

M.S. Aerospace

13928 Balboa Blvd. Sylmar, CA 91342 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:

Chemical Processing

Certificate Number: 3484200936 Expiration Date: 31 May 2023 Accreditation Length: 24 Months

David L. Schutt, PhD

President





Chemical Processing

M.S. Aerospace 13928 Balboa Blvd. Svlmar, CA 91342

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:

AC7108 Rev I - Nadcap Audit Criteria for Chemical Processing (to be used on audits on/after 21 January 2018)

AC7108/01— Painting Dry Film Coatings and Sol Gel as a Preparation for Paint – AC7108/1 must also be selected

AC7108/02 - Etch Inspection Processes and Pre-Penetrant Etch - AC7108/2 must also be selected

AC7108/04 - Solution Analysis and Testing - AC7108/4 must also be selected

AC7108/12 – Standalone Cleaning, Descaling, Passivation and Electropolishing – AC7108/12 must also be selected

General Cleaning and Pre-Cleaning

Alkaline Cleaning (If Titanium Alkaline Cleaning is also carried out then please check Chemical Cleaning – Titanium Cleaning – Alkaline" also)

Titanium Cleaning - Alkaline

Other Titanium Cleaning Alkaline

Ovens Used for Thermal Treatments at a Set Point above 250°F

Ovens for Thermal Treatments with a set point at or below 250°F (121°C) or for Miscellaneous Heating Processes, e.g. Part Drying.

AC7108/1 Rev D - Nadcap Audit Criteria for Painting & Dry Film Coatings (to be used on audits on/after 12 July 2020)

Dry Film Lubricant Coatings

AC7108/2 Rev G - Nadcap Audit Criteria for Etch Inspection Processes (Anodic Etch, Blue Etch, Anodize, Local, Macrostructure, Nital/Temper) and Pre-Penetrant Etch (to be used on audits on/after 11 October 2020)

Pre-Penetrant Etch Immersion pre

AC7108/4 Rev C - Nadcap Audit Criteria for Solution Analysis and Testing in Support of Chemical Processing to AC7108 (To Be Used On Audits Conducted On audits on/after 21

t-frm-0004 29-May-20

January 2018)

Solution Analysis In Support of AC7108

Testing Performed Internally In Support of the Chemical Process Accreditation

- B06 Water Immersion / Humidity Testing In Support of AC7108
- B10 Adhesion Testing (Adhesion Tape Testing) In Support of AC7108
- B11 Adhesion Testing (Scratch and Chisel Test) In Support of AC7108
- B14 Conductivity Testing In Support of AC7108
- B16 Coating Thickness Measurement In Support of AC7108
- B22 Solvent Resistance Testing In Support of AC7108
- B23 Other Testing In Support of AC7108

AC7108/12 Rev A - Nadcap Audit Criteria for Standalone Cleaning, Descaling, Passivation and Electropolishing (to be used on audits on/after 12 July 2020)

Passivation

t-frm-0004 29-May-20



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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:

Heat Treating

Certificate Number: 3484197226 Expiration Date: 30 November 2022 Accreditation Length: 18 Months

David L. Schutt, PhD

President



Heat Treating

M.S. Aerospace 13928 Balboa Blvd. Sylmar, CA 91342

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

AC7102 Rev J - Nadcap Audit Criteria for Heat Treating Baseline (AC7102/S and AC7102/8 must also be selected) (to be used on audits on/after 3 December 2017)

Nickel and Cobalt Alloys - Industry Specs - Check any applicable boxes

Industry Spec – Other

Nickel and Cobalt Alloys- Customer Specs

Stainless Steels, Austenitic – Industry Specs – Check any applicable boxes

Industry Spec – Other

Stainless Steels, Austenitic – Customer Specs

Stainless Steels, Martensitic – Customer Specs

Stainless Steels, Martensitic – Industry Specs – Check any applicable boxes

Industry Spec – Other

Stainless Steels, Precipitation Hardening – Customer Specs

Stainless Steels, Precipitation Hardening – Industry Specs – Check any applicable boxes

