RESCOLL Pessac

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

FOR THE ATTENTION OF
Stéphanie ARIGONI Resp. Assurance Qualité
Isabelle COCO Resp. Laboratoire
Nicolas VANEL Resp Laboratoire Feux

CERTIFICATE PREPARED BY
BOURET Laura

YOUR QTML FOCAL POINT
BOURET Laura

E-MAIL
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PHONE
+33 5 82 05 23 09

DATE
23/11/2018

OUR REFERENCE
SUR2018.0463 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 detailled 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 AP5262: Qualification Process of Couples <Test Method / External Shop>.

We remind you that the maintenance of your Test Methods Qualification depends on your monitoring on quality and technical aspects and is surveyed by Airbus on a regular basis, every year or every 2 years.
- 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In case of PTP results out of tolerances, the couples qualification can be downgraded to an authorisation to proceed or withdrawn and the PTP participation frequency is reduced to one year, subject to acceptance by Airbus of your Root Cause Analysis and associated Corrective Actions.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 AP5262
- Loss of Airbus Supplier Approval
- Stop of the Business

Yours faithfully,

BOURET Laura
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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Qualified or Authorised to proceed for the following Test processes:

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			Limited to test specimens manufacturing and machining.
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.
AIPS/AIPI 03-07-002	Machining of fibre reinforced plastic (FRP) components	High	Qualified		161052	Limited to test specimens manufacturing and machining.
AITM 1-0002 (ISO 14129)	Fibre reinforced plastics - Determination of in-plane shear properties (±45° tensile test)	Low	Authorised to Proceed December 2019	2019		Limited to test specimens manufacturing and machining.
AITM 1-0003	Determination of the glass transition temperatures (DMA)	High	Qualified with limitations	2019	131029	Restricted to TA Instruments DMA Q2980 test equipment
AITM 1-0005 (EN 6033)	Fibre reinforced plastics - Determination of interlaminar fracture toughness energy - Mode I - G1c	High	Authorised to Proceed March 2019	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
AITM 1-0008-A2	Fiber reinforced plastics - Determination of plain compression strength (Thin specimens, <100 kN)	High	Qualified	2019	126603	Composite
AITM 1-0008-B / C / D	Fiber reinforced plastics - Determination of open hole or filled hole compression strength	Low	Qualified	2020		
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 1-0053	Carbon fibre reinforced plastics - Determination of fracture toughness energy of bonded joints - Mode I - G1c	High	Qualified	2019	131335	Composite
AITM 2-0002	Resistance of Materials when tested according to the 12 s or 60 s Vertical Bunsen Burner Test	Low	Qualified	2018		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	2018		Qualified Test Chamber ID: INFLA 1001 Composite (A) Honeycomb (G)
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	2018		Qualified Test Chamber ID: INFLA 1001 Composite (A) Honeycomb (G)

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Test Standard(s) *	Test label	Complex.	Qualif. Status	Next PTP part. **	QCS Ref.	Remark
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	2018		Qualified Test Chamber ID: INFLA 1001
AITM 2-0006	Determination of heat release and heat release rate of aircraft materials	High	Qualified	2018	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	2018	151104	Qualified Test Chamber ID: CHFUM 1001
AITM 2-0008	Determination of the optical smoke density of electrical and non-electrical cable	High	Authorised to Proceed December 2018			Pending QCS 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			Qualified Test Chamber ID: INFLA 1001
AITM 2-0061	Water pick up test-method to determine the impregnation level of prepeg materials	Low	Qualified			
AITM 3-0001 (EN 6040)	Analysis of thermoset systems by high performance liquid chromatography (HPLC)	Low	Qualified			
AITM 3-0002	Analysis of non metallic material (uncured) by differential scanning calorimetry (DSC)	High	Qualified	2019	101065	Composite
AITM 3-0004 (EN 6043)	Determination of gel time and viscosity	Low	Qualified			
AITM 3-0005	Determination of specific gas components of smoke generated by aircraft interior materials	High	Qualified		C151490	Qualified Test Chamber ID: CHFUM 1001, ANGA 1001, POMPE 1003.
AITM 3-0008 (EN 6064)	Determination of the extent of cure by differential scanning calorimetry (DSC)	High	Qualified with limitations	2019	101065	Limited to AITM 3-0008
AITM 3-0017	Gas chromatography (GC)	Low	Qualified			
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 2019			Pending QCS

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AITM 3-0032	Analysis of metals in galvanic bathes by ICP-spectroscopy	Low	Qualified			
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			
ASTM C365	Flatwise compressive properties of sandwich cores	Low	Qualified			
ASTM C393	Core shear properties of sandwich constructions by beam flexure	Low	Qualified			
ASTM D1781	Climbing drum peel for adhesives	Low	Qualified			
EN 2243-1	Structural adhesives - Part 1: Single lap shear	Low	Qualified	2019		
EN 2243-2	Structural adhesives - Part 2: Peel metal-metal	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		
EN 2377 (ISO 14130)	Glass fibre reinforced plastics - Determination of apparent interlaminar shear strength	Low	Qualified			Composite
EN 2558	Carbon fibre preimpregnates - Determination of the volatile content	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	2020		Composite
EN 2562	Carbon fibre reinforced plastics - Unidirectional laminates - Flexural test parallel to the fibre direction	Low	Qualified	2020		Composite

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Test Standard(s) *	Test label	Complex.	Qualif. Status	Next PTP part. **	QCS Ref.	Remark
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		Also according to IGC 04.26.230
EN 2746	Glass fibre reinforced plastics - Flexural test - Three point bend method	Low	Qualified	2020		Composite
EN 2850-B (Pren) (ISO 14126-2)	Carbon fibre thermosetting resin unidirectional laminates - Compression test parallel to fibre direction - Method B	Low	Authorised to Proceed December 2019	2019		
EN 827	Adhesives - Determination of conventional solids content and constant mass solids content	Low	Qualified			
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
ISO 1183-1	Plastics - Methods for determining the density of non-cellular plastics - Part 1: Immersion method, liquid pyknometer method and titration method	Low	Qualified			Composite (A) Plastics
ISO 14125	Fiber reinforced plastic composites - Determination of flexural properties	Low	Qualified			
ISO 178	Plastics – Determination of flexural properties	Low	Qualified			
ISO 1923	Cellular plastics and rubbers - Determination of linear dimensions	Low	Qualified			
ISO 4578	Adhesives - Determination of peel resistance of high-strength adhesive bonds - Floating roller method	Low	Qualified			
ISO 4587	Adhesive - Determination of tensile lap-shear strength of rigid-to-rigid bonded assemblies	Low	Qualified			
ISO 527-5	Determination of tensile properties - Part 5: Test conditions for unidirectional fibre-reinforced plastic composites	Low	Qualified			Composite

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ISO 604	Plastics - Determination of compressive properties	Low	Qualified			
ISO 844	Rigid cellular plastics - Determination of compression properties	Low	Qualified			
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

* 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.