

عنوان مقاله:

EFFECT OF RISING TEMPERATURE ON CONCRETE STRENGTH

محل انتشار:

دومین کنفرانس بین المللی مقاوم سازی لرزه ای (سال: 1388)

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نویسندگان:

Ramadan E. Suleiman - *Civil Engineering Dept., Faculty of Engineering, University of Garyounis*

Hasan G. Elmazoghi - *Civil Engineering Dept., Faculty of Engineering, University of Garyounis*

خلاصه مقاله:

Reinforced concrete structures can severely be affected due to temperature rising. This is mainly due to the direct contact with fire, explosions, impact and permanent environmental temperature. The process of sudden temperature rising causes major damages to the concrete structure elements and reduce drastically the strength and affect the durability of such structures. In this research work, experimental program to study the effects of temperature rising on the concrete will be presented. The experimental work is conducted on concrete specimens from concrete mixes using aggregates from three different sources and different water cement ratios. After the specimens got their strength for 28 days with normal curing, they are subjected to rising temperature of 300oC and 500oC. This paper reports some findings of the laboratory research, based on different methods of cooling regimes. Some conclusions that may be useful for assessing fire damaged concrete are suggested and recommendations can be implemented in order to minimize such damage effects.

کلمات کلیدی:

elevated temperature, concrete strength, cooling, water quenching

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