Name

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Thesis Title

: Behavior Under Axial Loading of Reinforced Concrete Columns

Subjected to Previously Elevated Temperature.

Major Field

: Civil Technology

Thesis Advisor: Mr. Chamnan Duangjaras

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Abstract

This Research was to study the temperature influence on axial strength of reinforced concrete columns tested under variation of parameters; time span after burning, temperature levels and quantity of reinforcement. The Research was conducted by testing 28 column models having identical section size of 0.15 x 0.15 m. and 0.35 m. length. Concrete strength was 213 - 417 ksc. And The Reinforcement diameter was 12 mm. having yield strength of 2891 ksc. The time span after burning were one week, eight weeks and twelve weeks. The test temperature level was 200 $^{\rm o}{\rm C}$, 300 $^{\rm o}{\rm C}$ and 400 °C. Numbers of reinforcement were 4, 6 and 8 bars. The Testing results showed that axial strength continuously decreased when time span increased and also when burning temperature increased. Decreasing rate of axial strength was high when percentage of reinforcement decreased. All Calculation results were lower than testing results for about 15 percentage.