

Single Fibre Strength Test on Rattan as Natural Fibres

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Nowadays, rattan yarns are utilized in the furniture industry because they are readily available, inexpensive, non-hazardous to health, and biodegradable to the environment; hence, by utilizing it as a composites lasing fibre, it will be able to resolve the environmental problem in the future. The rattan yarns development as composite material has already known, given the raw material of natural fibre (rattan) available, Malaysia has many raw materials. From this case, this research conducted to get a technical analysis of tensile strength from rattan yarns fibre composite that is using polyester resin as matrix. The purpose of this research is: to identify the tensile strength composite of rattan yarns fibre which influence fibre diameter size from 1 mm to 5 mm maximum. The result of specimen trial is served in tensile strength compared with tensile strength which permitted by ASTM as a theory of standardization trial. On the research, the writer found composite of rattan yarns fibre tensile strength have incrementally increased proportionally with the increased of diameters. Conducted hand layup method, from the resulting study, found the maximum of tensile strength and maximum impact has got by composite with 5 mm diameter. The morphology of surface composition was examined using optical microscopy (OM).

Keywords: *Fibre Diameter, Mechanical Properties, Optical Microscopy, Single Fibre, Young's Modulus*