



CERTIFICATE OF ACCREDITATION

ANSI-ASQ National Accreditation Board

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

This is to certify that

Chromalloy - ECoE
3999 RCA Blvd
Palm Beach Gardens, FL 33410

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

ISO/IEC 17025:2005

while demonstrating technical competence in the field(s) of

TESTING

Refer to the accompanying Scope(s) of Accreditation for information regarding the types of tests to which this accreditation applies.

AT-1851

Certificate Number

ANAB Approval

Certificate Valid To: 03/19/2018
Version No. 002 Issued: 02/02/2016



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



ANSI-ASQ National Accreditation Board

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

Chromalloy-ECOE

3999 RCA Blvd., Palm Beach Gardens, FL, 33410
 Jeff Johnson Phone: 561-935-3571
 jjohnson@chromalloy.com www.chromalloy.com

TESTING

Valid to: March 19, 2018

Certificate Number: AT - 1851

I. Mechanical

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	*KEY EQUIPMENT OR TECHNOLOGY
Rockwell Hardness	All base materials / coatings	Rockwell Hardness	ASTM E18	Macro hardness tester
Knoop and Vickers Hardness	All base materials / coatings	Vickers Hardness Knoop Hardness	ASTM E384	Micro hardness tester
Grain Size	All base materials	ASTM Grain Size	ASTM E112, ASTM E1382	Optical Light Microscope Image Analysis Software
Coating Thickness	All coatings	Surface layer thickness	ASTM B487	Optical Light Microscope Image Analysis Software
Failure Analysis	All engine components	Root cause analysis	ASM Metal Handbook, 9 th Ed., Vol 11 Scope Listed Methods	All metallurgy lab equipment
Preparation of Metallographic Specimens	All engine components	NA	ASTM E3	Mounting presses Grinding/Polishing stations Etching hood
Inclusion Content	All engine components	Inclusion size Inclusion percent area	ASTM E45, E1245	Optical Light Microscope



FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	*KEY EQUIPMENT OR TECHNOLOGY
Graphite in Cast Iron	Cast Iron Products	Form, Type, Size	ASTM A247	Optical Light Microscope
Elemental Analysis by Energy Dispersive Spectroscopy	All base materials/coatings	Quantitative & Qualitative Elemental Analysis by EDS	ASTM E1508	Scanning Electron Microscope Energy Dispersive Spectroscopy
Digital Microscope Photomicroscopy	All Components	Photomicrographs	Photometric Methods	Digital Microscope
Optical Light Photomicroscopy	All base materials / coatings	Photomicrographs	ASTM E883	Optical Light Microscope
SEM Photomicroscopy	All Components	Photomicrographs	Photometric Methods	Scanning Electron Microscope
Modal Analysis	All Engine / Turbine Components	Frequency, Amplitude	Customer Specified Method	Dynamic Signal Analyzer Laser Vibrometer
High Cycle Fatigue	All Engine / Turbine Blades	Component S/N Curve	Customer Specified Method	Fatigue Shaker Furnace Laser Disp. Sensor
CMM	All Engine / Turbine Components	Dimensional Measurements	Customer Drawings & CMM Software	CMM
Length, Diameter, Location	All Engine / Turbine Components	Dimensional Measurements	Customer Drawings & Tesa Software	Height Gage
Optical Scanning ³	All Engine / Turbine Components	Dimensional Measurements	Customer Drawings & Scanner Software	Optical Scanner
Component Weight	All Engine / Turbine Components	Weight	Standard Method	Scales
Surface Roughness	All Engine / Turbine Components	Surface Roughness	ISO 1562	Surface Roughness Gauge

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	*KEY EQUIPMENT OR TECHNOLOGY
Airflow Testing ³	All Engine / Turbine Components	Airflow Measurement Effective Flow Area Pressure Distribution	Customer Agreed-Upon Method	Commercial Flow Benches

Notes:

1. * = As Applicable
2. Customers may request method modification and/or acceptance criteria other than those specified by the standards. In these cases, the test methods will be followed using the customer specified modifications and criteria. Notation of the deviations will be made on the test reports.
3. These tests are available as field services.
4. This scope is formatted as part of a single document including the Certificate of Accreditation No. AT – 1851



Vice President

