


Ideas Materialized

- Made-to-measure materials with application-specific modifications for sophisticated areas of application
- Selection of polymer, reinforcement and additives according to the demands of the application
- Short material development time and implementation in series production
- A market leader for
 - thermoplastics with carbon-fibre reinforcement
 - compounds based on PAEK (polyaryletherketone) – e.g. more than 400 different PEEK compounds
 - thermoplastics with tribological modification
- Extensive experience with more than 2,500 high-performance compounds already developed


Materials expertise and product highlights

CUSTOMIZED POLYMER MATERIALS




- Stiffness 52 GPa
- Strength 530 MPa
- Dimensional stability

STRUCTURAL




- Withstands > 500 sterilization cycles
- Continuous operating temperature 320 °C

RESISTANT




- Wear 1×10^{-8} mm³/Nm [28 m/s, 30 MPa]
- Coefficient of friction 0.04

TRIBOLOGICAL




- Thermal conductivity 40 W/mK
- Electrical resistance 10^{-0.5} Ω

CONDUCTIVE




- Heavy 5.0 g/cm³
- Light 0.9 g/cm³

WEIGHT




- Detection of 1 mm particles
- Shielding effectiveness 76 dB at 500 MHz

PROTECTION



- Broad colour range in PEEK compounds
- Laser-markable materials
- Attractive surfaces in high-strength materials

SURFACE



Tailor-made polymeric materials

Customer requirement	Process and material development	Compounding
Polymers (examples)	Reinforcement	Additives
High-performance polymers PES, PEI, PSU, PPSU PAEK, PEEK, PA46, PPA, PA9T, PPS, LCP TPI Fluoropolymers	Carbon fibres X carbon fibres Glass fibres Glass flakes Glass beads Aramid fibres Mineral fibres Minerals	PTFE Graphite Silicone oil Nano-additives CNT Metals Pigments Flame retardant Ceramic UV stabilizers Flow agents
Technical polymers PC, PPE-PS, PPE-PA PA 6, PA 66, PA 12, PA 6.10, PET, PBT, POM, PK TPU, TPE	Others	Others
Standard polymers ABS Amorphous PP, PE-LD, PE-HD Partially crystalline		



