



EMBRAER

Embraer
Empresa Brasileira
de Aeronáutica S.A.

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Supplier Qualification Report

Supplier:

Applus Barcelona
Campus UAB
Apartado de correos,18
8193 Bellaterra (Barcelona) - Spain

Embraer's Representative:

-Luiz Edno Pereira

Supplier's Representative:

- Luís Guelbenzu de San Eustaquio (Quality Director)
- Marta Labor (Quality Department)
- Oscar Hernandez (Structural Test Manager)

Period: 27th and 28th of June of 2018

Registered to NadCap: ☒Yes ☐No

Registered to ISO 17025: ☒Yes ☐No

Results:

Embraer recognizes Applus - Barcelona as approved supplier for material testing services.

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

Embraer issued this Approval is given after complete evaluation of test processes above and examination of all quality system, management system, equipment, technical staff and international accreditations (NadCap and others).

List of Approved Test and Services

-Metallic materials – Mechanical, Metallographic and Corrosion Testing:

- Tension
- Compression
- Bending, Flexure
- Shear
- High Cycle Fatigue
- Fatigue Crack Growth
- Fracture Toughness - KIC, K-R Curve
- Charpy/Impact,
- Corrosion General/Salt Spray
- Fasteners and Joints (tensile, fatigue and shear)
- Chemical Analysis
- Hardness
- Conductivity
- Metallographic Analysis
- Specimen inspection
- Failure analysis
- Specimen Preparation
- Mechanical testing environment: Ambient/Non Ambient

-Non-metallic materials / Composites –Mechanical Testing:

- Tensile Strength and Modulus
- Compression Strength and Modulus
- Compression After Impact
- Combined loading compression (CLC)
- In plane shear
- Interlaminar Shear Strength
- Bending/ Flexural
- Bearing Strength
- Pull-through Strength
- Single and double lap shear
- Flatwise Tensile
- Peel Resistance
- Specimen Conditioning
- Optical microscopy
- Mechanical testing environment: Ambient/Non Ambient

-Non-metallic materials/Composites –Physical/Chemical Testing and Thermal Analysis:

- Density/Specific Gravity
- Fiber, Resin, Void Volume Content

-Non-Destructive Testing (for Test Specimen)

- Ultrasonic inspection (Manual)
- Eddy Current
- Liquid Penetrant
- Magnetic Particle

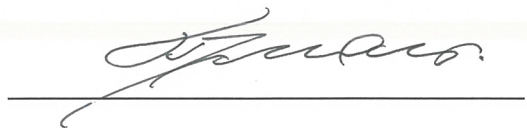
This approval includes the possible variations of these tests, covered by international standards (i.e. ASTM, EN), Nadcap Accreditations and according definitions of the Structures and Materials Engineering of EMBRAER S.A

Notes:

- As EMBRAER S.A approved supplier, Applus - Barcelona can be audited periodically.
- Applus – Barcelona shall supply NADCAP accreditation scope after each NADCAP audit or every 2 years, whichever occurs first.
- This approval may be cancelled in case of major incidents detecting on one or more test methods.



Toni Douglas da Gama de Souza
Laboratories Quality Manager Embraer



Luiz Edno Pereira
Materials Eng – Chief Engineering Office