

## ASPECTS OF INJECTION MOLDING SIMULATION OF COMPLEX PARTS

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**Abstract:** Injection molding is one of the most widely used processes on manufacturing plastics and composite products. One of the most significant factors that influences part quality in injection molding process is the polymer flow pattern in the filling phase. During the filling phase high pressures, velocities and temperatures are experienced by the polymer. The aim of this work is to present a comparative study of computer simulations of the polymer flow which occurs during the filling phase of injection molding process of complex parts from three different materials. A finite element method was used to simulate the injection molding filling stage. The obtained results can be used to validate part design, to design the injection mold and the processing technology for the injection molding of the analysed part.

**Key words:** injection molding, polymer, numerical simulation.