

TEC EUROLAB SRL



CORPORATE PRESENTATION

OUR BUSINESS UNIT

INTEGRATED SERVICE TO GUARANTEE THE QUALITY AND PERFORMANCE OF
YOUR PRODUCTS



CAMPOGALLIANO, (MO) | ITALY



5000 MQ TESTING AREA



80 EMPLOYEES



ISTITUTIONAL VIDEO

<https://www.youtube.com/watch?v=Fo0AbNpYk7U>



COMPANY PROFILE

SERVICES

Chemical analysis
Metallurgical analysis
Mechanical testing
Failure analysis
NDT
Industrial computed tomography
Dimensional analysis
Environmental and functional analysis
Inspections
Process and personnel certification
Academy

SECTORS

Aerospace
Automotive & Racing
Biomedical
Oil & Gas
General industries

PROCESSES

Additive manufacturing
Composites
Welding
MOCA

STAFF

Material engineers
Mechanical engineers
Chemists
Physicians
Metallurgists
NDT 3rd Level
NDT 2nd Level
IWI - International Welding Inspectors
IWE - International Welding Engineers
IWT - International Welding Technologists

CERTIFICATION AND APPROVALS

ISO 9001:2015
EN 9100: 2018
17025:2018 - ACCREDIA
17024:2012 - ACCREDIA
17065:2012 - ACCREDIA
NADCAP AC 7101 for Materials Testing
NADCAP AC 7114 for Non Destructive Testing
ITANDTB CAE for NDT Qualification
GE Aviation
Leonardo Aircraft
Leonardo Helicopters

INDUSTRIAL SECTORS



AEROSPACE



AUTOMOTIVE



BIOMEDICAL



RACING



MANUFACTURING



OIL & GAS



ELECTRONIC



RAIL

NETWORKING



RIVOIRA

PARTNERSHIP

CHEMICAL AND PHYSICAL TESTING

- ✓ Chemical analysis via XRF and ICP, NADCAP qualified
- ✓ Determination of gas content in metal alloy (C-S-H-N-O)
- ✓ Physical properties (CTE; Density; Diffusivity; Specific heat capacity)
- ✓ Metallic powders analysis according to cutting-edge ASTM standards and techniques
- ✓ Polymers and composites characterization using DMA; DSC; TGA



DSC ANALYSIS VIDEO

<https://www.youtube.com/watch?v=P5ThJmb-7bw>



CONTAMINATION TESTS VIDEO

<https://www.youtube.com/watch?v=leGPmnCsTZM>



CONDITIONING TESTS VIDEO

<https://www.youtube.com/watch?v=HfEX4w9NSDg>



METALLURGICAL, AGEING AND CORROSION TESTING

- ✓ Area dedicated to the cutting and mechanical processing of samples
- ✓ Automatic metallographic polishing system
- ✓ Set of Rockwell, Brinell, Vickers and Micro Vickers microscopes and hardness testers
- ✓ In depth knowledge of heat treatment and relevant metallurgy
- ✓ Set of salt spray chambers
- ✓ Cyclic corrosion test chambers
- ✓ Climatic chambers
- ✓ Chambers for accelerated aging analysis
- ✓ Xenon chambers tests



METALLURGICAL DEPARTMENT VIDEO

<https://www.youtube.com/watch?v=o1AktCL2exU>

MECHANICAL TESTING

- ✓ Tensile testing machines with direct deformation control (NADCAP qualified) (100kN; 250kN; 600kN)
- ✓ Climatic chamber for 100kN testing machine
- ✓ Hot tensile testing up to 1200 ° C (100kN); creep and stress rupture test rigs (50kN) up to 1040 ° C
- ✓ Vibrophores (100kN) for High Cycle Fatigue (HCF) testing
- ✓ Servohydraulic systems (100kN and 500kN) for Low Cycle Fatigue (LCF) testing and fracture mechanics
- ✓ XRD system for residual stress measurements
- ✓ Complete set of equipment for testing polymers and composites
- ✓ Electromechanical dynamic actuators with climatic chambers for polymers and composites fatigue testing (15kN and 30kN)



