



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

ELEMENT MATERIALS TECHNOLOGY DALEVILLE  
9301 Innovation Dr., Suite 175  
Daleville, IN 47334  
Teent Hoagland Phone: 765 378 4170

MECHANICAL

Valid To: August 31, 2022

Certificate Number: 0174.02

In recognition of the successful completion of the A2LA evaluation process (including compliance to R223 – Specific Requirements – GE Aviation S-400 Accreditation Program), accreditation is granted to this laboratory to perform the following types of tests on materials, metals and fasteners:

<u>Test</u>	<u>Test Method(s)</u>
<u>Physical Properties:</u>	
Bend	ASTM A370, E290, E190
Coating and Plating Adhesion	ASTM B571 (Less Sec. 6 & 10), C633, E290, F1147; Federal Test Method Standard 141, Method “Adhesion (Wet) Tape Test”
Creep, Stress Rupture	ASTM E139, E292
End Quench Hardenability - Jominy	ASTM A255; SAE J406
Hardness Testing	
Rockwell (A, B, C, E, F)	ASTM A370, E18; Bell Helicopter BPS 4467
Rockwell Superficial (15N, 30N, 45N, 15T, 30T, 45T)	ASTM A370, E18; Bell Helicopter BPS 4467
Brinell Hardness (500, 1000, 3000 Kg)	ASTM A370, E10
Microhardness	
Vickers (50, 100, 200, 300, 500, 1000g)	ASTM B578, E92, E384; NASM 1312-6
Knoop (25, 50, 100, 200, 300, 500, 1000g)	ASTM B578, E92, E384; NASM 1312-6
Hydrogen Embrittlement	ASTM F519
Impact Testing	
Charpy Impact (-320°F to Room Temperature)	ASTM A370, A923, E23
Izod Impact (Room Temperature)	ASTM E23

<u>Test</u>	<u>Test Method(s)</u>
Tension / Tensile	
Elevated Temperature Tension / Tensile	ASTM E21
Strain Ratio (r value)	ASTM E517
Strain-Hardening (n value)	ASTM E646
Tensile (60K max)	ASTM A370, B557/B557M, E8/E8M, E345, F1147; ISO 6892-1
Specimen Conditioning (HT)	MTP 2070 <sup>1</sup>
<u>Metallographic Evaluations:</u>	
Alpha Case	PTP 1007 <sup>1</sup> ; GEAE P3TF19, P3TF32; PW MCLM E142
Bond Integrity / Oxide Content / Cracking	PTP 1060 <sup>1</sup> ; GEPG P16B-AG11; PW MCLM E53
Case Depth	SAE J423; ARP 1820
Coating / Plating Thickness (Metallographic)	ASTM B487
Corrosion and Exfoliation Corrosion Susceptibility	ASTM A262 (Practice A, E), A763 (Practice W, X, Z), A923, G28 (Method A), G34, G46, G48 (Method A), G110, PTP 1048 <sup>1</sup>
Depth of Decarburization	AMS-H-6875; ASTM E1077, F2328
Grain Size	ASTM E112, E883, E930, E1181
Image Analysis (Second Phase Analysis)	ASTM E1245
Inclusion Content	ASTM E45; SAE J422
Macroetching	ASTM A604, E340, E381
Microetching	ASTM E407
Evaluation of Porous Coatings	ASTM F1854
Microstructure Evaluation	ASM Metals Handbook (Volume 7, 8 <sup>th</sup> Edition); NAS 4002, 4004; PTP 1010 <sup>1</sup> ; FTP 4004 <sup>1</sup>
Preparation	ASTM E3
Recast / Re-melt	PTP 1049 <sup>1</sup>

**Test**

**Test Method(s)**

Metallographic Evaluations (cont'd):

Surface Finish

SAE J448

Visual / Microscopic Metallurgy

GE P3TF3 (PTP 1055<sup>1</sup>)

Welder Certification / Weld Procedure Testing  
(Visual, Mechanical)

Using the methods listed above in accordance with:

ASME Section IX; AWS: D1.1/D1.1M, D1.2/D1.2M, D1.3/D1.3M, D1.5/D1.5M, D1.6/D1.6M, D9.1/D9.1M, D10.9/D10.9M, D17.1/D17.1M; MIL-STD-248D (Withdrawn 1997)<sup>2</sup>; NAVSEA S 9074-AQ-GIB-010/248

Environmental Simulation:

Salt Spray

ASTM B117, D1654; NASM 1312-1; GM4298P (Superseded 2010)<sup>2</sup>

<sup>1</sup>In-House Test Method.

<sup>2</sup>This laboratory's scope contains withdrawn or superseded methods. As a clarifier, this indicates that the applicable method itself has been withdrawn or is now considered "historical" and not that the laboratory's accreditation for the method has been withdrawn.





## *Accredited Laboratory*

A2LA has accredited

### **ELEMENT MATERIALS TECHNOLOGY DALEVILLE**

*Daleville, IN*

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 laboratory also meets the requirements of R223 – Specific Requirements: GE Aviation S400 Accreditation Program. 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 31<sup>st</sup> day of July 2020.

A blue ink signature of the Vice President of Accreditation Services.

Vice President, Accreditation Services  
For the Accreditation Council  
Certificate Number 0174.02  
Valid to August 31, 2022

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