



Laboratory of Glass Technology

Principal goals and activities

- Research and development of glass forming technology.
- Operational and laboratory measurement of glass forming processes.
- Analyses of rheological properties in viscoelastic materials.
- Providing of expert education in the accredited courses, lifelong education and special training for companies and institutions.

General focus of laboratory

The Laboratory of Glass Technology carries out experiments in analyses of material properties of glass and molten glass (rheology, fracture mechanics, identification of development of the viscosity curve, localisation and numeric simulation of stress in glass products).

- Research of rheological viscoelastic parameters of molten glass.
- Analyses of sample force feedback to external load.
- Study of fracture mechanics in glass products.
- Measurement of selected properties of glass.
- Measurement of temperature fields (contact and contactless methods).
- Contactless measurement of deformation using optical laser sensors.
- Computer simulation of glass forming.

Specific instruments and outcomes

- Laboratory furnaces modified to specific experiments.
- Ultrasonic sets.
- Tensile testers.
- FLIR SC 660 thermal imaging camera.
- Temperature measurement equipment.
- Measuring centres.
- Measurement of thermal expansion, Littleton softening point, refractive index, stress in glass, etc.

Offer of technology and expertise

- Measurement of temperature fields using contact and contactless methods (laboratory and operational).
- Analysis of temperature fields with a thermal imaging camera.
- Operation measurement in industrial practice.
- Experiments for acquisition of input data for numerical simulation.
- Regular check measurement of melting units in order to assess their wear.
- Measurement of selected properties of glass.
- Analysis of rheological properties of viscoelastic materials, especially silicate glass.
- Optimization of forming tool design.
- Optimization of the molten glass forming process.

