
Characterization of the thermophysical properties of molten polymers and liquids using the flash technique

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Abstract. Characterization of liquids, pastes, and melts is nowadays becoming increasingly important for industrial applications. The thermal conductivity of a heat-transfer paste is, for example, one of the crucial parameters for the application of the material, and characterization of polymers in the liquid range is important for the analysis and optimization of the production processes.

A new container system has been developed allowing flash measurements to be carried out on liquids, pastes, and molten polymers. Technical details of the container and the data on processing techniques are presented. Reliability tests (on water) have also been carried out and the results are compared with literature values. Various application examples for liquids, pastes, and polymers, through the melt stage are reported.