ABSTRACTS

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ON MECHANICAL BEHAVIOUR OF PRESSURE-ASSISTED, SINTERED Al-Mg COMPOSITE

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Keywords: Al-Mg composite, mechanical behaviour, porosity, finite element simulation
Abstract: Lightweight materials like Al-Mg composite are attractive especially for aerospace or automotive industry. Current paper investigates mechanical behaviour of hot-pressed, reactive sintered Al-Mg composite with initial Mg volume content of 60% using finite element simulation. Conducted numerical simulations study effect of the porosity on mechanical behaviour. Overall porosity (in percent) is decisive factor for mechanical behaviour of investigated Al-Mg composite rather than number or size of pores.

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INVESTIGATION OF MECHANICAL PROPERTIES OF RECYCLED POLYVINYL BUTYRAL AFTER TENSILE TEST

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Keywords: polyvinyl butyral, PVB, safety glass, windshield
Abstract: The paper is focused on experimental testing of mechanical properties of recycled polyvinyl butyral. After homogenization, the mixture polyvinyl butyral was compressed to the test pieces of prescribed shape and size under action of pressure and heat. Polyvinyl butyral foil is one of the most important parts of the windshield or safety glass as interlayer. Recycled polyvinyl butyral was investigated under tensile test. An important consideration is the environmental suitability of materials from recycled polyvinyl butyral and its negative effects on human's life and the environment.

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SCAFFOLDS FOR TISSUE ENGINEERING – INTRODUCTION

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Keywords: tissue engineering, biomaterial scaffold, tissue
Abstract: For the past 40 years we have developed a variety of techniques to create scaffolds. Raw materials, mostly polymers, are processed and shaped into different structures depending on various applications in tissue engineering. One of the main obstacles to the correct creation of fully functional tissue substitution is the complexity of the design as well as the manufacturing process itself. The biomaterial scaffold must be designed to perform the function of the native tissue extracellular matrix and still maintain its bioactivity during interaction with patient´s body. In this paper we describe the use of scaffolds in tissue engineering in general.