

PEMANFAATAN SERAT DAUN PANDAN ALAS SEBAGAI PENGISI ALTERNATIF PENGGANTI FIBER GLASS

Mujiyono^{*)} dan Didik Nurhadiyanto^{*)}
⁽¹⁾ dan ⁽²⁾ Dosen FT UNY

ABSTRACT

The objective of research is to know feasibility of fiber from *pandan alas* leaves as strengthening of composite material with focus on its strength and density.

Research method conducted by cutting *pandan alas* leaves which have old enough and the strength from jetty so that length 60 cm up to 100 cm, then continued with leaf flaking to take fiber. Fiber from *pandan alas* leaves cut to pieces as long as 17 cm as according to specimen test to be used. Fiber from *pandan alas* leaves treated with soaking in formalin with concentration 5 % up to 37 % during 3 hours, then measured the strength, athwart diameter and density. Upon which the similar examination comparator also conducted at fiber glass but without soaking in formalin.

Pursuant to research result show that fiber of *pandan alas* leaves which not soaked in formalin have the strength 3-fold compared to fiber glass, i.e. 72,44 kg/mm² for fiber of *pandan alas* leaves and 21,65 kg/mm² for fiber glass. The strength of fiber from *pandan alas* leaves decrease till 13 % if soaked in formalin during one hour. Density of fiber from *pandan alas* leaves and fiber glass was 0,96 gram/cm³ and 0,31 gram/cm³ respectively. As a whole fiber from *pandan alas* leaves can be used as strengthening of composite material so have potency as source of natural fiber that can replace synthetic fiber such as fiber glass.

Keywords: fiber of *pandan alas* leaves, fiber glass, composite material