

VALIDATION OF THE PROGRAMS BISTRA AND VOLTRA ACCORDING TO EN 1992-1-2 ANNEX A

Introduction

EN 1992-1-2: 2004^1 Annex A contains a 2D test reference case for validating transient simulation programs in case of fire exposed structures. A concrete column (h x b = 300 mm x 160 mm) is exposed to fire conditions. The case is simulated using the programs BISTRA and VOLTRA and the results are in accordance with the Eurocode.

Simulation data

BISTRA data kolom_300_160_25%.bst VOLTRA data kolom_300_160_25%_.vtr

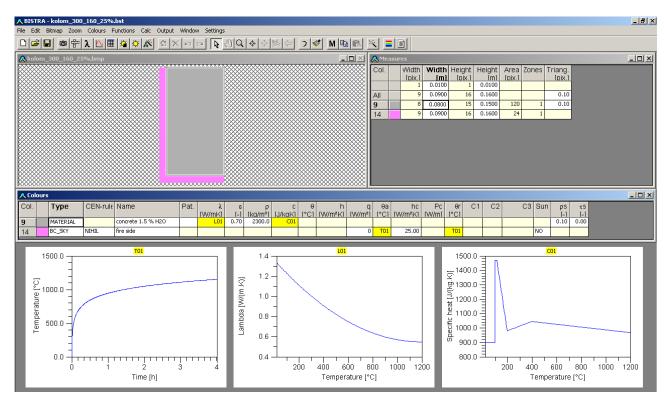


Figure 1. BISTRA simulation of the EN 1992-1-2 reference case

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¹ EN 1992-1-2: 2004 Eurocode 2: Design of concrete structures - Part 1-2: General rules - Structural fire design

Simulation results

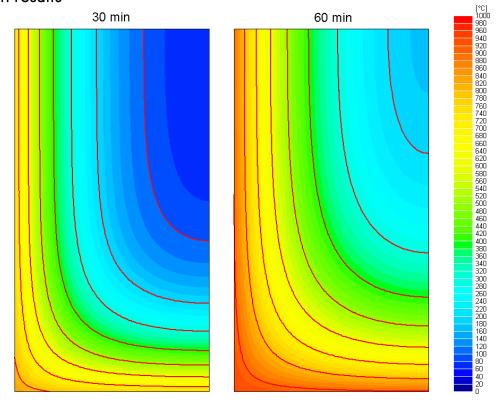


Figure 2. BISTRA simulation results after 30 min (left) and 60 min (right)

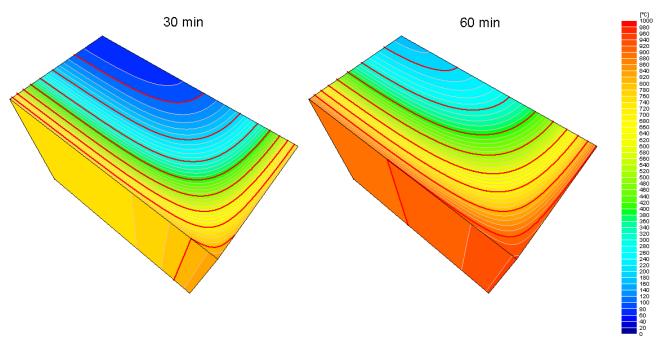


Figure 3. VOLTRA simulation results after 30 min (left) and 60 min (right)

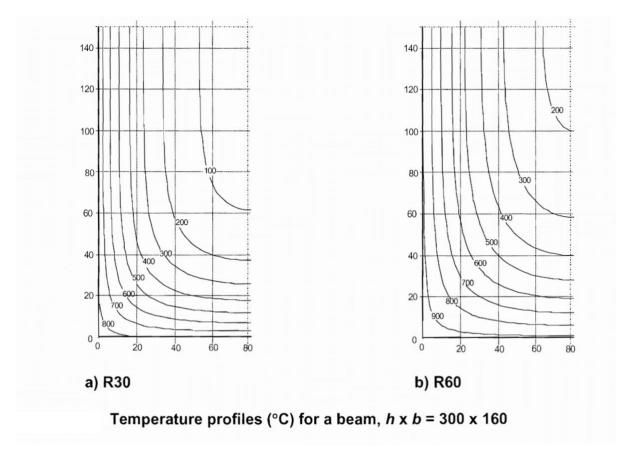


Figure 4. Results from EN 1992-1-2 after 30 min (left) and 60 min (right)