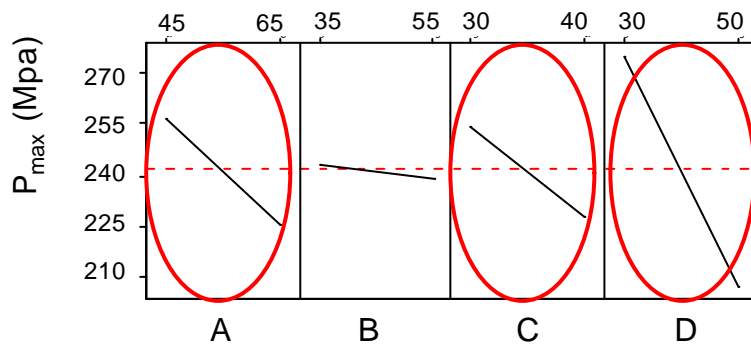
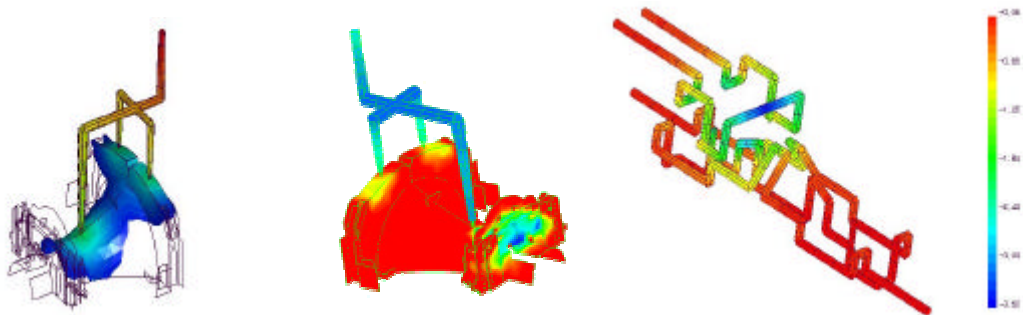


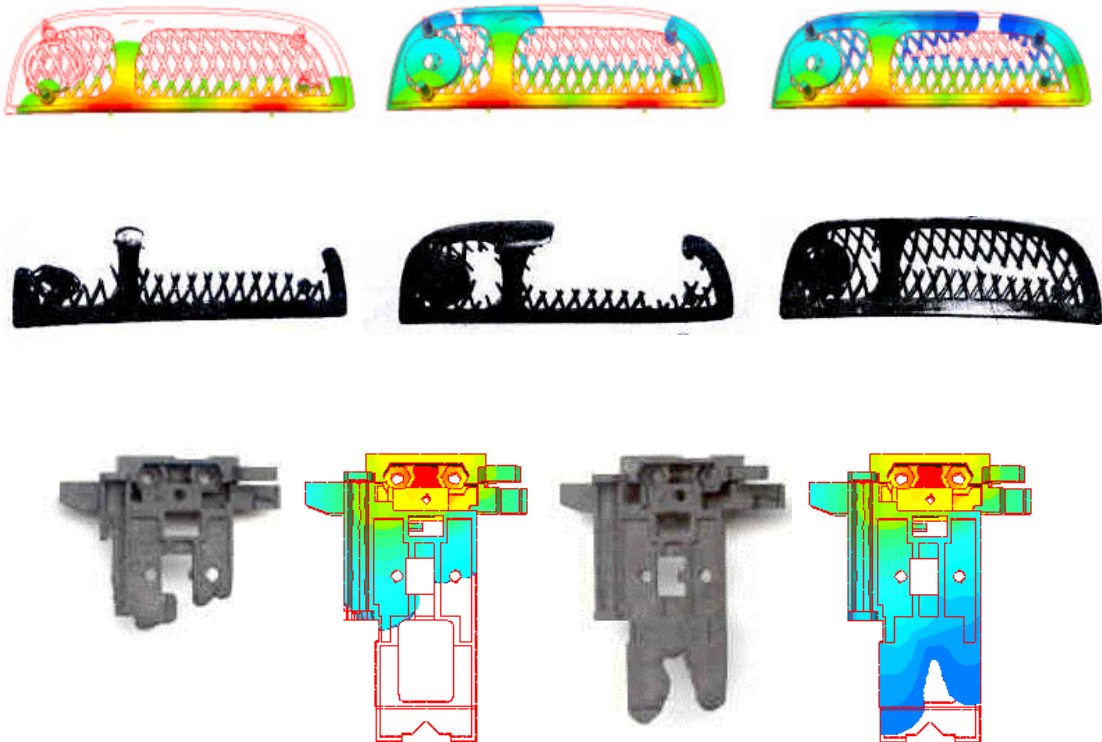
RESEARCH REPORT

● Research Title	Optimal design for injection molding process using design of experiments
● Research Field	CAE in Injection Molding (Ref. no: IM-01)
● Research Period	July 1999 ~ Feb. 2000
● Related Publications	K. Park, J. H. Ahn, and S. R. Choi, " Optimal Design for Injection Molding Process using Design of Experiments and Finite Element Analysis ", <i>CAE and Related Innovations for Polymer Processing, IMECE, ASME, Orlando, USA</i> , pp. 63 ~ 74 (2000).
● Summary	<ul style="list-style-type: none"> ▪ Implementation of Design of Experiment (DOE) ▪ DOE scheduling + CAE analysis ▪ Optimization based on DOE using factorial design and relevant statistical analysis



