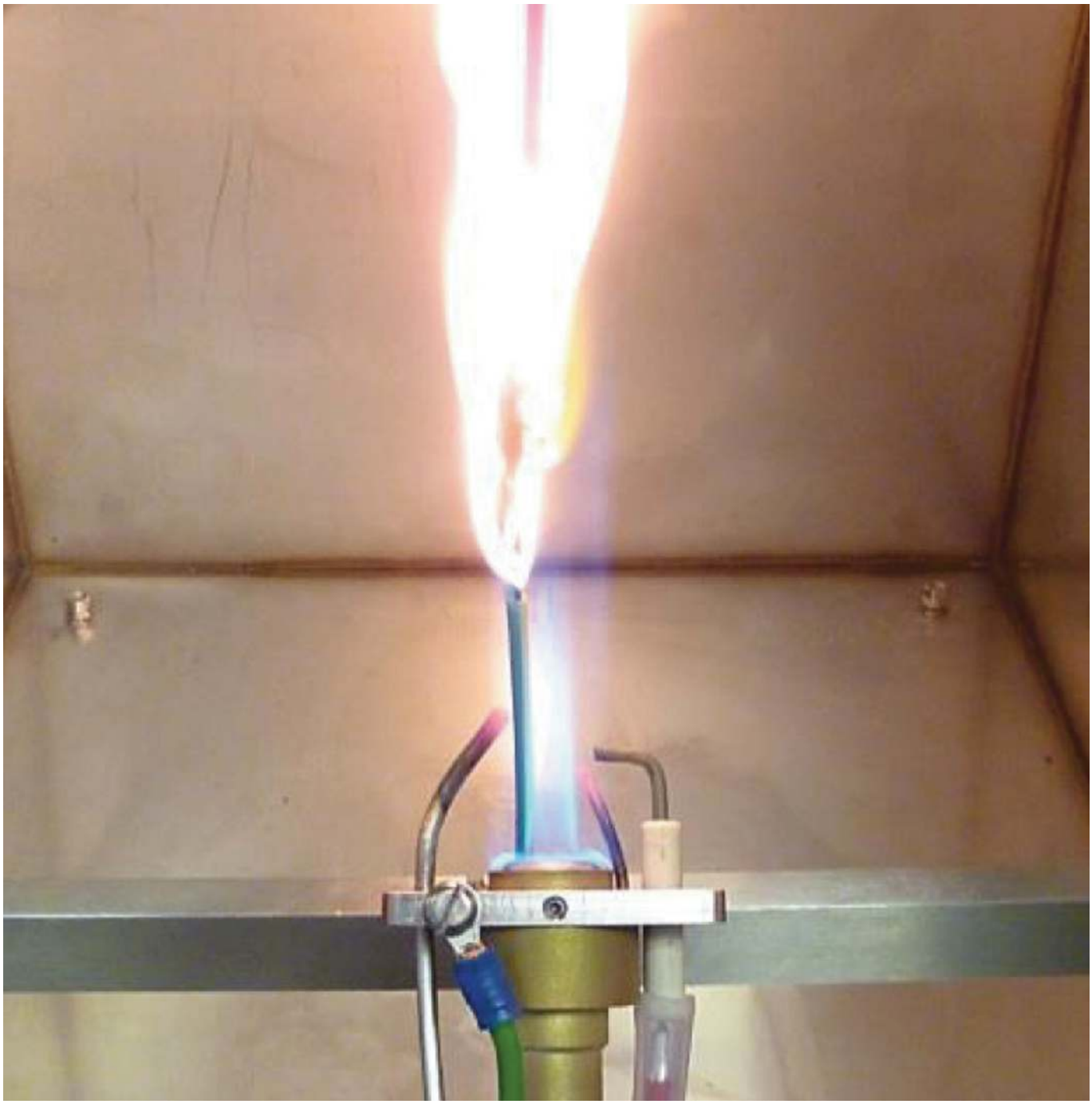
Vertical Flame Propagation for a Single Insulated Wire or Cable Test

(IEC 60332-1)

firetesting technology



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A Judges Scientific plc company

IEC 60332-1:

Tests on electric and optical fibre cables under fire conditions

IEC 60332-1 specifies the procedure for testing the resistance to vertical flame propagation for a single vertical electrical insulated conductor or cable, or optical fibre cable, under fire conditions.
Part 1-2 specifies the use of a 1 kW pre-mixed flame and the test evaluates the flame spread of a cable under exposure to a small flame. This test is relevant for the classes $B1_{ca}$, $B2_{ca}$, C_{ca}, D_{ca} and E_{ca}.

FTT IEC 60332-1 Vertical Flame Propagation Test Apparatus

The **FTT** IEC 60332-1 tests for the vertical flame propagation of a single insulated wire or cable is a bench scale test to determine the resistance of a single cable to a 1kW flame application.

The apparatus is supplied as a complete system incorporating all the features necessary for ease of use and safety. It conforms IEC 60332-1-2 (test for flame propagation) and IEC 60332-1-3 (test for flaming droplets).

This equipment uses a 1 kW pre-mixed flame propane burner and is for general use, except that it may not be suitable for the testing of small single insulated conductors, cables of less than 0.5 mm^2 total cross-section or small optical fibre cables. In these cases, the procedure given in IEC 60332-2-2 is recommended.

The apparatus features include:

- Bench Mounted Open Test Screen
- Horizontal Specimen Supports
- Ignition Burner compliant with IEC 60695-11-2, with simple angle adjustment from 90^o to 45^o and a gas safety system
- Electronic Spark Ignition
- Control Unit with Safety Interlocks and Gas and Air Flow Adjustment
- Diverter Panel with Gas and Air Mass Flow Controllers for accurate and stable flow when a flame is detected.

TECHNICAL SPECIFICATIONS	
Test Screen	
Material	Stainless steel
Internal dimensions (m)	0.3 (W) × 0.45 (D) × 1.2 (H)
Features	Open front and closed top and bottom Horizontal specimen supports

Burner, Gas Control System	
Burner	1 kW pre-mixed burner in compliance with IEC 60695-11-2
Burner positioning	Adjustable from 90^{o} to 45^{o}
Gas type	Technical grade propane 95% minimum purity
Flash back arrestor	Safety precaution fitted on burner
Control unit dimensions (m)	0.4 (W) × 0.24 (D) × 0.4 (H)
Diverter panel dimensions (m)	1.2 (W) × 0.17 (D) × 0.5 (H)

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

SERVICES	
Gas supply	Propane of 95% minimum purity at a pressure between 1-1.5 bar and flow rate up to 1 l/min
Air supply	Pressure regulated clean, oil-free shop air at a pressure between 1-2 bar and flow rate up to 15 l/min
Extraction	Draught-free environment; laboratory fume hood or chamber of a minimum inside volume of $1.0m^3$
Power	230 VAC 50/60 Hz 13A for powering gas control unit and diverter assembly

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