THE USAGE OF KENAF FIBER AS SUBSTITUTE FIBER GLASS ON COMPOSIT FRP

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ABSTRACT

The use of fiberglass which used for make WR and MAT on fiberglass ship look has designed well, but the facility of material under production in Indonesia because the make using scientific process which any country can produce it. to get the material, Indonesia still import. Kenaf is a plant that produce fiber good enough and economical than other plants fiber. Kenaf fiber have good strength, so this material has opportunity to be use composite which good for fiberglass ship.

The process use the same test with fiberglass test. Kenaf fiber which become composite WR and MAT is plait (gunny) and random processed with method vacuum infusion process then bending test and tensile test with using standart ASTM D-638 for tensile test and D-790 for bending test. From BKI non metal 2006 composite that can applicationed for material hull ship minimum has strength is 85 N/mm$^2$ for tensile test and 152 N/mm$^2$ for bending test.

From this research result composite kenaf fiber has tensile test is 21,01 N/mm$^2$ and bending test is 53,48 N/mm$^2$. Whereas for composite combination has tensile test is 42,39 N/mm$^2$ and bending test 100,33 N/mm$^2$. Thereby this material unqualified standard that have been a given.

Keyword: kenaf, plait and random, making process, strength