

Fire Engineering Analysis of Heat Transfer Through an Existing Control Room



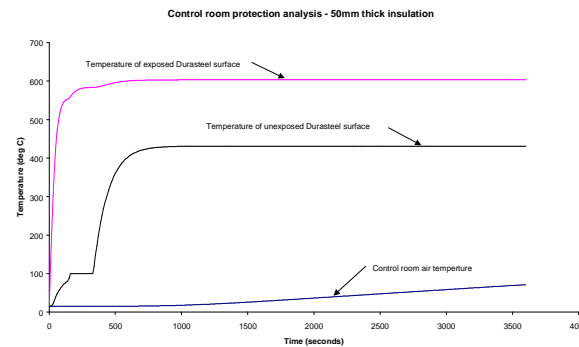
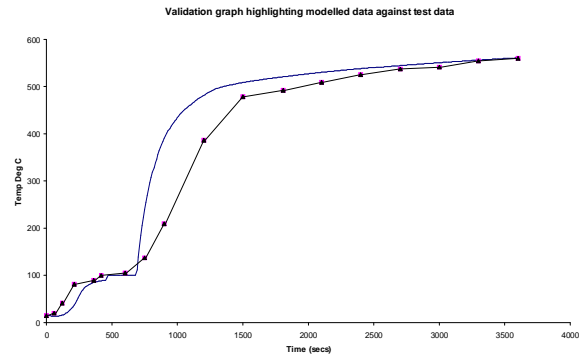
Project Description

Chiltern International Fire Ltd (CIF) were commissioned to perform an analysis of the temperature rise of a control room enclosure protected by a shroud. It was required that the control room be able to retain integrity when subjected to 31kWm^{-2} heat flux for 60 minutes. Additionally the air temperature within the room had to rise by no more than $10\text{ }^{\circ}\text{C}$ within the same time scale.

The analysis was performed using a one dimensional finite difference technique to model the heat transfer through the various component layers of the structure. The mathematical model was then validated against real test data.

Chiltern Fire's Involvement

CIF carried out all analysis and verification testing for this project. This included the production of bespoke programming to carry out the calculations of heat transfer over the time period in question.



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