

YOKOI LAB.

[Ultimate Injection Molding Technology and Pulp Injection Molding]

Department of Mechanical and Biofunctional Systems

<http://www.u-tokyo.ac.jp/~hiyokoi/>

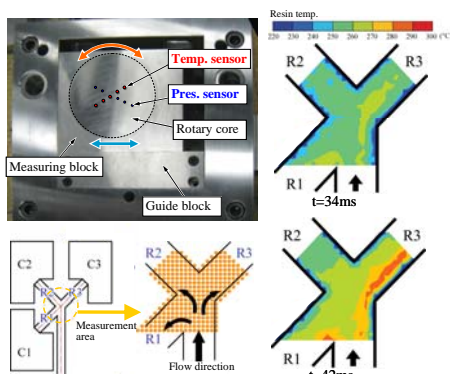
Research Field ● Polymer Processing

Department of Precision Engineering

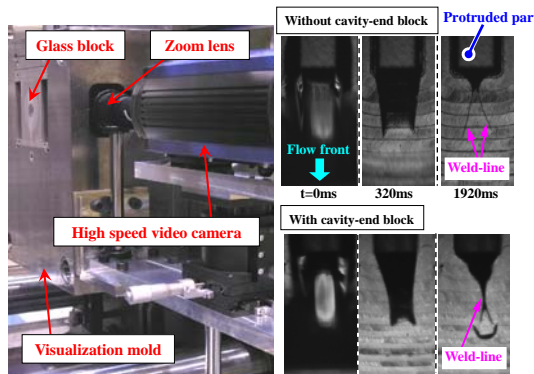
Recent Topics on Visualization and In-process Measurement Technologies for Injection Molding

The Yokoi Laboratory is conducting the following projects “Ultimate Injection Molding Technology” and “Pulp Injection Molding (PIM)”. Visualization themes and in-process measurement technologies are introduced through the demonstration of recent analytical results and video visualization images. Development of PIM samples and its application to extrusion molding are also reported using typical molded samples on display.

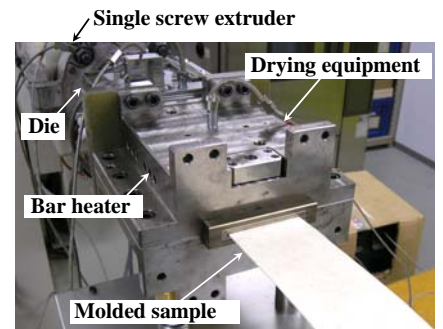
- ◆ Measurement of Melt Temperature and Cavity Pressure Distributions Based on Rotary Cylinder Structure
- ◆ High-magnification Visualization of Fine-pattern Filling Behaviors Using a Mold with Microscope Installed
- ◆ Analysis of Foam Morphology of Microcellular Injection Molded Products Using Supercritical Fluid
- ◆ Visualization Analysis of Wrinkle-like Grooves Generation Process at Boss Portion Using High-speed Rotary Runner Exchange System
- ◆ Development of Pulp Extrusion Molding Technology
- ◆ Development of New Products on Pulp Injection Molding



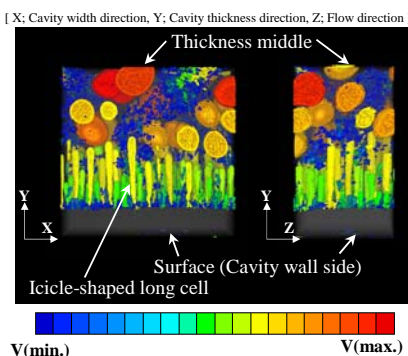
Measuring unit of pressure/temperature distribution and measuring result of temperature distribution at Y-shaped runner split portion



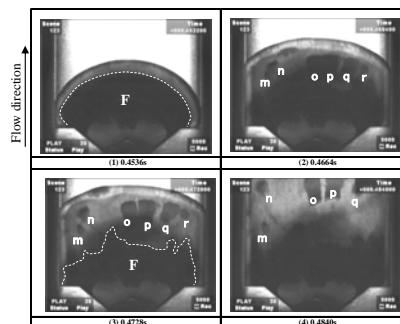
Visualization mold with microscope installed and magnified visualization images of filling process behind micro protruded patterns



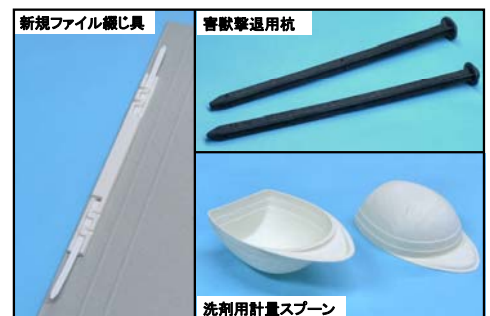
Pulp extrusion molding technology



X-ray micro-tomography images of Microcellular Injection Molded Product



Visualization images of skin layer break-up phenomenon in POM using high-speed rotary runner exchange system



New products on pulp injection molding