



G08.12

Pressure Distributions in the Cavity in Injection Molding for Various Operational Conditions

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Pressure distribution in the cavity during injection molding affects part quality. In this study pressure distributions in the runner, near gate in the cavity, and end of fill in the cavity have been measured using direct pressure sensors for various molding conditions. Molding conditions were injection speed, injection pressure, packing time from filling stage, and packing pressure. Through experiments it was realized that the packing time and packing pressure are the dominant factors on the part quality such as part shrinkage. Experimental results have been compared with computer simulations.