

**МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ
СУМСЬКИЙ ДЕРЖАВНИЙ УНІВЕРСИТЕТ
КАФЕДРА ІНОЗЕМНИХ МОВ
ЛІНГВІСТИЧНИЙ НАВЧАЛЬНО-МЕТОДИЧНИЙ
ЦЕНТР**

**МАТЕРІАЛИ
Х ВСЕУКРАЇНСЬКОЇ НАУКОВО-ПРАКТИЧНОЇ
КОНФЕРЕНЦІЇ СТУДЕНТІВ, АСПІРАНТІВ ТА
ВИКЛАДАЧІВ
ЛІНГВІСТИЧНОГО НАВЧАЛЬНО-МЕТОДИЧНОГО
ЦЕНТРУ КАФЕДРИ ІНОЗЕМНИХ МОВ**

**“WITH FOREIGN LANGUAGES TO MUTUAL
UNDERSTANDING, BETTER TECHNOLOGIES AND
ECOLOGICALLY SAFER ENVIRONMENT”**

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DETACHABLE JOINTS OF DETAILS FROM THE CARBON FIBER COMPOSITE

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Nowadays the constructions from metals, plastic and filled plastics that contain detachable joints of details are widely applied in various constructions, machine components, building, mechanical engineering and other branches. But the primary target of applied devices and machines constructions improvement is their weight and size reduction with simultaneous improvement of endurance characteristics, reliability and durability increasing. For the task solution in some branches of mechanical engineering they replace traditionally applied metals and their alloys by carbon fiber composites that according to the physicomechanical characteristics are equal with some structural materials.

Carbon-filled plastics are the composites that contain carbon fibers as a filler. This relatively new class of composite materials has gained the most intensive development in recent years. Production of detachable joints from the carbon fiber composite is a complex engineering challenge. For its successful solution it is necessary to calculate optimum characteristics of joint components material which will depend on number of composite layers, their directions and sequence.

Endurance of the most widespread metallic compounds (rivet, bolt, threaded) considerably exceeds the endurance of similar construction joints from the carbon fiber composite. A big contribution into development of the shaping theory by surface cutting of carbon fiber products was made by the famous domestic and foreign scientists: T. Roik, V. Gaydachuk, Y. Karpov, D. Krivoruchko, G. Teters, M. Masuda, G. Spur, E.Reyssner, etc.

The majority of works is performed, as a rule, within approximate design models. At the same time, the shaping theory by surface cutting of carbon fiber products isn't considered enough

therefore more detailed development of this theory will allow to expand the carbon fiber composite usage in mechanical engineering.

The major task of researches is to improve already existing ways of a shaping of detachable joints from carbon fiber composites by means of reliability, durability and joint accuracy improvement and also to develop new ways of detachable joints of details from the carbon fiber composite and usage of new geometrical forms of these surfaces.

HISTOLOGICAL FEATURES OF RED BONE MARROW IN RATS

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Bone marrow is the flexible tissue in the interior of bones. In humans, red blood cells are produced by cores of bone marrow in the heads of long bones in a process known as hematopoiesis. The hematopoietic component of bone marrow produces approximately 500 billion blood cells per day, which use the bone marrow vasculature as a conduit to the body's systemic circulation. Bone marrow is also a key component of the lymphatic system, producing the lymphocytes that support the body's immune system. Information about the normal structure of the bone marrow is a key step in understanding its changes under the influence of negative environmental factors.

Objectives. To investigate the histological features of the red bone marrow in mature rats and compare them with the human red bone marrow.

Material and Methods. The study was conducted on the iliac bones of mature white laboratory rats. The material was fixed in 10% neutral formalin for 24 hours. The decalcification process took place in a solution of formic acid. After that paraffin blocks were made of it. Then sections with the thickness of 3-4 mm were made and they were subjected to the standard process of dehydration in xylol and