UL 1581
Vertical/Horizontal Wire Flame Test

THE BENCHMARK IN FIRE TESTING
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

UL 1581
- UL Standard for Safety for Electrical Wires, Cables, and Flexible Cords
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 D 5025, with pre-determined angle adjustment (0°, 20°, rest) and integral gas control and gas/air mix controls.
- A solid state gas safety system ensuring maximum operator safety during the test set-up 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 Specification

<table>
<thead>
<tr>
<th>Measuring principle</th>
<th>Assessment of combustibility of cable or wire subject to Tirrill burner</th>
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</thead>
<tbody>
<tr>
<td>Sample</td>
<td>455mm long cut from a sample length of the finished cord, wire, cable, or cord conductor</td>
</tr>
<tr>
<td>Burner</td>
<td>Adjustable 0°, 20° and rest positions ASTM D 5025 compliant Tirrill burner</td>
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<tr>
<td>Thermal sensor</td>
<td>Type-K, stainless steel thermocouple</td>
</tr>
<tr>
<td>Burner cotton table</td>
<td>305mm (H) x 305mm (W) x 355mm (L)</td>
</tr>
<tr>
<td>External dimensions (approx.)</td>
<td>2500mm (L) x 2000mm (H) x 1060mm (D)</td>
</tr>
<tr>
<td>Internal test chamber dimensions</td>
<td>2450mm (L) x 1800mm (H) x 900mm (D)</td>
</tr>
<tr>
<td>Internal chamber volume</td>
<td>4.0m³</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Electricity</th>
<th>96-264 AC 8A, 50/60Hz</th>
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<tbody>
<tr>
<td>Gas</td>
<td>A supply of technical grade methane gas (min. 98% pure) with regulator and meter for uniform gas flow. (Connection via 6mm compression fitting)</td>
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<td>Extraction</td>
<td>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.</td>
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<td>Conditioning</td>
<td>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.</td>
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<tr>
<td>Test Accessories</td>
<td>Cotton – a supply of absorbent 100% cotton. A strip of un-reinforced 60lb or 94g/m² Kraft paper that is 1/2 inch or 10mm wide, at or near 5mils or 0.1mm thick.</td>
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