

ABSTRAK

Penelitian ini bertujuan untuk mengetahui Pengaruh Temperatur dan Waktu terhadap Kualitas Pencetakan *Recycle* Plastik HDPE (*High – Density Polyethylene*) dengan Mesin *Hot Press*. Uji tarik terhadap spesimen berdasarkan *Standard Test Method for Tensile Properties of Polymer Matrix Composite Materials* (ASTM) D3039. Hasil pengujian spesimen dihitung ke modulus young dan diuji menggunakan *software Statistical Package for Social Science* (SPSS *Statistics* 17.0). Penelitian ini menggunakan metode eksperimen. Metode analisis data menggunakan analisis regresi berganda, uji t dan uji F. (1) Hasil analisis regresi diperoleh persamaan $Y = 2514,137 + 41,708X_1 + 779,714X_2$. (2) Hasil uji t menunjukkan variabel independen temperatur, (X_1) diperoleh ($t_h 5,137 > t_t 2,228$), variabel durasi (X_2), nilai ($t_h 4,802 > t_t 2,228$) : Variabel temperatur (X_1) berpengaruh secara parsial terhadap modulus young (Y) dan variabel waktu (X_2) berpengaruh secara parsial terhadap modulus young (Y). H_0 ditolak atau yang diterima H_1 yang berarti koefisien regresi diterima. (3) Hasil uji F menunjukkan nilai F_h sebesar 24,726 dengan probabilitas atau signifikansi (Sig.) 0,000, dengan df_1 = derajat pembilang 2, dan df_2 = derajat penyebut 9 dengan taraf 5%, diperoleh ($F_h 24,276 > F_t 4,26$) : H_0 ditolak, H_1 diterima, yang berarti variabel independen secara bersama – sama atau simultan mempengaruhi variabel dependen secara signifikan.

Kata kunci : Temperatur, Waktu, Limbah HDPE, Mesin *Hot Press*, Modulus Young.

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ABSTRACT

This research aims to knowing The Effect of Temperature and Time to the Quality of Recycle HDPE (High – Density Polyethylene) Plastic Molding with Hot Press Machine. Tensile Strength tests on specimens based on Standard Test Method for Tensile Properties of Polymer Matrix Composite Materials (ASTM) D3039. The results of specimen testing are calculated to Young's Modulus and tested using software Statistical Package for Social Science (SPSS Statistics 17.0). This research used experimental methods. Methods of data analysis using multiple regression analysis, t test and F test. (1) Regression analysis results earned the equation $Y = 2514,137 + 41,708X_1 + 779,714X_2$. (1) T test results show the independent variable temperature (X_1), ($t_h 5,137 > t_t 2,228$), duration variable (X_2), ($t_h 4,802 > t_t 2,228$) : The temperature variable (X_1) partially Effect to the Young's Modulus (Y) and the duration variable (X_2) partially Effect to the Young's Modulus (Y) H_0 is rejected or accepted H_1 , which means the regression coefficient is accepted. (3) F test results show the value of F_{count} is 24.726 with a probability or significance (Sig.) 0,000, with $df_1 =$ degree of numerator 2, and $df_2 =$ degree of denominator 9 with a level of 5%, earned ($F_h 24,276 > F_t 4,26$) : H_0 is rejected or accepted H_1 . which means that the independent variables together or simultaneously affect the dependent variable significantly.

Keyword : Temperature, Time, HDPE Waste, Hot Press Machine, Young's Modulus.

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