

INTISARI

Tujuan penelitian ini adalah untuk mencari fraksi volume terbaik komposit lem epoksi-serbuk aluminium yang mampu memberikan hantaran panas paling baik dari campuran lem epoksi 0%, 25%, 50%, dan 75% serbuk aluminium.

Pengambilan data dengan dua cara yaitu dengan menggunakan alat Heat Conduction Apparatus dan penjemuran dibawah sinar matahari. Bahan yang digunakan adalah aluminium yang dilem dengan 4 macam variasi fraksi volume yaitu : lem epoksi-serbuk aluminium 0%, 25%, 50%, dan 75%. Setelah dilakukan pengeleman didiamkan hingga lem benar-benar kering, kemudian dilakukan pengujian untuk mengetahui besarnya hantaran panas yang dihasilkan oleh lem epoksi dan campuran lem epoksi-serbuk aluminium.

Dari pengujian konduktifitas termal dengan menggunakan alat Heat Conduction Apparatus, diperoleh presentase kenaikan suhu yang dicapai oleh komposit lem epoksi 25%, 50% dan 75% serbuk aluminium masing-masing adalah 3,98%; 15,1% dan 25,42%. Sedangkan pada pengujian dibawah sinar matahari langsung diperoleh angka prosentase 0,176%; 10,6% dan 22,8%.

Kata kunci : Konduktivitas panas, Komposit, Epoksi, Fraksi Volume.

ABSTRACT

The objective of this research was to find out the best volume fraction composite of aluminum powder epoxy glue which was able to give the best heat conductor of composite of epoxy glue 0%, 25%, 50%, and 75% aluminum powder.

Conductivity where two ways in taking the data: first was by using Heat Conductivity Apparatus tool and second was by shining under sun shine. The materials used were aluminum which was glue by 4 kinds of volume fraction: aluminum powder epoxy glue 0%, 25%, 50%, and 75%. After the materials were glue, the material were been motionless until the glue was exactly dry and then the experience was done in order to know the scale of heat which was produced by epoxy glue and the composite of aluminum powder epoxy glue.

From thermal conductivity examination using Heat Conduction Apparatus, there was increasing percentage of thermal which was gained by epoxy glue composite 25%, 50%, and 75% of aluminum powder: each percentage was 3,98%, 15,1%, and 25,42%. Whereas in examination in the sun shine the percentage number where 0,176%; 10,6%; and 22,8%.

Key words: Heat Conductivity, Composite, Epoxy, Volume Fraction