

# Flooring Radiant Panel

(EN ISO 9239-1)

firetesting  
technology



**EN ISO 9239:**

Reaction to fire tests for building products – Horizontal surface spread of flame for floor coverings

**ASTM E970:**

Standard test method for critical radiant flux of exposed attic floor insulation using a radiant heat energy source

**NFPA 253:**

Standard method of test for critical radiant flux of floor covering systems using a radiant heat energy source

**Reaction to fire test requirements for flooring products**

The European Construction Products Regulation requires that all European Member states use this test method as part of the requirements needed to evaluate reaction to fire performance for all flooring products. This test method will eventually take precedence over national regulatory methods to classify most flooring products and will be required by all suppliers of flooring materials into the EU and neighbouring states adopting these regulations. The instrument also fulfils the equivalent test requirements of ASTM E648, ASTM E970 and NFPA 253 standards in the USA.

**The flooring radiant panel (FRP) test**

This flooring radiant panel is used to measure the critical radiant flux of horizontally mounted floor covering systems exposed to a flaming ignition source in a graded radiant heat environment. It can also be used to measure this same critical radiant flux for exposed attic floor cellulose insulation.

**The FTT FRP Apparatus**

The radiant heat is applied by means of a gas-fuelled panel, inclined at 30°, and directed at a horizontally mounted floor covering system specimen.

The radiant panel generates a radiant energy flux distribution ranging from a nominal maximum of 10.9 kW/m<sup>2</sup> to a minimum of 1.0 kW/m<sup>2</sup>.

A small stainless steel pilot burner aids in specimen ignition.

The distance burned until flame-out is reached is converted, by calibration, into an equivalent critical radiant flux, in kW/m<sup>2</sup>.

A smoke measuring system is mounted on a separate frame at the exhaust stack.

**Main Features**

- Attached Control Rack for convenience in use, allowing observation of the apparatus during equipment set-up and calibration.
- Automatic ignition of the radiant panel and safety cut-out.
- Data Analysis and Acquisition Software.
- Hinged access to test area, via a 2 position door with observation window and sliding platform.
- Stainless steel hood with smoke measurement ports.



**TECHNICAL SPECIFICATIONS**

Measuring Principle	Surface spread of flame on flooring material exposed to radiant heat source
Heat Flux Range	1.0 kW/m <sup>2</sup> -10.9 kW/m <sup>2</sup>
Specimen Dimensions	1050mm (L) × 230mm (W)
Instrument Dimensions (approximate)	1900mm (W) × 750mm (D) × 1900mm (H)

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

**SERVICES**

Test Room	The FRP apparatus should be situated in a draught free environment at 23 ± 5°C and a relative humidity of 50 ± 20%.
Electrical Supply	230 VAC 50/60Hz, 12 Amps
Hood	The apparatus should be situated under a suitable extraction system.
Gas	Propane at a pressure of 2 bar with a calorific value of approximately 83MJ/m <sup>3</sup> is required for the radiant panel and the pilot burner. Compressed air at a pressure of 6-7 bar is required for the radiant panel.
Water	Water at 15-25°C is required for cooling the total heat flux meter.

## 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