

عنوان مقاله:

Experimental Study of Packing Time and Melt Temperature Effects on Shrinkage of a Thin Sheet Made of Wood-HDPE Composite

محل انتشار:

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خلاصه مقاله:

Injection molding is one of the most common processes which are used for manufacturing different plastic parts. This method includes 3 continuous steps: filling of the mold, cooling and driving the part out. A wide range of plastic and Non-Plastic materials can be used as raw material in this process. One of the most important advantages of this way of production is that it is very economic. In this study packing time & melt temperature effects on shrinkage of a thin sheet made of wood- HDPE composite has been investigated. Based on previous works, defining a thin sheet means the ratio of length to thickness of it should be at least 100. The results were obtained after manufacturing of different pieces and 3D scanning using CATIA software package. Finally the results were represented and compared using EXCEL. Main parameters such as packing time and melt temperature were studied in 4 levels. The method used for designing of experiments is full factorial. The main goals in this study were to reduce the number of defected parts and recommend appropriate process parameters to produce thin sheets made of wood-HDPE composite. Having this information will result in saving time and reducing the production costs. It has been seen that by increasing the packing time and lowering the temperature, the shrinkage was reduced.

کلمات کلیدی:

Injection Molding, Shrinkage, Wood-HDPE Composite, Melt Temperature, Packing Time

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