

This work deals with the fire technical properties of building products, their tendency to ignite and release heat in different fire scenarios. Building products have traditionally been tested and classified according to national building codes in most countries of the world. In Europe, the different countries all used to have different fire tests and classification systems and it was not possible to translate data between them. Therefore, a common European system for reaction to fire testing and classification, known as the Euroclasses, was created. The SBI (Single Burning Item), used for testing and the FIGRA (FIre Growth RAte) parameter used for evaluation of a products reaction to fire properties were introduced. This work deals with this development and its significance for the European evaluation system for reaction to fire properties. A fire growth that leads to full room involvement, flashover, can happen fast. Predicting flashover times using product data is therefore important for fire safety. Frequently used are the so-called thermal models that by calculations of the products surface temperature predict ignition time and flame spread rate. Alternatively, the ignition time for different heat fluxes are used directly. The products heat release rate, HRR, from a small-scale test is also needed. This work discusses some of the thermal models and presents a straightforward analytical formulation that works well for different room sizes and for the SBI test. In the model formulations heat release rate divided by ignition time appears. These parameters when taken from a small-scale test can be seen as a product property for example for linings in a room fire scenario. In addition, the FIGRA parameter, defined as the maximum of heat release rate divided by time, is shown to predict well the tendency to fire growth for a number of different products in different scenarios. FIGRA is also shown to predict HRR and time to flashover in the Room Corner Test for interior linings.