

ELEMENT MATERIALS TECHNOLOGY

CLEVELAND

5405 EAST SCHAAF ROAD

44131, CLEVELAND

US

298998

TYPE of External Shop

INDEPENDENT

Attestation letter for Qualification on Test Methods

Dear Madam, Dear Sir,

We herewith inform that the couples 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 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 - All External Test Facilities.

A qualified couple is not linked to a specific product. It is the evidence that the External Test Facility is meeting the requirement of the M20691.2: Perform Couple Compliance and Maturity's Activities for Material Products Suppliers and/or M20691.3: Perform Couple Compliance and Maturity's Activities for Aerostructure Parts Suppliers.

- We ask you to inform AIRBUS about any modification which could affect the current qualification(s).

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, including the surveillance activities (PTP results, Nadcap accreditation, etc)
- Evidence Of non-compliance with the M20691.2 and/or M20691.3
- Loss of Airbus Supplier Approval
- Stop of the Business

Yours faithfully,
The Test Method Central Team

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

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Airbus SAS
Société par actions simplifiée au capital de 2.704.375 Euros
RCS Toulouse 383 474 81

Registered office:
1, rond-point Maurice Bellonte
31700 Blagnac, France

Test Methods (TM) as listed in Airbus Commercial Aircraft QTML for ELEMENT MATERIALS TECHNOLOGY - (298998)

| Test Standard(s)* | Test label | Complexity | Qualification Status | Limitation | Next External comparison test Participation. ** | Technical Qualification Reference | Deviation Reference | Last Qualification Update date |
|-------------------|--|------------|----------------------------|-------------------------------------|---|-----------------------------------|---------------------|--------------------------------|
| AITM4-0002 | MICROSTRUCTURAL CHARACTERIZATION OF WELDED ALUMINIUM STRUCTURES | LOW | QUALIFIED | | | | | 28/11/2022 |
| ASTMA262 | STANDARD PRACTICES FOR DETECTING SUSCEPTIBILITY TO INTERGRANULAR ATTACK IN AUSTENITIC STAINLESS STEELS | LOW | QUALIFIED | | | | | 28/11/2022 |
| ASTMA604 | STANDARD PRACTICE FOR MACROETCH TESTING OF CONSUMABLE ELECTRODE REMELTED STEEL BARS AND BILLETS | LOW | QUALIFIED | | | | | 28/11/2022 |
| ASTMB487 | TEST METHOD FOR MEASUREMENT OF METAL AND OXIDE COATING THICKNESSES BY MICROSCOPICAL EXAMINATION OF A CROSS-SECTION | LOW | QUALIFIED WITH LIMITATIONS | MICROSCOPIE NOT APPLIED ON FASTENER | | | | 28/11/2022 |
| ASTMB645 | STANDARD PRACTICE FOR LINEAR-ELASTIC PLANE STRAIN FRACTURE TOUGHNESS TESTING OF ALUMINUM ALLOYS | HIGH | QUALIFIED | | 2023 | | | 28/11/2022 |
| ASTME10 | STANDARD TEST METHOD FOR BRINELL HARDNESS OF METALLIC MATERIALS | LOW | QUALIFIED | | 2024 | | | 21/11/2022 |

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|-------------------|---|------------|----------------------|------------|---|-----------------------------------|---------------------|--------------------------------|
| ASTME112 | STANDARD TEST METHODS FOR DETERMINING AVERAGE GRAIN SIZE | LOW | QUALIFIED | | 2023 | | | 28/11/2022 |
| ASTME139 | STANDARD TEST METHODS FOR CONDUCTING CREEP CREEP-RUPTURE AND STRESS-RUPTURE TESTS OF METALLIC MATERIALS | LOW | QUALIFIED | | 2024 | | | 21/11/2022 |
| ASTME1409 | STANDARD TEST METHOD FOR DETERMINATION OF OXYGEN AND NITROGEN IN TITANIUM AND TITANIUM ALLOYS BY THE INERT GAS FUSION TECHNIQUE | LOW | QUALIFIED | | 2023 | | | 28/11/2022 |
| ASTME1447 | STANDARD TEST METHOD FOR DETERMINATION OF HYDROGEN IN TITANIUM AND TITANIUM ALLOYS BY THE INERT GAS FUSION THERMAL CONDUCTIVITY/INFRARED DETECTION METHOD | LOW | QUALIFIED | | 2023 | | | 28/11/2022 |
| ASTME18 | STANDARD TEST METHODS FOR ROCKWELL HARDNESS OF METALLIC MATERIALS | LOW | QUALIFIED | | 2024 | | | 21/11/2022 |
| ASTME2371 | STANDARD TEST METHOD FOR ANALYSIS OF TITANIUM AND TITANIUM ALLOYS BY ATOMIC EMISSION PLASMA SPECTROMETRY | LOW | QUALIFIED | | 2023 | | | 28/11/2022 |

