模具內的剪切操作對於 PC/ABS 聚摻物射出成形品抗拉強度的影響研究

研究生：陳英哲　　指導教授：陳仁浩 教授

國立交通大學　　工學院精密與自動化工程學程

摘 要

本研究乃針對在射出成形的過程中，剪切操作對於 PC/ABS 聚摻物抗拉強度的影響進行研究。採用一可主動控制剪應變速率之射出成形模具，在實際射出成形過程的保壓階段，對熔融 PC/ABS 聚摻物直接施予各種不同速率的剪切操作，並依據標準抗張試驗規定，進行射出成形品的抗張強度測試。

研究結果顯示： PC 的重量比例低於 80%之 PC/ABS 聚摻物，施予剪切操作後，其抗拉強度之物性值均有增強之效果。

關鍵字：剪切操作；PC/ABS 聚摻物；抗拉強度；剪切應變率

Effects of Shearing in Injection Molding on the Tensile Strength of PC/ABS Blends

Student：Ying-Che Chen　　Advisor：Dr. Ren-Haw Chen

Institute of Automation and Precision Engineering
National Chiao Tung University

Abstract

This study focuses on the tensile strength affected by shearing operation on PC/ABS blends during an injection-molding process. A mold which can control shearing rate is adopted to perform different shearing rates to melting state of PC/ABS blends on actual holding pressure stage. Then, the tensile strength of the specimens are tested according to a specification of the tensile-strength standard.

This result shows that the tensile-strength values increase after shearing as the weight fractions of PC are under 80% in the PC/ABS blends.

Keywords: shearing operation; PC/ABS blends; tensile strength; shear rate