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Structural Fire Design and Research

Prof. João Paulo Rodrigues
Coimbra University

Wednesday June, 19th 2019

10:00

Aula Caminetto

The fire design of structures can be achieved not only by experimental tests but also by tabulated data, simplified calculation methods and advanced calculation methods.

Whilst the experimental tests and the simplified calculation methods are more dedicated to single elements, the advanced calculation methods can be used for single elements, parts of structure or the whole structure. The advanced calculation methods are in this case more accurate because they can take into account with the interaction between the elements subjected to fire and the surrounding structure. This lecture aims to give an overview of the fire design of structures in general, the fire design methods for the different types of structures with a link to the actual fire parts of Eurocodes. The future developments for a new generation of the fire parts of Eurocodes will be also presented with a critical analysis about their state of development and ways of improvement. The research carried out on fire safety of structures and materials at high temperatures at Coimbra University, Portugal, will be also presented.



Prof. João Paulo Rodrigues

João Paulo Correia Rodrigues is Associate Professor with habilitation at the Department of Civil Engineering of Coimbra University, area of structures.

Curriculum studiorum: Graduation (1991) and Master (1994) in Civil Engineering (Structures) at University of Coimbra (UC); PhD in Civil Engineering (2001) at the Instituto Superior Técnico (IST) of the Technical University of Lisbon (UL); Title of agregado in Civil Engineering (2014) at UL.

Research interests: (i) fire safety of structures; (ii) behaviour of structural and non-structural materials at high temperatures; (iii) fire safety engineering (performance based fire design and fire risk analysis).

Research activity: more than 300 papers in scientific congresses and journals, supervisor of 15 PhD and more than 80 MSc students; Coordinator of National and EU research projects for UC.

Participation in international working groups: W014-Fire Safety of CIB, HTC and HPB-Concrete Properties at High Temperatures of RILEM, TC3-Fire of ECCS, TG 4.3-Fire Design of Concrete Structures of fib, TC92 SC4-Fire Safety Engineering of the ISO, TU0904-Integrated Fire Engineering and Response and FP1404 – Fire Safety of Bio-Based Building Products of COST

Activity of scientific dissemination about fire safety of buildings in Portugal, Brazil and world-wide.

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The seminar is organized by Prof. Paolo Spinelli and Prof. Maurizio Orlando.