

## EXOVA BRIDGWATER

**No 1 Festival Units - The Showground Business Park - Bridgwater  
TA6 6LS SOMERSET  
United Kingdom**

**FOR THE ATTENTION OF**

Stuart ABBS Director for Aerospace Europe  
Timothy JONES Quality Manager  
David LUONI Aerospace Sector Quality Manager, acting as Qual  
Mark MACCORMACK Operations Manager  
Dan PATTENDEN Workshop Manager

**CERTIFICATE PREPARED BY**  
NUNEZ Cesar

**YOUR QTML FOCAL POINT**  
NUNEZ Cesar

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**DATE**  
28/01/2019

**OUR REFERENCE**  
SUR2018.0138 Ind. D

**ARP-ID of the External Shop**  
219624

**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In case of PTP results out of tolerances, the couples qualification can be downgraded to an authorisation to proceed or withdrawn and the PTP participation frequency is reduced to one year, subject to acceptance by Airbus of your Root Cause Analysis and associated Corrective Actions.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 POMDT – CE**  
**Your QTML Focal Point**



**SAUX Alexandra**  
**Test Methods Coordinator POMDT – 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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Test Standard(s) *	Test label	Complex.	Qualif. Status	Next PTP part. **	QCS Ref.	Remark
AIPS/AIPI 01-02-005	Preparation of holes in fibre reinforced plastic (FRP) and hybrid materials	Low	Qualified with limitations			ME1330208 grandfathering. Limited to test specimens manufacturing and machining.
AIPS/AIPI 01-02-008	Torque tightening of screws, bolts and nuts	High	Qualified with limitations		ME1330208	Qualified by grandfathering. Limited to test specimens manufacturing and machining.
AIPS/AIPI 01-02-017	General assembly and installation of fasteners	High	Qualified with limitations		ME1330208	Qualified by grandfathering. Limited to test specimens manufacturing and machining.
AIPS/AIPI 01-02-022	Installation of parallel shank threaded fasteners	High	Qualified with limitations		ME1330208	Qualified by grandfathering. Limited to test specimens manufacturing and machining.
AIPS/AIPI 03-07-002	Machining of fibre reinforced plastic (FRP) components	High	Qualified with limitations		ME1330208	Qualified by grandfathering. Limited to test specimens manufacturing and machining.
AIPS/AIPI 05-05-004	Wet installation of fasteners	High	Qualified with limitations		ME1330208	Qualified by grandfathering. Limited to test specimens manufacturing and machining.
AITM 1-0002 (ISO 14129)	Fibre reinforced plastics - Determination of in-plane shear properties ( $\pm 45^\circ$ tensile test)	Low	Qualified	2019		
AITM 1-0003	Determination of the glass transition temperatures (DMA)	High	Qualified	2019	131033	TA DMA Q800
AITM 1-0005 (EN 6033)	Fibre reinforced plastics - Determination of interlaminar fracture toughness energy - Mode I - G1c	High	Qualified	2020	171063	
AITM 1-0007-A / B / C / D	Fibre reinforced plastics - Determination of plain, open hole and filled hole tensile strength	Low	Qualified	2019		
AITM 1-0008-A1	Fiber reinforced plastics - Determination of plain compression strength (Thick specimens, <200kN)	High	Qualified	2020	126585	Type A1
AITM 1-0008-A2	Fiber reinforced plastics - Determination of plain compression strength (Thin specimens, <100 kN)	High	Qualified	2019	126586	Type A2
AITM 1-0008-B / C / D	Fiber reinforced plastics - Determination of open hole or filled hole compression strength	Low	Qualified	2019		
AITM 1-0009-1 / 2	Fibre reinforced plastics - Determination of bearing strength by either pin or bolt bearing configuration	High	Qualified	2020	120463	
AITM 1-0010 (EN 6038)	Fibre reinforced plastics - Determination of compression strength after impact	High	Qualified	2019	160738	NDT inspection done by NDT Expert/Testia France (qualified by Airbus for NDT).
AITM 1-0018	Fibre reinforced plastics - Sandwich flexural test - Four-point bending	Low	Qualified			

