

## CERTIFICATE OF ACCREDITATION

### **ANSI-ASQ National Accreditation Board**

500 Montgomery Street, Suite 625, Alexandria, VA 22314, 877-344-3044

This is to certify that

# Element Materials Technology Monterrey Carr. Monterrey-Saltillo 3279-B, Col. Privadas de Santa Catarina Santa Catarina NL, CP 66367 Mexico

has been assessed by ANAB and meets the requirements of international standard

# ISO/IEC 17025:2005

while demonstrating technical competence in the fields of

## **TESTING**

Refer to the accompanying Scope of Accreditation for information regarding the types of calibrations and/or tests to which this accreditation applies.

<u>L2195.03</u> Certificate Number



Version No. 002 Issued: 04/18/2018





#### SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

#### **Element Materials Technology Monterrey**

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#### **TESTING**

Valid to: February 23, 2019 Certificate Number: L2195.03

#### Mechanical

Version 002 Issued: April 18, 2018

| Specific Tests and/or<br>Properties Measured   | Specification, Standard,<br>Method, or Test Technique  | Items, Materials or<br>Product Tested                        | Key Equipment or<br>Technology                            |
|--|--|--|---|
| Tensile: (Elongation, Reduction of Area, Tensile Strength, Yield Strength) (600 to 60 000) lbf | ASTM E8; ASTM A370<br>ASTM E21; ISO 6892-1<br>ISO 6892-2; EN 2002-1<br>EN 2002-2; BS HR 100<br>BS 4 A4-1 | Flat, Round, Metals, Alloys                                  | Ambient and<br>Elevated Temperature at (300<br>to 980) °C |
| Tensile: (Elongation, Reduction of Area, Tensile Strength, Yield Strength) (600 to 60 000) lbf | ASTM B557  | Flat, Round, Cast Wrought,<br>Aluminum Magnesium<br>Products | Ambient Temperature                                       |
| Rockwell Hardness<br>HRBW, HRC   | ASTM E18   | Metals, Alloys   |   |
| Brinell Hardness (HBW)   | ASTM E10   | Metals, Alloys   | 10 / 1 000<br>10 / 3 000                                  |
| Impact (Charpy)<br>(0.185 to 240) ft·lbf   | ASTM E23<br>ASTM A370  | Metals, Alloys   | Ambient Temperature to -73 °C                             |
| Stress Rupture (Elongation, Reduction of Area, Stress Rupture) (100 to 10 000) lbf             | ASTM E139; ASTM E292<br>BS HR 100; BS 4 A4-1<br>EN 2002-005  | Round, Metals, Alloys  | Elevated Temperature at (300 to 980) °C                   |
| Creep (100 to 10 000) lbf  | ASTM E139  | Round, Metals, Alloys  | Elevated Temperature at (300 to 980) °C                   |
| IGA/IGO<br>End Grain Pitting   | SOP # IGA;<br>ASTM E3  | Metals, Alloys   | Microscopical Methods                                     |
| Metallography –<br>Alloy Depletion   | SOP # ALDEP;<br>ASTM E407; ASTM E3   | Metals, Alloys   | Microscopical Methods                                     |





#### Mechanical

| Specific Tests and/or<br>Properties Measured    | Specification, Standard,<br>Method, or Test Technique             | Items, Materials or<br>Product Tested | Key Equipment or<br>Technology              |
|---|---|---------------------------------------|---|
| Metallography –<br>Grain Size                   | ASTM E112;<br>ASTM E1181; ASTM E930;<br>ASTM E1351<br>GE E50TF133 | Metals, Alloys, Nickel Alloys         | Microscopical Methods                       |
| Metallography –<br>Sample Preparation           | ASTM E3   | Metals, Alloys                        |   |
| Metallography –<br>Macroetching                 | ASTM E3<br>ASTM E340; ASTM A604                                   | Metals, Alloys                        |   |
| Metallography –<br>Microetching                 | ASTM E407   | Metals, Alloys                        | Microscopical Methods                       |
| Metallography –<br>Alpha Case                   | ASTM E407; GE P3TF19<br>SOP # ALPHA;<br>PWA E142                  | Metals, Alloys                        | Microscopical Methods                       |
| Metallography –<br>Microstructure               | SOP# MET;<br>AMS 2380   | Metals, Alloys                        | Microscopical Methods                       |
| Metallography – Inclusion<br>Rating<br>Method A | ASTM E45  | Metals, Alloys                        | Microscopical Methods                       |
| Heat Treating of Test Samples                   | AMS 2750  | Metals, Alloys                        | Heat Treating of specimens for testing only |

#### **Non-Destructive**

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| Specific Tests and/or<br>Properties Measured                         | Specification, Standard,<br>Method, or Test Technique   | Items, Materials or<br>Product Tested | Key Equipment or<br>Technology |
|--|---|---------------------------------------|--------------------------------|
| Non-Destructive -Penetrant Inspection Type I Sensitivity Levels: 3-4 | SOP# FPI/IPA<br>ASTM E 1417 -<br>Methods: A and D   | Metal Product                         |                                |
| Macroetching Inspection  | SOP # EPI/PIL2;<br>Snecma DMC 0330<br>DMC 0095, DPM 12-300,<br>DMC 9513; GE P4TF4, P&W<br>MCL Code 2 Method G | Metals, Alloys                        |                                |





#### Chemical

| Specific Tests and/or  | Specification, Standard,                                | Items, Materials or   | Key Equipment or                          |
|--|---|---|---|
| Properties Measured  | Method, or Test Technique                               | Product Tested  | Technology                                |
| Chemical Analysis<br>(ONH detection by inert gas<br>fusion analysis) | ASTM E1409; ASTM E1447;<br>ASTM E1019<br>SOP# ONH-Ti-Fe | Titanium and Titanium<br>Alloys. Steel, Iron, Nickel,<br>and Cobalt Alloys. | Inert Gas Fusion Analyzer<br>LECO ONH 836 |

#### Note:

- 1. This laboratory offers commercial testing service.
- 2. This scope is formatted as part of a single document including Certificate of Accreditation No. L2195.03.