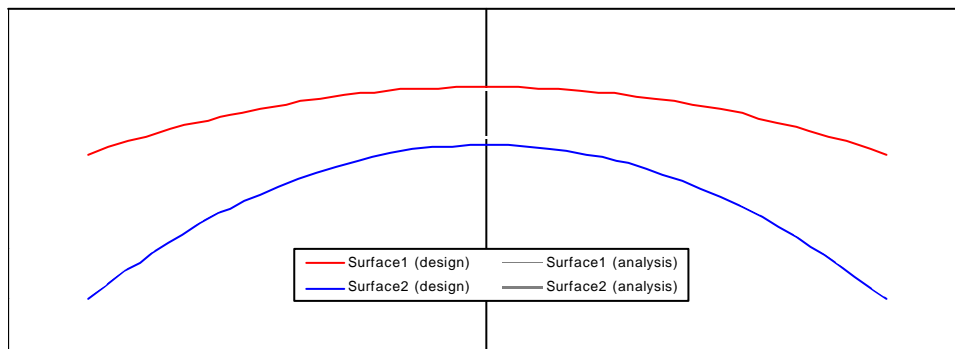
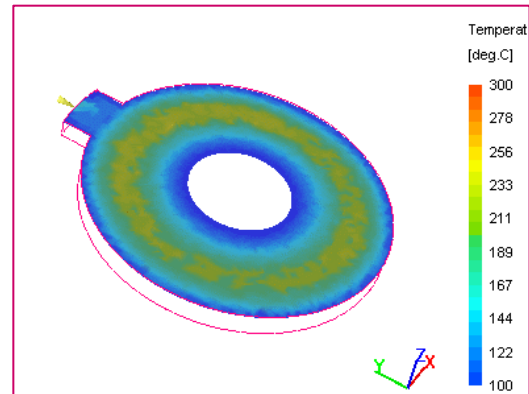
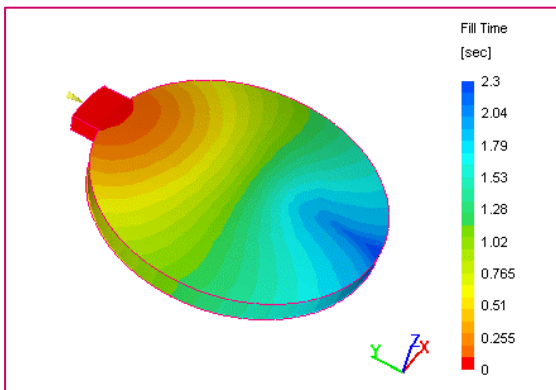
RESEARCH REPORT

● Research Title	Three dimensional filling analysis of injection molding using solid elements
● Research Field	CAE in Injection Molding (Ref. no: IM-02)
● Research Period	April 2000 ~ Dec. 2000
● Related Publications	K. Park, "Investigation on the Three-Dimensional Finite Element Analysis for Injection Molding using MPI/Flow3D", to be presented at <i>International Moldflow User Group Conference</i> , Boston, USA (2002).
● Summary	<ul style="list-style-type: none">▪ Investigation of Hele-Shaw's approximation▪ Comparison of flow patterns with respect to geometrical characteristics (thickness)▪ Verification with real experiments



RESEARCH REPORT

● Research Title	Three dimensional deformation analysis of injection molded plastic parts using solid elements
● Research Field	CAE in Injection Molding (Ref. no: IM-03)
● Research Period	Jan. 2001 ~ June 2001
● Related Publications	K. Park, "Investigation on the Three-Dimensional Finite Element Analysis for Injection Molding using MPI/Flow3D", to be presented at <i>International Moldflow User Group Conference, Boston, USA (2002)</i> .
● Summary	<ul style="list-style-type: none"> ▪ Thermal deformation analysis for plastic parts from the results of injection molding analysis ▪ Residual stress estimation during cooling stage ▪ Verification with real experiments



RESEARCH REPORT

● Research Title	Design and analysis for precision plastic lenses with aspherical surfaces
● Research Field	CAE in Injection Molding (Ref. no: IM-04)
● Research Period	July 2001 ~ Feb. 2002
● Related Publications	K. Park et al, "Design and analysis for precision plastic lenses with aspherical surfaces", 6 Sigma Research Project, Samsung Electro-Mechanics Co, (2001)
● Summary	<ul style="list-style-type: none">▪ Design of an aspherical lens for a photo pick-up▪ Injection molding analysis using solid elements▪ Thermal deformation analysis▪ Residual stress calculation and estimation of birefringence

