

Metallographic and Chemical Laboratory



Offered services

- Residual service life assessment of structures and equipment
- Complex analyses of production and operational failures
- Determination of macro- and micro-structure of materials
- Nondestructive testing of materials and structures
- Check of welded joints
- Chemical analyses of metals, alloys and other inorganic materials
- Chemical analyses of plastics, petroleum products, oils, fuels and lubricants
- Determination of characteristics of liquids (inflammation point, fire point, combustion heat, heat value)
- Corrosion tests - cyclic, intercrystalline corrosion, potentiostatic measurement

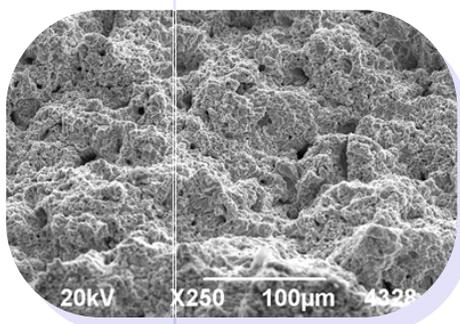
Technical equipment

- System for sample preparation, Struers
- Nikon Epiphot 300 microscope with ImagePro software
- Olympus PMG3 optical microscope
- JEOL JSM 6490 LV scanning electron microscope
- JEOL JEM 1200 EX transmission electron microscope
- PRIOR and STRUERS PSM 2 portable microscopes
- LECO DM-AMH 55 microhardness tester
- Cyclic corrosion chamber SaltEvent CS/UKWT 1000
- Q4 TASMAN optical emission spectrometer



Evaluation of residual life of power-producing machinery

- Non-destructive tests and assessment of residual life of machinery in power plants both in the Czech Republic and abroad



Determination of macro- and micro-structure of materials

- Metallographic analyses for producers and traders in metallurgical semi-products
- Complex material expert opinions for the producers of machine parts
- Evaluation of welded joints for the producers and operators of power-producing machinery



Applied Research

- Material properties of modified Ni based superalloys
- New technologies of joining components of the turbine flow part for ultra-supercritical parameters of steam
- Steam turbine parts with higher resistance to creep and fatigue damage
- Micro-structural investigation of welds made of advanced creep resisting materials for steam power plants
- Rectifying welding of pressure vessels of the VVER 1000 nuclear reactors
- Research and development of corrosion resistant NT blade for steam turbines

