

RESCOLL Pessac

8 Allée Geoffroy Saint Hilaire
CS 3002
F-33615 PESSAC CEDEX
France

FOR THE ATTENTION OF

José ALCORTA Managing Director
Stéphanie ARIGONI Quality Group Manager
Tomas BERGARA Sales Manager
Isabbel COCO Physical Chemistry testing
William EGEA Structure testing
William FAURE Mechanical testing
Emilie JARRY Quality Manager Assistant
Nicolas VANEL Fire testing

CERTIFICATE PREPARED BY
NUNEZ Cesar

YOUR QTML FOCAL POINT
NUNEZ Cesar

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DATE
17/04/2020

OUR REFERENCE
SUR2020.0089 Ind. A

ARP-ID of the External Shop
296664

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case of PTP results out of tolerances, the couples qualification can be downgraded to an authorisation to proceed or withdrawn and the PTP participation frequency is reduced to one year, subject to acceptance by Airbus of your Root Cause Analysis and associated Corrective Actions.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

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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			Limited to test specimens manufacturing and machining. VTC 20C (ID 144365) equipment
AIPS/AIPI 03-02-019	Manufacture of monolithic parts with thermoset prepreg materials	High	Qualified with limitations		180978	Limited to test specimens manufacturing and machining. Qualified on 23/11/2018. DAXEN (AUTO 1003) ID 137 equipment
AIPS/AIPI 03-07-002	Machining of fibre reinforced plastic (FRP) components	High	Qualified with limitations		161052	Limited to test specimens manufacturing and machining. VTC 20C (ID 144365) equipment
AITM 1-0002 (ISO 14129)	Fibre reinforced plastics - Determination of in-plane shear properties ($\pm 45^\circ$ tensile test)	Low	Qualified	2021		Limited to test specimens manufacturing and machining. FR04 (ID 10342381) equipment
AITM 1-0003	Determination of the glass transition temperatures (DMA)	High	Qualified with limitations	2021	131029	Restricted to TA Instruments DMA Q2980 test equipment (ID 2980CE-5357)
AITM 1-0005	Fibre reinforced plastics - Determination of interlaminar fracture toughness energy - Mode I - G1c	High	Authorised to Proceed December 2020	2020	131338	Composite Limited to AITM 1-0005
AITM 1-0007-A / B / C / D	Fibre reinforced plastics - Determination of plain, open hole and filled hole tensile strength	Low	Qualified	2020		Composite FR04 (ID 10342381) equipment
AITM 1-0008-A2	Fiber reinforced plastics - Determination of plain compression strength (Thin specimens, <100 kN)	High	Qualified	2021	126603	Composite
AITM 1-0008-B / C / D	Fiber reinforced plastics - Determination of open hole or filled hole compression strength	Low	Qualified	2020		CR01 (10 000N) ID 05000580 & FR04 (250 000N) ID 10342381
AITM 1-0019	Determination of tensile lap shear strength of composite joints	Low	Qualified	2021		CR01 (10 000N) ID 05000580 & FR04 (250 000N) ID 10342381
AITM 1-0025	Fiber reinforced plastics - Flatwise tensile test of composite sandwich panel	Low	Qualified	2021		CR01 (10 000N) ID 05000580 & FR04 (250 000N) ID 10342381
AITM 1-0053	Carbon fibre reinforced plastics - Determination of fracture toughness energy of bonded joints - Mode I - G1c	High	Qualified	2021	131335	Composite
AITM 2-0002	Resistance of Materials when tested according to the 12 s or 60 s Vertical Bunsen Burner Test	Low	Qualified	2019		Qualified Test Chamber ID: INFLA 1001 Composite (A) Honeycomb (G)
AITM 2-0003	Resistance of Materials when tested according to the 15s horizontal bunsen burner test	Low	Qualified	2019		Qualified Test Chamber ID: INFLA 1001 Composite (A) Honeycomb (G)

