



Institut für Kunststofftechnik (IKT)

Foundation

- R&D on the fields of material engineering, plastics processing and plastics product engineering

Employees

- Approx. 60

Key services

- Compounding
- Material characterization
- Material development
- Processing
- Product design

IKT KUNSTSTOFF TECHNIK STUTT GART

Institute

The Institut für Kunststofftechnik (IKT) at the University of Stuttgart is an R&D-institute, active on fields of material engineering, processing technology and product engineering. Besides the research on conventional plastics processing technologies and conventional applications, the development of improved biobased and biodegradable compounds is a focus of the institute. The IKT is a comprehensive R&D partner to develop new biobased and biodegradable materials and to realize new applications. The variety of processing and characterization techniques enables the IKT to conduct fast and effective developments for the industry.

Service in the field of bioplastics

- Material development/Compounding (ZSK 18/25/26/40)
- Material characterization: Full range of chemical-, thermal-, rheological and mechanical characterization (accredited testing laboratory)
- Processing techniques: Extrusion (blown film, flat extrusion, blow moulding), injection moulding, injection moulding compounding, thermoforming, 3D-printing



Figure 1: creep behaviour in tension



Figure 2: differential scanning calorimetry

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Current activities in the field of bioplastics

- Impact modification of different bioplastics by reactive extrusion
- Modification of PLA for extrusion foams
- Modification of PHB
- Enzymatically modification of cellulose
- Development of biobased materials for fused deposition modeling (3D-printing)
- Analysis of the degradation of bioplastics in marine habitat
- Welding of bioplastics blends and analysis of the weld line morphology

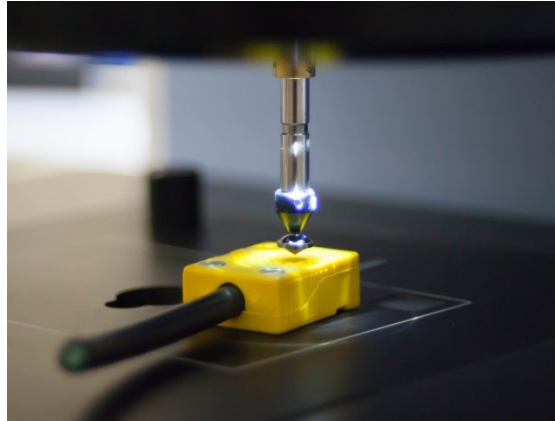


Figure 3: IR-microscope



Figure 4: different screw elements of a twin screw extruder



Figure 5: different plastics granulate