# **APPROVAL**

It is hereby certified that the company

# ELEMENT MATERIALS TECHNOLOGY (5048640) WILBUR Y ORVILLE WRIGHT, 1 41309 LA RINCONADA (SEVILLA) - SPAIN

is qualified for following SPECIAL PROCESSES

- Content
- Flexure
- Peel
- Shear (organic)
- Shear tube
- Tensile (organic)
- DSC
- Climbing Drum Peel
- Expansion ratio
- Compression (organic)
- Others test method: Area mass

This qualification is granted under the conditions and restrictions defined in appendix 1

**Special Processes Management** 

**AH Laboratory** 



## **RECORD OF REVISIONS**

Issue	Modified by	Description of Change / modified pages	Date of change
-	E. GEREONE ETXLL	Qualification of the following special processes:  - Content - Flexure - Peel - Shear (organic) - Shear tube - Tensile (organic) - DSC - Climbing Drum Peel - Expansion ratio - Compression (organic) - Others test method: Area mass	08.04.2025



SPECIAL PROCESS: CONTENT 1/2

#### Performed in accordance with the following documents:

### Other Documentation:

EN2330 Aerospace series; textile glass fibre preimpregnates; test method for

the determination of the content of volatile matter

- EN2331 Textile glass fibre preimpregnates. Test method for the

determination of the resin and fibre content and mass of fibre per

unit area

- EN2757 Solid content for bonding primer - Determination of the drying and

ignition of primers

- EN2558 Aerospace series - Carbon fibre reinforced plastics - Determination

of the volatile content

- EN2559 Carbon fibre preimpregnates. Determination of the resin and fibre

content and the mass of fibre per unit area

#### Supplier Documentation:

- N/A

#### With the following resources:

- N/A

#### This Qualification is based on the following results:

Qualification program
 Assessment note
 ETXLL-SPV 2024 – 0797 iss A
 ETXLL-SPV 2024 – 0451 Issue A

Documentation analysis N/A
 Qualification audit report N/A
 Action plan N/A
 AH test report N/A
 Supplier test report N/A



ETXLL-SPV 2025-0308 Marignane, April 8th, 2025

#### **HELICOPTERS**

# **APPENDIX 1**

SPECIAL PROCESS: CONTENT 2/2

Performed in accordance with the following documents:

The Qualification is subject to the following specific conditions:

Safety class: N/A

Design applicability: AH/AHD according to El021 HS5011.

**Restrictions**:

None



SPECIAL PROCESS: FLEXURE

#### Performed in accordance with the following documents:

#### Other Documentation:

- EN2563 Carbon fibre reinforces plastics, unidirectional laminates.

Determination of the apparent interlaminar shear strength

- ISO14130 Fibre-reinforced plastic composites. Determination of apparent

interlaminar shear strength by short-beam method

- EN2562 Carbon fibre reinforced plastics. Unidirectional laminates. Flexural

test parallel to the fibre direction

- ISO14125 Fibre-reinforced plastic composites — Determination of flexural

properties (3 points bending)

- EN2377 Glass fibre reinforced plastics test method determination. Test

method of apparent interlaminar shear strength

## **Supplier Documentation:**

- N/A

#### With the following resources:

- N/A

#### This Qualification is based on the following results:

Qualification program ETXLL-SPV 2024 – 0797 iss A
 Assessment note ETXLL-SPV 2024 – 0451 Issue A

Documentation analysis N/A
 Qualification audit report N/A
 Action plan N/A
 AH test report N/A
 Supplier test report N/A

#### The Qualification is subject to the following specific conditions:

Safety class: N/A

Design applicability: AH/AHD according to El021 HS5011.

#### **Restrictions:**

None



#### **HELICOPTERS**

# **APPENDIX 1**

SPECIAL PROCESS: PEEL

#### Performed in accordance with the following documents:

#### **Other Documentation:**

- EN2243-2 Non-metallic materials - Structural adhesives - Test method - Part 2:

Peel Metal-Metal

#### **AH Documentation:**

EI071 IGC 04-26-360 Adhesives - Metal to metal Peel Tests (Floating Peeling)

#### Supplier Documentation:

- N/A

## With the following resources:

- N/A

#### This Qualification is based on the following results:

Qualification program
 Assessment note
 ETXLL-SPV 2024 – 0797 iss A
 ETXLL-SPV 2024 – 0451 Issue A

Documentation analysis N/A
 Qualification audit report N/A
 Action plan N/A
 AH test report N/A
 Supplier test report N/A

#### The Qualification is subject to the following specific conditions:

Safety class: N/A

Design applicability: AH/AHD according to El021 HS5011.

