Production Technology Research Group

YOKOI LAB.

[Ultimate Injection Molding Technology and Pulp Injection Molding]

Department of Mechanical and Biofunctional Systems

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

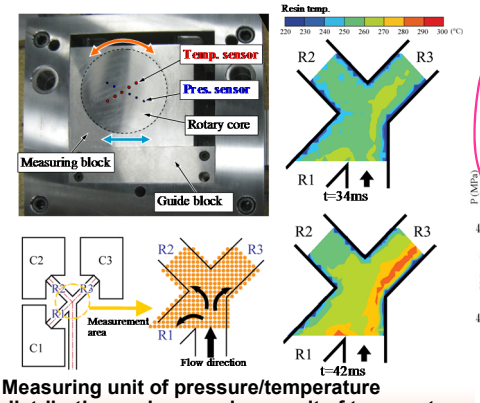
Research Field ● Polymer Processing

Department of Precision Engineering

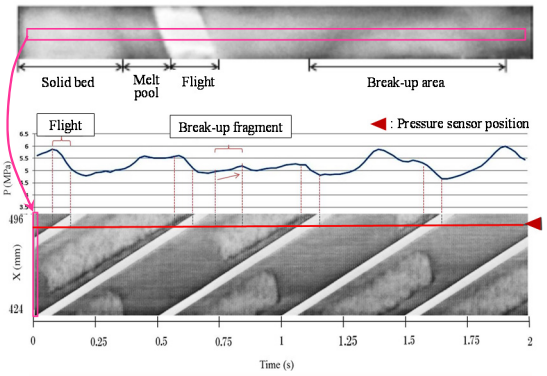
Recent Topics on Visualization and In-process Measurement Technologies for Injection Molding

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 are also reported using typical molded samples on display.

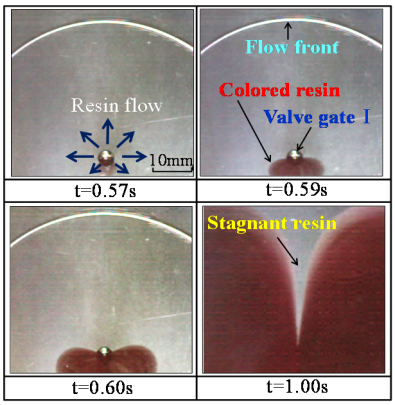
- **Visualization Analysis on Plastication Process of Glass Fiber Reinforced Resin by Glass-inserted Heating Cylinder**
- **Analysis of Cavity Filling Phenomena inside Mold with Hot Runner System**
- **Visualization Analysis of Gas Vent Behavior Using Laser-Light-Sheet Technique**
- **Visualization Analysis of Long Carbon Fiber Orientation Process in Injection Molding**
- **Measurement of Melt Temperature and Cavity Pressure Distributions Based on Rotary Cylinder Structure**
- **Development of New Products on Pulp Injection Molding**



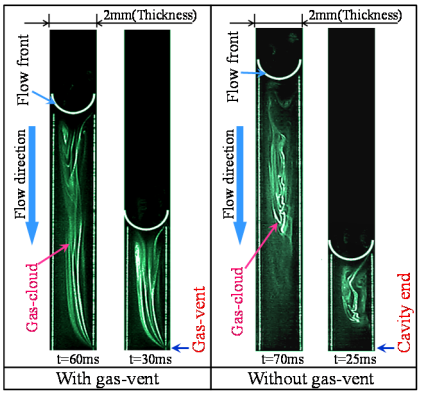
Measuring unit of pressure/temperature distribution and measuring result of temperature distribution at Y-shaped runner split portion



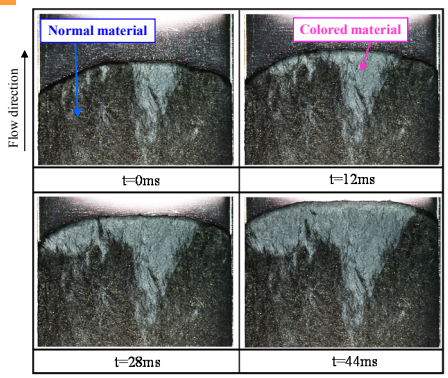
Plastication process of Glass Fiber reinforced PP at Compression Zone



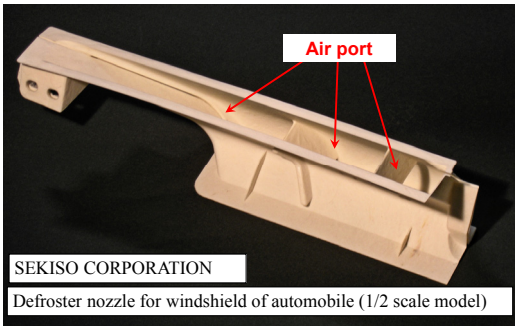
Flow Behavior Using Hot-runner System (Transparent Resin ⇒ Colored Resin)



Gas-cloud Behavior under Different Gas-vent Conditions



Visualization images of cavity filling process obtained by colored-marking method



New products on pulp injection molding