

PENGARUH PENGUATAN DENGAN JAHITAN IJUK TERHADAP KEKUATAN GESER KOMPOSIT SANDWICH

Abdul Muin^{*}, Agus Dwi Catur^{**}, Paryanto Dwi Setyawan^{**}

^{*}Mahasiswa Jurusan Teknik Mesin Fakultas Teknik Universitas Mataram

^{**}Dosen Jurusan Teknik Mesin Fakultas Teknik Universitas Mataram

Jln. Majapahit No.62 Mataram Nusa Tenggara Barat Kode Pos: 83125

Telp. (0370) 636087; 636126; ext 128 Fax (0370) 636087

ABSTRACT

Sandwich composite has been developed and produced for various aspects of life today. The unsaturated polyester content combined with palm fiber from plants such as palm fiber from palm trees that grow around us and polyurethane rigid foam as the core. The sandwich composite connection method is very important when applied to construction such as making boats, railroad bodies and others. The method of distance between palm fibers is a discussion in this study. This study took a model of research method, namely the distance between stitches into a calculation in one test also the shear test.

Sandwich composite is made using the hand lay-up method. Skins are made from thin polyester resin reinforced with fiberglass, while cores are made of polyurethane rigid foam and added fibers from palm fiber. Core cores are glued between two layers of outer skin. stitches made from palm fiber will be sewn on fiberglass and polyurethane rigid foam cores with varying stitching distances of 6 mm, 8 mm, 10 mm.

The results showed that the shear strength of sandwich composites tended to increase as the distance between the seams met. The biggest load and shear stress composite sandwich is found in variations in distance between stitches of 6 mm, the average maximum load reaches 2333.1 N and the average voltage is 122.76 kPa at the same distance. While variations in the distance of the stitches have a significant effect on the composite shear strength of the composite sandwich.

Keywords: Composite sandwich, palm fiber, shear strength