



STRUCTURAL INTEGRITY & MECHANICAL TESTING

We carry out mechanical tests on size scaling from small specimens to entire structures, assess fitness for operation during a structure's whole lifetime, and investigate damage using a complex approach.

COMPETENCIES

- Determination of mechanical properties
- Assessment of structural integrity and lifetime management
- Analysing operability sustainment of structures and lifetime extension
- Damage investigations, exploring causes, analysing the effect of damage on operating structures, prevention of undesirable events
- Time dependence analysis of structure operation and statistical analysis of damage



INSTRUMENTS

- Mechanical testing, technological probes and fracture mechanical investigations on specimens, structural elements and full-scale structures (MTS materials testing systems, fatigue and burst test systems for pipelines and pressure vessels)
- Material technological process simulations on specimens (Gleeble thermo-mechanical physical simulator)
- Confirmation of lifetime management, residual lifetime and lifetime extension based on experiments
- Education in topics of materials and technological testing, fracture mechanics, physical simulation and structural integrity



REFERENCES

- Industrial R&D projects (MOL Group)
- AUTOTECH – Material developments for the automotive industry
- LoCoMaTech
- Production process development of aluminium packaging (aerosols)
- Retraining courses for engineers