

## **SCOPE OF ACCREDITATION**

### **Materials Testing Laboratories**

**Element Chicago**  
194 Internationale Blvd  
Glendale Heights, IL 60139-2094

This certificate expiration is updated based on periodic audits. The current expiration date and scope of accreditation are listed at: [www.eAuditNet.com](http://www.eAuditNet.com) - Online QML (Qualified Manufacturer Listing).

In recognition of the successful completion of the PRI evaluation process, accreditation is granted to this facility to perform the following:

#### **AC7000 Rev A - AUDIT CRITERIA FOR NADCAP ACCREDITATION**

#### **AC7101/1 Rev H - Nadcap Audit Criteria for Materials Testing Laboratories – General Requirements for All Laboratories (to be used on audits on/AFTER 10-Dec-2023)**

#### **AC7101/2 Rev E - Nadcap Audit Criteria for Materials Testing Laboratories – Chemical Analysis (to be used on audits on/after 30 August 2020)**

(F) Atomic or Optical Emission Spectroscopy (AES or OES)

(F2) Atomic Emission Spectroscopy – Inductively Coupled Plasma (ICP–OES/AES)

(F3) Atomic Emission Spectroscopy – Spark/Arc (S/A–OES)

(G) Elemental Analysis (Combustion or Fusion)

(G1) Carbon

(G2) Hydrogen

(G3) Nitrogen

(G4) Oxygen

(G5) Sulfur

Specify the Alloy Base for Accreditation

Al Base

Co Base

Cu Base

Fe Base

Mg base

Ni Base

Ti Base

#### **AC7101/3 Rev D - Nadcap Audit Criteria for Materials Testing Laboratories – Mechanical Testing (to be used on audits on/after 4 December 2016)**

(A) Room Temperature Tensile

(B) Elevated Temperature Tensile

- (C) Stress Rupture
- (N) Impact
- (XN) Bend Testing

**AC7101/4 Rev F - Nadcap Audit Criteria for Materials Testing Laboratories – Metallography and Microindentation Hardness (to be used on/after 14 August, 2016)**

- (L0) Metallographic Evaluation
- (L1) Microindentation (Interior)
- (L10) Near Surface Examinations – Carburization / Decarburization
- (L11) Grain Size
- (L12) Inclusion Rating
- (L2) Near Surface Examinations – Alloy Depletion
- (L3) Near Surface Examinations – Oxidation/Corrosion
- (L4) Near Surface Examinations – Casting (Mold) Reactions Layers
- (L5) Near Surface Examinations – Microindentation (Surface–Case Depth)
- (L6) Near Surface Examinations – Nitriding
- (L7) Near Surface Examinations – IGA, IGO
- (L8) Near Surface Examinations – Alpha Case: Wrought Titanium
- (XL) Macro Examination

**AC7101/5 Rev D - Nadcap Audit Criteria for Materials Testing Laboratories – Hardness Testing (Macro) (to be used on audits BEFORE 07-May-2023)**

- (M1) Brinell Hardness
- (M2) Rockwell Hardness
- (M3) Vickers Hardness

**AC7101/6 Rev D - Nadcap Audit Criteria for Materials Testing Laboratories – Corrosion (to be used on/after 1 July 2018)**

- (Q) Salt Spray
- (Q1) Detecting susceptibility to intergranular attack in austenitic stainless steel
  - (Q1–1) Oxalic Acid Etch Test
  - (Q1–2) Ferric Sulfate–Sulfuric Acid Test “Streicher test” (mass loss)
  - (Q1–3) Nitric Acid Test “Huey test” (mass loss)
  - (Q1–4A) Copper–Copper Sulfate– 16% Sulfuric Acid Test “Strauss test” (bend test)

**AC7101/7 Rev D - Nadcap Audit Criteria for Materials Testing Laboratories – Mechanical Testing Specimen Preparation (to be used on audits on/after 15 May 2016)**

- (Z) Standard Specimen Machining
- (Z3) Cast Specimens
- (Z4) Special Preparation

**AC7101/9 Rev C - Nadcap Audit Criteria for Materials Testing Laboratories – Specimen Heat Treating (to be used on/after 15 January 2017)**

**AC7101/14 Rev NA - Nadcap Audit Criteria for Materials Testing Laboratories – Proficiency Testing and Internal Round Robin Requirements for ALL Laboratories (to be used on audits on/AFTER 10-Dec-2023)**

**AC7110/13 Rev B - Nadcap Audit Criteria for Evaluation of Welds (to be used on audits BEFORE 05-May-2024)**

NOTE: IF YOU ARE SELECTING THE AC7110/13 CHECKLIST YOU MUST ALSO SELECT AC7101/4 – Nadcap Audit Criteria for Materials Testing Laboratories – Metallography and Microhardness. You must also select AC7110/13S

Supplement A – Metallurgical Evaluation of Welder / Welding Operator Qualifications (identify if this process is used)

Supplement B – Metallurgical Evaluation of Fusion Welds (identify if this process is used)

Supplement C – Metallurgical Evaluation of Electron Beam / Laser Welds (identify if this process is used)

Supplement D – Metallurgical Evaluation of Resistance Welds (identify if this process is used)

Supplement E – Bend Test Evaluation of Fusion Welds (for other testing purposes)

Supplement E – Bend Test Evaluation of Welder/Welding Operator Qualification Welds

**AC7110/13S Rev D - Nadcap Supplemental Audit Criteria for Evaluation of Welds to be used on audits ON OR AFTER 11 January 2015)**

U10 GE Aviation

U11 The Boeing Company

U2 Pratt & Whitney

U3 Rolls–Royce plc

**ISO/IEC - Currently accredited by an ILAC approved source**

**Lab Type - Lab Type**

Independent