

DETERMINAREA UNOR PROPRIETĂȚI MECANICE ALE UNUI MATERIAL COMPOZIT NOU UTILIZÂND REȚELE NEURONALE ARTIFICIALE

DETERMINING THE MECHANICAL PROPERTIES OF A NEW COMPOSITE MATERIAL USING ARTIFICIAL NEURAL NETWORKS

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Abstract: The paper studies the possibility of using artificial neural networks (ANN) to determine certain mechanical properties of a new composite material. This new material is obtained by a mixture of hemp and polypropylene fibres. The material was developed for the industry of upholstered furniture. Specifically, it is intended for the making of elements of the support structure of some upholstered goods (chairs, armchairs, sofa sides) with the objective of replacing wood. The paper aims to calculate the following mechanical properties: maximum tensile strength and maximum elongation.

Keywords: ANN, mechanical properties, composite material, hemp.