



AEROSPACE LABORATORY & TESTING CENTER



WE MAKE YOU FEEL SURE

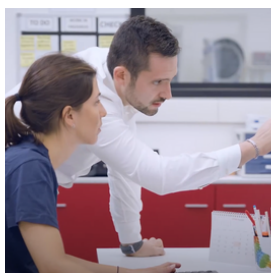
TEC Eurolab is a competent, independent and impartial third-party industrial laboratory, accredited UNI CEI EN ISO/IEC 17025:2018, 17024:2012 and 17065:2012 standards, which guarantee its competence, independence and impartiality. NADCAP accreditation and UNI EN 9100:2018 certification also attest to its expertise in the aerospace and defence industry.

Since 1990, with over thirty years of experience, we have become a multidisciplinary centre of excellence for materials analysis, non-destructive testing, training and certification. We assist manufacturing companies in gaining and verifying the maximum performance of products and processes, with safety and quality.

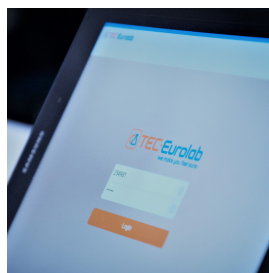
We are here to help you find the best solution to your needs.



TESTING



TRAINING



CERTIFICATION



YOUR CHALLENGE

Your challenge is the continuous improvement of performance and reliability.

Developing safer, higher-performance products, building aircrafts and components that withstand longer flying hours while saving energy and reducing environmental impact: the challenge of innovation in your industry is more pressing than ever, and depends increasingly on new materials and technologies. Your most strategic partner is the one who helps to reduce your time-to-market, increasing the confidence that your products are offering the highest attainable level of quality and safety.

OUR PROMISE

Our promise is to help you get the best out of materials and special processes.

Advanced testing and failure analysis technologies together with thorough knowledge of the most recently developed materials (composites, super alloys, and additive manufacturing materials among others) can make a major quality contribution while cutting time-to-market and reducing development costs.

As an independent analysis and test centre for the aerospace industry, TEC Eurolab gives you complete confidence in every stage of your production process and every link in your supply chain. TEC Eurolab is a reliable, internationally recognized, partner capable of supporting your decisionmaking, from design to final testing. We make you feel sure and we help you to reach greater heights.

QUALITY ACCREDITATIONS

NADCAP: SAE Aerospace Standard AS7003 for Material Testing, Non Destructive Testing, Aerospace quality systems

EN 9100:2018 for test laboratory for the aeronautical and aerospace industry - UNI EN ISO 9001:2015 (SAI GLOBAL)

UNI CEI EN ISO/IEC 17025:2018 - material testing laboratory UNI CEI EN ISO/IEC 17024:2012 -UNI CEI EN ISO/IEC 17065:2012 , certification of personnel and services (welding, ATP, NDT, F-Gas, ISO 3834) - (ACCREDIA)

NOTIFICATION BODY NB2770: as per Regulation (EU) 305/2011 for FCP Certification.

CUSTOMER APPROVALS

GE AVIATION

LEONARDO SPA

AVIO SPA

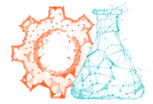
THE BOEING COMPANY

SAFRAN LANDING SYSTEM

AVIO AERO

ELBIT SYSTEMS

LABORATORY INSTRUMENTATIONS AND TESTING CAPABILITIES



PERSONNEL QUALIFICATIONS

Non-destructive inspections performed by personnel qualified at level II and III according to:

- ISO 9712 (General Industry), methods: MT, PT, UT, RT, CT, VT
- NAS 410/EN 4179 (Aerospace), methods: MT, PT, RT Film & RT Non Film (Computed Radiography/Computed Tomography)

DIMENSIONAL INSPECTION & METROLOGY

Zeiss Prismo CMM coordinate measuring machine (for surveying all dimensional and geometric dimensions on drawing)

Optical video measuring machine VMM CNC Automatic OGP (300 x zoom, for the measurement of all drawing dimensions on biomedical plastic samples and probing force-sensitive samples)

2 Faro Arm measuring arms with probing strategies and laser head, (for dimensional inspection, reverse engineering and Cad Comparison)

Roughness meter and Profilometer Hommel Werke (for the evaluation and analysis of surfaces at macrogeometric and microgeometric level)

Hommel Werke round-diameter (for the survey of geometrical dimensions with tolerances of a few thousandths for special applications such as Racing and Aeronautical sectors)

WELDING AND JOINING INSPECTION AND QUALITY DEVELOPMENT

Third-party welding and joining processes inspection and quality development
Customized Audits for quality systems, including welding and joining processes

Technical support for NADCAP accreditations, including technical support for welding process setting up

Analysis and writing of technical specifications, procedures and operating instructions

