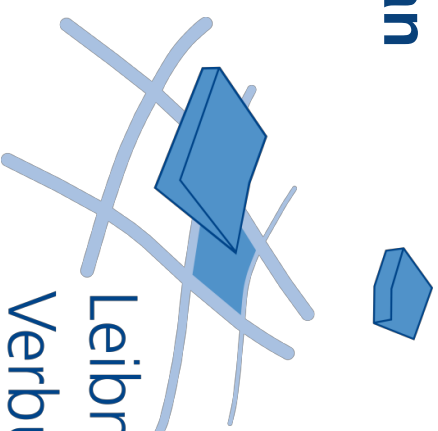


Mechanische Untersuchungen an Faser-Kunststoff-Verbunden unter Temperatureinfluss

Sebastian Schmeer



Leibniz-Institut für
Verbundwerkstoffe



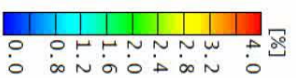
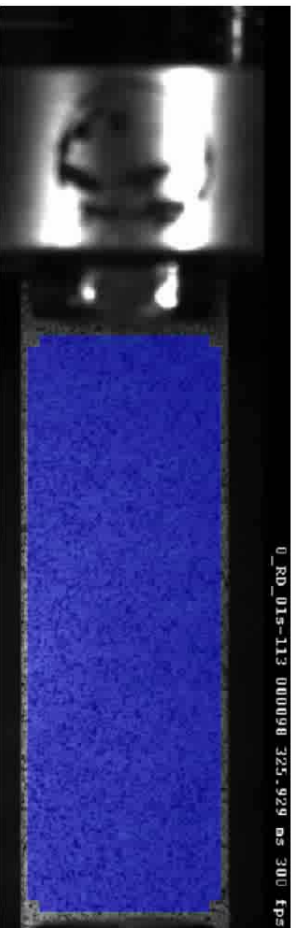
Untersuchung des mechanischen Verhaltens von Faser-Kunststoff-Verbunden (am Beispiel Organoblech)

Z-L-2-13

Dehnung: 0,0 %
Spannung: 0 MPa
Weg: -0,29 mm
Kraft: 9 N

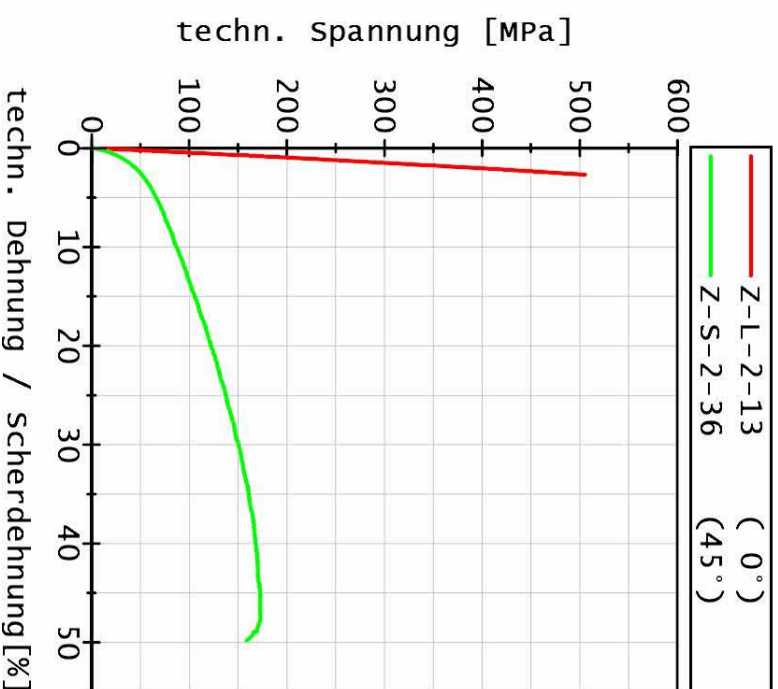
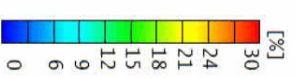
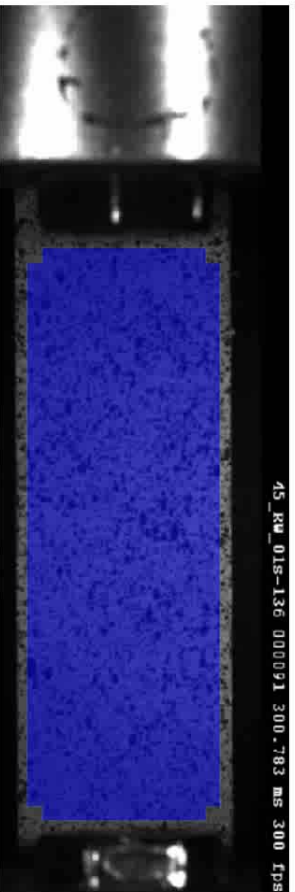
Werkstoff: PA6/GF Körper (50/50)
Prüfanlage: HTM5020
Prüftemperatur: 24 °C
Prüfgeschwindigkeit: 10 mm/s

