



Deutsche Keramische
Gesellschaft e. V.

2018

Abstracts

93. DKG Jahrestagung *93rd DKG Annual Meeting*

in Verbindung mit dem
Symposium Hochleistungskeramik

*in conjunction with the
Symposium on High-Performance Ceramics*

10.-13.04.2018
Messe München

www.dkg.de

KERAMIK. WERKSTOFF DER MENSCHHEIT.

EISENMANN



Deutsche Keramische
Gesellschaft e. V.

for
challenge

2018

Abstracts

93. DKG Jahrestagung *93rd DKG Annual Meeting*

in Verbindung mit dem
Symposium Hochleistungskeramik

*in conjunction with the
Symposium on High-Performance Ceramics*

10.–13.04.2018
Messe München

PAR WEL

Interview mit dem Geschäftsführer
der QUANTACHROME GmbH & Co

Gasadsorption für Oberflächen- u
Porenanalyse **mit dem CryoSync**

Das neue AUTOFLOW BET+:
ein Revival der BET-Flow-Methode

Der BETTERSIZER S3 Plus:
"The next Generation"
in der Partikelgrößenanalyse

www.quantachrome.de

Publisher

Deutsche Keramische Gesellschaft e. V.
Bergerstraße 145 a
51147 Köln
Germany

Tel: +49 (0) 2203 989877-0
Fax: +49 (0) 2203 989877-9

Responsible for the Content

The respective authors are solely responsible for the content of their abstracts. The responsible publisher according to media and press law is Dr.-Ing. Detlev Nicklas.

Production and Layout

Thomas Fankhänel
Stephan Lipensky

Content Management

DKG CongressPro
<http://www.dkg.de/veranstaltungen/dkg-congresspro>

Printed in Germany

March 2018

This document, including all its parts is protected by copyright. Any use outside the narrow limits of copyright law without the consent of the publisher and the authors is illegal and punishable by law. This applies in particular to reproductions, translations, microfilming and storage and processing in electronic systems. The contents of this book have been prepared with care. However, the publisher does not guarantee the accuracy or completeness of the information contained in this book.

Usage of ceramics in making of historical mortars

TOPLICIC-CURCIC, Gordana; MITIC, Vojislav; MOMCILOVIC-PETRONIJEVIC, Ana; PAUNOVIC, Vesna; DRAGAN M OREVIC, Dragan; GRDIC, Dusan

University of Nis, Serbien

Presenter

Prof. Dr MITIC, Vojislav
vmitic.d2480@gmail.com

Organization/Company

University of Belgrade
Institute of Technical Sciences of
Serbian Academy of Sciences

Knez Mihailova 35
11000 Belgrade
Serbia

It is well known that ceramics was used for construction of engineering structures since ancient times. One of its usages is for making of mortars. It is known that it was used as a crushed brick, or it was ground in fine powder, thus obtaining puzzolanic properties, and it was used as an admixture to binders. The paper presents the tests of two types of historical mortars from two different locations in Serbia. Specifically, those are Gamzigrad (Romuliana) near Zajecar and the archeological site Caričin Grad near Leskovac. Based on the examined mechanical properties of mortar and on the microstructure determined using the optical microscopy and SEM/EDS analyses, it was concluded that at both sites, ceramics was used as aggregate. In addition, it was concluded that at the Caričin Grad site, powdered brick blocks were used as additional binder, since pulverization created the puzzolanic properties.

Study of fly ash-based geopolymers reinforced with natural fibers as sustainable composite materials

MOLANO CAMARGO, Marfa Carolina¹; BOCCACCINI, Riccardo

¹Friedrich Alexander University Erlangen, Biomaterials Institute, Materials, Deutschland

The unsustainable consumption of fossil-based materials and the demand of composites has become a pressing issue. Therefore, ecological materials. Therefore, this poster focuses on the mechanical and microscopic properties of fly ash-geopolymers reinforced with natural fibers. The experimental trials were carried out in two stages. During the first phase, different percentages of cotton and sisal fibers were incorporated to determine their effects on mechanical performance of fly ash geopolymer composites. The second phase, was aimed at evaluating the influence of processing parameters on the mechanical properties of composites with optimum fiber addition. Compressive strength tests were conducted. Furthermore, XRD, FTIR and SEM analyses were performed. The results indicated that natural fibers enhanced the tensile strength of fly ash geopolymer composites. SEM analysis suggested good fiber-matrix adhesion. Natural fiber reinforced geopolymers can be thus considered as a promising alternative towards the future's composite materials.