



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

Otto Fuchs KG

*Derschlager Strasse
Meinerzhagen, 58540
Germany*

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: 4784205649
Expiration Date: 31 May 2023
Accreditation Length: 18 Months

Jay Solomond
Executive Vice President & Chief Operating Officer

SCOPE OF ACCREDITATION

Materials Testing Laboratories

Otto Fuchs KG
Derschlager Strasse
Meinerzhagen, 58540
Germany

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:

AC7000 - AUDIT CRITERIA FOR NADCAP ACCREDITATION

AC7006 Rev G - Audit Criteria Equivalent to ISO/IEC 17025

Chemical Analysis

- CH– Atomic Emission Spectroscopy – Inductively Coupled Plasma (ICP) / ASTM E1479
- CH– Elemental Analysis (Combustion or Fusion) – Hydrogen / ASTM E1447
- CH– Inductively Coupled Plasma (ICP)
- CH– OES Analysis of Aluminum Alloys / ASTM E227

Mechanical Testing

- M– Compression / ASTM E9
- M– Corrosion Testing – Stress Corrosion – Alternate Immersion Stress Corrosion Testing / ASTM G44
- M– Corrosion Testing – Stress Corrosion – Exfoliation Corrosion / ASTM G34
- M– Crack Propagation Measurement / ASTM E647
- M– Creep / ASTM E139
- M– Creep / EN 2002–5
- M– Creep / ISO 204
- M– Elevated Temperature Tensile / ASTM E21
- M– Elevated Temperature Tensile / EN 2002–2
- M– Fatigue Load Control / ASTM E466
- M– Fatigue Test – Load Control / EN 6072
- M– Fracture Toughness / ASTM E399
- M– Hardness / BS EN ISO6507
- M– Hardness Testing – Brinell Hardness / ASTM E10
- M– Hardness Testing – Brinell Hardness / ISO 6506
- M– Hardness Testing – Vickers (Macro) / ASTM E92
- M– IGA and End Grain Pitting / ASTM E3
- M– Measurement of Fatigue Crack Growth Rates /ASTM E647
- M– Metallography – Alpha Case / ASTM E3
- M– Metallography – Alpha Case / ASTM E407

- M– Metallography – Effective Case Depth / ASTM E384
- M– Metallography – General / ASTM E112
- M– Metallography – Grain Size (Nickel Alloys) / ASTM E112
- M– Metallography – Grain Size / ASTM E112
- M– Metallography – IGA/IGO
- M– Metallography – Macroetching / ASTM E3
- M– Metallography – Macroetching / ASTM E340
- M– Metallography – Microetching / ASTM E407
- M– Metallography – Standard Practice for Preparation of Metallographic Specimens / ASTM E3
- M– Microhardness Testing, Vickers / ASTM E384
- M– Room Temperature Tensile (Standard Test Methods of Tension Testing Wrought and Cast Aluminum– and Magnesium–Alloy Products) / ASTM B557
- M– Room Temperature Tensile / ASTM E8
- M– Room Temperature Tensile / EN 2002–1 (without modulus)
- M– Room Temperature Tensile / ISO 6892
- M– Stress Corrosion – Tension / ASTM G49
- M– Stress Rupture / ASTM E139
- M– Stress Rupture / ASTM E292

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)
 - (G2) Hydrogen
 - (S) X–Ray Fluorescence (XRF)
- Specify the Alloy Base for Accreditation
- Al Base
 - Mg 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
- (O) High Cycle Fatigue
- (P) Fracture Toughness
- (XA) Creep

(XE) Crack Propagation/Crack Growth 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)

(L11) Grain Size

(L13) Replication

(L5) Near Surface Examinations – Microindentation (Surface–Case Depth)

(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 on/after 22 March 2015)

(M1) Brinell Hardness

(M3) Vickers Hardness

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

(Q2) Alternate immersion stress corrosion testing – ASTM G 44

(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

Lab Type - Lab Type

Captive