br>ASTM E92<br><br>ASTM E92  |
| Standard Test Methods and Definitions for Mechanical Testing of Steel Products                            | ASTM A370  |
| Bend  | ASTM E190; AWS D1.1  |
| Ferrite Testing   | ASTM A800/A800M; ASTM A799; ASTM E562  |
| Depth of Decarburization  | ASTM E1077; SAE J419   |
| Grain Size  | ASTM E112  |
| <b><u>Coating Testing</u></b>   |  |
| Coating Weight  | ASTM A90; ASTM B767  |
| <b><u>Environmental/ Corrosion Testing</u></b>  |  |
| Corrosion   | ASTM C1617; ASTM B858; Chrysler LP-463PB-52-01; LP463PB-22-01; ASTM D2803; GMW14872; Ford CETP 00.00-L-467; GMW 14124 ( <i>except Cycles H, N, R, T</i> ); SAE J2334; GMW 15288; ASTM A923/ASTM A1084  |

| <b><u>Test(s):</u></b>  | <b><u>Test Method(s):</u></b>   |
|---|---|
| <b><u>Environmental / Corrosion Testing continued</u></b>       |   |
| Salt Spray Testing  | ASTM B117; FLTM BI_103-01; ISO 9227; JISZ2371; TSH 1552G; GMW 3286; ASTM B368; GMW 14458; ASTM G85; SAE J2334; GMW14872; GMW14124 ( <i>except Cycles H, N, R, T</i> ) |
| Water Resistance of Coatings                                    | ASTM D870; FLTM BI 104-01   |
| Pitting Corrosion   | ASTM G48  |
| Humidity  | ASTM D1735, GMW 14729; ASTM D4585; ASTM D2247   |
| Color   | ASTM D2244; ASTM E1164  |
| Chip or Gravel Resistance                                       | ASTM D3170; SAE J400; GMW 14700   |
| Adhesion  | ASTM D3359; FLTM BI 106-01; GMW 14829; ASTM D522; ISO 2409  |
| Gloss/Haze Measurements   | ASTM D523   |
| Evaluations   | ASTM D610; ASTM D714; GMW 15356; GMW 15357; GMW 15358; GMW 15359; ASTM D1654; GMW 15282   |
| Water Immersion   | ASTM D870; FLTM BI 104-01   |
| Fuel Resistance of Automotive Exterior Materials and Components | GMW 14334; Chrysler 463PB-31-01   |
| Coatings Performance  | GMW 14671 (Sections 4.11.1 & 4.11.2)  |

<sup>1</sup> Modified Method



## Accredited Laboratory

A2LA has accredited

**ELEMENT MATERIALS TECHNOLOGY CANADA INC.**

*Cambridge, Ontario, Canada*

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 25<sup>th</sup> day of September 2024.

A blue ink signature of Mr. Trace McInturff, written in a cursive style.

Mr. Trace McInturff, Vice President, Accreditation Services  
For the Accreditation Council  
Certificate Number 6526.01  
Valid to November 30, 2026  
Revised March 28, 2025

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