CUSTOM TESTS VIDEO

https://www.youtube.com/watch?v=3idJgEwSw_s



CREEP TESTS VIDEO

https://www.youtube.com/watch?v=arz7q_xhRqA



FASTENERS TESTS VIDEO

https://www.youtube.com/watch?v=jdwV_ixZxSk



FRACTURE MECHANICS VIDEO

https://www.youtube.com/watch?v=il4bb_CLBTg



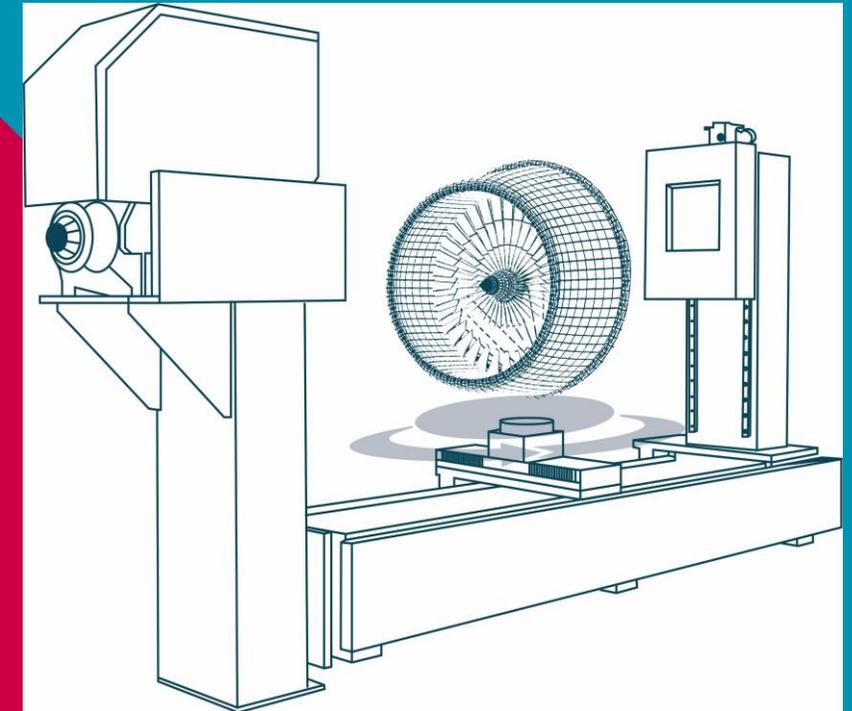
MACHINING DEPARTMENT

- ✓ Automatic and semi-automatic lathe
- ✓ CNC workstation
- ✓ EDM wire cutting (immersion and aspersion)
- ✓ SAW automatic cutting set
- ✓ Trasversal and circular grinding
- ✓ Longitudinal polishing (low stress polishing)



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
- ✓ FPI Nadcap Inspection
- ✓ MT, PT, UT, RT, CT, VT checks for general industry



TOMOGRAPHIC CENTER VIDEO

<https://www.youtube.com/watch?v=DxB5DoCPKsM>

PRODUCT VALIDATION

FUNCTIONAL AND ENVIRONMENTAL TEST ENGINEERING

- ✓ Thermal shock
- ✓ Pressure, pulsed pressure and burst tests
- ✓ Leak tests (helium/argon)
- ✓ Flow tests
- ✓ Custom functional tests with and without environmental control



PRODUCT VALIDATION METROLOGY AND DIMENSIONAL VERIFICATION

- ✓ Quality check
- ✓ Gage R&R
- ✓ Reverse engineering
- ✓ First article inspection
- ✓ Statistical process control (SPC)



PRODUCT VALIDATION

WELDING AND JOINT INSPECTION AND QUALITY DEVELOPMENT

- ✓ Quality check
- ✓ Production control inspection
- ✓ Metal products inspection according to EN 10204
- ✓ Process and personnel certification



CERTIFICATION BODY

TEC Eurolab is a third-party Certification Body, recognized by the Italian Accreditation Institution (ACCREDIA) pursuant to the rules ISO / IEC 17024 and ISO / IEC 17065.

