

## عنوان مقاله:

THE EFFECT OF NANO METER SIZE ZrO<sub>2</sub> PARTICLES ADDITION ON THE DENSIFICATION AND HYDRATION RESISTANCE OF MAGNESITE– DOLOMITE REFRACTORIES

## محل انتشار:

مجله علم مواد و مهندسی ایران، دوره 13، شماره 4 (سال: 1395)

تعداد صفحات اصل مقاله: 8

## نویسندگان:

S. Ghasemi-kahrizsangi - Ahvaz university

H. Gheisari-dehsheikh - Ahvaz university

M. Boroujerdnia - Ahvaz university

## خلاصه مقاله:

In this study the effect of nano meter size ZrO<sub>2</sub> particles on the microstructure, densification and hydration resistance of magnesite –dolomite refractories was investigated. 0, 2, 4, 6 and 8 wt. % ZrO<sub>2</sub> particles that were added to magnesite –dolomite refractories containing 35 wt. % CaO. The Hydration resistance was measured by change in the weight of specimens after 72 h at 25 and 95% relative humidity. The results showed with addition of nano meter size ZrO<sub>2</sub> particles, the lattice constant of CaO increased, and the bulk density and hydration resistance of the specimens increased while apparent porosity decreased. With the addition of small amount ZrO<sub>2</sub> the formation of CaZrO<sub>3</sub> phase facilitated the sintering and the densification process. The mechanism of the nano meter size ZrO<sub>2</sub> particles promoting densification and hydration resistance is decreasing the amount of free CaO in the specimens.

## کلمات کلیدی:

Magnesite-Dolomite Refractories, Nano Meter Size ZrO<sub>2</sub>, Hydration resistance, Densification

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1723112>