#### **Restrictions:**

None



#### **HELICOPTERS**

# **APPENDIX 1**

SPECIAL PROCESS: SHEAR (ORGANIC)

#### Performed in accordance with the following documents:

#### Other Documentation:

- EN2243-1 Non-metallic materials - Structural adhesives - Test method - Part 2:

Peel Metal-Metal

#### **AH Documentation:**

EI071 IGC 04-26-345 Adhesives - Metal/Metal shear test

#### Supplier Documentation:

- N/A

## With the following resources:

- N/A

#### This Qualification is based on the following results:

Qualification program
 Assessment note
 ETXLL-SPV 2024 – 0797 iss A
 ETXLL-SPV 2024 – 0451 Issue A

Documentation analysis N/A
 Qualification audit report N/A
 Action plan N/A
 AH test report N/A
 Supplier test report N/A

#### The Qualification is subject to the following specific conditions:

Safety class: N/A

Design applicability: AH/AHD according to El021 HS5011.

#### **Restrictions:**

None



SPECIAL PROCESS: SHEAR TUBE

#### Performed in accordance with the following documents:

#### **Other Documentation:**

- EN2667-2 Foaming structural adhesives - Test methods - Part 2: Compressive

tube shear

#### Supplier Documentation:

PE 0529-0 Aerospace series - Non-metallic materials - Foaming structural

adhesives - Test methods - Part 2: Compressive tube shear

- TPS PT 2003 Resistencia a Cortadura de Tubos de Espuma a Compresión

#### With the following resources:

- N/A

#### This Qualification is based on the following results:

Qualification program
 Assessment note
 Documentation analysis
 ETXLL-SPV 2024 – 0797 iss A
 ETXLL-SPV 2024 – 0451 Issue A
 ETXLL-SPV 2025-0193 Ind 1

Qualification audit report 25-AHE-00045206
 Action plan N/A (no finding)

AH test report N/ASupplier test report N/A

## The Qualification is subject to the following specific conditions:

Safety class: N/A

Design applicability: AH/AHD according to El021 HS5011.

#### **Restrictions:**

None



SPECIAL PROCESS: TENSILE (ORGANIC)

#### Performed in accordance with the following documents:

### Other Documentation:

- ISO527-1 Plastics. Determination of tensile properties. Part 1 : General

principles

- ISO527-4 Plastics. Determination of tensile properties. Part 4 : Test conditions

for isotropic and orthotropic fibre-reinforced plastics composites

ISO527-5 Plastics. Determination of tensile properties. Part 5: Test conditions

for unidirectional fibre-reinforced plastic composites

- EN2561 Carbon fibre reinforced plastics. Unidirectional laminates. Tensile

test parallel the fiber direction

#### Supplier Documentation:

- N/A

## With the following resources:

- N/A

#### This Qualification is based on the following results:

Qualification program
 Assessment note
 ETXLL-SPV 2024 – 0797 iss A
 ETXLL-SPV 2024 – 0451 Issue A

Documentation analysis N/A
 Qualification audit report N/A
 Action plan N/A
 AH test report N/A
 Supplier test report N/A

#### The Qualification is subject to the following specific conditions:

Safety class: N/A

Design applicability: AH/AHD according to El021 HS5011.

#### **Restrictions**:

#### None



SPECIAL PROCESS: DSC 1/2

## Performed in accordance with the following documents:

### Other Documentation:

- EN6041 Aerospace series - Non-metallic materials - Test method - Analysis

of non-metallic materials (uncured) by Differential Scanning

Calorimetry (DSC)

- ISO11357-1 Plastics. Differential scanning calorimetry (DSC). Part 1: General

principles

- ISO11357-2 Plastics. Differential scanning calorimetry (DSC). Part 2:

Determination of glass transition temperature and glass transition

step height

- ISO11357-5 Plastics. Differential scanning calorimetry (DSC). Part 5:

Determination of characteristic reaction-curve temperatures and

times, enthalpy of reaction and degree of conversion

#### Supplier Documentation:

- PE 009-1 Materiales no metálicos. Método de ensayo. Análisis de materiales

no metálicos (sin curar) por calorímetro diferencial (DSC)

PE 217-0 Calorimetría diferencial de barrido (DSC) - Parte 2: Determinación

de la temperatura de transición vítrea y de la altura del escalón de

transición vítrea

#### With the following resources:

- N/A

#### This Qualification is based on the following results:

Qualification program
 Assessment note
 Documentation analysis
 ETXLL-SPV 2024 – 0797 iss A
 ETXLL-SPV 2024 – 0451 Issue A
 ETXLL-SPV 2025 – 0193 ind 1

Qualification audit report N/AAction plan N/A

- AH test report COM-2023-9430 Kit 37-1-2023 (DSC)

Supplier test report N/A



ETXLL-SPV 2025-0308 Marignane, April 8th, 2025

#### **HELICOPTERS**

# **APPENDIX 1**

SPECIAL PROCESS: DSC 2/2

Performed in accordance with the following documents:

The Qualification is subject to the following specific conditions:

Safety class: N/A

Design applicability: AH/AHD according to El021 HS5011.

