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J Steel Struct Constr 2018, Volume 4
DOI: 10.4172/2472-0437-C2-012

The effect of steam curing by solar energy on the prefabrication constructions

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This work studies the effect of atmospheric steam curing (by solar energy) on the mechanical strength of concrete for prefabrication constructions. During the early hours of heating, the concrete reaches the minimum strength considered essential for the rotation of the molds, with which it is able to support loads without deform or loss of bearing capacity while saving heating energy. An experimental program was conducted to investigate the effect of hardening time by steam curing on the mechanical strength of concrete. The concrete specimens were cast with a water/cement ratio of 0.40 and were subjected to steam hardening after two cycles of covering steam curing two periods of the year hot and cold, then they are left in the open air cured for 3 and 7 days. The results show that the duration of one day steam curing and 03 days of hardening in open air is sufficient for making this concrete in service.

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