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Three Dimensional Simulation of the Elbow Flow of Bingham Fluids

*Z. You, R. R. Huilgol

School of Informatics and Engineering, Flinders University of South Australia, Adelaide, Australia

The flow phenomenon in the runner system in injection moulding for an incompressible Bingham fluid is investigated. This problem is modelled as an elbow flow and analysed by using the three dimensional finite element method. The distributions of the flow velocity, the pressure field and the yielded area are presented. The results for the Newtonian fluid are also shown for comparison.