Future-Oriented Injection Molding Technologies

[Development of Unexplored Research Areas in Injection Molding Technologies]

Social Cooperate Program

Polymer Processing

http://www.snom.iis.u-tokyo.ac.jp/

Development of Future Injection Molding Technologies

In injection molding, a major polymer processing technology, the emergence of new hard-to-mold/-control materials such as long carbon fiber-reinforced resins and in-mold multiple processes such as molding and joining are making molding phenomena so complicated that original molding material characteristics are difficult to realize. This program aims to focus on unexplored technological/academic research areas that would lead to the development of future injection molding technologies for resolving these issues.

Companies: Sumitomo Heavy Industries, Ltd., DENSO Corporation, Toshiba Machine Co., Ltd., Toyo Machinery & Metal Co., Ltd., Nifco Inc., NSK Ltd., FANUC Corporation

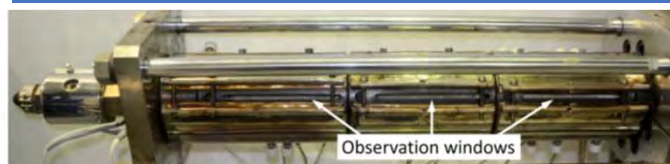Period of activity: April 2018 – March 2023
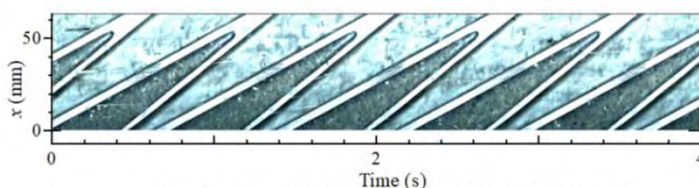
Members: KAJIHARA Yusuke, TATSUNO Michihiro
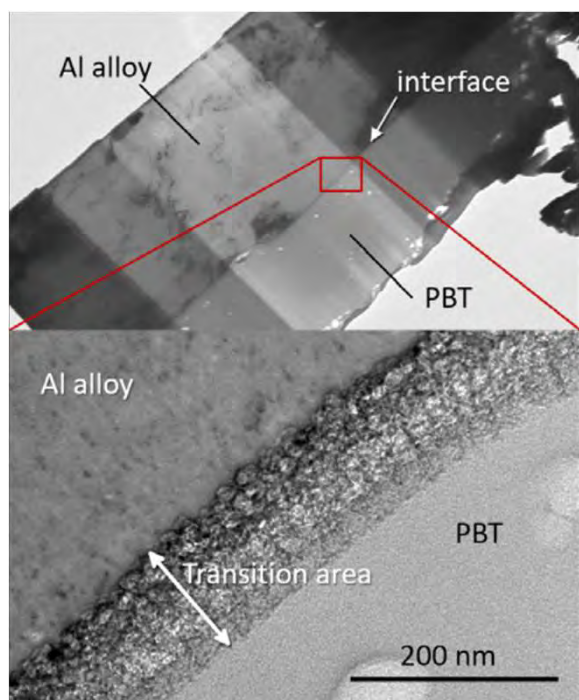
Electronic microscope analysis on metal-polymer direct joining interface

(1) Visualization manifold

(2) Melt behaviors inside L-shaped flow channel
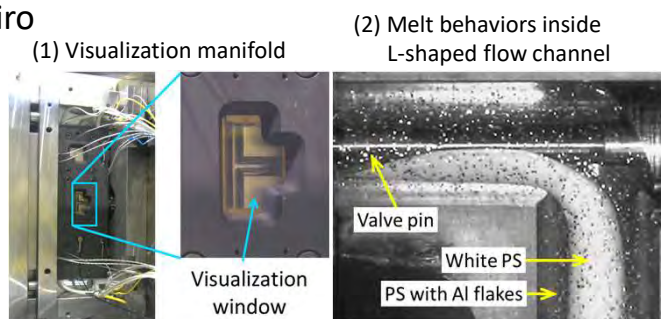
Visualization analyses of melt behaviors inside hot-runner mold system

Glass-inserted visual heating cylinder

Extended lamination image inside screw channels

Analysis of GF Strands Disintegration Behavior by Visualization Heating Cylinder

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