

CTME Fundación Centro Tecnológico de Miranda de Ebro

Calle Montañana - Parcelas R 60-R 61 -P. Industrial de Bayas
09200 Miranda de Ebro (Burgos)
Spain

FOR THE ATTENTION OF

M^a Rosa BLASCO Quality Assurance Manager
Juan Jose GARCIA RUIZ Managing Director
Cristina GONZALEZ Materials Responsible (Composite & Metalli
Virginia RODRIGO Solution Analysis Manager

CERTIFICATE PREPARED BY
NUNEZ Cesar

YOUR QTML FOCAL POINT
NUNEZ Cesar

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DATE
16/12/2019

OUR REFERENCE
SUR2019.0421 Ind. C

ARP-ID of the External Shop
298897

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In case of PTP results out of tolerances, the couples qualification can be downgraded to an authorisation to proceed or withdrawn and the PTP participation frequency is reduced to one year, subject to acceptance by Airbus of your Root Cause Analysis and associated Corrective Actions.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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Test Standard(s) *	Test label	Complex.	Qualif. Status	Next PTP part. **	QCS Ref.	Remark
AITM 1-0003	Determination of the glass transition temperatures (DMA)	High	Qualified	2020	131010	Testing Equipment ID: NM 0102 & NM0104
AITM 1-0019	Determination of tensile lap shear strength of composite joints	Low	Qualified	2021		Testing Equipment ID: NM2001
AITM 1-0033	Sealants: Determination of the curing rate of sealing materials	Low	Qualified			Testing Equipment ID: NM 1413
AITM 1-0036	Sealants - Determination of assembly time	Low	Qualified			
AITM 2-0034	Sealants - Determination of tack-free time of sealing materials	Low	Qualified			
AITM 2-0061	Water pick up test-method to determine the impregnation level of prepreg materials	Low	Qualified			
AITM 3-0002	Analysis of non metallic material (uncured) by differential scanning calorimetry (DSC)	High	Qualified	2020	180315	Testing Equipment ID: TA DSC Q2000 (NM0101 & NM0105) Qualified on 17/12/2018
AITM 3-0003 (EN 6042)	Analysis of organic compounds by infrared spectroscopy (IR)	Low	Qualified			
AITM 3-0004 (EN 6043)	Determination of gel time and viscosity	Low	Qualified with limitations			Limited to method "C" of AITM Testing method
AITM 3-0008 (EN 6064)	Determination of the extent of cure by differential scanning calorimetry (DSC)	High	Qualified	2020	180316	Testing Equipment ID: TA DSC Q2000 (NM0101 & NM0105) Qualified on 17/12/2018
AITM 3-0025	Determination of solid content	Low	Qualified			Testing Equipment ID: NM0601
AITM 3-0027	Determination of the melting behaviour and the extent of crystallinity of semi-crystalline materials by differential scanning calorimetry (DSC)	High	Authorised to Proceed December 2020	2020		
AITM 3-0029	Determination of iron (III) as reactive compound in acidic surface treatment baths	Low	Qualified			Testing Equipment ID: MA3301
AITM 3-0030	Titration of sulphuric and tartaric acid in anodizing electrolytes	Low	Qualified			Testing Equipment ID: MA3301
AITM 3-0032	Analysis of metals in galvanic bathes by ICP-spectroscopy	Low	Qualified with limitations			-Restricted to Analysis of Metals in Galvanic Bathes by Flame Atomic Absorption Spectrometry -NCF-CTME-001 approved by Airbus Engineering (Oct 16th, 2012). Testing Equipment ID: MA1604

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AITM 3-0034	Combined determination of free hydroxide and aluminium in alkaline surface treatment baths	Low	Qualified			Testing Equipment ID: MA3301
AITM 3-0035	Determination of chloride contaminations in surface treatment baths	Low	Qualified			Testing Equipment ID: MA3301
AITM 3-0036	Determination of hydrogen ions in surface treatment baths	Low	Qualified			Testing Equipment ID: MA3301
AITM 3-0038	Determination of non-volatile-residue	Low	Qualified			Testing Equipment ID: MA1004
AITM 7-0003	Sealants - Determination of application time of sealing materials	Low	Qualified			Methods A and B Testing Equipment ID: NM0601, NM0501
ASTM B117	Standard practice for operating salt spray (Fog) apparatus	Low	Qualified	2021		Testing Equipment ID: EM2201
ASTM D2240	Rubber property - Durometer hardness	Low	Qualified with limitations			Methods A and D
ASTM D2556	Apparent viscosity of adhesives having shear-rate-dependent flow properties	Low	Qualified			Testing Equipment ID: NM0501
ASTM E1447	Determination of hydrogen in titanium and titanium alloys by inert gas fusion thermal conductivity / infrared detection method	Low	Qualified	2020		Testing Equipment ID: EM1502
ASTM E2602	Assignment of the glass transition temperature by modulated temperature differential scanning calorimetry (DSC)	High	Authorised to Proceed December 2020	2020		Testing Equipment ID: NM0101
ASTM E3	Standard guide for preparation of metallographic specimens	Low	Qualified			
EN 2243-1	Structural adhesives - Part 1: Single lap shear	Low	Qualified	2021		Testing Equipment ID: NM2001
EN 2243-2	Structural adhesives - Part 2: Peel metal-metal	Low	Qualified	2021		Testing Equipment ID: NM2001
EN 2329	Textile glass fibre preimpregnates - Test method for the determination of mass per unit area	Low	Qualified			Testing Equipment ID: NM0602
EN 2330	Textile glass fibre preimpregnates - Test method for the determination of the content of volatile matter	Low	Qualified			Testing Equipment ID: NM0602

