

Author's Accepted Manuscript

Fast setting tricalcium silicate/ magnesium phosphate premixed cement for root canal filling

Yanling Zhou, Chen Xu, Xiaoya Wang, Yuandong Dou, Zhiguang Huan, Jiang Chang



www.elsevier.com/locate/ceri

PII: S0272-8842(17)32509-9
DOI: <https://doi.org/10.1016/j.ceramint.2017.11.058>
Reference: CER116713

To appear in: *Ceramics International*

Received date: 4 September 2017
Revised date: 24 October 2017
Accepted date: 9 November 2017

Cite this article as: Yanling Zhou, Chen Xu, Xiaoya Wang, Yuandong Dou, Zhiguang Huan and Jiang Chang, Fast setting tricalcium silicate/ magnesium phosphate premixed cement for root canal filling, *Ceramics International*, <https://doi.org/10.1016/j.ceramint.2017.11.058>

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.

Fast setting tricalcium silicate/ magnesium phosphate premixed cement for root canal fillingYanling Zhou^{1†}, Chen Xu^{1†}, Xiaoya Wang¹, Yuandong Dou³, Zhiguang Huan^{1*} and Jiang Chang^{1,2*}

1. State Key Laboratory of High Performance Ceramics and Superfine Microstructure, Shanghai

Institute of Ceramics, Chinese Academy of Sciences, 1295 Dingxi Road, Shanghai, 200050, China

2. Med-X Research Institute, School of Biomedical Engineering, Shanghai Jiao Tong University, 1954

Huashan Road, Shanghai, 200030, China

3. Yantai Zhenghai Bio-tech Co., Ltd., No. 10 Hengshan Road, Yantai, 264006, China

[†]These authors contributed equally to this work.

Correspondence to Z.G. Huan and J. Chang

huanzhiguang@mail.sic.ac.cn and jchang@mail.sic.ac.cn

Tel: +86-21-52412804

Fax: +86-21-52413903

Abstract

MTA-based root-end filling is a promising therapeutic approach for root repair, however, difficult handling characteristics, presence of toxic elements in the material composition and long setting time are main drawbacks for clinical applications. The purpose of this study was to develop a novel fast setting silicate based premixed cement for endodontic use. The premixed cement contained tricalcium silicate (C3S) as the main constituent for hydration, magnesium phosphate cement (MPC) as setting accelerators and glycerol as water-miscible liquid. The physicochemical properties and antibacterial

Download English Version:

<https://daneshyari.com/en/article/7888719>

Download Persian Version:

<https://daneshyari.com/article/7888719>

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