

# The Single-Flame Source Test

(EN ISO 11925-2)

firetesting  
technology



**EN ISO 11925-2:**  
**Reaction to fire for tests –**  
**Ignitability of building**  
**products subjected to direct**  
**impingement of flame –**  
**Part 2: Single-flame source**  
**test.**

The test is required as part of the European construction products regulation classification of reaction to fire performance for wall and roofing products and floor coverings. “The Single Flame Source Test” (Ignitability Apparatus) is built in accordance with EN ISO 11925-2.

Full classification and performance criteria can be found in a separate **FTT** document “New European Fire Testing Classification EN ISO 11925-2: Reaction to fire for Construction Products.”

**Product Classification**

The European Construction Products Regulation classification criteria for all building products, has performance classes from A-F. Although other tests are required for assessment, the single flame source apparatus is needed for qualifying all types of construction products to classes B, C, D and E.

The classification criteria for each product group are shown in the tables below.

CLASSIFICATION FOR CONSTRUCTION PRODUCTS EXCLUDING FLOORINGS			
Class	Classification Criteria	Additional Classification	Other Test Method
B	F <sub>s</sub> ≤ 150mm within 60s (Exposure = 30s)	Smoke production and Flaming droplets/particles	EN 13823
C	F <sub>s</sub> ≤ 150mm within 60s (Exposure = 30s)	Smoke production and Flaming droplets/particles	EN 13823
D	F <sub>s</sub> ≤ 150mm within 60s (Exposure = 30s)	Smoke production and Flaming droplets/particles	EN 13823
E	F <sub>s</sub> ≤ 150mm within 20s (Exposure = 15s)	Flaming droplets/particles	–

CLASSIFICATION FOR FLOORING PRODUCTS			
Class	Classification Criteria	Additional Classification	Other Test Method
B <sub>f</sub>	F <sub>s</sub> ≤ 150mm within 20s (Exposure = 15s)	Smoke production	EN ISO 9239-1
C <sub>f</sub>	F <sub>s</sub> ≤ 150mm within 20s (Exposure = 15s)	Smoke production	EN ISO 9239-1
D <sub>f</sub>	F <sub>s</sub> ≤ 150mm within 20s (Exposure = 15s)	Smoke production	EN ISO 9239-1
E <sub>f</sub>	F <sub>s</sub> ≤ 150mm within 20s (Exposure = 15s)	–	–

CLASSIFICATION FOR LINEAR PIPE THERMAL INSULATION PRODUCTS			
Class	Classification Criteria	Additional Classification	Other Test Method
B <sub>L</sub>	F <sub>s</sub> ≤ 150mm within 60s (Exposure = 30s)	Smoke production and Flaming droplets/particles	EN 13823
C <sub>L</sub>	F <sub>s</sub> ≤ 150mm within 60s (Exposure = 30s)	Smoke production and Flaming droplets/particles	EN 13823
D <sub>L</sub>	F <sub>s</sub> ≤ 150mm within 60s (Exposure = 30s)	Smoke production and Flaming droplets/particles	EN 13823
E <sub>L</sub>	F <sub>s</sub> ≤ 150mm within 20s (Exposure = 15s) Flaming droplets/particles	–	–

## The FTT Ignitability Apparatus

EN ISO 11925-2 is based on the Kleinbrenner method for determining ignitability of building products in the vertical orientation by direct small flame impingement under zero impressed irradiance.

The **FTT** Ignitability Apparatus is supplied as a complete easy-to-use system incorporating safety features. It has large front and side doors for easy access. These are glazed with toughened glass for full view of the specimen during a test.

### Fully Adjustable Burner

An extensively adjustable burner assembly, mounted on runners, enables the small premixed flame to be tilted at an angle of 45° to the specimen and offered to it in one fluid movement.