✓ **Personnel certification** (PND, welding, welding coordinator, additive manufacturing, ATP, F-GAS and QI / SQI, laboratory technicians, polyethylene welding instructors)

✓ **Product certification** (verification of welding machines, F-GAS companies, welding quality management systems (ISO 3834), welding processes, EN-1090-1 CE marking for aluminum structural components, additive manufacturing processes)

✓ **System certification** (ISO-9001 quality management systems)

✓ **Audit** (1090 - 3834 - 9001 - F-GAS) F-GAS in "remote" mode.



ACADEMY

The training proposal includes courses in six thematic areas, in inter-company and single-company mode: calendar, custom and hybrid learning.

- ✓ **Testing** (Non-destructive testing, reliability, metrology, testing and analysis)
- ✓ **Materials** (metals, composites, polymers and ceramics)
- ✓ **Quality** (systems, inspections, total quality and safety)
- ✓ **Processes** (production, treatments, joining and welding, processing)
- ✓ **Planning** (Modelling, product design, material selection, process design)
- ✓ **Management** (Management, industry 4.0, organization, sustainability)



COLLAUDO



MATERIALI



QUALITA'



PROCESSI



PROGETTAZIONE



GESTIONE

QUALITY ACCREDITATION

- ✓ **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)
- ✓ **ITANDTB:** Aeronautical examination centre for non-destructive controls
- ✓ **NOTIFICATION BODY NB2770:** pursuant to the (UE) regulation 305/2011 for FCP certification.
- ✓ **MODEL 231** prepared in accordance with Legislative Decree n. 231/2001



PERSONNEL QUALIFICATIONS

THE ANALYSIS ARE PERFORMED BY PERSONNEL QUALIFIED ACCORDING TO THE HIGHEST INTERNATIONAL STANDARDS:

✓ **ISO 9712** (general industry), 3° level | 2° level, methods: MT, PT, UT, RT, CT, VT

✓ **NAS 410/EN 4179** (aerospace), 3° level | 2° level, methods: MT, PT, RT Film & RT Non-Film (computed radiography / computed tomography)

