Karakter mekanik dari Multilamina Trikumposit serat gelas/Aramid/Epoksi

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Abstrak

A research was being done for analyzing strength and stiffness characteristic of two types of laminated fiber glass/aramid/epoxy composite material. Each type consists of eight and ten layers in same configuration with two different kinds of angle orientations. The base materials used in this research were glass epoxy and aramyd/epoxy fiber composites in which the epoxy is used as matrix. Some mechanical tests and optical observation was carried out for analyzing its macro and micro mechanical characteristics for both types. From the result of mechanical test, it was found that the compressive strength, stiffness and impact characteristic of the second type was better than the first type, but its tensile strength was slightly lower then the first type. In impact test for both type, there was found an increasing in impact strength by decreasing the temperature from 27 °C to -10 °C, which at temperature was -10 °C the both of material was becoming brittle. Optically, it was found that the second type more rigid than first type by observing the shape and direction of its fracture.