FUNCTIONAL & ENVIRONMENTAL TEST ENGINEERING

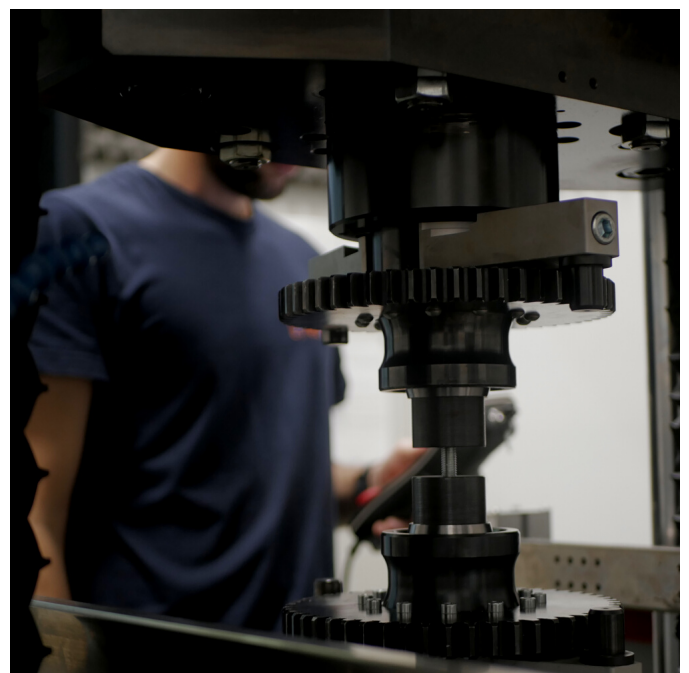
Pressure tests, including burst tests and cyclic tests up to 35bar in air and 600bar in oil, from -70°C up to +180°C

Leak test in high vacuum conditions

Customized set-ups and dedicated test rigs for functional tests on mechanical and electromechanical components

Strain Gages on-site application and analysis; sampling and data analysis of sensorized components

Technical support for evaluation and writing of test specifications.



NON-DESTRUCTIVE TESTING

3D tomographic systems: 6 MEV LINAC for high density alloys, 450 KV Large Size CT, 240 KV High Resolution CT

2D x-ray NADCAP inspection systems: 160KV and 320KV radiographic inspection systems, both film and digital (RT, CR, DR)

FPI NADCAP inspection: Water Washable Fluorescent Penetrant Inspection (I3Aa), Post Emulsifiable Fluorescent Penetrant Inspection (I3Da)

AGING AND CORROSION TESTING

Neutral Salt Spray, Acetic acid and Copper

Artificial accelerated Weathering

UV condenser

Humidity aging

Thermal shock test

Thermal cycles exposure

METALLURGICAL TESTING

Failure analysis

Scanning electron microscopy, EDS detector

Macrographic analysis

Micrographic analysis: core and near surface

Grain size, inclusion content, surface contamination

Density of AM specimens by micrographic examination

Hardness: brinell, vickers, rockwell



CHEMICAL AND PHYSICAL TESTING METALS AND METALLIC POWDERS

Chemical analysis of metallic alloys (ICO-OES, XRF, SPARK-OES)

Gas analysis: combustion and fusion method for C-S-H-O-N

Chemical process solution control: ion chromatography

Cleanliness test

Debris analysis by SEM EDS, Smart PI application

Flow rate

Tap-Apparent Density

Particle size distribution: Light Scattering / Sieve Method

Powder Morphology by SEM analysis

Thermal conductivity and thermal diffusivity

Dilatometry: Coefficient of linear expansion

CHEMICAL AND PHYSICAL TESTING POLYMERS AND COMPOSITES

Infrared spectroscopy FTIR

Thermal analysis: DSC, TGA

High Pressure Liquid Chromatography HPLC

Resin/Fiber/Void/Volatile content of composite materials

Resin Flow/Gel Time/Fiber Areal Weigh

Thermal conductivity/Thermal diffusivity

Dilatometry: Coefficient of linear expansion

MECHANICAL TESTING METALS

Static tensile testing (up to 600kN) at room temperature

Static hot tensile testing up to 100kN up to 1000°C

Torque testing

Stress Rupture and Creep testing up to 50kN up to 1100°C

Vibrophones for HCF up to 1100°C

Servohydraulic system for LCF/HCF up to 1100°C

KIC and da/dN testing for fracture mechanics

Internal machining capabilities with EDM wire and finishing technologie

MECHANICAL TESTING POLYMERS AND COMPOSITES

Static testing (Tensile, Bending, Shear, Compression, Charpy/IZOD Impact toughness)

Dynamic/fatigue and custom testing in dry and wet condition

DMA analysis



WE MAKE
YOU FEEL
SURE



OUR SITES

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