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**EFFECTS OF GATE DIMENSION ON PRECISION MICRO MOLDING OF MICRO FEATURE FOR
POLYMERIC MICROFLUIDIC CHIP APPLICATION**

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In the manufacturing process of polymeric micro fluidic chip, precision moulding of micro channel features down to micro meter levels is needed for fluid sample analysis applications. To successfully mold the micro features, mold gate dimension plays a critical role in creating a melt shearing effect on polymer melt for lowering down the melt instant viscosity and also controls a laminate flow phenomenon across the mould cavity. In this paper, the effects of mould gate dimension on the micro filling of micro features are investigated. The detailed mould filling behavior and melt viscosity variation during the filling of micro structures are studied. It has been found the width of gate is a dominated design factor in controlling of cavity filling pattern for precision and micro molding of polymeric microfluidic chip