COMPARATIVE RESEARCH ON THE DESTRUCTIVE BENDING MOMENTS OF END CORNER JOINTS OF FRAME STRUCTURAL ELEMENTS MADE OF SOLID SPRUCE WOOD WITH A CROSS SECTION OF 50 x 30 mm PART I: END CORNER BUT JOINTS AND FACE SPLINED JOINTS

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ABSTRACT

The results from the research on destructive bending moments of end corner but joints and face splined joints of structural elements made of solid spruce wood with a cross section of 50 x 30 mm are given, where these joints are used mainly in construction of sitting furniture, tables and beds.

It was found that the type of joints has significant influence on the destructive bending moment. This is defined by the type and size of joint elements and the area of the contact surfaces of the joints.

The splined joints are destroyed in a considerably higher bending moment in comparison with the other researched types of joints.

Miter joints and those strengthened with staples have higher destructive bending moment than but joints, and joints under right angle have higher destructive bending moment than lap joints, , because the former have a bigger area of gluing.

It is recommended that the research results are taken into consideration in strength design of furniture.

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