

Projekttitle: Development of an online measuring device for the evaluation of the processability of polymers in plastic forming processes with high elongation rates

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Elongation viscosity is often determined in quality control prior to material processing in order to predict possible behavioural changes of the material in the process, for example due to a change in molecular mass distribution. It is also increasingly used in the development of masterbatches, for example to determine maximum concentrations of additives for processability. For this purpose, it is necessary to determine the elongation viscosity under process-like elongation conditions in order to be able to make a sufficient prediction.

The aim of the research project "PolyScan" is therefore the development and testing of a measuring device that can be equipped to determine the elongation viscosity at elongation speeds of up to 7000 m/min under non-isothermal conditions, for example on commercially available capillary rheometers. Research and development activities in this project focus on the measurement of the states of the melt strand and the model-based evaluation of the acquired data.

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