

Development of Injection Molding for Bio-polymer Packaging form Plastic Injection Molding, in order to, Mass Production

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Abstract

Four formulas mixed starch, mixed from cassava starch;(T), mung bean starch;(M), arrowroot starch;(A) and waxy rice starch;(w) were [T6.5M2A4.5WR2] in ratio 6.5:2:4.5:, [T5M2A4.5WR3.5] in ratio 5:2:4.5:3.5, [T6.5M1A3WR3] 6.5:1:2:3 and [T6.5M1A2WR2] in ratio 6.5:1:2:2, respectively. Peak viscosities of them were 437.50, 348.00, 429.00 and 408 BU respectively.

The Kawasaki injection mould type sx505 B 1120 -24B1, after improved it, which could inject mixed starch to form starch base foam tray in side 4x4 inch. Its processing was occurred in condition of 15 gel starch, mould temperature was 200-250 degree Celsius, injection pressure was 100 psi and mould holding force was 5 tons. All formulas of mixed starch could form starch to form starch base foam tray. Physical property of all trays was evaluated by compression testing. It was found that, trays were formed from mixed starch formula 1 to 4 could absorb weight about 27.90, 29.31, 19.30 and 14.78 kg., respectively.

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