

TEXTILE MULTI-ANGLE VERTICAL BURNING TESTER



Textile Multi-Angle Vertical Burning Tester - ToronFT™ VBI

ToronFT™ TB-I is a highly versatile textile burning performance tester designed to evaluate the ignition ease and burning behavior of textile materials under controlled laboratory conditions. Purpose-built for testing single and multi-layer fabric constructions, including coated, quilted, zinc-layered, sandwiched, and similar composite assemblies, this instrument provides comprehensive textile burning data essential for product compliance and material development.

The tester supports both 0° and 30° burner angles, allowing researchers to simulate a wide range of real-world exposure scenarios and assess how different fabric configurations respond to flame contact.

APPLICATIONS

Textile Multi-Angle Vertical Burning Tester - ToronFT™ VBI Applications

- Evaluating the textile burning performance of single and multi-layer fabric systems
- Testing coated, quilted, zinc-layered, sandwiched, and composite textile assemblies
- Research and development of flame-resistant textile materials
- Quality assurance for protective clothing and industrial textiles
- Compliance testing for performance apparel and technical fabrics



Standards

- BS 5438: Methods of Test for Flammability of Textile Fabrics When Subjected to a Small Igniting Flame Applied to the Face or Bottom Edge of Vertically Oriented Specimens
- ISO 6941: Textile Fabrics: Burning Behaviour – Measurement of Flame Spread Properties of Vertically Oriented Specimens
- ASTM D6413: Standard Test Method for Flame Resistance of Textiles (Vertical Test)
- EN ISO 15025: Protective Clothing: Protection Against Flame – Method of Test for Limited Flame Spread

FEATURES

Textile Multi-Angle Vertical Burning Tester – ToronFT™ VBI Key Features

- Suitable for all types of single or multi-layer fabrics including coated, quilted, and sandwiched constructions
- Adjustable flame height from 0 to 40mm for flexible test configurations
- Dual burner angles of 0° and 30° to simulate different flame contact orientations
- Replaceable stainless steel test chamber: 767mm (L) × 450mm (W) × 450mm (H)
- No observation window in the front of the test chamber for unobstructed access
- Adjustable support frame to maintain the specified relative position between igniter and specimen
- Sample frame dimensions: 190mm × 70mm rectangular metal construction
- Four fixing pins at each corner of the sample frame for secure specimen mounting
- Minimum fixing pin diameter of 2.0mm and pin length of 28mm

THEORY & METHOD

Theory and Method

The ToronFT™ VBI evaluates textile burning characteristics by exposing a vertically mounted fabric specimen to a calibrated gas flame at a defined height and angle. The specimen is secured in a rectangular metal sample frame within a stainless steel test chamber, maintaining precise positional alignment between the igniter and specimen via an adjustable support frame.

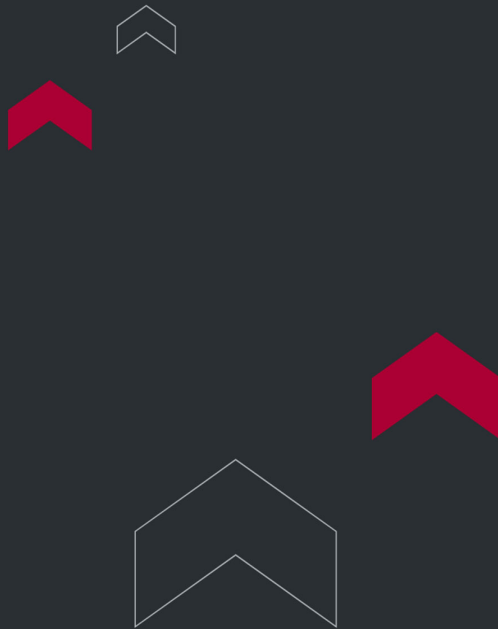
The flame height, adjustable from 0 to 40mm, is set in accordance with the applicable test standard. The burner may be positioned at either 0° (vertical) or 30° (angled), enabling differentiated assessment of burning behaviour under varying contact geometries. Key performance indicators including ease of ignition, flame spread rate, afterflame time, and char formation are recorded and compared against the relevant textile burning standard requirements.

TECHNICAL SPECIFICATIONS

Textile Multi-Angle Vertical Burning Tester - ToronFT™ VBI Technical Specifications

Parameter	Specification
Flame Height	0 - 40mm (adjustable)
Burner Angle	0° and 30°
Test Chamber Dimensions	Length 767mm × Width 450mm × Height 450mm
Chamber Material	Stainless steel
Observation Window	None (front open access)
Sample Frame Size	190mm × 70mm rectangular metal frame

Parameter	Specification
Fixing Pins	4 pins at corners; min. diameter 2.0mm, length 28mm
Support Frame	Adjustable; maintains defined igniter-to-specimen position



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