✓ Materials engineers | Mechanical engineers

✓ Chemists | Physical | Metallurgists

✓ Composite materials experts

✓ Paint and coatings experts

✓ IWI - International welding inspectors

✓ IWE - International welding engineers

✓ IWT - International welding technologists



EXPERTISE



FAILURE ANALYSIS



WELDING



ADDITIVE MANUFACTURING



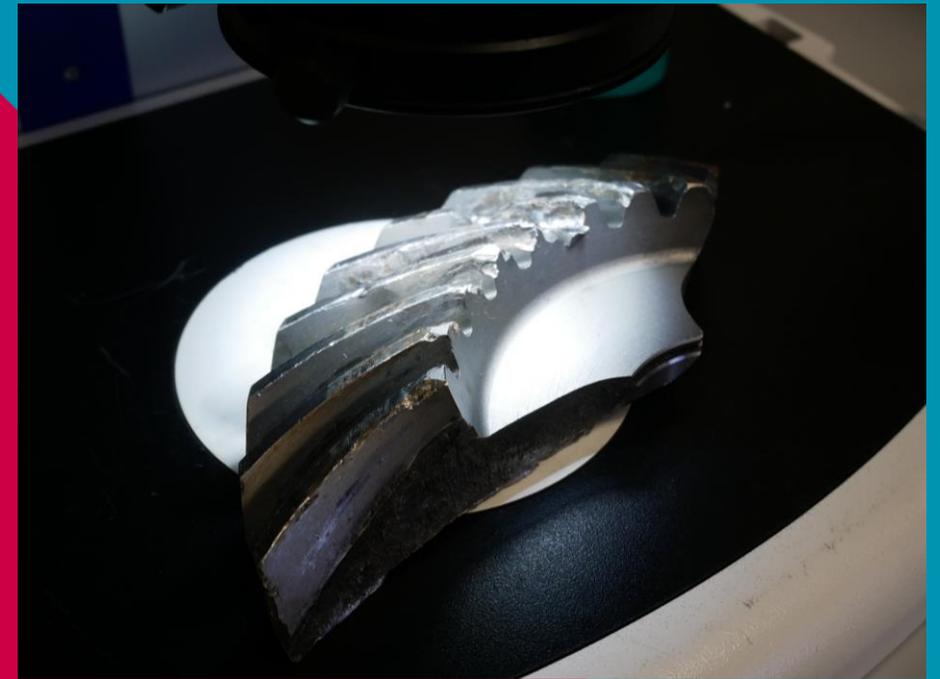
COMPOSITES



MOCA

FAILURE ANALYSIS

- ✓ collection of preliminary information
- ✓ on-site inspection and sampling
- ✓ photographic documentation of the state
- ✓ non-destructive tests
- ✓ mechanical tests
- ✓ material verification (chemical analysis and mechanical characteristics)
- ✓ macrographic analysis (microstructure check)
- ✓ fractographic analysis (targeted control of both fractographic and microstructural origin)



WELDING

- ✓ certification of personnel, processes and system
- ✓ training
- ✓ work islands
- ✓ document crediting
- ✓ supplier certification
- ✓ inspections
- ✓ total quality management
- ✓ welding machines checks



VIDEO SERVIZIO INTEGRATO SALDATURA

<https://www.youtube.com/watch?v=HPI6hdSjtcY>

ADDITIVE MANUFACTURING

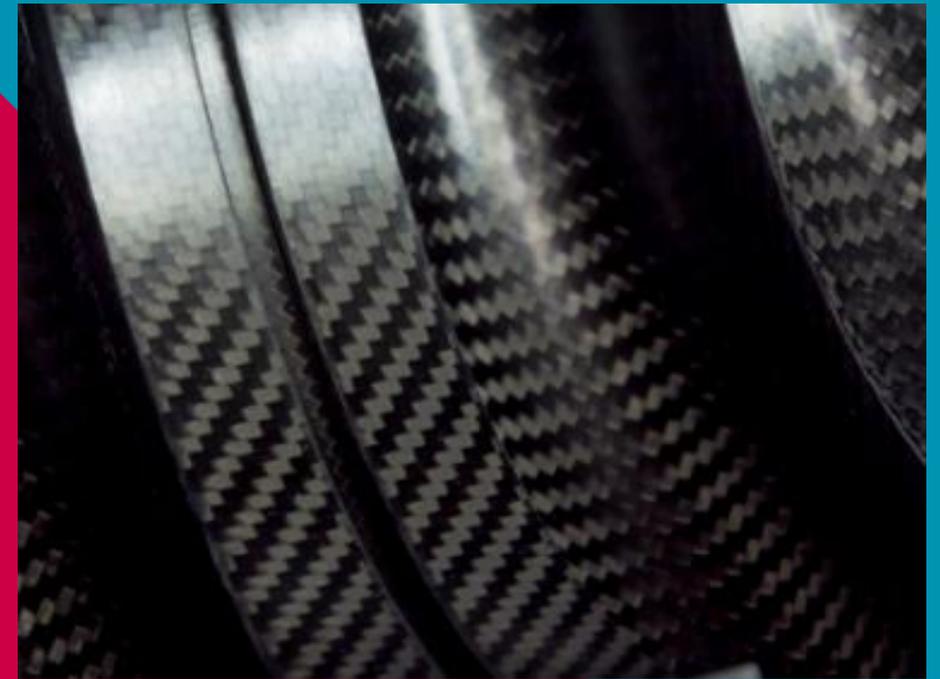
- ✓ chemical and physical analysis
- ✓ mechanical testing
- ✓ metallurgy
- ✓ non-destructive testing
- ✓ functional testing
- ✓ dimensional measurements



VIDEO ADDITIVE MANUFACTURING
<https://youtu.be/oPDUHFvcoBA>

COMPOSITES

- ✓ non-destructive testing
- ✓ functional and environmental testing
- ✓ chemical and physical analysis
- ✓ mechanical testing



MOCA

- ✓ testing for compliance of materials in contact with food
- ✓ training courses on the MOCA regulation
- ✓ technical support for the development of company quality systems compliant with the requirements of Reg. (EC) 2023: 2006



VIDEO SERVIZIO INTEGRATO MOCA

<https://www.youtube.com/watch?v=AQ2Z6SyBb4s>

CONTACT



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