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AITM 2-0004	Flammability of non-metallic materials - Small burner test, 45° - Determination of the resistance of material to flame and glow propagation, and to flame penetration	Low	Qualified	2019		Qualified Test Chamber ID: INFLA 1001 Composite (A) Honeycomb (G)
AITM 2-0005	Flammability of non-metallic materials - Small burner test, 60° - Determination of the resistance of electrical wire insulation materials to flame at 60°	Low	Qualified	2019		Qualified Test Chamber ID: INFLA 1001
AITM 2-0006	Determination of heat release and heat release rate of aircraft materials	High	Qualified	2019	151103	Qualified Test Chamber ID: OSU 1001
AITM 2-0007	Determination of the specific optical smoke density of component parts or sub-assemblies of aircraft interior	High	Qualified	2019	151104	Qualified Test Chamber ID: CHFUM 1001
AITM 2-0008	Determination of the optical smoke density of electrical and non-electrical cable	High	Qualified	2019	170154	Qualified on: 06/05/2019 - Authorised Test Chamber ID: CHFUM 1001 - Autorisation granted based in satisfactory technical test witnessing. Autorisation condition to completion of PTP.
AITM 2-0038	Flammability of non-metallic heat shrinkable tubings - Small burner test, 60° - Determination of the resistance of non-metallic heat shrinkable tubings to flame at 60°	Low	Qualified	2019		Qualified Test Chamber ID: INFLA 1001
AITM 2-0061	Water pick up test-method to determine the impregnation level of prepreg materials	Low	Qualified			BALA 1026 (ID SNR M30914) equipment
AITM 3-0001 (EN 6040)	Analysis of thermoset systems by high performance liquid chromatography (HPLC)	Low	Qualified			HPLC 1001 (ID 1441-037) equipment
AITM 3-0002	Analysis of non metallic material (uncured) by differential scanning calorimetry (DSC)	High	Qualified	2021	101065	Composite
AITM 3-0004 (EN 6043)	Determination of gel time and viscosity	Low	Qualified			RHEO (ID 10025332-0630) equipment
AITM 3-0005	Determination of specific gas components of smoke generated by aircraft interior materials	High	Qualified	2019	C151490	Qualified Test Chamber ID: CHFUM 1001, ANGA 1001, POMPE 1003.
AITM 3-0008	Determination of the extent of cure by differential scanning calorimetry (DSC)	High	Qualified with limitations	2021	101065	Limited to AITM 3-0008
AITM 3-0017	Gas chromatography (GC)	Low	Qualified			GCMS 1002 (ID CN 12121161) equipment

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AITM 3-0027	Determination of the melting behaviour and the extent of cristallinity of semi-cristalline materials by differential scanning calorimetry (DSC)	High	Authorised to Proceed December 2020			
AITM 3-0032	Analysis of metals in galvanic bathes by ICP-spectroscopy	Low	Qualified			ICOE 1001 (ID IP1003M148)
AITM 3-0034	Combined determination of free hydroxide and aluminium in alkaline surface treatment baths	Low	Qualified			
AITM 3-0036	Determination of hydrogen ions in surface treatment baths	Low	Qualified			
AITM 3-0037	Determination of phosphoric and sulphuric acid in anodizing electrolytes	Low	Qualified			
ASTM C363	Node tensile strength of honeycomb core materials	Low	Qualified			CR01 (10 000N) ID 05000580 & FR04 (250 000N) ID 10342381
ASTM C365	Flatwise compressive properties of sandwich cores	Low	Qualified			CR01 (10 000N) ID 05000580 & FR04 (250 000N) ID 10342381
ASTM C393	Core shear properties of sandwich constructions by beam flexure	Low	Qualified			CR01 (10 000N) ID 05000580 & FR04 (250 000N) ID 10342381
ASTM D1781	Climbing drum peel for adhesives	Low	Qualified			CR01 (10 000N) ID 05000580 & FR04 (250 000N) ID 10342381
EN 2243-1	Structural adhesives - Part 1: Single lap shear	Low	Qualified	2021		CR01 (10 000N) ID 05000580 & FR04 (250 000N) ID 10342381
EN 2243-2	Structural adhesives - Part 2: Peel metal-metal	Low	Qualified	2021		CR01 (10 000N) ID 05000580 & FR04 (250 000N) ID 10342381
EN 2243-3	Structural adhesives - Part 3: Peeling test metal-honeycomb core	Low	Qualified	2021		CR01 (10 000N) ID 05000580 & FR04 (250 000N) ID 10342381
EN 2243-4	Structural adhesives - Part 4: Metal-honeycomb core flatwise tensile test	Low	Qualified	2021		CR01 (10 000N) ID 05000580 & FR04 (250 000N) ID 10342381
EN 2377 (ISO 14130)	Glass fibre reinforced plastics - Determination of apparent interlaminar shear strength	Low	Qualified			Composite CR01 (10 000N) ID 05000580 & FR04 (250 000N) ID 10342381
EN 2558	Carbon fibre preimpregnates - Determination of the volatile content	Low	Qualified			ETUV 1034 (ID C510,0312) equipment
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			BALA 1046 (S/N B524037175) equipment
EN 2561	Carbon Fibre reinforced plastics - Unidirectional laminates - Tensile test parallel to the fibre direction	Low	Qualified	2020		Composite FR04 (ID 10342381) equipment

