

ABSTRACT

Development of laminated composite materials using metal processing waste with high strain work.

Narizhnyi Oleksandr Andriyovych

The aim of the study is to investigate the influence of different reinforcing elements on the mechanical properties of the composite materials. Steel and brass chips, metal sponge for dishwashing, and metal cord were used as reinforcing elements. The use of these components helps reduce costs for acquiring and processing reinforcing materials, as chips and metal cord are waste materials and are available at a low cost.

The mechanical properties of the composite materials under investigation include hardness, impact toughness, and ductility. Determining and comparing the values of these properties allowed us to draw conclusions regarding which of the selected reinforcing elements is the most suitable for manufacturing composite materials based on aluminum.

KEYWORDS: COMPOSITE MATERIALS, REINFORCING ELEMENTS, ALUMINUM MATRIX, IMPROVEMENT OF MECHANICAL PROPERTIES, IMPACT TOUGHNESS.