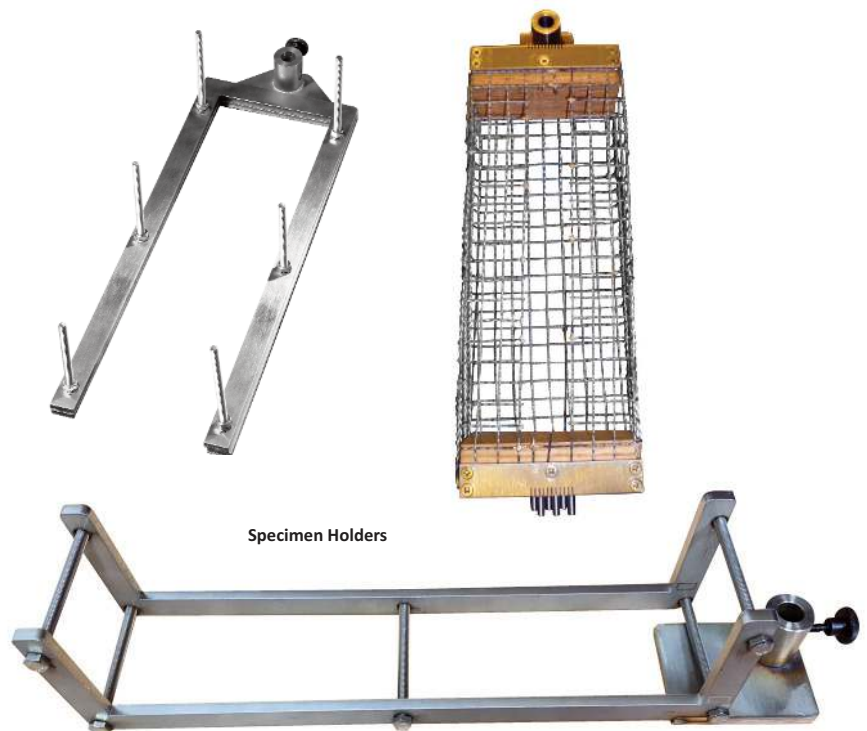
A fully adjustable specimen support frame facilitates lateral and vertical movement of the specimen holder so that the flame can be applied at the correct position for either surface exposure or edge exposure.

### Specimen Holder

The specimen holders are capable of housing the specimens up to and including 60 mm thick. The **FTT** ignitability apparatus is supplied with one specimen holder. Optional extras: multi-layered and loose fill materials.



Fully Adjustable Burner



Specimen Holders

## Accurate Measurement

A digital anemometer/thermometer and a stopwatch are incorporated for simple but accurate measurement of the flow, temperature and time.



### TECHNICAL SPECIFICATIONS

Measuring Principle	Ignitability from small flame source
Cabinet Dimensions (exterior)	700mm (W) × 400mm (D) × 800mm (H)
System Dimensions	1500mm (W) × 1200mm (D) × 900mm (H)
Sample holder	Standard holder and options for multi-layer and loose fill materials
Anemometer	± 0.1 m/s accuracy
Stopwatch	Accuracy better than 1 second in 60 minutes

### SERVICES

Test Room	The ignobility apparatus should be situated in a draught free environment at 23 ± 5°C and a relative humidity of 50 ± 20%.
Gas Supply	A supply of natural gas of minimum 95% purity. In order to obtain flame stability the gas pressure shall be between 10kPa and 50kPa.
Hood	The combustion chamber should be situated under a suitable extraction system.

Due to the continuous development policy of **FTT** technical changes could be made without prior notice.

## Other Euroclass Test Methods

Detailed product catalogues are also available for:

- **Single Burning Item**  
EN 13823 Reaction to fire tests for building products excluding floorings exposed to thermal attack by a single burning item, the SBI.
- **Oxygen Bomb Calorimeter**  
EN ISO 1716 Reaction to fire tests for building products – Determination of the heat of combustion.
- **Non Combustibility Apparatus**  
EN ISO 1182 Reaction to fire tests for building products – Non combustibility test.
- **Flooring Radiant Panel**  
EN ISO 9239-1 Reaction to fire tests for building products – Horizontal surface spread of flame for floor coverings.

## Unrivalled Experience in Design and Manufacturing

FTT's site in East Grinstead, is home to the largest group of fire scientists and instrumentation design engineers working on fire testing instrumentation, and is at the heart of our design and manufacturing. For almost 30 years FTT has provided the highest quality instruments and service for fire testing and research professionals worldwide, directly and through its extensive global sales and support network.



### Quality

- World-class manufacturing in accordance with multiple international and national standards, including: EN, ISO & ASTM
- ISO 14001, ISO 9001 certified

### Integrity

- A dedicated team passionate about fire testing instrumentation and continuous product improvement
- Delivering reliable, robust and easy-to-use instruments for the past 30 years

### Excellence

- A world-class team made up of qualified fire scientists, mechanical, electrical and electronic fire instrument design engineers and production, installation and maintenance engineers

### Global

- World-wide distribution network for global sales, installations, training, maintenance and technical support
- Leading global supplier of the Cone Calorimeter, Large Scale Calorimeter, NBS Smoke Chamber and Oxygen Index