SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

HOWMET RESEARCH CENTER
1500 S. Warner St.
Whitehall, MI 49461-1895
Thomas S. Jones Phone: 231 981 3851

MECHANICAL

Valid To: March 31, 2017 Certificate Number: 2208.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests on aircraft components, automotive components, ceramics, coatings, glass and glass products, metals and alloys, and plastics and polymers:

Test	Test Method(s)
Hardness:	
Rockwell (HRB, HRC)[1]	ASTM E18
Microindentation (Knoop, Vickers)[1] (100g, 300g, 500g)	ASTM E384
Tensile (Up to 60 000 lb, 70 ºF to 1800 °F)[1]	ASTM E8/E8M, E21
Stress Rupture[1]/Creep Rupture (To 2000 °F)	ASTM E139
Metallographic Evaluation:	
Preparation[1]	ASTM E3, E1920
Grain Size	ASTM E112, E930
Microetching[1]	ASTM E407
SEM with Energy Dispersive Spectroscopy (Including Failure Analysis)	MCL III-510
Alpha Case, IGA/IGO/ Casting Mold Reaction, Alloy Depletion	MCL III-251
Failure Analysis	ASM Handbook Volume 11

[1] This accreditation also includes an evaluation of the GE S-400 requirements for the tests listed above using the GE AC1.1 checklist.

American Association for Laboratory Accreditation

Accredited Laboratory

A2LA has accredited

HOWMET RESEARCH CENTER

Whitehall, MI

for technical competence in the field of

Mechanical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *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 8 January 2009*).

Presented this 2nd day of April 2015.

President & CEO
For the Accreditation Council
Certificate Number 2208.01
Valid to March 31, 2017

AMERICAN ASSOCIATION FOR LABORATORY ACCREDITATION
CORPORATE SEAL 1978
DISTRICT OF COLUMBIA
A2LA

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