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|-------------------|--|------------|---|---|---|-----------------------------------|---------------------|--------------------------------|
| ASTME3 | STANDARD GUIDE FOR PREPARATION OF METALLOGRAPHIC SPECIMENS | LOW | QUALIFIED | | | | | 28/11/2022 |
| ASTME34 | STANDARD TEST METHODS FOR CHEMICAL ANALYSIS OF ALUMINUM AND ALUMINUM-BASE ALLOYS | LOW | AUTHORISED TO PROCEED-31/01/2023 | | 2023 | | | 13/09/2022 |
| ASTME340 | TEST METHODE FOR MACROETCHING OF METALS AND ALLOYS | LOW | QUALIFIED | | | | | 21/11/2022 |
| ASTME399 | STANDARD TEST METHOD FOR PLAIN STRAIN FRACTURE TOUGHNESS OF METALLIC MATERIALS | HIGH | QUALIFIED | | 2024 | 180692 | | 20/12/2022 |
| ASTME407 | TEST METHODE FOR MICROETCHING OF METALS AND ALLOYS | LOW | QUALIFIED | | | | | 21/11/2022 |
| ASTME8 | STANDARD TEST METHODS FOR TENSION TESTING OF METALLIC MATERIALS | LOW | AUTHORISED TO PROCEED WITH LIMITATIONS-31/01/2023 | - FLAT COUPON TESTING NOT AUTHORISED / - YOUNG'S MODULUS NOT INCLUDED | 2023 | | | 09/11/2022 |

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| Test Standard(s)* | Test label | Complexity | Qualification Status | Limitation | Next External comparison test Participation. ** | Technical Qualification Reference | Deviation Reference | Last Qualification Update date |
|-------------------|---|------------|---|---|---|-----------------------------------|---------------------|--------------------------------|
| EN10276 | DETERMINATION FO OXYGENIN STEEL AND IRON. | LOW | AUTHORISED TO PROCEED WITH LIMITATIONS-31/01/2023 | THE COMPOSITION OF SULFUR ELEMENT (S) CAN NOT BE DETERMINED UNDER 0.0002% BY COMBUSTION | 2023 | | | 28/11/2022 |
| EN2002-1 | TENSILE TESTING AT AMBIENT TEMPERATURE | LOW | AUTHORISED TO PROCEED WITH LIMITATIONS-31/01/2023 | LIMITATION 1:- FLAT COUPON TESTING NOT AUTHORISED / - YOUNG'S MODULUS NOT INCLUDED / - ALL ALLOYS LIMITATION 2: INTERCHANGEABILITY PER 19772-ICY-CS NOTE- 2 WAYS WITH ASTM B 557 | 2023 | | | 09/11/2022 |
| EN2002-6 | METALLIC MATERIALS: BEND TESTING | LOW | QUALIFIED | | | | | 21/11/2022 |
| EN2003-10 | AEROSPACE SERIES - TITANIUM AND TITANIUM ALLOYS - TEST METHODS - PART 010: SAMPLING FOR DETERMINATION OF HYDROGEN CONTENT | LOW | QUALIFIED | | 2023 | | | 21/11/2022 |
| EN2003-9 | AEROSPACE SERIES - TEST METHODS - TITANIUM AND TITANIUM ALLOYS - PART 009: DETERMINATION OF SURFACE CONTAMINATION | LOW | QUALIFIED WITH LIMITATIONS | "LIMITED TO METHOD "A" | 2024 | | | 21/11/2022 |
| ISO148-1 | METALLIC MATERIAL - CHARPY PENDULUM IMPACT TEST | LOW | AUTHORISED TO PROCEED WITH LIMITATIONS-31/01/2023 | ONLY AT ROOM TEMPERATURE | 2023 | | | 09/11/2022 |

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|-------------------|--|------------|----------------------|------------|---|-----------------------------------|---------------------|--------------------------------|
| SAEAMS2315 | DETERMINATION OF DELTA FERRITE CONTENT | LOW | QUALIFIED | | | | | 21/11/2022 |

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