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

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AITM 1-0019	Determination of tensile lap shear strength of composite joints	Low	Qualified	2019		
AITM 1-0025	Fiber reinforced plastics - Flatwise tensile test of composite sandwich panel	Low	Qualified	2019		
AITM 1-0029	Fibre reinforced plastics - Determination of tensile strength of a tapered or stepped joint	Low	Qualified			
AITM 1-0053	Carbon fibre reinforced plastics - Determination of fracture toughness energy of bonded joints - Mode I - G1c	High	Qualified	2019	160747	Valid for the Issue 3 of the norm
AITM 4-0005	Macroscopic and microscopic examination of fiber reinforced plastics	Low	Qualified			
ASTM A604 (EN 2003-7)	Macroetch testing of consumable electrode remelted steel bars and billets	Low	Qualified			
ASTM D1876	Peel resistance of adhesives (T-Peel test)	Low	Qualified			
ASTM D2734	Void content of reinforced plastics	Low	Qualified			
ASTM E112	Determining average grain size	Low	Qualified	2020		
ASTM E340	Macroetching metals and alloys	Low	Qualified			
ASTM E407	Microetching metals and alloys	Low	Qualified			
EN 2002-1 (ASTM B557)	Tensile testing at ambient temperature	Low	Qualified	2019		Including Young's Modulus
EN 2002-6	Metallic materials: Bend testing	Low	Qualified			
EN 2003-9	Titanium and titanium alloys - Part 9: Determination of surface contamination (method A: Micrographic examination / Method B: Hardness testing)	Low	Qualified	2020		
EN 2243-1	Structural adhesives - Part 1: Single lap shear	Low	Qualified	2019		
EN 2243-3	Structural adhesives - Part 3: Peeling test metal-honeycomb core	Low	Qualified	2019		
EN 2243-4	Structural adhesives - Part 4: Metal-honeycomb core flatwise tensile test	Low	Qualified	2019		

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EN 2377 (ISO 14130)	Glass fibre reinforced plastics - Determination of apparent interlaminar shear strength	Low	Qualified			
EN 2559	Carbon fibre preimpregnates - Test method for the determination of the resin and fibre content and the mass of fibre per unit area	Low	Qualified			
EN 2561	Carbon Fibre reinforced plastics - Unidirectional laminates - Tensile test parallel to the fibre direction	Low	Qualified	2019		
EN 2562	Carbon fibre reinforced plastics - Unidirectional laminates - Flexural test parallel to the fibre direction	Low	Qualified	2020		
EN 2563	Carbon fibre reinforced plastics - Unidirectional laminates - determination of apparent interlaminar shear strength	Low	Qualified	2020		
EN 2564	Carbon fibre laminates - Determination of the fibre, resin and void contents	Low	Qualified	2020		Restricted ONLY to method B of the norm.
EN 2597	Carbon Fibre reinforced plastics - Unidirectional laminates - Tensile test perpendicular to the fibre direction	Low	Qualified			
EN 2667-1 (Pren)	Foaming structural adhesives - Part 1: Tensile single-lap shear	Low	Qualified			
EN 2746	Glass fibre reinforced plastics - Flexural test - Three point bend method	Low	Qualified	2020		
EN 2747	Glass fibre reinforced plastics - Tensile test	Low	Qualified			
EN 2850-B (Pren) (ISO 14126-2)	Carbon fibre thermosetting resin unidirectional laminates - Compression test parallel to fibre direction - Method B	Low	Qualified	2020		
EN 3683	Titanium alloy wrought products - Determination of primary $\alpha$ content - Point count method and line intercept method	Low	Qualified			
EN 3684	Titanium alloy wrought products - Determination of $\beta$ transus temperature - Metallographic method	Low	Qualified			
ISO 10119	Carbon fibre - Determination of density	Low	Qualified			

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ISO 1183-1	Plastics - Methods for determining the density of non-cellular plastics - Part 1: Immersion method, liquid pycnometer method and titration method	Low	Qualified			
ISO 148-1 (low temp.)	Charpy pendulum impact test (low temperature)	Low	Authorised to Proceed March 2019	2019		
ISO 148-1 (room temp.)	Charpy pendulum impact test (ambient temperature)	Low	Qualified	2020		
ISO 17639	Destructive tests on welds in metallic materials - Macroscopic and microscopic examination of welds	Low	Qualified			
ISO 3887	Steels - Determination of depth of decarburization	Low	Qualified	2020		
ISO 5173	Destructive tests on welds in metallic materials - Bend tests	Low	Qualified			
ISO 643	Steels - Micrographic determination of the apparent grain size	Low	Qualified	2020		
ISO 6506 (ASTM E10)	Brinell hardness test	Low	Qualified	2020		
ISO 6507 (ASTM E92)	Vickers hardness test	Low	Qualified	2020		
ISO 6508 (ASTM E18)	Rockwell hardness test	Low	Disqualified	2018		
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			
Z_Opt. metallo.	Optical metallography	None	Qualified			According to ABP 2-4099 issue 7 - Approval of Welding and brazing operators Restricted to: - Chapter 6.6.1 - Examination of Welded test pieces - Chapter 6.6.2 - Examination of Flame brazed test pieces

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Test Standard(s) *	Test label	Complex.	Qualif. Status	Next PTP part. **	QCS Ref.	Remark
Z_Other	Other test - Specify in Remark	None	Qualified			According to ABP 2-4100 issue 4 - Electric Resistance Welding Restricted to: - Appendix C - Process Control Testing (Shear, Peel / Chisel, Micro) - Appendix D - Acceptance Standard for Spot & Seam Welded Joints - Except Chapter 7 (Radiographic examination) which is NOT covered by this qualification
Z_Other	Other test - Specify in Remark	None	Qualified			According to BS 131-1 Notched bar tests, the Izod impact test of metals. (BS S100 : Procedure for inspection, testing and acceptance of wrought steels (other than plate, sheet, strip and tube)

\* 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.