



Laboratory

of Polymer Materials Testing

PlastigoLab provides comprehensive analysis of polymer materials. We specialize in the survey of thermoplastics materials and elastomers, both raw materials (granulate, powders) and final products.

We offer:

- modern equipment of leading brands,
- short lead times,
- qualified staff support,
- consultation free of charge,
- a wide range of research and analysis,
- comprehensive study of results,
- high quality of service,
- individual packages of research.

Range of analysis

Samples preparation

Making samples for research by automatic injection molding machines by Borché:

- a) Dumbbell tensile test
- b) Beam size for study of impact and flammability tests

Physical and chemical properties

- Density of non-porous materials (solids and loose)
- Water absorption
- Determination of plasticizers migration
- The moisture content of granules
- Material identification - Fourier Transform-Infrared Spectroscopy
- Mass (MFR) and volume (MVR) melt flow rate
- Linear shrinkage
- Film Shrinkage (longitudinal and transverse)
- Films weight

Color and gloss

- Color measurement in CIE lab L*a*b* and others (whiteness, yellowness degree)
- Determination of total color difference ΔE in relation to standard
- Analysis of surface glossy in plastics components

Flammability of plastics

- Glow-wire ignition temperature (GWIT)
- Glow-wire flammability index (GWFI)
- Flammability examination according UL 94 standards

Mechanical prosperities of raw polymer materials and plastic products

- Tensile strength, strain
- Elongation at break
- Tensile modulus
- Additional video recording of measurements
- 3 point bending test Flexural Strength
- Compression test
- Charpy impact strength
- Izod impact strength
- Shore hardness A and D
- Mechanical properties of samples conditioned to the specified content of moisture

Acceleration weathering tests (ageing)

- Rating properties after thermal ageing
- Chemical resistance testing

Microscopic observations

- Microscopic investigations of surface defects of plastic parts
- Microscopic analyst of welded parts

Equipment

PlastigoLab is equipped with the most technically advanced devices for polymers' analysis, including:

- Zwick/Roell Static Materials Testing Machine
- The Thermo Scientific Nicolet iS5 FT-IR Spectrometer
- Zwick/Roell Pendulum impact testers
- Zwick/Roell Mflow extrusion plastometer
- Radwag analytical balances and moisture analyzer
- Mitutoyo Digimatic Caliper
- Digital altimeter
- Zwick/Roell analog Shore (A&D) hardness testers
- IGT Gloss Meter

- Stereo Microscope with visual inspection system
- X-rite, SP62 Portable Sphere Spectrophotometer
- DSC Differential Scanning Calorimeter
- DMTA - Dynamical Mechanical Thermal Analysis
- Stress Viewer SV-1000 Strain Optic USA
- Different method for test sample preparation
- (injection molding, extrusion, high speed milling, cutting)
- Optical microscope
- Microthom
- Heating plate
- Vicat softening temperature equipment
- HDT (Heat Distorsion Temperature) equipment
- Thermal stress of films
- Coefficient of friction tester

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