THE DEVELOPMENT OF BASED PANEL PRODUCTS ASSOCIATED WITH SAWMILLING

new possibilites in the use of sawdust and bark in WPC technology

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INTRODUCTION

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Wood-Plastics Composites is a group of dynamically developing wood-based materials. Their development is particularly visible in the USA, Canada, Japan and Western Europe. WPC are materials created from the combination of thermoplastics (polyethylene, polypropylene, polyvinyl chloride) with wood particles generally in the form of fibers or flour. In addition to wood, particles obtained from other vegetable raw materials may also be used. The proportion of fillers in the composite, depending on its type and purpose, generally ranges from 40 to 60%, but with good homogenization of components, the content of lignocellulosic particles can reach as high as 70 - 80%. In order to improve the properties of WPC composites as well as to improve the efficiency of manufacturing process, additional substances are introduced into the thermoplast-wood mixture. Their total amount, however, usually does not exceed approx. 4 - 5%.

The aim of this project is to present new possibilities of using sawdust and

bark formed as by-products during sawing wood in a sawmill for the

production of WPC elements for applications in the furniture industry

PROPOSED TECHNOLOGICAL PROCESS





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ASSUMPTIONS

By-products (sawdust, bark) generated in sawmill processing are characterised by a different fragmentation degree and moisture level. It is assumed that, if possible, they should be used in a form which it was obtained.

New materials developed within the project should be characterized by relatively low density. Generally, they will be multi-layer systems, composed of materials with different fragmentation degree. The board physical and mechanical properties should enable them to be used in furniture industry as constructional elements or as elements of the constructions intended for use in moist conditions

II Step



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