

PLUSH CLOTH SURFACE BURNING TESTER



Plush Cloth Surface Burning Tester – ToronFT™ CSB

ToronFT™ CSB Plush Cloth Surface Burning Tester is a specialized laboratory instrument designed for detecting the presence and behavior of flammable surface flames on wool, woolen, and plush textile surfaces. Unlike conventional textile flammability tests, the ToronFT™ CSB specifically evaluates the phenomenon of surface flash burning — where flame spreads rapidly across the surface fiber pile of plush, fleece, or tufted fabrics — while the base fabric structure of the cloth does not burn. This surface burning behavior poses a distinct and significant fire hazard in apparel, upholstery, and decorative textile applications.

The ToronFT™ CSB features a mobile butane burner that traverses laterally across the fabric surface at precisely controlled speeds, enabling the surface burning flame to be observed and the extent of damage to the base fabric to be recorded. It complies with EN 71, ASTM F963, and BS 4569 — the key international standards for cloth surface burning and textile toy safety flammability testing.

APPLICATIONS

Plush Cloth Surface Burning Tester – ToronFT™ CSB Applications

The ToronFT™ CSB is applicable for cloth surface burning detection and evaluation of:

- Wool and woolen textile products for surface burning flame detection on pile surfaces
- Plush, fleece, and tufted fabrics for clothing, toys, and stuffed articles requiring cloth surface burning safety assessment
- Children's toy textiles and soft toy fabrics requiring surface burning compliance with EN 71 and ASTM F963 toy safety standards
- Apparel fleece and pile fabrics (polyester, acrylic, and wool blends) for surface burning flammability characterization
- Upholstery fabrics with raised pile surfaces for cloth surface burning hazard evaluation

- Quality assurance and certification testing of plush textile products for cloth surface burning compliance with international toy and textile safety standards



Standards

The ToronFT™ CSB is designed to comply with the following international standards for plush cloth surface burning testing:

- EN 71-2: Safety of toys: Flammability (EU Toy Safety Directive)
- ASTM F963: Standard Consumer Safety Specification for Toy Safety (Section 4.2: Flammability)
- BS 4569: Methods of test for the flammability of fabrics used in the manufacture of toys
- ISO 6940: Textile fabrics: Burning behaviour — Determination of ease of ignition of vertically oriented specimens

FEATURES

Plush Cloth Surface Burning Tester – ToronFT™ CSB Key Features

- Mobile butane burner traverses laterally across the fabric surface at two independently selectable speeds — 150 mm/second (rapid traversal) and 5 mm/second (slow traversal) — enabling evaluation of surface burning flame behavior under different exposure rate conditions
- Total burner lateral movement distance of 2300 mm provides a long traversal path across the specimen surface for comprehensive cloth surface burning assessment of large textile samples
- Fabric pile height testable range of 0 to 70 mm accommodates the full range of plush, fleece, tufted, and pile textile constructions encountered in toy, apparel, and upholstery applications
- Continuously adjustable flame height from 0 to 60 mm enables precise calibration of the ignition source to the flame height requirements of EN 71-2, ASTM F963, and BS 4569 cloth surface burning test protocols
- Power supply of 220V +10%, 50 Hz provides reliable, stable power for the mobile burner drive and control system throughout the surface burning test traversal
- Specifically designed for surface burning detection on wool, woolen, and plush textiles — directly addressing the unique surface flash burning hazard of pile and raised-fiber textile surfaces that standard flammability tests may underestimate

- Complies with EN 71-2, ASTM F963, and BS 4569, providing internationally recognized cloth surface burning test results for toy safety and textile product certification in North American and European markets

THEORY & METHOD

Theory and Method

Plush cloth surface burning testing evaluates whether a flammable surface flash flame can propagate across the raised pile or fiber surface of a textile fabric when contacted by a moving ignition source — and whether the base fabric structure of the cloth is damaged as a result. Surface burning in plush textiles is driven by the ignition and rapid combustion of the loose, raised fiber pile, which can spread faster than standard fabric flammability tests would indicate.

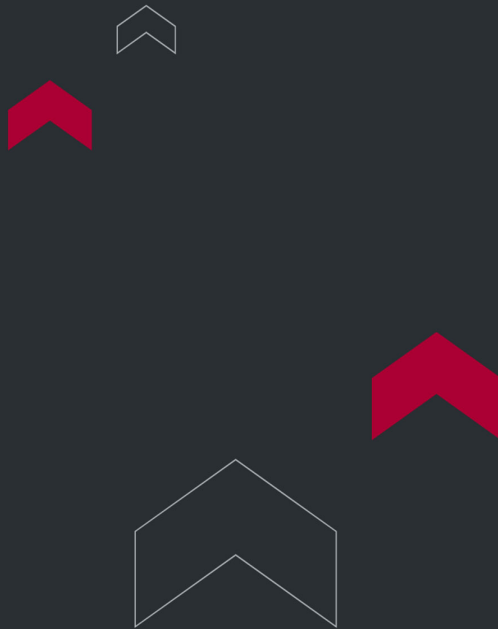
In the ToronFT™ CSB, the mobile butane burner moves laterally across the textile specimen surface at two precisely controlled speeds — 150 mm/second and 5 mm/second — enabling evaluation of surface burning flame behavior at both rapid and slow traversal rates. The burner nozzle moves a total lateral distance of 2300 mm across the fabric surface. The fabric pile height testable by the instrument ranges from 0 to 70 mm, covering standard plush, fleece, and tufted textile pile heights encountered in apparel and toy applications. The flame height is continuously adjustable from 0 to 60 mm, allowing the ignition source intensity to be calibrated to the requirements of the applicable cloth surface burning standard. After the traversal, the cloth base fabric is examined for surface burning damage to determine compliance.

TECHNICAL SPECIFICATIONS

Plush Cloth Surface Burning Tester - ToronFT™ CSB Technical Specifications

Parameter	Specification
Product Name	Plush Cloth Surface Burning Tester — ToronFT™ CSB
Voltage	220V +10%, 50 Hz (110V is also available)
Burner Type	Mobile butane burner
Lateral Movement Speed (Fast)	150 mm/second
Lateral Movement Speed (Slow)	5 mm/second
Total Movement Distance of Nozzle	2300 mm
Fabric Pile Height Range	0-70 mm
Flame Height Range	0-60 mm (continuously adjustable)
Compliance Standards	EN 71-2; ASTM F963; BS 4569

For more information, pricing, or to request a quotation, please contact ToronFT. Specifications are subject to change without prior notice.



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