

RIGA TECHNICAL UNIVERSITY
Faculty of Civil Engineering



International Conference

***Innovative Materials, Structures
and Technologies***

Riga, November 8, 2013

**Programme
Book of Abstracts**

Riga, 2013

RIGA TECHNICAL UNIVERSITY
Faculty of Civil Engineering

International Conference

Innovative Materials, Structures and Technologies

Organised by the Faculty of Civil Engineering in the framework of Riga Technical University 54th
International Scientific Conference

Riga, November 8, 2013

Dedicated to the 150th Anniversary of the Faculty of Civil Engineering of Riga Technical University.

Programme
Book of Abstracts

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Dear Participants,

On behalf of Riga Technical University I am pleased to welcome you to International Conference „Innovative Materials, Structures and Technologies” which is dedicated to 150th Anniversary of the Faculty of Civil Engineering. The conference brings together scientists from several disciplines to address challenges of the modern world related to living environment including energy, transport and safety of engineering structures.

Now when Latvia is in process of implementing industrialisation policy, in which technology transfer from science to economy is one of the cornerstones of the development, the interaction between academia and industry is becoming increasingly important. To foster this process further, researchers should be able to work across the disciplines, providing both high quality research and, delivering tangible benefits to society and business. The conference program is offering a wide spectrum of interrelated topics, thus is a demonstration of this endeavour.

Engineering was one of the first faculties when Riga Polytechnic was established 150 years ago. Although the country has come through many economical and political changes, engineering education and science has always been and will remain indispensable. I would like to use opportunity and to congratulate my faculty of Civil Engineering with the anniversary and to wish success in future!!!

I also wish all participants interesting lectures and fruitful discussions.

*RTU Vice Rector of Research
Prof. Dr. sc. ing. Talis Juhna*

In 2013 the Faculty of Civil Engineering can proudly reflect on a hundred and fifty years of its work. In the long period of one and a half century names of the countries and the language of industry standards have changed, but the essence of education has remained the same – to educate and train knowledgeable specialists for the construction industry, who, literally speaking, build Latvia. We can really be proud of our alumni, who have taken part in the implementation of every important construction project in Latvia.

The present poses new challenges – common European research and education area as well as common construction industry market. The Faculty has joined the Association of European Civil Engineering Faculties (AECEF) and European Civil Engineering Education and Training Association (EUCEET). In the last 10 years we have implemented more than 10 EU-funded projects, however, excellence is yet to be reached working together. We can do that. Let us be successful!

*Dean of Faculty of Civil Engineering
Prof., Dr. sc. ing. Juris Smirnovs*

MILLING AND GRINDING OF SiC POWDER

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Silicon carbide is a connection of the high-type formed series of chemical reactions at a temperature around 2,000°C. The material has good technological properties such as great corrosion, heat, and abrasion resistance. The paper describes the production of fine powder of silicon carbide SiC after its multiple grinding. The hardness of material is high making it difficult to comminute it. The paper presents the results of investigations of the grinding waste tube heaters using disintegrator systems. A method of grinding has been used for processing of SiC and SiC-S waste. This method has been carried out in several stages in order to obtain the powder with determined particle size. Morphology of SiC and SiC-S particles is described. The mechanism of disintegration and relationship between energy spent for disintegration and a degree of milling SiC powder are described. Possible applications of SiC and SiC-S composite powder as a source material for obtaining new composite ceramics are noted.

Keywords: Silicon carbide, grinding, milling, disintegration, waste.