Prediction of heat release rates of surface materials in large-scale fire tests based on cone calorimeter results


Predicted and measured large-scale heat release rate histories for nine products were compared. The agreement was considered reasonable.

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Heat release rate (HRR) from a fire is the most important parameter to describe the potential hazards posed from a fire. Indeed, the environmental consequences of a fire in a confined space depend in large measure on the HRR. Typically, the HRR curves of combustible items are determined in laboratory experiments. For the aim of a rapid hazard assessment, it is infeasible to perform fire experiments on every combustible item inside a given building due to the costs and the time required. Therefore, approximations should be adopted.