0,0 %
0 MPa
-0,29 mm
9 N



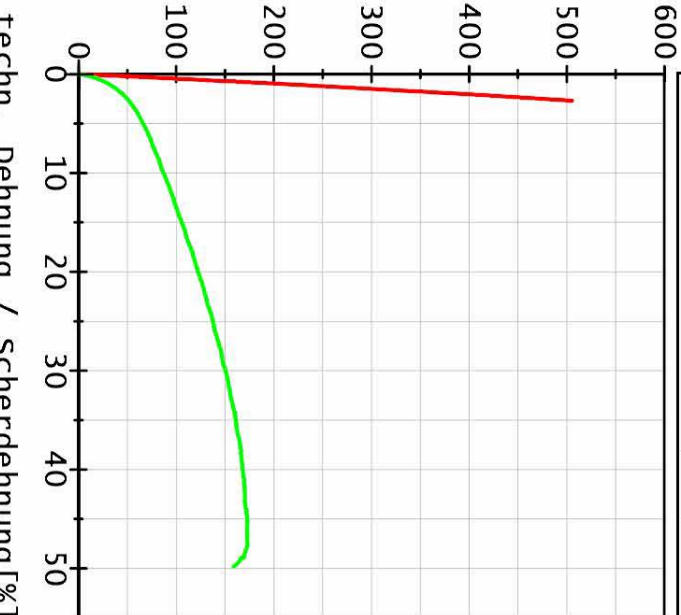
Z-S-2-36
Längsdehnung: 0,0 %
Scherdehnung: 0,0 %
Spannung: -0 MPa

Weg: -0,3 mm
Kraft: -16 N



techn. Dehnung / Scherdehnung [%]

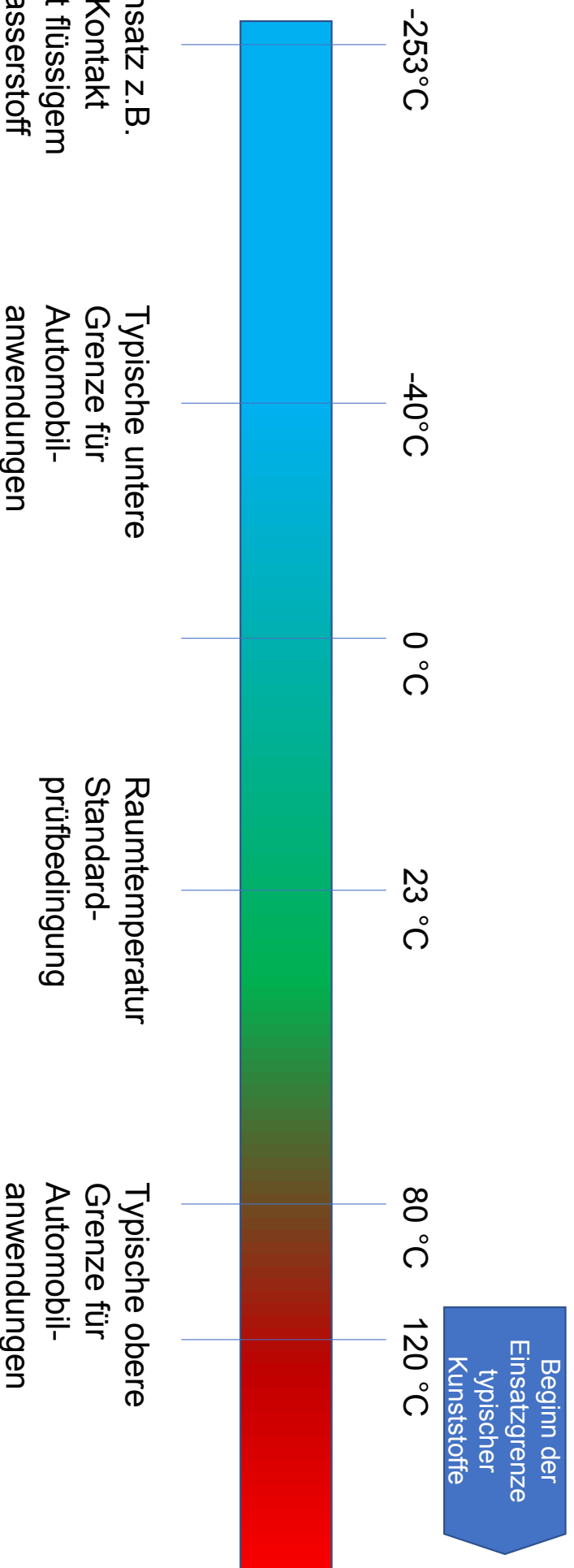
techn. Spannung [MPa]



