

# ***ANALYSIS OF TENSILE TESTS OF CARBON FIBER GLASS AS A RESIN MIXTURE ON THE 2023 KMHE VEHICLE BODY***

by

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## **ABSTRACT**

*The car is a means of transportation that is widely used in the modern era as it is today. In Indonesia itself, the majority of energy sources used for vehicles, especially cars, still use fossil energy. The problem that will be faced in the following years is the significant reduction in oil reserves if the management of the oil and gas sector is not controlled and regulated properly and wisely. In Indonesia currently use several choices of types of Pertamina fuel for gasoline motorbikes, including Premium and Pertamax. Gasoline Motors are Power Generation Machines That Convert Gasoline Fuel Into Thermal Power And Finally Into Mechanical Power. Broadly speaking, a gasoline engine is composed of several main components including the cylinder block, cylinder head, crankshaft, piston, connecting rod, flywheel, camshaft. cam shaft), and valve mechanics. Broadly speaking, a gasoline engine is composed of several main components including the cylinder block, cylinder head, crankshaft, piston, connecting rod, flywheel, camshaft. cam shaft), and valve mechanics. The cylinder block is the largest motor component, as a place to install mechanical components and other systems. The cylinder section is surrounded by cooling water inlets and oil inlets.*

*Composite is an amalgamation of two or more types of materials with different phases, knowing the feasibility of designing the car body "TEAM PABLOS" Jember State Polytechnic using fiberglass media, combining composites between matrix or binder materials and reinforcement or reinforcing materials, knowing the feasibility of designing a "TEAM" car body PABLOS" Jember State Polytechnic using fiberglass media, besides being more cost-effective, composites also have very good quality materials, one of which is fiberglass. . For testing the tensile strength of the 5-layer composite, the smallest tensile*

*strength value was found on specimen 5 with a tensile strength value of 35,247 MPa, when given a load of 952 N. And the largest tensile strength value was obtained on specimen 8 with a tensile strength value of 68,515 MPa, when given a load of 1850 N. In testing the composite with 3 layers of fiber the strain value obtained was 0.53%, and in the composite with 5 layers of fiber the strain obtained was 0.19%. The damage that occurs in the composite after the tensile test is carried out is a brittle fracture, because the fracture that occurs in the composite tends to be perpendicular to the direction of loading.*

***Keywords :*** *Composite, Tensile Test, Prototype Vehicle Body.*