

IMPACT OF AMORPHOUS AND CRYSTALLINE SILICA ON PYROPROCESSING

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ABSTRACT

Two industrial raw mix test burns were performed on a long, dry (16 ft. by 19 ft. by 540 ft.) Type I cement kiln with a 1 stage preheater; this system burns a coal/coke blend delivered by an indirect firing system. An amorphous silica and microcrystalline silica were substituted for the standard quartz silica in the mix.

This paper provides an evaluation of the impact on the pyroprocessing of the two raw mixes and the affect of quartz greater than 45 μm on the raw mix burnability. To evaluate the raw mix, the parameters of specific heat consumption, production rate, rate of dust wasting, and microscopy are discussed.