

This attestation is granted to:

ELEMENT MATERIALS TECHNOLOGY

6840 LAKE ABRAM DRIVE

44130 - MIDDLEBURG HEIGHTS - US

This attestation demonstrates recognition of Airbus Commercial Aircraft qualification for:

- **Non Destructive Testing (NDT):**

  PENETRANT

  ULTRASONIC

Uncontrolled If Printed

Note:
The official and updated qualification database remains QSPL (Qualified Special Process List) for SP and NDT published on www.airbus.com.

Non Destructive Tests (NDT) as listed in Airbus Commercial Aircraft QSPL for

ELEMENT MATERIALS TECHNOLOGY - (256012)

Sub Family	Process Specification (PS) Ref	PS Title	Process Intstruction (PI) Ref	PI Title	Status	Expiry Date (In case of authorisation to proceed)	Limitations
PENETRANT	ABP6-5230	TESTING BY PENETRANT FLAW DETECTION	ABP6-5230	TESTING BY PENETRANT FLAW DETECTION	QUALIFIED WITH LIMITATIONS		Unable to perform pre penetrant etching on site
PENETRANT	AITM6-1001	PENETRANT INSPECTION	AITM6-1001	PENETRANT INSPECTION	QUALIFIED WITH LIMITATIONS		ALP installation with non re-used penetrant of Level 2 sensititivity
ULTRASONIC	AITM6-4003	ULTRASONIC PULSE-ECHO TESTING OF METALLIC MATERIALS (PLATES BARS EXTRUSIONS AND BLANKS)	AITM6-4003	ULTRASONIC PULSE-ECHO TESTING OF METALLIC MATERIALS (PLATES BARS EXTRUSIONS AND BLANKS)	QUALIFIED WITH LIMITATIONS		QCS231418 Issue 2: NDI method: Ultrasonic pulse-echo water immersion technique (no shear wave) Element -Ohio; Written Instructions: UT Procedure 23.05.402 Material: Titanium (Ti6Al4V) / Billets Dead zone: 3 mm Thickness range: 3.75 inch to 10 inch diameter Minimum detectable defect size: 3/64" (1.2mm) to Class A. Equipment: ORBIT system with GE make USD30 / USIP40 /USN 60 setup with only A-scan outcome + strip chart (No stop on defect function) _____ QCS170674 Issue 2: NDT Technique: Semi-automatic Ultrasonic inspection by immersion in accordance with AITM6-4003 Issue 3 Material: Titanium Alloy Ti6A-4V (ABS5125A/B/C) / Flat bars Dead zone: 3mm (3mm front surface and 3mm back surface) Thickness range: From 6 up to 100mm (0.25 up to 4") Minimum detectable defect size: 3/64" (1.2mm) to Class A1. NDT equipment: Immersion tank "Tank 2" – C-scan views Probes: Single probe 10 or 5MHz Ø0.375", 0.5" or 0.75"
ULTRASONIC	AMS-STD-2154	INSPECTION ULTRASONIC WROUGHT METALS PROCESS FOR	AMS-STD-2154	INSPECTION ULTRASONIC WROUGHT METALS PROCESS FOR	QUALIFIED WITH LIMITATIONS		" QCS 191140, issue 1: NDI method: Manual or automated immersion inspection by ultrasonic pulse-echo technique in accordance with prEN4050 class 3 and/or AMS-STD-2154 Class A Structure build up, part family: round and hollow bars, copper alloy (Cu15Ni8Sn) in accordance with material specification ABS5849 ABS5152 Surface dead zone: The allowable dead zone for longitudinal wave inspection shall be 0,080"" (2mm) or 0,118"" (3mm) for near surface and 0,080"" (2mm) from back surface as per technique card P.O. Thickness range: as per material specification ABS5849 ABS5152 "

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ELEMENT MATERIALS TECHNOLOGY - (256012)

Sub Family	Process Specification (PS) Ref	PS Title	Process Intstruction (PI) Ref	PI Title	Status	Expiry Date (In case of authorisation to proceed)	Limitations
ULTRASONIC	AMS2631	ULTRASONIC INSPECTION TITANIUM AND TITANIUM ALLOY BAR BILLET AND PLATE	AMS2631	ULTRASONIC INSPECTION TITANIUM AND TITANIUM ALLOY BAR BILLET AND PLATE	QUALIFIED WITH LIMITATIONS		QCS170674, issue 1. Automated immersion ultrasonic pulse-echo technique. Material: Plates according to ABS 5125B (AIMS 03-18-006) and ABS 5125C (AIMS 03-18-007) before annealing. Structure build up, part family: Surface dead zone: The maximum allowable dead zone shall be 3mm (0,125" inch) up to 1,5mm (0,060" inch) for both front and back surfaces as per written instruction. Single sided inspection for reduced dead zone of 0,060" has been shown up to 50,8mm (2" inch) thickness Thickness range: from 6mm (0,236") to 101,6mm (4") as per AMS 2631 Facility / Equipment: Mistras PAC board system with UTwin software
ULTRASONIC	EN4050	AEROSPACE SERIES - TEST METHOD FOR METALLIC MATERIALS - ULTRASONIC INSPECTION OF BARS PLATES FORGING STOCK AND FORGINGS	EN4050	AEROSPACE SERIES - TEST METHOD FOR METALLIC MATERIALS - ULTRASONIC INSPECTION OF BARS PLATES FORGING STOCK AND FORGINGS	QUALIFIED WITH LIMITATIONS		"QCS170673, issue 2. Manual ultrasonic pulse echo immersion inspection acc to prEN 4050 Class 5 of Inconel 718 Plates (ABS5441) QCS191140: NDI method: Manual or automated immersion inspection by ultrasonic pulse-echo technique in accordance with prEN4050 class 3 and/or AMS-STD-2154 Class A Structure build up, part family: round and hollow bars, copper alloy (Cu15Ni8Sn) in accordance with material specification ABS5849 ABS5152 Surface dead zone: The allowable dead zone for longitudinal wave inspection shall be 0,080"" (2mm) or 0,118"" (3mm) for near surface and 0,080"" (2mm) from back surface as per technique card P.O. Thickness range: as per material specification ABS5849 ABS5152 "