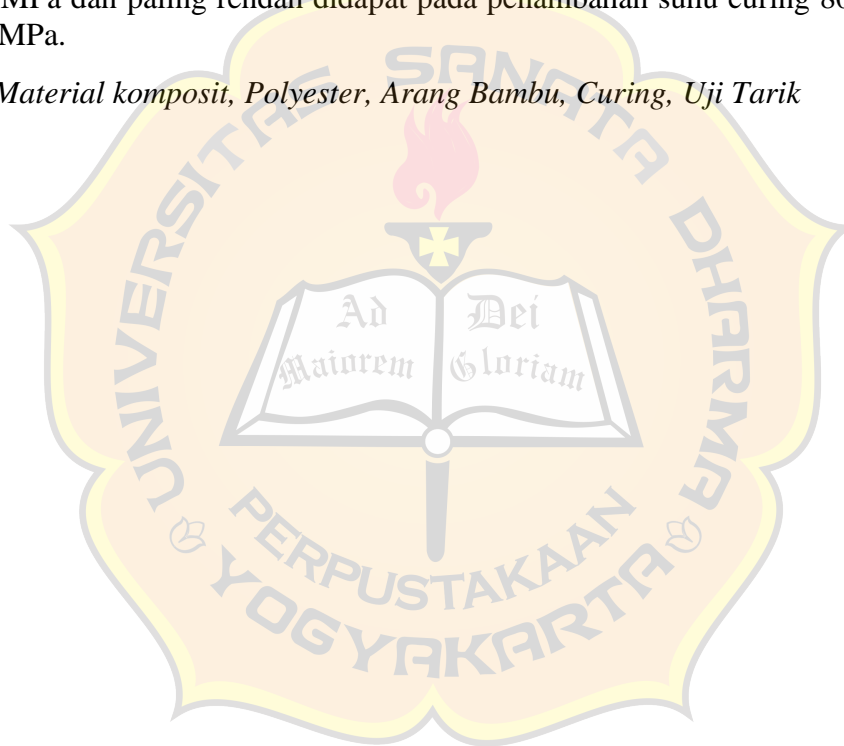


ABSTRAK

Teknologi rekayasa bahan Teknik yang terus dikembangkan oleh para peneliti di dunia, mewujudkan teknologi bahan yang lebih ramah lingkungan. Salah satunya material komposit yaitu perpaduan dari dua bahan yang dikombinasikan, matrik sebagai pengikat dan filler sebagai penguat. Penelitian ini menggunakan resin *polyester* sebagai pengikat. Material komposit dengan pengeringan suhu kamar dianggap belum sempurna dan dilakukan variasi perlakuan panas (curing). Peran suhu curing merupakan salah satu proses dimana dapat mengubah sifat mekanik dari komposit. Penelitian ini bertujuan untuk menganalisa variasi pengaruh perlakuan panas terhadap kekuatan tarik spesimen dengan variasi suhu (50°C, 60°C, dan 80°C) dengan waktu pemanasan 60 menit. Sifat fisis yang diamati yaitu foto struktur mikro dan sifat mekaniknya yang diuji yaitu kekuatan tarik, elongasi, dan modulus elastisitas. Hasil uji kekuatan tarik komposit rata-rata paling besar didapat pada penambahan variasi suhu curing 60°C nilai kekuatan tariknya berkisar 36,67 MPa dan paling rendah didapat pada penambahan suhu curing 80°C dengan nilai berkisar 21,51 MPa.

Kata Kunci : *Material komposit, Polyester, Arang Bambu, Curing, Uji Tarik*



ABSTRACT

The continually developed technical engineering materials by researchers worldwide, embody materials that are more environmentally sound. One is composite material, which is a combination of two combined ingredients, matrik as binding and filler as reinforcement. The study used polyester resin as a binder. Composite materials with room temperature drying are considered imperfectly and variations in thermal treatment. The role of composites is one of the processes in which it can change the mechanical nature of the composite. The study is intended to analyze a variety of effects effects on the power of the hot treatment grid with a variety of temperature variations (50°C, 60°C, and 80°C) over a 60-minute warming period. The physical properties observed were photos of the microstructure and the mechanical properties tested were tensile strength, elongation, and modulus of elasticity. The results of the highest average composite tensile strength test were obtained at the addition of a curing temperature variation of 60°C, the tensile strength value was around 36.67 MPa and the lowest was obtained at the addition of a curing temperature of 80°C with a value ranging from 21.51 MPa.

Keywords: *Composite Materials, Polyester, Bamboo Charcoal, Compositing, Test Pull*

