Vertical/Horizontal Wire Flame Test

(UL 1581)

firetesting technology

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UL 1581:
UL Standard for Safety for Electrical Wires, Cables, and Flexible Cords

Fire safety for electric cable products is more important than ever. Manufacturers, re-sellers and end-users of wire and cable products need to be aware of the latest regulations and the products which meet those standards. The UL 1581 is an internationally recognised standard test for these products.

The **FTT** UL 1581 test for flammability of cable materials gives a preliminary indication of their suitability for a particular application. The apparatus is supplied as a complete system incorporating all the features necessary for ease of use and safety. It conforms to UL 1581 vertical specimen Bunsen burner tests and associated international standards.

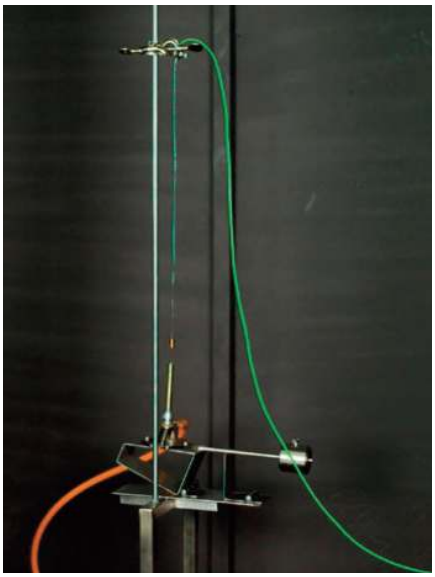
These are:

1. 1060. Vertical Flame and FT1 Tests
2. 1061. Cable Flame Test
3. 1080. VW-1 (Vertical Specimen) Flame Test
4. 1090. Horizontal-Specimen Appliance-Wire Flame Test
5. 1100. Horizontal-Specimen/ FT2 Flame Test

Features and Benefits

- 2 Large doors with windows made from heat resistant ceramic glass giving a generous view of the specimen during a test.
- Fully adjustable vertical specimen supports.
- Fully adjustable horizontal specimen supports.
- A burner in compliance with ASTM D5025, with pre-determined angle adjustment (0°, 20°, rest) and integral gas control, gas/air mix controls and manometer.
- A solid state gas safety system ensuring maximum operator safety during the test setup and testing activities.
- Two access ports with airtight gauntlets enabling access to the chamber for movement of the burner and specimen.
- Digital test duration timer supplied.
- Low voltage chamber lighting.
- Smoke extraction system with automatic inlet and exhaust dampers.
- Digital differential pressure gauge.

1. Adjustable sample support brackets
2. Calibration arm and clamp
3. Burner assembly
4. Burner cotton table



The tip of the Copper Slug is positioned at 25mm above the burner tube during the calibration procedure

Instrument access via airtight gauntlets and viewing panel

TECHNICAL SPECIFICATIONS	
Measuring principle	Assessment of combustibility of cable or wire subject to Tirrill burner
Sample	455mm long cut from a sample length of the finished cord, wire, cable, or cord conductor
Burner	Adjustable 0°, 20° and rest positions ASTM D5025 compliant Tirrill burner
Thermal sensor	Type-K, stainless steel thermocouple
Manometer	0-150mmWC
Burner cotton table	305mm (H) × 305mm (W) × 355mm (L)
External dimensions (approx.)	2500mm (L) × 2000mm (H) × 1060mm (D)
Internal test chamber dimensions	2450mm (L) × 1800mm (H) × 900mm (D)
Internal chamber volume	4.0m³

The instrument is certified to EMC 2004/108/EC

1. **Extraction outlet (not shown)**
2. **Safety glass observation panels**
3. **Gauntlet access**
4. **Control panel**
5. **Automatic air intake vent (when extraction is in use)**

SERVICES	
Electricity	96-264 AC 8A, 50/60Hz
Gas	A supply of technical grade methane gas (min. 98% pure) with regulator and meter for uniform gas flow. (Connection via 6mm compression fitting)
Extraction	The supplied exhaust fan must be connected to a suitable exhaust point,e.g. fume cupboard or external extraction system. Outer diameter of exhaust chimney =100mm. An air intake vent automatically opens when extraction is switched on.
Conditioning	This test is to be performed on un-aged specimens. The specimens,the apparatus, and the surrounding air are to be in thermal equilibrium with one another at a temperature of 23.0 ± 5.0°C.
Test Accessories	Cotton – a supply of absorbent 100% cotton. A strip of un-reinforced 60lb or 94g/m² Kraft paper that is ½ inch or 10mm wide, at or near 5mils or 0.1mm thick.

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