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[Image PDF (1038K)] [References]

Flow Properties of Wood Powder-Plastic Mixture II.
Analysis and evaluation of flow properties by capillary flow tests

Hiroshi IMANISHI[1)], Naho SOMA[2)], Kazutoshi TAKEUCHI[2)], Hideaki SUGINO[3)] and Kozo KANAYAMA[2)]

1) Japan Society for the Promotion of Science
2) National Institute of Advanced Industrial Science and Technology
3) New Energy and Industrial Technology Development Organization

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Abstract: Capillary flow tests were conducted on wood powder-plastic mixtures, and the analysis and evaluation of flow properties were performed based on a generally steady state. Apparent viscosity and slip velocity at the capillary wall were found analytically, and flow velocity distribution and details of the flow state were considered.
Consequently, it was inferred that the flow of the wood powder-plastic mixture was a composite of significant non-Newtonian flow and slip at the capillary wall. The proportion of flow attributed to the existence of slip at the capillary wall was sizeable among the entire flow. It was suggested that the rate would be large when the capillary diameter was small and the shear stress was high.

Keywords: wood powder-plastic mixture, capillary flow test, flow property, apparent viscosity, slip velocity

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