



18th International Conference on Deformation, Yield and Fracture of Polymers
April 10-14, 2022 Rolduc Abbey, Kerkrade, NL

Poster Contributions – Session I – Monday April 11, 2022

- I.01 *Modelling the macroscopic behaviour of rubber toughened glassy polymers*
M. Wismans, T.A.P. Engels, L.C.A. van Breemen, J.A.W. van Dommelen and L.E. Govaert
- I.02 *Structure-property relationships for epoxies at cryogenic temperatures*
P. Studer and T. Tervoort
- I.03 *Ultimate properties of PMMA modified by supramolecular chemistry*
M. Rambaud, L. Trouillet-Fonti, C. Vergelati and D. Long.
- I.04 *A shear transformation zone mesoscale model for plasticity in polymer glasses with visco-elastic background*
N. Klavzer, F. Van Loock, J. Chevalier, L. Brassart and T. Pardoen
- I.05 *The thermomechanical properties of three different molecular weight polycarbonates and one co-polycarbonate*
P. Song, A.R. Trivedi, and C.R. Siviour
- I.06 *The temperature rise in polycarbonate at varying temperature and rate compression tests during large strain deformation*
P. Song, A.R. Trivedi, and C.R. Siviour
- I.07 *Experimentally simulating the adiabatic self-heating observed in polymers under high rate loading*
A.R. Trivedi, P. Song and C.R. Siviour
- I.08 *A continuum-micromechanical model for crazing in glassy polymers under cyclic loading*
T. Laschütza and T. Seelig
- I.09 *Modelling viscoelasticity(plasticity) in polymers from networks theory and time temperature superposition principle*
N. Billon
- I.10 *Full-Field micromechanical simulations of semi-crystalline polymers using the FFT method on RVEs obtained by an enhanced phase field model*
A. Bahloul, I. Doghri and L. Adam
- I.11 *Constitutive Modelling of Amorphous Polymers at High Strain Rates*
G.M. Owen and D.S.A. De Focatiis
- I.12 *Failure in Long Glass Fiber Reinforced Thermoplastics: Key structural features and how they affect performance*
S.J.J. van den Broek, T.A.P. Engels and L.E. Govaert
- I.13 *Damage mechanisms of amorphous and low semi-crystalline polymers under tensile deformation studied by Ultra Small Angles X-ray Scattering: from the initiation of cavitation to final breaking*
S. Djukic, A. Bocahut, J. Bikard and D.R. Long

- I.14 *Nanocavitation distribution and morphology evolution in deformed High Density PolyEthylene (HDPE)*
C. Ovalle, P. Cloetens, H. Proudhon, T.F. Morgeneyer and L. Laiarinandrasana
- I.15 *Modelling load sharing capabilities of UHMWPE ropes for floating offshore wind turbines*
T.A.P. Engels, M.J.W. Kanters and R.L.M. Bosman
- I.16 *Effect of die temperature on the fatigue behaviour of PLA produced by means of fused filament fabrication*
S. Petersmann, A. Primetzhofer, M. Habicher, J. Leßlhuber, H. Lammer and F. Arbeiter
- I.17 *The influence of recyclates on the mechanical and long-term properties of virgin materials*
J. Hinczica, J. Geier, U. Kirschnick, C. Holzer, A. Frank and G. Pinter
- I.18 *Influence of hydrogen bonds on the slow crack growth resistance of polyamide 12*
M. Messiha, A. Frank, F. Arbeiter and G. Pinter
- I.19 *Integrative lifetime estimation method for short fibre reinforced polymers*
A. Primetzhofer, G. Stadler, G. Pinter and F. Grün
- I.20 *Estimation of local mechanical amorphous modulus evolution in HDPE materials submitted to oligo-cyclic loading conditions by in-situ SAXS/WAXS characterizations*
H. Guo, R.G. Rinaldi, S. Tayakout, M. Broudin and O. Lame
- I.21 *Cancelled*
- I.22 *An engineering approach to predict the long-term strength of thermoplastics: Rupture dome tests*
A. Aydemir
- I.23 *Influence of production on the slow crack growth resistance of polyethylene parts*
B. Gerets and K. Engelsing
- I.24 *Influence of post processing on the mechanical behavior of selective laser-sintered polyamide 12 parts*
B. Gerets, M. Nebel and K. Engelsing
- I.25 *Impact of nanoparticles on the printability and properties of acrylate-based resin in M-SLA 3D printing*
M. Korčušková, P. Lepcio, V. Seviugina and F. Ondreáš
- I.26 *Anisotropic solid-state CO₂ foaming of 3D printed poly(lactic acid) and its impact on mechanical properties*
J. Svatík, P. Lepcio, E. Režnáková, F. Ondreáš and J. Jančář
- I.27 *3D printing with focused ultrasound*
F.P.A. van Berlo, P.D. Anderson and L.C.A. van Breemen
- I.28 *3D Printing of autonomous self-healing elastomers for soft robotics*
S. Menasce, R. Libanori, F. Coulter and A. R. Studart

- I.29 *Structure-property relations for semi-crystalline PEEK*
R.A.M. Geveling, L.E. Govaert and J.A.W. van Dommelen
- I.30 *Material Extrusion Additive Manufacturing of PLA and ABS: deformation-dependent Eyring rate constant or activation volume?*
W.M.H. Verbeeten and M. Lorenzo-Bañuelos
- I.31 *Challenges in additively manufactured thermoset continuously reinforced composites*
J. Furmanski, A. Abbott, G.P. Tandon, M. Flores and Jeffery Baur
- I.32 *Multiscale modelling of polyelectrolyte membranes for perspective flow and fuel batteries*
S. Sengupta, R. Pant and A. Venkatnathan and A.V. Lyulin
- I.33 *Molecular modelling of stretch-induced crystallization in polypropylene layers*
Sigalas I. Nikolaos and A.V. Lyulin
- I.34 *A data-driven study of the large deformation behaviour of triblock copolymers*
A. Rajkumar, P. Brommer, Ł. Figiel