

ELEMENT MATERIALS TECHNOLOGY - MUELHEIM

LAHNSTR. 26
D-45478 MUELHEIM AN DER RUHR
Germany

FOR THE ATTENTION OF
ANKE SCHMIDT-ZUM BERGE Project Manager Nadcap & Sen.

CERTIFICATE PREPARED BY
SAUX Alexandra

YOUR QTML FOCAL POINT
NUNEZ Cesar
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DATE
12/02/2021
OUR REFERENCE
SUR2020.0318 Ind. B
ARP-ID of the External Shop
318888
TYPE of External Shop
Independent

Attestation letter for Qualification on Test Methods

Dear Madam, Dear Sir,

We herewith inform that the couples <Test Methods / External Shop> as detailed in the Appendix have been either registered or modified in the Official Airbus Qualified Test Methods List (QTML).

The latest valid status of all qualified <Test Methods / External Shop> couples is published by regular QTML reports:

- On Airbus homepage for Suppliers (<https://www.airbus.com/be-an-airbus-supplier.html>) - Only Independent Labs.
- On Airbus Supply Portal A2QS - All External Shops.

A qualified couple is not linked to a specific product. It is the proof that the External Shop is meeting the requirement of the M20691.2: Perform Couple <Product/Supplier Site> Compliance and Maturity's Activities for Material Products Suppliers and/or M20691.3: Perform Couple <Product/Supplier Site> Compliance and Maturity's Activities for Aerostructure Parts Suppliers.

- On a quality aspect: we kindly ask you to indicate us any modification which could have a quality impact.
- Concerning technical requirements:
 - * We kindly ask you to participate at least every 2 years to the PTP for the tests you perform on Airbus Products (see Appendix for details on next PTP participation requirements).
You can find all necessary information about PTP participation process on the website: <https://ptpscheme.com>.
In case of PTP results out of tolerances, the couples qualification can be downgraded to an authorisation to proceed or withdrawn and the PTP participation frequency is reduced to one year, subject to acceptance by Airbus of your Root Cause Analysis and associated Corrective Actions.
 - * On the other hand, you shall supply at least every 2 years the results of your Internal Homogeneity Studies per Test Families.

Airbus reserves the right to withdraw or suspend the qualification at any time for specific reason, e.g.

- Any major incident(s) detected on one or several Test processes
- Lack in quality
- Evidence non-compliance with the M20691.2 and/or M20691.3
- Loss of Airbus Supplier Approval
- Stop of the Business

Yours faithfully,

NUNEZ Cesar
Airbus Test Methods Auditor POMDS – CE
Your QTML Focal Point



SAUX Alexandra
Test Methods Coordinator POMDS– CE
Your Quality Responsible



Appendix: Matrix of qualified Couples <Test Methods / External Shop>

APPENDIX: Matrix of qualified Couples <Test Methods / External Shop>

We hereby declare the External Shop:

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Qualified or Authorised to proceed for the following Test processes:

Test Standard(s) *	Test label	Complex.	Qualif. Status	Next PTP part. **	QCS Ref.	Remark
ASTM B557	Tension Testing Wrought and Cast Aluminum- and Magnesium-Alloy Products	Low	Qualified with limitations	2021		Without Young Modulus
ASTM E10	Standard Test Method for Brinell Hardness of Metallic Materials	Low	Qualified	2021		Al, Fe, Cu, Ti, Ni alloys
ASTM E1077	Standard test methods for estimating the depth of decarburization of steel specimens	Low	Qualified			Fe alloys
ASTM E112	Determining average grain size	Low	Qualified	2021		Fe, Cu alloys
ASTM E18	Standard Test Methods for Rockwell Hardness of Metallic Materials	Low	Qualified	2022		Al, Fe, Cu, Ti, Ni alloys
ASTM E21	Standard test methods for elevated temperature tension tests of metallic materials	Low	Qualified with limitations	2021		Al, Fe, Ni, Ti alloys Without Young's Modulus
ASTM E290	Bend testing of material for ductility	Low	Qualified			Al, Fe, Ni, Ti alloys
ASTM E3	Standard guide for preparation of metallographic specimens	Low	Qualified			Al, Cu, Fe, Ni, Ti alloys
ASTM E340	Macroetching metals and alloys	Low	Qualified			Fe alloys
ASTM E384	Microindentation hardness of materials	Low	Qualified	2021		Fe alloys
ASTM E407	Microetching metals and alloys	Low	Qualified			Al, Cu, Fe, Ni, Ti alloys
ASTM E45	Determining the inclusion content of steel	Low	Qualified with limitations	2022		Methods A and D Fe alloys
ASTM E8	Tension testing of metallic materials	Low	Qualified with limitations	2021		Al, Cu, Fe, Ni, Ti alloys Without Young's Modulus
ASTM E92	Vickers Hardness and Knoop Hardness of Metallic Materials	Low	Qualified	2021		Al, Fe, Cu, Ti, Ni alloys
EN 2002-1	Tensile testing at ambient temperature	Low	Qualified with limitations	2021		Without Young's Modulus
ISO 148-1 (low temp.)	Charpy pendulum impact test (low temperature)	Low	Qualified	2021		Al, Fe, Ni, Ti alloys
ISO 148-1 (room temp.)	Charpy pendulum impact test (ambient temperature)	Low	Qualified	2022		Al, Fe, Ni, Ti alloys

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APPENDIX: Matrix of qualified Couples <Test Methods / External Shop>

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Test Standard(s) *	Test label	Complex.	Qualif. Status	Next PTP part. **	QCS Ref.	Remark
ISO 643	Steels - Micrographic determination of the apparent grain size	Low	Qualified	2021		Fe alloys
ISO 6506	Metallic materials - Brinell hardness test	Low	Qualified	2021		Al, Fe, Cu, Ti, Ni alloys
ISO 6507	Metallic materials - Vickers hardness test	Low	Qualified	2021		Al, Fe, Cu, Ti, Ni alloys
ISO 6508	Metallic materials - Rockwell hardness test	Low	Qualified	2022		Al, Fe, Cu, Ti, Ni alloys
ISO 6892	Metallic materials - Tensile testing - Part 1: Method of test at room temperature / Part 2: Method of test at elevated temperature / Part 3: Method of test at low temperature	Low	Qualified	2021		Parts 1 & 2 Al, Cu, Fe, Ni, Ti alloys Without Young's Modulus

* Unless otherwise specified, last issue of the standard shall apply.

** Next PTP participation year is given for information - It is the External Shop's responsibility to check every year on the PTP Website (<https://ptpscheme.com/>) which kits are proposed.