



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

Carpenter Technology Corp

*101 W Bern St
Reading, PA 19601
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: 3546189931
Expiration Date: 31 October 2021
Accreditation Length: 24 Months

Michael J. Hayward
Executive Vice President & Chief Operating Officer

SCOPE OF ACCREDITATION

Materials Testing Laboratories

Carpenter Technology Corp
101 W Bern St
Reading, PA 19601

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 D - Nadcap Audit Criteria for Materials Testing Laboratories – Chemical Analysis (to be used on audits on/after 22 March 2015)

- (D) Wet Chemistry (Gravimetric)
- (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
 - (G3) – Nitrogen
 - (G4) – Oxygen
 - (G5) – Sulfur
- (S) X–Ray Fluorescence (XRF)
- (V) Mass Spectrometry
- (W) Atomic Absorption
 - (W1) Flame (AA)
 - (W2) Graphite Furnace (GFAA)

Specify the Alloy Base for Accreditation

- Co Base
- Fe Base
- Ni 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
- (P) Fracture Toughness
- (XA) Creep
- (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
- (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)

- (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)

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

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

Captive