



This certificate is granted and awarded by the authority of the Nadcap Management Council to:

Element Huntington Beach

*15062 Bolsa Chica
Huntington Beach, CA 92649
United States*

This certificate demonstrates conformance and recognition of accreditation for specific services, as listed in www.eAuditNet.com on the Qualified Manufacturers List (QML), to the revision in effect at the time of the audit for:

Materials Testing Laboratories

Certificate Number: 3658196199
Expiration Date: 31 August 2022
Accreditation Length: 18 Months

David L. Schutt, PhD
President

SCOPE OF ACCREDITATION

Materials Testing Laboratories

Element Huntington Beach
15062 Bolsa Chica
Huntington Beach, CA 92649

This certificate expiration is updated based on periodic audits. The current expiration date and scope of accreditation are listed at: 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:

AC7101/1 Rev G - Nadcap Audit Criteria for Materials Testing Laboratories – General Requirements for All Laboratories (to be used on audits on/after 5 May 2019)

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

(S) X–Ray Fluorescence (XRF)

(W) Atomic Absorption

(W2) Graphite Furnace (GFAA)

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
- (CT) Compression Testing
- (N) Impact
- (O) High Cycle Fatigue
- (P) Fracture Toughness
- (XA) Creep
- (XE) Crack Propagation/Crack Growth Testing
- (XN) Bend Testing
- (Y) Low Cycle Fatigue

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
- (L13) Replication
- (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)
- (L5X) Near Surface Examinations – Microindentation (Surface) (Chord Method ARP1820)
- (L6) Near Surface Examinations – Nitriding
- (L7) Near Surface Examinations – IGA, IGO
- (L8) Near Surface Examinations – Alpha Case: Wrought Titanium
- (L9) Near Surface Examinations – Alpha Case: Cast Titanium
- (XL) Macro Examination

AC7101/5 Rev D - Nadcap Audit Criteria for Materials Testing Laboratories – Hardness Testing (Macro) (to be used on audits on/after 22 March 2015)

- (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

- (Q1–4A) Copper–Copper Sulfate– 16% Sulfuric Acid Test “Strauss test” (bend test)
- (Q2) Alternate immersion stress corrosion testing – ASTM G 44
- (Q2–1) ASTM G 49
- (Q2–3) ASTM G 38
- (Q3) ASTM G 34

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
- (Z2) Low Stress Grinding and Polishing

AC7101/11 Rev C - Nadcap Audit Criteria for Materials Testing Laboratories – Fastener Testing (to be used on audits on/after 25 October 2015)

- (10) Stress Rupture
- (11) Fatigue
- (13) Shear Strength – Double Shear
- (14) Stress Durability – Internal Threads
- (18) Tensile Test – Elevated Temperature Tensile
- (31) Torque – Locking, Torque–Out
- (40L10) Metallography – Decarburization / Carburization
- (40L2) Metallography – Alloy Depletion
- (40L25) Metallography – Grain Size
- (40L3) Metallography – Oxidation / Corrosion
- (40L7) Metallography – IGA / IGO
- (40L8) Metallography –Alpha Case: Wrought Titanium
- (5) Stress Durability – External Threads
- (6–L5) Hardness – Microindentation Hardness
- (6–M2) Hardness – Rockwell
- (6–M3) Hardness – Vickers
- (8–A) Tensile Test – Axial Tensile
- (8–P) Tensile Test – Proof Load (nuts / screws)
- (8–W) Tensile Test – Wedge Tensile
- (Q) Corrosion – Salt Spray

AC7110/13 Rev B - Nadcap Audit Criteria for Evaluation of Welds to be used ON OR AFTER 5 MAY 2013

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 Electron Beam and Laser (for other testing purposes)
- 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
- U8 Airbus

ISO/IEC - Currently accredited by an ILAC approved source

Lab Type - Lab Type

Independent



This certificate is granted and awarded by the authority of the Nadcap Management Council to:

Element Huntington Beach – Graham Street

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United States*

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David L. Schutt, PhD
President

SCOPE OF ACCREDITATION

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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
- (Z1) Low Stress Grinding
- (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)

Lab Type - Lab Type

Independent