Industry Spec - Other

Steels – Industry Specs – Check any applicable boxes

Industry Spec – Other

Titanium Alloys – Customer Specs

Titanium Alloys – Industry Specs – Check any applicable boxes

Industry Spec – Other

Vacuum Heat Treating – Customer Specs

Vacuum Heat Treating – Industry Specs – Check any applicable boxes

AC7102S Rev H - Nadcap Supplemental Audit Criteria for Heat Treating (to be used on audits on before 7 April, 2019)

t frm 17 17-Jun-10

U14 SAFRAN Group
U18 United Technologies Corp. – Hamilton Sundstrand
U3 Rolls–Royce PLC
U7 MTU Aero Engines GmbH

AC7102/8 - Nadcap Audit Criteria for Heat Treating Pyrometry

Pyrometry – Customer Specs

Pyrometry – Industry Specs – Check any applicable boxes

AMS2750

t frm 17 17-Jun-10



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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

Certification Number: 3484190604 Expiration Date: 31 October 2021 Accreditation Length: 24 Months

Michael J. Hayward

Executive Vice President & Chief Operating Officer

Merit



Materials Testing

M.S. Aerospace 13928 Balboa Blvd. Sylmar, CA 91342

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 F - Nadcap Audit Criteria for Materials Testing Laboratories – General Requirements for All Laboratories (to be used on/after 14 Sept 2014)

AC7101/3 Rev C - Nadcap Audit Criteria for Materials Test Laboratories – Mechanical Testing (to be used on/after 28 August, 2011)

- (A) Room Temperature Tensile
- (B) Elevated Temperature Tensile
- (C) Stress Rupture

AC7101/4 Rev E - Nadcap Audit Criteria for Materials Test Laboratories – Metallography and Microindentation Hardness (to be used on/after 30 November 2014)

- (L0) Metallographic Evaluation
- (XL) Macro Examination

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

(Z) Standard Specimen Machining

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

- (10) Stress Rupture
- (11) Fatigue
- (13) Shear Strength Double Shear
- (18) Tensile Test Elevated TempTensile

- (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
- (8–A) Tensile Test Axial Tensile
- (8-P) Tensile Test Proof Load (nuts / screws)
- (8-W) Tensile Test Wedge Tensile
- (QF) Corrosion Copper Sulfate

ISO/IEC - Currently accredited by an ILAC approved source

Lab Type - Lab Type

Captive



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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:

NonDestructive Testing

Certificate Number: 3484193350 Expiration Date: 30 April 2022 Accreditation Length: 24 Months

Michael J. Hayward

Executive Vice President & Chief Operating Officer

Michael /1/0



Materials Testing

M.S. Aerospace 13928 Balboa Blvd. Sylmar, CA 91342

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

AC7101/1 Rev F - Nadcap Audit Criteria for Materials Testing Laboratories – General Requirements for All Laboratories (to be used on/after 14 Sept 2014)

AC7101/3 Rev C - Nadcap Audit Criteria for Materials Test Laboratories – Mechanical Testing (to be used on/after 28 August, 2011)

- (A) Room Temperature Tensile
- (B) Elevated Temperature Tensile
- (C) Stress Rupture

AC7101/4 Rev E - Nadcap Audit Criteria for Materials Test Laboratories – Metallography and Microindentation Hardness (to be used on/after 30 November 2014)

- (L0) Metallographic Evaluation
- (XL) Macro Examination

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

(Z) Standard Specimen Machining

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

- (10) Stress Rupture
- (11) Fatigue
- (13) Shear Strength Double Shear
- (18) Tensile Test Elevated TempTensile

- (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
- (8–A) Tensile Test Axial Tensile
- (8-P) Tensile Test Proof Load (nuts / screws)
- (8-W) Tensile Test Wedge Tensile
- (QF) Corrosion Copper Sulfate

ISO/IEC - Currently accredited by an ILAC approved source

Lab Type - Lab Type

Captive