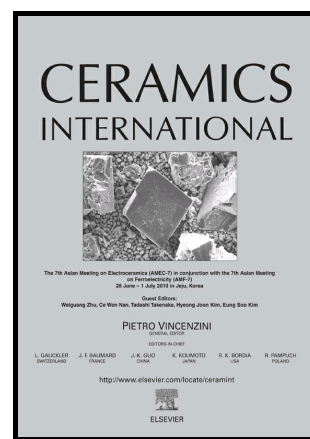


Synthesis of a foam ceramic based on ceramic tile polishing waste using SiC as foaming agent

Hao Wang, Ziwei Chen, Lili Liu, Xidong Wang, Ru Ji



www.elsevier.com/locate/ceri

PII: S0272-8842(18)30525-X
DOI: <https://doi.org/10.1016/j.ceramint.2018.02.211>
Reference: CERI17613

To appear in: *Ceramics International*

Received date: 2 January 2018
Revised date: 26 February 2018
Accepted date: 26 February 2018

Cite this article as: Hao Wang, Ziwei Chen, Lili Liu, Xidong Wang and Ru Ji, Synthesis of a foam ceramic based on ceramic tile polishing waste using SiC as foaming agent, *Ceramics International*, <https://doi.org/10.1016/j.ceramint.2018.02.211>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting galley proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Synthesis of a foam ceramic based on ceramic tile polishing waste using SiC as foaming agent

Hao Wang ^a, Ziwei Chen ^a, Lili Liu ^a, Xidong Wang ^{a,*}, Ru Ji ^{b,*}

^a Department of Energy and Resources Engineering, College of Engineering, Peking University, 100871 Beijing, PR China;

^b School of Civil and Resource Engineering, University of Science and Technology Beijing, 100083 Beijing, PR China.

* Corresponding author: xidong@pku.edu.cn; jiru@ustb.edu.cn.

Abstract

Due to the large amount of ceramic tile polishing waste generated in China, the recycling of this waste residue becomes important. Herein a foam ceramic was successfully produced by using ceramic tile polishing waste as main raw material. In this research, SiC was added as the foam agent, and the foaming mechanism was also investigated. The results showed that the best dosage of SiC was 1%. Furthermore, in order to obtain a foam ceramic with better structure, the sodium phosphate was added in raw materials as foam stabilizer. The influence of this addition on the microstructure and properties of foam ceramic was investigated. It was found that the optimum additive amount of sodium phosphate is 2~3 %.

Keywords: Ceramic tile polishing waste, foam ceramic, SiC, foam stabilizer.

Introduction

In recent years, China is the largest ceramic producer in the world, with a

Download English Version:

<https://daneshyari.com/en/article/7886849>

Download Persian Version:

<https://daneshyari.com/article/7886849>

[Daneshyari.com](https://daneshyari.com)