



Embraer
Empresa Brasileira
de Aeronáutica S.A.

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Brasil

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Supplier Qualification Report

Supplier:



Nº. 1 Festival Units,
The Showground Business Park,
Bridgwater Somerset, TA6 6LS
United Kingdom

Embraer's Quality Representative:

Jackson Campos Rodrigues (Quality Technician Materials Testing Laboratory)
Carlos Eduardo Diniz (Product Development Engineer)

Supplier's Representative:

Chris Martin (Commercial Engineer - Aerospace Europe)

Period: 11th and 12th of December of 2016

Registered to ISO 17025: Yes No

Results:

Embraer recognizes Exova as approved supplier for material testing services.

In order to verify the supplier capability and expertise on materials testing, Embraer Representatives done a technical visit to Exova facilities and evaluated all test related processes, including specimen preparation, dimensional inspection, instrumentation, testing execution, failure inspection and test reports.

This Approval is given after complete evaluation of test processes above and examination of all quality system, management system, equipment, technical staff and accreditations (i.e. NadCap).

List of Approved Test and Services:

Composite Approval List

Test Type	Standard
Composite Machining	N/A
Composite Tabbing	N/A
Tensile	ISO 527 -1 to 5
	EN 2561
	EN 6035
	EN 2597
	AITM 1.0007 (Plain)
	AITM 1.0007, ASTM D5766 (Open-H)
	AITM 1.0007, ASTM D6742 (Filled-H)
	AITM 1.0029
	ASTM D3039
	ASTM D638 (Dog-bone)
	ASTM D5766
	ASTM D6742
	BS 2782 Method 10 1003
	BS EN 2747
	MSRR 9992 Method 8
	SRM 4R
SRM 9	
SRM 5R	
ASTM D2095	
Flatwise Tensile	ASTM C297
	ASTM B897
	ASTM D2095
	BS 5350 Part C6
	BS EN 26922
	BS EN 2243-4
	EN 6062
	ISO 6922
	AITM 1.0025
	SAE AMS STD401
In-Plane Shear (tension)	ISO 14129
	AITM 1.0002
	ASTM D3518
	ASTM D4255
	MSRR 9992 Method 22
	SRM 7R
EN 6031	

Compression	prEN2850 (Airbus Method B only)
	ASTM D695
	ISO 14126
	ASTM D3410
	AITM 1.0008-5 (Plain)
	AITM 1.0008-5, ASTM D6484 (Open-hole)
	AITM 1.0008-5, ASTM D6742 (Filled-hole)
	BS EN ISO 604
	ASTM D6484
	ASTM D6641
	SRM 1R
	SRM-3R
	SRM 6
EN6036	
Inter-laminar Shear (short-beam)	EN 2563
	EN 2377
	ISO 14130
	ASTM D2344
	SRM 8R
	MSRR 9992 Method 7
Inter-laminar Shear (notched)	ASTM D3846
	ASTM D5379
V-notch Shear	ASTM D5379
	ASTM D7078
Flexure	ISO 14125
	BS EN 2562
	ASTM D790
	BS EN 2746
	BS EN 2782 Part 10 Method 1005
	ISO 178
	MSRR 9992 Method 9
ASTM D7264	
Sandwich Flexure	ASTM C393
	AMS STD 401
	AITM 1.0018
Corner Bend	ASTM D6415
	AITM 1.0069

Bearing Strength	AITM 1.0009
	ASTM D5961
	ASTM D953-02
	EN 6037

Floating Roller Peel	BS EN 1464
	ASTM D3167
	ISO 4578
	BS EN 2243-2

Climbing Drum Peel	BS 5350:Part C13
	ASTM D1781
	BS EN 2243-3

Impact / Compression	ASTM D7136
	ASTM D7137
	AITM 1.0010
	SRM 2R 94
	EN 6038

G1c	ASTM D5528
	AITM 1.0005
	AITM 1.0053
	EN6033

G2c	AITM 1.0006
	EN6034

Lap Shear (single)	MSRR 9995
	BS 5350 Part C5
	BS EN 2243 Part 1
	BS EN 2243 Part 6
	ASTM D1002
	ASTM D3528
	AITM 1.0019
	EN 2667-1
	ASTM D3983
	ASTM D3163
	ASTM D3164
	ASTM D3165
ASTM D3166	