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EN 2562	Carbon fibre reinforced plastics - Unidirectional laminates - Flexural test parallel to the fibre direction	Low	Qualified	2020		Composite CR01 (10 000N) ID 05000580 & FR04 (250 000N) ID 10342381
EN 2563	Carbon fibre reinforced plastics - Unidirectional laminates - determination of apparent interlaminar shear strength	Low	Qualified	2020		CR01 (10 000N) ID 05000580 & FR04 (250 000N) ID 10342381
EN 2564	Carbon fibre laminates - Determination of the fibre, resin and void contents	Low	Qualified	2020		Also according to IGC 04.26.230 BALA 1046 (S/N B524037175) equipment
EN 2746	Glass fibre reinforced plastics - Flexural test - Three point bend method	Low	Qualified	2020		Composite CR01 (10 000N) ID 05000580 & FR04 (250 000N) ID 10342381
EN 827	Adhesives - Determination of conventional solids content and constant mass solids content	Low	Qualified			ETUV 1034 (ID C510,0312) equipment
ISO 11357-2	Plastics - Differential scanning calorimetry (DSC) -Part 2: Determination of glass transition	Low	Qualified			
ISO 11357-3	Plastics - Differential scanning calorimetry (DSC) - Part 3: Determination of temperature and enthalpy of melting and crystallization	Low	Qualified			
ISO 11358	Plastics - Thermogravimetry (TG) of polymers	Low	Qualified			Composite ATG 50-1711 (ID Q50-1711)
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			Composite (A) Plastics BALA 1046 (S/N B524037175) equipment
ISO 14125	Fiber reinforced plastic composites - Determination of flexural properties	Low	Qualified			CR01 (10 000N) ID 05000580 & FR04 (250 000N) ID 10342381
ISO 178	Plastics – Determination of flexural properties	Low	Qualified			CR01 (10 000N) ID 05000580 & FR04 (250 000N) ID 10342381
ISO 4578	Adhesives - Determination of peel resistance of high-strength adhesive bonds - Floating roller method	Low	Qualified			CR01 (10 000N) ID 05000580 & FR04 (250 000N) ID 10342381
ISO 4587	Adhesive - Determination of tensile lap-shear strength of rigid-to-rigid bonded assemblies	Low	Qualified			CR01 (10 000N) ID 05000580 & FR04 (250 000N) ID 10342381
ISO 527-5	Determination of tensile properties - Part 5: Test conditions for unidirectional fibre-reinforced plastic composites	Low	Qualified			Composite FR04 (ID 10342381) equipment
ISO 604	Plastics - Determination of compressive properties	Low	Qualified			CR01 (10 000N) ID 05000580 & FR04 (250 000N) ID 10342381

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ISO 844	Rigid cellular plastics - Determination of compression properties	Low	Qualified			CR01 (10 000N) ID 05000580 & FR04 (250 000N) ID 10342381
Z_mechanical tests	Various mechanical tests	None	Qualified			ASTM D6641 - Compressive properties of polymer matrix composite materials using a combined loading compression (CLC) test fixture CR01 (10 000N) ID 05000580 & FR04 (250 000N) ID 10342381

* 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.