



L 1060

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Testing Laboratory BRNO activity overview (Accredited Testing Laboratory)



ČESKÉ NÁRODNÍ
CERTIFIKAČNÍ FÓRUM

Basic data

- **TÜV NORD Czech, s.r.o.** is an inspection and certification company in a leading market position in the area of management systems certification, products certification, technical inspections which was established in 1990. Since the year 2001 the company has been operating also in the field of laboratory testing.
- **Testing Laboratory (Accredited Testing Laboratory No. 1060)**

Accredited accord. to ČSN EN ISO/IEC 17025 by the Czech Accreditation Institute (CAI) for testing in following areas:

- Laboratory of analytical chemistry
- Metallography laboratory (F1)
- Mechanical testing laboratory for testing of metallic and nonmetallic materials (plastics and textile strips) (F1)
- Laboratory for fuels, oils and water (F1)

Testing Laboratory conducts test specimen preparation^{*)}.

Tests are conducted according to various national and international standards, ie. EN, ISO, DIN, ASME, SA, CEN/TS, ASTM, ČSN et seq. Within the recognised flexibility type 1 laboratories which are specified by F1 can include actual standardised methods (technical equivalents) into testing, provided that the measuring principle remains in effect.

Activity area

- **Elemental analyses of various materials**
 - Chemical analysis of steels, stainless steels, cast irons, ferroalloys and special alloys of nickel, chromium and cobalt by ICP – OES method
 - Determination of carbon content in alloys by an automatic analyzer
 - Chemical analysis of brass, yellow brass and other alloys of cooper, nickel, zinc by ICP – OES method
 - Chemical analysis of light alloys of zinc, magnesium and silicon by ICP – OES method
 - Chemical analysis of solders, Babbitt-metals and other alloys of Sn, Pb, Sb and Bi by ICP – OES method
 - Chemical analysis of depositions, ashes, minerals, ores, rocks, siliceous materials, soils, limestone, SiC by ICP – OES method
 - Determination of element content in water, extracts, solutions, metal coating baths by ICP – OES method
 - Determination of gold and silver content in alloys of copper, nickel, zinc, aluminium, solders and lead alloys by ICP – OES method
 - Verification of certificates for material composition, verification of material purity and acid purity
 - Determination of toxic elements content in materials, electromaterials, ash, waste
 - Determination of chrome (VI) in corrosion-preventive layers
 - Determination of precious metals content in waste and second raw materials^{*)}
- **Metallography (F1)**
 - Determination of microstructure of cast iron
 - Metallographic structure of wrought metallurgical products
 - Determination of microstructure of Al alloys
 - Determination of grain size in steel
 - Determination of steel microcleaness
 - Measurement of surface layers of metal and anorganic materials, including measurement microhardness
 - Metallographic tests of weld joints
 - Test of steel corrosion resistance
 - Diagnostic of operating power equipments
 - Determination of porosity^{*)}
 - Determination of delta ferrite content according to GOST^{*)}
- **Tests of mechanical properties of metallic and nonmetallic materials (F1)**
 - Creep testing at high temperatures of metal alloys and heat-resistant alloys
 - Tensile tests at normal, high or low temperatures (metals, plastics, textile strips)
 - Shear strength test of steel, cast iron, alloys and concrete reinforcing bars

- Upsetting test of steel, cast iron and alloys
 - Brinell, Rockwell and Vickers hardness tests of steel, cast iron, welds, alloys
 - Charpy impact test of steel, cast iron, welds, alloys
 - Bend test of steel, cast iron and welds
 - Technological tests of steel and cast iron tubes
 - Preparation of test specimen incl. accord. to ASME^{*)}
- **Tests of solid fuels, biofuels, recovered fuels (pellets and briquettes) and ash matter (F1)**
 - Sampling of the solid biofuels (including pellets and briquettes) (no F1)
 - Determination of water content
 - Determination of ash content
 - Determination of nitrogen
 - Determination of total sulphur and ashy sulphur
 - Chemical analysis of ash
 - Determination of grindability - Hardgrove method
 - Determination of grindability by VTI method
 - Determination of underfire
 - Determination of gross and net calorific value
 - Determination of hydrogen and carbon
 - Determination of volatile combustible matter
 - Granulometric analysis
 - Determination of bulk density
 - Determination of pellet and briquette dimension
 - Determination of mechanical durability of pellets
 - Determination of density

TÜV NORD Czech, s.r.o., Certification Body No. 3170, accredited according to ČSN EN 45011:1998 by CAI

conducts the certification of solid fuels and solid biofuels. **Accredited certificate** is issued on the grounds of conformity in physical and chemical properties and requirements of a criteria document and Ordinance No. 482/2005 (as amended by the amendatory acts) and Ordinance No. 13/2009. Tests including sampling are conducted by accredited Testing Laboratories TÜV NORD Czech, s.r.o.

Testing laboratories issue an unaccredited „**Certificate of fuel quality**“ with the accredited testing protocol attached.

- **Tests of liquid fuels a oils (F1)**
 - Determination of water content
 - Determination of ash content
 - Determination of hydrogen and carbon
 - Determination of nitrogen
 - Determination of sulphur
 - Determination of gross and net calorific value
 - Determination of open cup flash point
 - Determination of closed cup flash point according to Pensky-Martens
 - Determination of carbon residue – Conradson method
 - Determination of mechanical impurities
 - Determination of density
 - Determination of kinematic viscosity
 - Determination of acid number
 - Determination of pour point ^{*)}
 - Determination of asphaltenes ^{*)}
- **Tests of water (F1)**
 - Determination of electrical conductivity
 - Determination of pH
 - Determination of acid neutralizing capacity (ANC)
 - Determination of calcium and magnesium quantity
 - Determination of silicon oxide
 - Determination of phosphorus oxide
 - Determination of iron
 - Determination of sodium
 - Determination of ammonium ions

^{*)} Tests are no subject of accreditation.

Testing laboratories offer processing of **material safety data sheets** for chemical substances and preparations ^{*)}.

For details about our offer and service prices see the address below.



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