Lap Shear (Double)	ASTM D3528
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Rail Shear	ASTM D4255
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Peel	ASTM D1876
	EN 2243-2
Fatigue	ASTM D3479
	ASTM E466
	EN 6072
Density	ASTM D792
	BS 2782
	BS EN ISO 1183
	MSRR 9992 Method 6
	ISO 10119
Density - Flexible foam	BS 4443
	BS EN ISO 845
	ASTM D1622
Fibre Fraction Volume	BS EN 2564
	BS EN 2559
Void Content	ASTM D2734
Acid Digestion	AITM 1-0069
	SRM 23R
	ASTM D3171 A, B and G
	ASTM D3529
Water Absorption	ASTM D570
	ASTM D5229
	EN 2378
	EN 3615
	SRM 11R
Tg by DMA	AITM 1.0003
	ASTM D5023
	ASTM D5024
	ASTM D5026
	ASTM E1640
	ASTM E1867
	prEN 6032
	SRM 18R
Micro Examination	AITM 4.0005

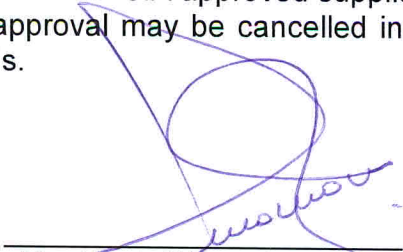
Nadcap Scope

- 1.1.1 Tensile Ambient Temp
- 1.1.2 Tensile Non Ambient Temp
- 1.1.3 Tensile Strain Measurement
- 1.12.1 Climbing Drum Peel
- 1.13.1 Floating Roller Peel
- 1.17.1 Bearing Strength
- 1.18.1 G1c
- 1.19.1 G2c
- 1.2.1 Compression Ambient Temp
- 1.2.2 Compression Non Ambient Temp
- 1.2.3 Compression strain Measurement
- 1.20.1 Compression After Impact
- 1.21.1 Flatwise Tensile
- 1.22.1 Sandwich Flexure
- 1.3.1 Shear Ambient Temp ILSS (SBS)
- 1.3.2 Shear Ambient Temp Tensile
- 1.3.3 Shear Ambient Temp Compression
- 1.3.4 Shear Ambient Temp V notch
- 1.3.5 Shear Non Ambient (Any Method)
- 1.3.6 Shear Strain Measurement
- 1.4.1 Flexural Ambient Temp
- 1.4.2 Flexural Non Ambient
- 1.4.3 Flexural Strain Measurement
- 1.8.1 Double Lap Shear Ambient
- 1.8.2 Double Lap Shear Non Ambient
- 1.9.1 Single Lap Shear Ambient
- 1.9.2 Single Lap Shear Non Ambient
- 2.2.1 Density/Specific Gravity
Resin/Fibre/Void content by Acid
- 2.3.1 Digestion
- 2.3.2 Resin/Fibre/Void content by Burn Off
- 2.4.1 Water Absorption
- 4.1.1 DMA

This approval includes the possible variations of these tests, covered by international standards (i.e. ASTM), Nadcap Accreditations and according definitions of the Structures and Materials Engineering of EMBRAER S.A

Notes:

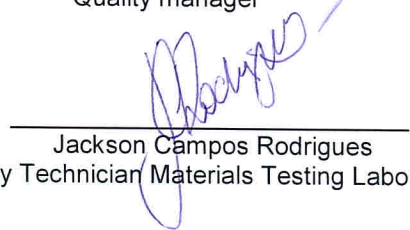
- As EMBRAER S.A approved supplier, Exova will be audited periodically.
- This approval may be cancelled in case of major incidents detecting on one or more test methods.



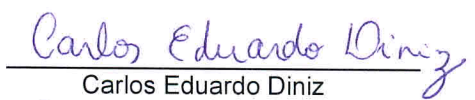
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