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Milling time influence of ultrafine treated rice husk ash to pozzolanic reactivity in portlandite (Conference Paper)

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Abstract

An investigation of **pozzolanic reactivity** of **ultrafine treated rice husk ash** (UFTRHA) was evaluated using electrical conductivity measurement. This paper is aimed to identify the effect of grinding duration via high speed **milling** process to the **pozzolanic reactivity** level. This **pozzolanic reactivity** assessment was completed by incorporating UFTRHA powder samples prepared at several **milling** duration in saturated **portlandite** solution at 40°C. Structure of these mesoporous substances after grinding processwere captured using Field Emission Scanning Electron Microscopy (FESEM) accordingly. Based on the findings, experimental results analysis reveal that UFTRHA ground at 15 min has highest **pozzolanic reactivity** level among all specimens. Hence, short period of grinding is sufficient to attain huge amount of specific surface area (SSA) by using high speed **milling** process. Excessive grinding aid i.e. 60 min produced lower specific surface area hence lower **pozzolanic reactivity** level. Larger amount of specific surface area leads towards vigorous and higher **pozzolanic reactivity**. © 2016 Taylor & Francis Group, London.

Indexed keywords

Engineering controlled terms: Environmental engineering; Field emission microscopes; Grinding (machining); Scanning electron microscopy; Specific surface area

Electrical conductivity measurements; Field emission scanning electron microscopy; High speed **milling**; Powder samples; **Pozzolanic reactivity**; **Rice husk ash**; Short periods; Specific surface area (SSA)

Engineering main heading: **Milling** (machining)

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