

# Characterization of the properties of the biocomposite material 15 mass% HA / PLA

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## **Abstract.**

The objective of this study is to investigate the mechanical properties and visco-elastic coefficients of the biocomposite material 15 mass% HA / PLA. The biocomposite material was manufactured using known technology: extrusion-composition followed by injection molding. The general mechanical properties were evaluated experimentally using standard tensile and bending tests using five specimens made according to ASTM standards. The visco-elastic behavior was investigated using the DMA AR-G2 Rheometer. The paper also investigates the microstructure of the mechanically stressed specimen breaking surface. Following the experimental research, a database is obtained in numerical form, diagrams and fractographic images. The paper presents conclusions regarding the mechanical and dynamic behavior of the biocomposite material 15 mass% HA / PLA. The general results of the study provide practical guidance on the usefulness of biocomposite material 15 mass% HA / PLA for orthopedic biomedical applications.