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## **Residual Stresses in Injection Molded Thermoplastic Parts**

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Injection molding is one of the most common operations in polymer processing. Good quality products are usually obtained and major post-processing is not required. However, residual stresses which exist in plastic parts after ejection affect the final shape and mechanical properties. Residual stresses are caused by polymer melt flow, pressure distribution, non-uniform temperature field, and density distribution. Residual stresses are predicted in this study by numerical methods using Moldflow and ABAQUS. Residual stresses are measured by two methods, the layer removal and hole drilling method. Residual stress distribution predicted by the thermal stress analysis is compared with the measuremental results obtained by the layer removal and hole drilling method.