



# 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  $\Delta E$  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, strein
- Elongation at break
- Tensile modulus
- Additional video recording of measurements
- 3 point bending test Flexural Strenght
- 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

For more details please contact **ShiniEurope Office:**  
+48 34 363 48 78, office@shinieurope.com