



“Gheorghe Asachi” Technical University of Iasi, Romania



A STUDY ON SOME MECHANICAL PROPERTIES OF BIO-COMPOSITE MATERIALS WITH A DAMMAR-BASED MATRIX

Ion Ciucă¹, Alexandru Bolcu², Marius Marinel Stănescu^{3*}

¹University Polytechnica of Bucharest, Department of Materials Science and Engineering,
313 Splaiul Independentei, 060032, Bucharest, Romania

²University of Craiova, Department of Mechanics, 165 Calea București, 200620, Craiova, Romania

³University of Craiova, Department of Applied Mathematics, 13 A.I. Cuza, 200396, Craiova, Romania

Abstract

This study focuses on some mechanical properties resulted from the tensile testing of a set of green composites with a Dammar-based matrix and reinforcement material of silk, flax, cotton and hemp fabrics. To be precise, we have ascertained the characteristic curve, the resistance to and the elongation at fraction, as well as the modulus of elasticity for each set of samples from these composites and for a set of bioresin samples. With the help of an Electronic Scanning Microscope we captured images of the breaking section while on the basis of the EDS analysis we found the chemical composition of a bioresin sample. In order to justify the use of such materials in various fields of activity we compared the elastic and resistance properties of the composites we obtained to other existent composites.

Key words: bio composite, bio resin, chemical composition, mechanical properties

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* Author to whom all correspondence should be addressed: e-mail: mamas1967@gmail.com; Phone: +40740355079