

# Reaction to Fire (Single Burning Item)



The European commission defined the criteria for assessing building products into classes A-F. These are given in the table below. Though other test methods are required the SBI is needed to classify all non flooring products into the classes A2, B, C and D which are the major classes inhabited by most products other than those that are principally inorganic classified as non-combustible.

Most construction products sold in Europe will need to be tested and classified using a method called the Single Burning Item (the SBI) EN 13823. The construction products regulation of the European commission will require that all European Member states eventually use this, instead of the traditional regulatory methods used in each country, to classify most building products. The Single Burning Item (SBI), is a method of test for determining the reaction to fire behaviour of building products (excluding floorings) when exposed to the thermal attack by a single burning item (a sand-box burner supplied with propane). The specimen is mounted on a trolley that is positioned in a frame beneath an exhaust system. The reaction of the specimen to the burner is monitored instrumentally and visually. Heat and smoke release rates are measured instrumentally and physical characteristics are assessed by observation.

Class	Criteria for compliance	Other classification	Other Test Method(s)
A2	FIGRA < 120W/s; and LFS < edge of specimen; and THR600s < 7.5MJ	Smoke production Flaming droplets / particles	EN ISO 1182 or EN ISO 1716
B	FIGRA < 120W/s; and LFS < edge of specimen; and THR600s < 7.5MJ	Smoke production Flaming droplets / particles	EN ISO 11925-2
C	FIGRA < 250W/s; and LFS < edge of specimen; and THR600s < 15MJ	Smoke production Flaming droplets / particles	EN ISO 11925-2
D	FIGRA < 750W/s		EN ISO 11925-2

**Noteworthy** is that it is important to check that the certified product's appendix such as approved with or without air gap, density, underlying substrate, dense or open mounting, minimum thickness, surface treatment etc.

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