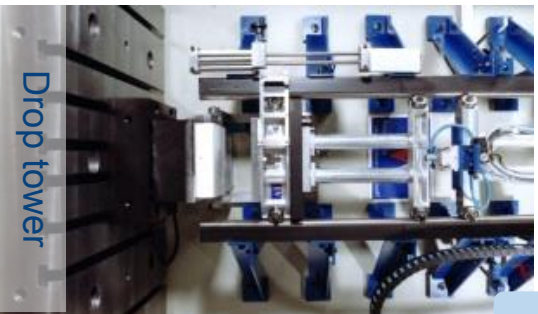
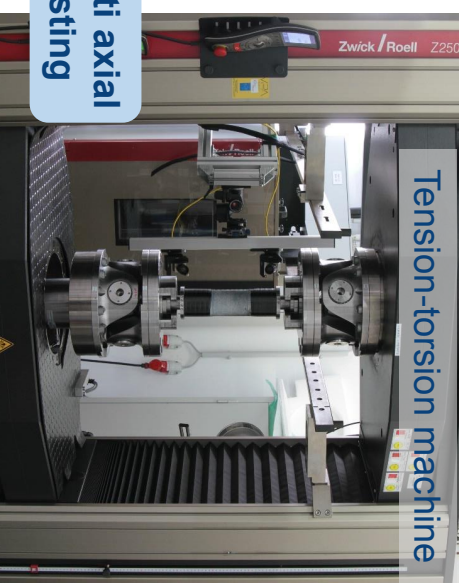
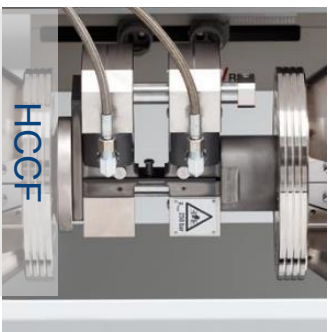
techn. Dehnung / Scherdehnung [%]