**Restrictions:** 

None



SPECIAL PROCESS: CLIMBING DRUM PEEL

#### Performed in accordance with the following documents:

### Other Documentation:

- EN2243-3 Non-metallic materials - Structural adhesives - Test method - Part 3:

Peeling test Metal-Honeycomb core

**AH Documentation**:

EI071 IGC 04-26-270 Adhesives and sandwich laminates - Determination of peel strength -

climbing drum peel

**Supplier Documentation:** 

- PE 0537-0 Adhesives and sandwich laminates determination of peel strength

climbing drum peel

PE 0039-3 Materiales no metálicos. Adhesivos estructurales. Métodos de

ensayo. Parte 3: ensayo de pelado metal-núcleo de nido de abeja

#### With the following resources:

N/A

#### This Qualification is based on the following results:

Qualification program
 Assessment note
 Documentation analysis
 ETXLL-SPV 2024 – 0797 iss A
 ETXLL-SPV 2024 – 0451 Issue A
 ETXLL-SPV 2025-0193 Ind 1

Qualification audit report 25-AHE-00045206
 Action plan N/A (no finding)

- AH test report COM-2023-9430 Kit 34-1-2023 (CD Peel)

Supplier test report N/A

## The Qualification is subject to the following specific conditions:

Safety class: N/A

Design applicability: AH/AHD according to El021 HS5011.

#### **Restrictions**:

#### None



SPECIAL PROCESS: EXPANSION RATIO

#### Performed in accordance with the following documents:

#### **Other Documentation:**

- EN2667-3 Foaming structural adhesive films - Test methods - Part 3:

Expansion ratio and volatile content

#### **AH Documentation:**

IGC 04-26-335 Intumescent adhesives - Determination of expansion rate

#### Supplier Documentation:

- PE 531-0 Aerospace series. Non-metallic materials. Foaming structural

adhesive films Test methods Part 3 - Expansion ratio and volatile

content.

#### With the following resources:

- N/A

#### This Qualification is based on the following results:

Qualification program
 Assessment note
 Documentation analysis
 ETXLL-SPV 2024 – 0797 iss A
 ETXLL-SPV 2024 – 0451 Issue A
 ETXLL-SPV 2025-0193 Ind 1

- Qualification audit report 25-AHE-00045206

- Action plan N/A (no finding)

AH test report N/ASupplier test report N/A

#### The Qualification is subject to the following specific conditions:

Safety class: N/A

Design applicability: AH/AHD according to El021 HS5011.

#### **Restrictions**:

#### None



SPECIAL PROCESS: COMPRESSION (ORGANIC)

#### Performed in accordance with the following documents:

#### **Other Documentation:**

ISO 604 Plastics. Determination of compressive properties

## AH Documentation:

- EI071 IGC 04-26-266 Thermosetting resins - Compression test

#### **Supplier Documentation:**

- N/A

#### With the following resources:

- N/A

#### This Qualification is based on the following results:

Qualification program
 Assessment note
 ETXLL-SPV 2024 – 0797 iss A
 ETXLL-SPV 2024 – 0451 Issue A

Documentation analysis N/A
 Qualification audit report N/A
 Action plan N/A
 AH test report N/A
 Supplier test report N/A

#### The Qualification is subject to the following specific conditions:

Safety class: N/A

Design applicability: AH/AHD according to El021 HS5011.

#### **Restrictions:**

None



SPECIAL PROCESS: OTHERS TEST METHOD: AREA MASS

#### Performed in accordance with the following documents:

#### **Other Documentation:**

EN2329 Aerospace series; textile glass fibre preimpregnates; test method for

the determination of mass per unita area

EN2557 Aerospace series - Carbon fibre reinforced plastics - Determination

of mass per unit area

- EN12127 Aerospace series - Carbon fibre reinforced plastics - Determination

of mass per unit area

## **Supplier Documentation:**

- PE 0539-0 Textiles - Fabrics - Determination of mass per unit area using small

samples

#### With the following resources:

- N/A

#### This Qualification is based on the following results:

Qualification program
 Assessment note
 Documentation analysis
 ETXLL-SPV 2024 – 0797 iss A
 ETXLL-SPV 2024 – 0451 Issue A
 ETXLL-SPV 2025 – 0193 ind 1

Qualification audit report N/A
 Action plan N/A
 AH test report N/A
 Supplier test report N/A

#### The Qualification is subject to the following specific conditions:

Safety class: N/A

Design applicability: AH/AHD according to El021 HS5011.

#### **Restrictions**:

#### None

