PRODUCER OF TECHNICAL PRODUCTS FROM ENGINEERING AND SPECIAL PLASTICS AND THERMOPLASTIC

OFFER

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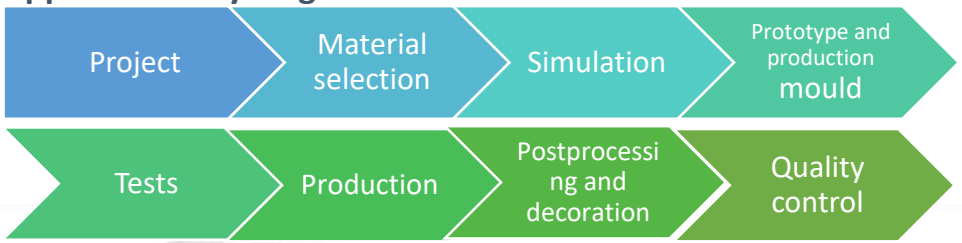
OUR ACTIVITY

Production of technical injection products for industries:
electronic, electromechanical, energy, automotive, household appliances, railway and **construction**.

Development = Investments in modern machine park and employee training, research and development, ambitious implementations.

Comprehensive service of the production process, support at every stage.



We have over 40 years of experience in the field of plastic injection moulding but **continue our education and intensive development** of both technology and facilities. We observe the market on an ongoing basis; also by taking part in international and national fairs and industry meetings.
We conduct research and development works, cooperating with technical universities in Cracow (AGH University of Science and Technology and Cracow University of Technology) and with the IOS Institute of Advanced Technologies. Owing to these activities, improvements and innovations are implemented in both materials and technology.

LABORATORY

- Coordinate 3D measuring machine
- Digital image analysis
- Gloss & color
- Mechanical tests, hardness
- Spectrometric methods (FTIR, Raman spectrometer) to assess the degree of degradation and repeatability of material quality.
- MFI (melt flow index) measurement.
- Microscopic observations, EDS analysis.
- Weight, density, humidity and water absorption

QUALITY

We comply with the requirements of:
PN-EN ISO 9001, ISO/TS 16949, UL 746 D

- Production part approval process (**PPAP**). Experience with PPAP procedures for automotive clients. Preparation in acc. with IATF rules and specific customers requirements. Training in the **GD&T** rules.
- Advanced product quality planning (**APQP**)
- Failure mode effects analysis (FMEA)
- Control plan
- Flow chart
- Measurement system analysis (MSA)
- Statistical process control (SPC)
- 8D report, 5 whys analysis, Ishikawa diagram
- Poka – yoke
- Andon
- Kaizen

MATERIALS

ENGINEERING THERMOPLASTICS

Reinforced and unreinforced thermoplastics i.a. ABS, ABS/PC, ASA, PMMA, PC, PA, POM, PET, PBT, PP, PE, PS, PPO and thermoplastic elastomer i.a. TPU, TPS, EVA.

HIGH-TEMPERATURE THERMOPLASTICS

Plastics with high softening temperature and high continuous working temperature competing with metals, i.a. PPS, PSU, PPA, PEEK, PEI.

BIOPOLYMERS AND BIOCOMPOSITES

Polymers from renewable raw materials and / or biodegradable, composites with natural fiber; bioplastics with technical characteristics i.a. PLA, bio-PA, bio-PET, PP with wood flour.

We process difficult and advanced materials with specific performance and processing parameters, new and traditional. We offer support in choosing the material.

RESEARCH AND DEVELOPMENT

Recycling of engineering and high temperature plastics.

Patent application 421880 "Polymer-polymer powder composite from plastic waste and the way of its producing"

Additives and antibacterial coatings (cooperation with AGH – University of Science and Technology - Cracow)

Prototype moulds sintered from aluminum powders using the SLM method (cooperation with the Institute of Advanced Technologies IOS Cracow)

Development of a method combining flow control with dynamic or cyclical mould temperature control.

Selected r&D topics

Thin-walled technical parts with a wall thickness of 0.4 - 0.5 mm

The development of low-pressure injection technology for short series of large parts

The concept of 2-K moulds construction with the use of a precise fully electric aggregate for multi-component injection.

Substitution of petrochemicals with bioplastics (cooperation with Cracow University of Technology)

INJECTION.WE LIKE CHALLENGES!

PARTS WITH HIGH AESTHETIC

High gloss - also for reinforced, filled plastics. Metallic coatings, painting, decorating.

PRECISE PARTS

Narrow dimensional and shape tolerances due to precise machines and devices and strict process control

THIN-WALLED TECHNICAL PARTS

Parts meeting the requirements for technical products, with a wall thickness of less than 1 mm, from engineering plastics, including semi-crystalline unreinforced and reinforced.

LIGHT MOLDINGS

Optimized geometry, parts injection with porous core (foaming), high-strength and heat-resistant plastics (enable thinning of walls or metal replacing).

OVERMOULDING – OUR SPECIALTY

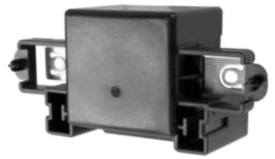
HYBRID TECHNOLOGY

of joining plastics with metals, laminates and other inserts

LOW-PRESSURE OVERMOULDING OF ELECTRONICS

TWO-COMPONENT INJECTION

with assessment of the joints quality



COATING AND DECORATING

PVD COATING
Wide range of finishes, choices of any colors, shiny and matte effects.

GALVANIC CHROME COATS
One of the modernst automatic lines for galvanization of plastics (ABS, ABS/PC)

PAINT COATING
Fully automated varnishing line for painting with solvent and water-based varnishes.

New! UV DIGITAL PRINTING

MULTICOLOR PAD PRINTING

HOT-STAMPING

LASER DECORATING AND PAINTING

DECORATING AND LABELING IN INJECTION MOULD

POST PROCESSING

ULTRASONIC WELDING

VIBRATION WELDING

LASER WELDING

MACHINING

ASSEMBLY

OPTIMIZATION

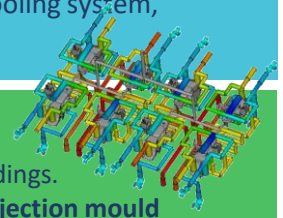
INJECTION MOULDING SIMULATION AUTODESK MOLDFLOW

Geometry optimization of the molding in association with the customer's guidelines (no modification of specific places, weight reduction, increased stiffness).

Cooling optimization - flow, liquid, runners geometry for shortening the time of the cooling phase.

Optimization for material selection.

Analysis of distortions and their correction - geometry optimization, cooling system, injection points.

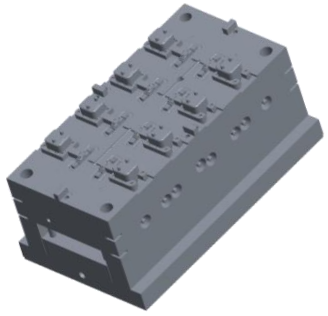


CYCLE TIME REDUCTION

Selection of optimal machines and devices according to developed proceedings.
Modern methods of **cooling medium flow contr**ol and **modern dynamic injection mould thermostatting**; selection of parameters for GK systems.

TOOL SHOP

PROJECT
Catia, ProEngineer, Mastercam, PEPS



VALIDATION
Computer analyses, prototypes, tests

PRODUKCJA FORM
Modern machine toolsSLS and SLM prototype injection moulds