



## Why do you need to test the reaction and resistance of product to fire?

The behavior of a burning object in a developing fire will have an impact on how easy it is for people to escape from the scene. Even when reaction to fire testing is not required under the regulations, a relevant insurer or authority may request improvements to fire performance, for which testing is required. To monitor the reaction of materials we conduct tests to evaluate ignition, flame spread, heat release, and smoke generation.



## Fire Testing

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Material Lab is accredited by EIAC and approved by Dubai Civil Defense for fire testing. We have the latest and advanced facility equipment to conduct fire tests in accordance to EN 13501-1, BS 476 Part 22, EN 1363, EN 1634, UL and various international test standards.

Our scopes of Fire Testing include:

🔥 Reaction to fire tests that are used to assess the contribution to fire growth from products such as walls, floors, and ceiling linings. Different tests are used to examine ignition, flammability, rate of heat release and combustion effluent like smoke and burning droplet behavior.

🔥 Fire Resistance tests evaluate the ability of an element of construction such as a door, wall, floors and others... to withstand the effects of a fully developed fire. This can be quantified simply as a measure of time, or it may entail a multitude of criteria involving other evidence of functionality or fitness for purpose.

The Fire Testing Department of the laboratory is equipped with the latest facility and instruments to conduct and analyses the results, with experienced that have vast technical knowledge of the tests, here is a glance at these instruments:



### ● The Single Burning Item (SBI)

A method of test that determines the reaction to fire behavior of building products when exposed to the thermal attack by a single burning item.

### ● The Flooring radiant Panel Test

Evaluates the propensity of a floor system to spread fire and the smoke development when exposed to intense radiant heat from a gas-fired radiant panel.

### ● Non-Combustibility Test

This test determines the temperature rise, flaming time and mass loss of specimen inserted into the furnace at 750 °C.

### ● Ignition Temperature Test

This bench scale standard is often used to measure the response of materials to heat and flame by determining the Spontaneous Ignition Temperature and the Flash Ignition Temperature of plastics using a hot-air furnace.

### ● Single Flame Source Test

Determining ignitability of building products in the vertical orientation, by direct small flame impingement under zero impressed irradiance.



Some of the accreditations:

ISO 3008/ISO 3009	BS EN ISO 11925-2	ISO 1182
BS EN 13823:2010+A1:2014	ASTM D1929	BS EN ISO 9239-1
UL 263 - 2011	BS EN ISO 1716	BS EN 13823
	BS EN 1364- (1,3,4)	ASTM D1929-16



### ● Bomb calorimeter

The most accurate device for measuring the heat of combustion or calorific value of a material.

### ● Fire Resistance

We have the latest 3x3 m test furnace for the fire resistance test.

Products that can be tested :

Gypsum boards

Fr treated wood products

Foam products

Floor paint system/coating

Fiber cement boards

Paint systems

Non-combustible material

Mineral wool

Interior walls

Wood fiber boards

Silicate boards

Sandwich panels

Rubber flooring

Plastic flooring

Façade system (PEWFS)

Expanded vinyl wall coverings

Cork flooring

Composite panels (ACP/MCM)

Combustible

decorative material

Coatings

Carpets and textile floorings

Acoustic boards

