



## Element Daleville

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### Certificates



Current

Commodity

Issued

Expiry

MTL

#### Materials Testing Laboratories

18 Month Merit

Element Daleville, 9301 Innovation Drive Suite 175, Daleville, Indiana,  
United States

Sep 10, 2021

Aug 31, 2023



Scope: AC7000 - AUDIT CRITERIA FOR NADCAP ACCREDITATION

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)

- Specify the Alloy Base for Accreditation
  - Ti Base
  - Ni Base
  - Mg base
  - Fe Base
  - Cu Base
  - Co Base
  - Al Base
- (W) Atomic Absorption
  - (W2) Graphite Furnace (GFAA)
- (S) X-Ray Fluorescence (XRF)
- (G) Elemental Analysis (Combustion or Fusion)
  - (G5) Sulfur
  - (G4) Oxygen
  - (G3) Nitrogen
  - (G2) Hydrogen
  - (G1) Carbon
- (F) Atomic or Optical Emission Spectroscopy (AES or OES)
  - (F3) Atomic Emission Spectroscopy – Spark/Arc (S/A-OES)
  - (F2) Atomic Emission Spectroscopy – Inductively Coupled Plasma (ICP-OES/AES)
  - (F1) Atomic Emission Spectroscopy – Direct Current Plasma (DCP-OES)
- (D) Wet Chemistry (Gravimetric)

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

- (XN) Bend Testing
- (XA) Creep
- (N) Impact
- (C) Stress Rupture
- (B) Elevated Temperature Tensile
- (A) Room Temperature Tensile

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

- (XL) Macro Examination
- (L9) Near Surface Examinations – Alpha Case: Cast Titanium
- (L8) Near Surface Examinations – Alpha Case: Wrought Titanium
- (L7) Near Surface Examinations – IGA, IGO
- (L6) Near Surface Examinations – Nitriding
- (L5X) Near Surface Examinations – Microindentation (Surface) (Chord Method ARP1820)
- (L5) Near Surface Examinations – Microindentation (Surface–Case Depth)
- (L4) Near Surface Examinations – Casting (Mold) Reactions Layers
- (L3) Near Surface Examinations – Oxidation/Corrosion
- (L2) Near Surface Examinations – Alloy Depletion
- (L12) Inclusion Rating
- (L11) Grain Size
- (L10) Near Surface Examinations – Carburization / Decarburization
- (L1) Microindentation (Interior)
- (L0) Metallographic Evaluation

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

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

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

- (Q3) ASTM G 34
- (Q1) Detecting susceptibility to intergranular attack in austenitic stainless steel
  - (Q1–4A) Copper–Copper Sulfate– 16% Sulfuric Acid Test “Strauss test” (bend test)
  - (Q1–1) Oxalic Acid Etch Test
- (Q) Salt Spray

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)

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

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

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 E – Bend Test Evaluation of Welder/Welding Operator Qualification Welds
  - Supplement E – Bend Test Evaluation of Fusion Welds (for other testing purposes)
  - Supplement E – Bend Test Evaluation of Electron Beam and Laser (for other testing purposes)
  - Supplement D – Metallurgical Evaluation of Resistance Welds (identify if this process is used)
  - Supplement C – Metallurgical Evaluation of Electron Beam / Laser Welds (identify if this process is used)
  - Supplement B – Metallurgical Evaluation of Fusion Welds (identify if this process is used)
  - Supplement A – Metallurgical Evaluation of Welder / Welding Operator Qualifications (identify if this process is used)

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

- U3 Rolls–Royce plc
- U20 GKN Aerospace – Sweden
- U2 Pratt & Whitney
- U13 Bombardier
- U11 The Boeing Company
- U10 GE Aviation

ISO/IEC - Currently accredited by an ILAC approved source

Lab Type - Lab Type

- Independent