

《Experiment and Calculation of Reinforced Concrete at Elevated Temperature (钢筋混凝土的高温性能试验及其计算) 影印版 (清华大学学术专著) 》

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编辑推荐

Comprehensive and readable, this book provides the tools and techniques to properly analyze the effects of high temperature on reinforced concrete, leading to safer, more stable structures. Based on years of the authors' research, *Experiment and Calculation of Reinforced Concrete at Elevated Temperatures*' four part treatment starts with an unambiguous and thorough exposition of the mechanical behaviors of materials at elevated temperature, followed by a discussion of temperature field of member sections, mechanical behaviors of members and structures at elevated temperature, and theoretical analysis and practical calculation methods. The book Provides unique insight into: Coupling thermal-mechanical constitutive relation of concrete

Exceptional analyses of beams and columns of rectangular section with three surfaces and two adjacent surfaces exposing to high temperature

Measurement and analysis of redistribution of internal forces of statically indeterminate structure during heating-loading process

Finite element analysis and calculation charts for two-dimensional temperature field of structural members

With this book, engineers and architects can effectively analyze the result of high temperature on concrete and materials which will lead to better designs of fire resistant structures, as well as damage evaluation and treatment after fire.

内容简介

本书主要论述钢筋混凝土结构及其材料在不同温度—荷载史下的受力性能。通过混凝土和钢筋材料，以及梁、柱和超静定结构试件等的系列高温试验研究讨论了主要结果，分析了一般性规律，建立了材料的耦合热—力本构关系，给出了准确的理论分析和简化的实用计算方法。本书的研究成果可应用于混凝土结构的火灾温度场分析、抗火分析和设计，以及火灾后的损伤评估和事故处理。

本书可用作研究生教材，也可供相关领域研究人员和工程技术人员参考使用。

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