Typische Temperaturbereiche für Faser-Kunststoff-Verbunde in Strukturanwendungen

Kritische Stationen in der
Prozesskette von Faser-
Kunststoff-Verbunden



Ausstattung am IWW für mechanische Untersuchungen unter Temperatureinfluss



Material
characterization

Quasistatic
testing

Temperature, humidity

Strainrate

Creep testing

Multi axial
testing

Component
testing

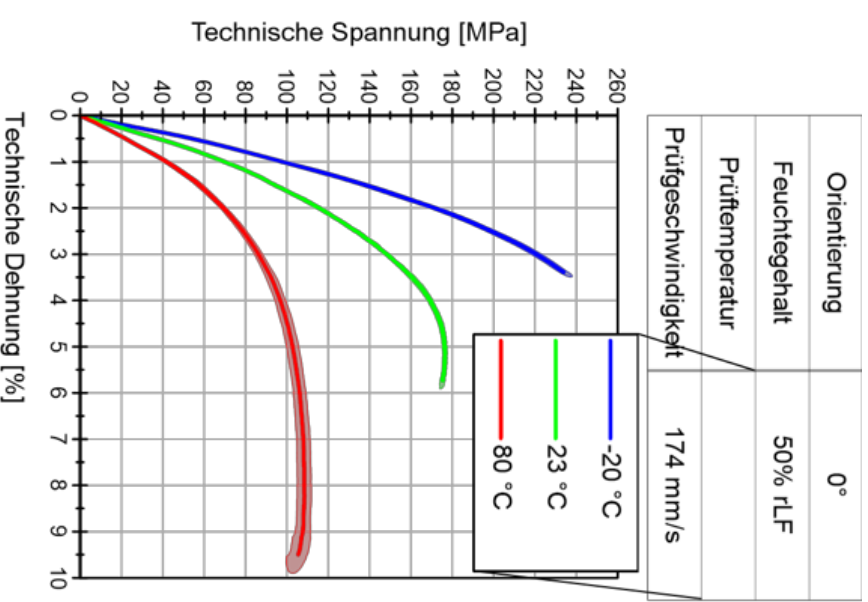
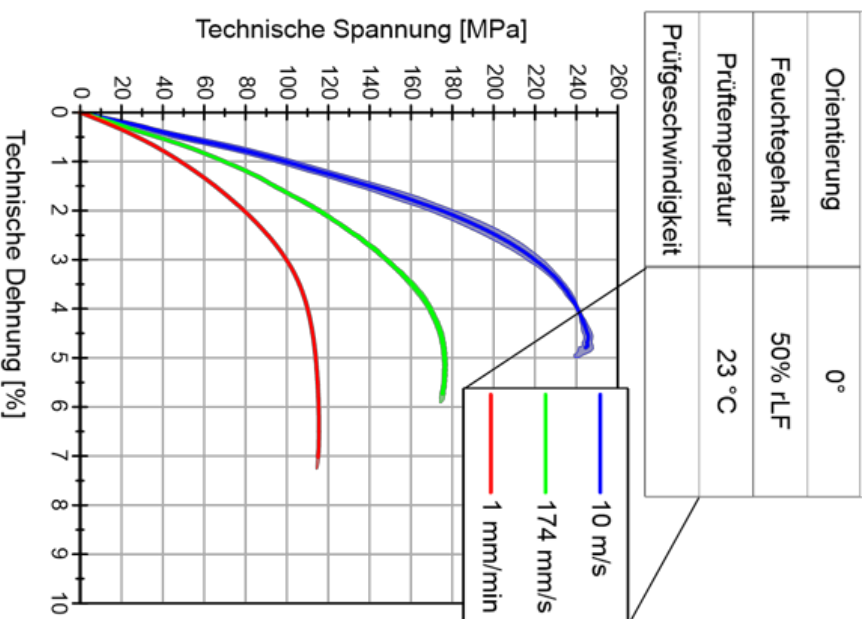
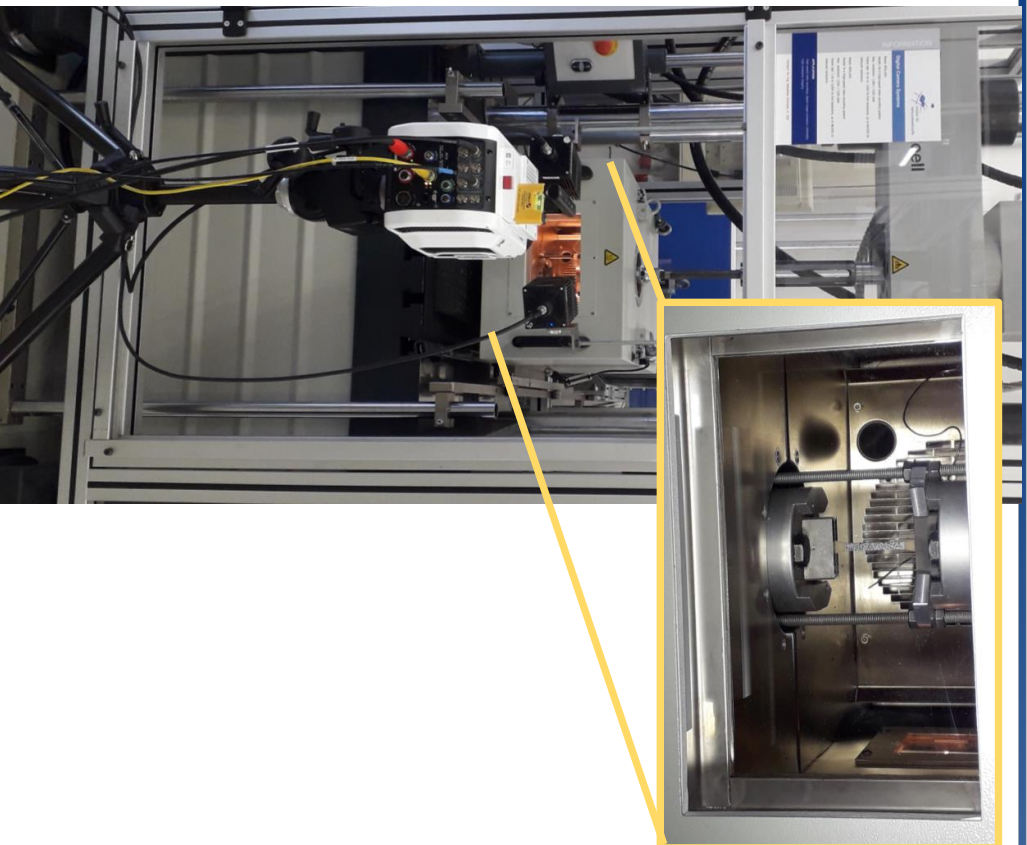
Drop tower

