

## APPLUS (SHANGHAI) QUALITY INSPECTION CO., LTD

Jucheng Pionner Park, Building 23,  
3999 Xiu Pu Rd, Nan Hui  
201315 PUDONG DISTRICT, SHANGHAI  
China

*FOR THE ATTENTION OF*

Alvaro CARBALLO Sales Manager (All Applus Laboratories Divis  
Luis GUELBENZU Quality Director  
Ni JELOVE Quality Manager  
Daoud MAROUAN Laboratory Manager

*CERTIFICATE PREPARED BY*  
NUNEZ Cesar

*YOUR QTML FOCAL POINT*  
NUNEZ Cesar

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*DATE*  
03/11/2021

*OUR REFERENCE*  
SUR2020.0045 Ind. H

*ARP-ID of the External Shop*  
311578

*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In case of PTP results out of tolerances, the couples qualification can be downgraded to an authorisation to proceed or withdrawn and the PTP participation frequency is reduced to one year, subject to acceptance by Airbus of your Root Cause Analysis and associated Corrective Actions.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   |
|--------------------|---|----------|---------------------------------------|-------------------|----------|--|
| AITM 1-0002        | Fibre reinforced plastics - Determination of in-plane shear properties ( $\pm 45^\circ$ tensile test)         | Low      | Qualified                             | 2023              |          |  |
| AITM 1-0003        | Determination of the glass transition temperatures (DMA)  | High     | Qualified                             | 2022              | 181505   | Qualified on 12/12/2018                            |
| AITM 1-0005        | Fibre reinforced plastics - Determination of interlaminar fracture toughness energy - Mode I - G1c            | High     | Qualified                             | 2022              | 171553   | - Qualified on 21/11/2018                          |
| AITM 1-0019        | Determination of tensile lap shear strength of composite joints   | Low      | Qualified                             | 2023              |          |  |
| AITM 1-0053        | Carbon fibre reinforced plastics - Determination of fracture toughness energy of bonded joints - Mode I - G1c | High     | Qualified                             | 2023              | 151206   | Qualified on 27/02/2020                            |
| ASTM B557          | Tension Testing Wrought and Cast Aluminum- and Magnesium-Alloy Products                                       | Low      | Qualified                             | 2022              |          |  |
| ASTM D638          | Tensile properties of plastics  | Low      | Qualified                             |                   |          |  |
| ASTM D790          | Flexural properties of unreinforced and reinforced plastics and electrical insulating materials               | Low      | Qualified                             |                   |          |  |
| ASTM E10           | Standard Test Method for Brinell Hardness of Metallic Materials   | Low      | Qualified                             | 2023              |          |  |
| ASTM E112          | Determining average grain size  | Low      | Qualified                             | 2022              |          |  |
| ASTM E139          | Creep, creep-rupture, and stress-rupture tests of metallic materials  | Low      | Authorised to Proceed<br>January 2022 | 2022              |          | Qualified on 08/07/2020                            |
| ASTM E18           | Standard Test Methods for Rockwell Hardness of Metallic Materials   | Low      | Qualified                             | 2023              |          |  |
| ASTM E238          | Pin-type bearing test of metallic materials   | High     | Qualified with limitations            | 2023              | 210998   | Qualified on 02/11/2021<br>*Limited to Soft Metals |
| ASTM E3            | Standard guide for preparation of metallographic specimens  | Low      | Qualified                             |                   |          |  |
| ASTM E340          | Macroetching metals and alloys  | Low      | Qualified                             |                   |          |  |
| ASTM E399          | Linear-elastic plane-strain fracture toughness K <sub>IC</sub> of metallic materials                          | High     | Qualified                             | 2023              | 180101   | qualified 10/04/2019                               |
| ASTM E407          | Microetching metals and alloys  | Low      | Qualified                             |                   |          |  |

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

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|--------------------|--|----------|----------------------------|-------------------|----------|--|
| ASTM E45           | Determining the inclusion content of steel   | Low      | Qualified                  | 2022              |          | Qualified on: 14/02/2020                         |
| ASTM E8            | Tension testing of metallic materials  | Low      | Qualified                  | 2022              |          |  |
| ASTM E9            | Compression testing of metallic materials at room temperature  | Low      | Qualified with limitations | 2022              |          | Qualified on 08/10/2020<br>Cylindrical specimens |
| ASTM E92           | Vickers Hardness and Knoop Hardness of Metallic Materials  | Low      | Qualified                  | 2023              |          |  |
| EN 2002-1          | Tensile testing at ambient temperature   | Low      | Qualified                  | 2022              |          |  |
| EN 2243-1          | Structural adhesives - Part 1: Single lap shear  | Low      | Qualified                  | 2023              |          |  |
| EN 2377            | Glass fibre reinforced plastics - Determination of apparent interlaminar shear strength  | Low      | Qualified                  |                   |          |  |
| EN 2561            | Carbon Fibre reinforced plastics - Unidirectional laminates - Tensile test parallel to the fibre direction   | Low      | Qualified                  | 2023              |          |  |
| EN 2562            | Carbon fibre reinforced plastics - Unidirectional laminates - Flexural test parallel to the fibre direction  | Low      | Qualified                  | 2022              |          |  |
| EN 2563            | Carbon fibre reinforced plastics - Unidirectional laminates - determination of apparent interlaminar shear strength  | Low      | Qualified                  | 2023              |          |  |
| EN 2597            | Carbon Fibre reinforced plastics - Unidirectional laminates - Tensile test perpendicular to the fibre direction  | Low      | Qualified                  |                   |          |  |
| EN 2747            | Glass fibre reinforced plastics - Tensile test   | Low      | Qualified                  |                   |          |  |
| EN 2850-B (PREN)   | Carbon fibre thermosetting resin unidirectional laminates - Compression test parallel to fibre direction - Method B  | Low      | Qualified                  | 2023              |          |  |
| EN 6072            | Constant amplitude fatigue testing (HCF)   | High     | Qualified                  | 2023              | 12797    | Qualified on 15/07/2021                          |
| ISO 14129          | Fibre-reinforced plastic composites - Determination of the in-plane shear stress/shear strain response, including the in-plane shear modulus and strength, by the ±45° tension test method | Low      | Qualified                  | 2023              |          |  |

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|-------------------------|--|----------|----------------|-------------------|----------|--------------------------|
| ISO 3887                | Steels - Determination of depth of decarburization   | Low      | Qualified      | 2023              |          | Qualified on: 20/02/2020 |
| ISO 6506                | Metallic materials - Brinell hardness test   | Low      | Qualified      | 2023              |          |                          |
| ISO 6507                | Metallic materials - Vickers hardness test   | Low      | Qualified      | 2023              |          |                          |
| ISO 6508                | Metallic materials - Rockwell hardness test  | Low      | Qualified      | 2023              |          |                          |
| 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      | 2022              |          |                          |
| Z_Comp. spec. machining | Composite specimen machining / cutting / tabbing   | None     | Qualified      |                   |          |                          |
| Z_Comp. spec. prod.     | Composite specimen production  | None     | Qualified      |                   |          |                          |
| Z_Metal. Spec. prep     | Metallic specimen preparation (for mechanical testing)   | None     | Qualified      |                   |          |                          |

\* 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.