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Test Standard(s) *	Test label	Complex.	Qualif. Status	Next PTP part. **	QCS Ref.	Remark
EN 2331	Textile glass fibre preimpregnates - Test method for the determination of the resin and fibre content and mass of fibre per unit area	Low	Qualified			Testing Equipment ID: NM0601
EN 2332	Textile glass fibre preimpregnates - Test method for the determination of the resin flow	Low	Qualified			Testing Equipment ID: NM0601
EN 2557	Carbon fibre preimpregnates - Determination of mass per unit area	Low	Qualified			Testing Equipment ID: NM0602
EN 2558	Carbon fibre preimpregnates - Determination of the volatile content	Low	Qualified			Testing Equipment ID: NM0602
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			Testing Equipment ID: NM0602
EN 2560	Carbon fibre preimpregnates - Determination of the resin flow	Low	Qualified			Testing Equipment ID: NM0601 & NM1701
EN 2563	Carbon fibre reinforced plastics - Unidirectional laminates - determination of apparent interlaminar shear strength	Low	Qualified	2020		Testing Equipment ID: NM2001
EN 2564	Carbon fibre laminates - Determination of the fibre, resin and void contents	Low	Qualified	2021		Testing Equipment ID: NM0602
ISO 11357-2	Plastics - Differential scanning calorimetry (DSC) -Part 2: Determination of glass transition	Low	Qualified			Testing Equipment ID: TA DSC Q2000 (NM0101 & NM0105)
ISO 11357-3	Plastics - Differential scanning calorimetry (DSC) - Part 3: Determination of temperature and enthalpy of melting and crystallization	Low	Qualified			Testing Equipment ID: TA DSC Q2000 (NM0101 & NM0105)
ISO 11358	Plastics - Thermogravimetry (TG) of polymers	Low	Qualified			Testing Equipment ID: NM0103
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			Testing Equipment ID: NM0601
ISO 2143	Anodizing of aluminium and its alloys - Estimation of loss of absorptive power of anodic oxidation coatings after sealing - Dye-spot test with prior acid treatment	Low	Qualified			

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ISO 2360	Non-conductive coatings on non-magnetic electrically conductive basis materials - Measurement of coating thickness - Amplitude-sensitive eddy current method	Low	Qualified	2021		Testing Equipment ID: EM0604
ISO 2409	Paints and varnishes - Cross-cut test	Low	Qualified	2021		
ISO 2555	Plastics - Resins in the liquid state or as emulsions or dispersions - Determination of apparent viscosity by the Brookfield test method	Low	Qualified			Testing Equipment ID: NM0501
ISO 2781	Rubber, vulcanized or thermoplastic - Determination of density	Low	Qualified with limitations			Method A
ISO 2808	Paints and varnishes - Determination of film thickness	Low	Qualified	2021		Testing Equipment ID: EM0604
ISO 2812-2	Paints and varnishes - Determination of resistance to liquids - Part 2: Water immersion method	Low	Qualified	2021		
ISO 48-4	Rubber, vulcanized or thermoplastic — Determination of hardness — Part 4: Indentation hardness by durometer method (Shore hardness)	Low	Qualified			- Testing Machine ID: NM1413 & NM 1414
ISO 868 (ASTM D 2240)	Plastics and ebonite - Determination of indentation hardness by means of a durometer (Shore hardness)	Low	Qualified with limitations			Methods A and D Testing Equipment ID: NM1413 & NM1414
ISO 9227 (ASTM B117)	Corrosion tests in artificial atmospheres - Salt spray tests	Low	Qualified	2021		Testing Equipment ID: EM2201
Z_Spectro	Analysis by spectrometry (others)	None	Qualified with limitations	2020		Chemical analysis by flame atomic absorption spectrometry. Testing Equipment ID: MA1604

* 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://ptscheme.com/>) which kits are proposed.