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Fire Design of Steel Structures 2nd Edition

This book explains and illustrates the rules that are given in the Eurocodes for designing steel structures subjected to fire. After the first introductory chapter, Chapter 2 explains how to calculate the mechanical actions (loads) in the fire situation based on the information given in EN 1990 and EN 1991. Chapter 3 is dedicated to the models which represent the thermal actions created by the fire. Chapter 4 describes the procedures to be used to calculate the temperature of the steelwork from the temperature of the compartment and Chapter 5 shows how the information given in EN 1993-1-2 is used to determine the load bearing capacity of the steel structure. Chapter 6 presents the essential features that characterise the advanced calculation models, for thermal and mechanical response. The methods used to evaluate the fire resistance of bolted and welded connections are described in Chapter 7. Chapter 8 describes a computer program called 'Elefir-EN' which is based on the simple calculation models given in the Eurocode and allows designers to quickly and accurately calculate the performance of steel components in the fire situation. Chapter 9 looks at the issues that a designer may be faced with when assessing the fire resistance of a complete building. This is done via a case study and addresses most of the concepts presented in the previous

For this second edition the authors revised and extended the content. The book contains some new sections, e.g. a comparison between the simple and the advanced calculation models, as well as additional examples.

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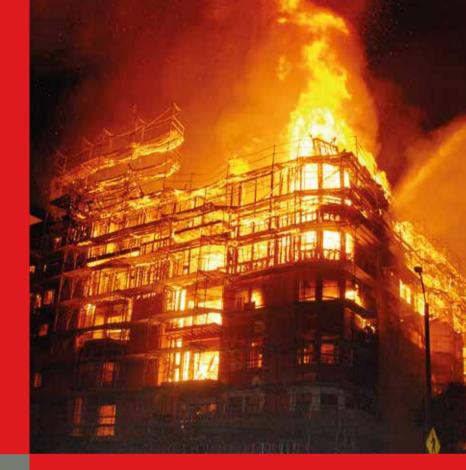
Steel

Structures

Edition Design







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Eurocode 1: Actions on Structures Part 1-2: Actions on structures exposed to fire Eurocode 3: Design of Steel Structures Part 1-2: Structural fire design

Jean-Marc Franssen Paulo Vila Real

ECCS CECM E K S

ECCS Eurocode Design Manuals

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