Short Sisal Fibers Reinforced Epoxy Resins: Tensile Strength

Petr Valášek
Department of Material Science and Manufacturing Technology, Faculty of Engineering, Czech University of Life Sciences Prague. Kamýcká 129, 165 21, Prague. Czech Republic. E-mail: valasekp@tf.czu.cz

Composite materials synergistically combine the properties of their sub-phases. Among the most widespread group of composite materials include fiber reinforced composites - usually with a polymer matrix. Mechanical properties of fiber composites are used in a variety of industries. The fibers can be represented by synthetic fibers or natural ones. Advantage of natural fibers is that it is a renewable resource, they are inexpensive, have adequate mechanical properties, which, however, due to the biological material may vary substantially. Described contribution deals with the experimental description of the tensile strength of two epoxy resins filled with short sisal fibers - random orientation of the fibers with different length, i.e. 2 mm, 4 mm and 6 mm. This paper compares the composite systems prepared from epoxy resins with different viscosity (resins Glue Epox Rapid, Glue Epox Rapid F) by casting. The presence of short fibers of sisal without controlled interlayer statistically unchanged tensile strength in many cases, and also increased the modul of elasticity in all cases.

Keywords: Agave Sisalana, biocomposite, mechanical properties.

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