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PRACTICAL PROCEDURES FOR INTENSIFYING CEMENT HYDRATION

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Abstract

Regardless the solution adopted for accelerating the cement hardening by heat treatments, the present technologies facilitate the improvement of some of the essential deficiencies of concrete especially regarding the one concerning the slow hardening rhythm. Depending on the cement type used, after 24 hours from the last cement casting, there was registered a compression strength of about 10 to 20 % of the final strength designed at the age of 28 days, value which is not enough to remove the shuttering element from formwork. The use of heat treatments facilitates the production concrete class in only a few days, depending on the heat regime used. This study intends to analyze the shortcomings of the present technologies for accelerating concrete hardening by heat treatments and to elaborate new procedures of heat treatments that aim to reduce in a significant manner the cycle duration.

Key words: cement, heat treatments, hydration, preheating

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