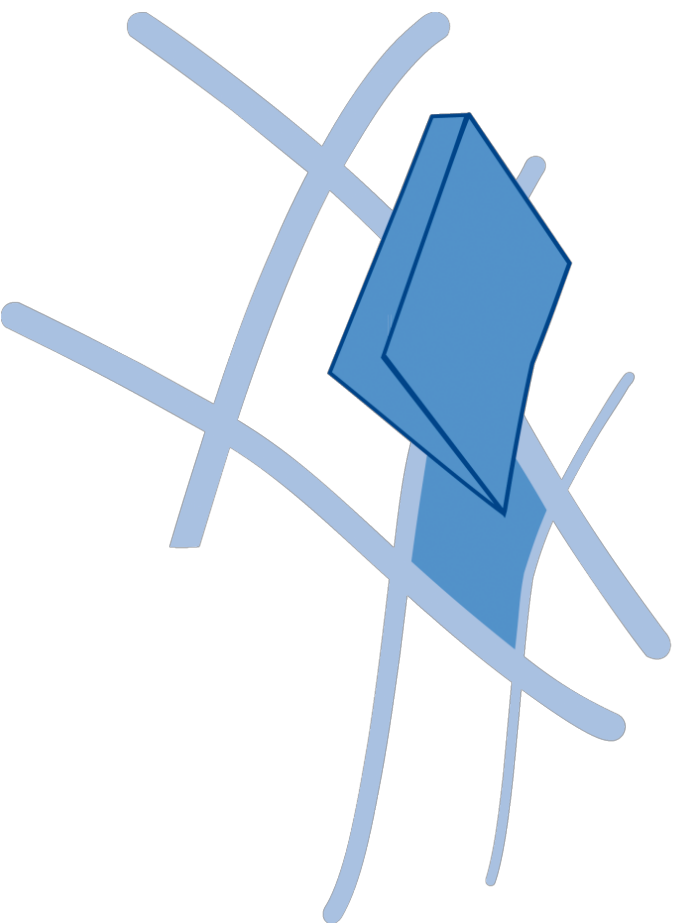
High speed testing

Crash rig

4

Beispiel: Zugversuche an spritzgegossenen Faser-Kunststoff-Verbunden





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Further activities:

- **Chairman of the DIN section:** “Thermosetting and Thermoplastic Materials” (NA 054-02 FB) and member of the **advisory board of DIN Standards Committee “Plastics” (FNK)** → also further activities at DIN
- **Member of the German delegation to the ISO international standardization meetings of the Technical Committee “Plastics” (TC61)** at ISO (International Organization for Standardization)
- **Manager of an AVK working committee** for continuous fiber reinforced thermoplastics at AVK – Industrievereinigung Verstärkte Kunststoffe e. V.