

SAFETY NET FLAME RETARDANT PERFORMANCE TESTER



Safety Net Flame Retardant Tester — ToronFT™ FR-SN

The ToronFT™ FR-SN Safety Net Flame Retardant Tester is a precision vertical burning test instrument designed to measure the burning performance of various fabric products and safety netting materials when ignited at the bottom edge in the vertical direction. Using a standardized igniter to apply a defined flame to the center of the bottom edge of the vertically mounted specimen, the ToronFT™ FR-SN measures afterburning time, ignition time, and damage length — the three primary vertical burning performance metrics required for safety network and fabric flame retardant certification.

The Safety Net Flame Retardant Tester features a test chamber with dimensions of 329 mm × 329 mm × 767 mm (L×D×H), fabricated from steel plate with a high-temperature electrostatic baking paint finish, and a two-piece U-shaped stainless steel sample clamp with inner frame dimensions of 356 mm × 51 mm — providing the standardized enclosure and specimen geometry required for repeatable, accurate vertical burning performance testing.

APPLICATIONS

Safety Net Flame Retardant Tester — ToronFT™ FR-SN Applications

- Safety network and safety netting manufacturers: vertical burning performance qualification for construction and industrial safety nets
- Textile and technical fabric manufacturers: flame retardant performance testing for industrial, protective, and safety netting applications
- Third-party fire testing and certification laboratories: vertical burning test for safety network flame retardancy qualification
- Quality assurance departments: production-lot sampling of safety network and fabric vertical burning performance
- R&D departments: evaluation of new safety netting materials and flame retardant treatment systems



FEATURES

Safety Net Flame Retardant Tester — ToronFT™ FR-SN Key Features

- Designed for safety networks, netting materials, and various fabrics tested in the vertical burning orientation
- Test chamber dimensions: 329 mm (L) × 329 mm (D) × 767 mm (H) — standard vertical burning test enclosure
- Chamber material: steel plate with high-temperature electrostatic baking paint — durable, heat-resistant construction
- Sample clamp: two U-shaped stainless steel plates; 2.0 mm thickness; 422 mm length × 89 mm width; inner frame 356 mm × 51 mm — standardized specimen clamping geometry
- Measures: afterburning time, ignition time, and damage (char) length — complete vertical burning performance data
- Standardized igniter applies flame to center of bottom edge — consistent, reproducible ignition geometry per applicable standards

THEORY & METHOD

Theory and Method

The vertical burning test evaluates safety network and fabric flame retardancy by mounting the specimen vertically in the sample clamp within the enclosed test chamber. A standardized igniter applies a flame to the center of the bottom edge of the specimen for the specified ignition time. After the igniter is withdrawn, the afterburning time, ignition time, and char length (damage length) are measured and compared against the acceptance criteria of the applicable standard.

The enclosed steel test chamber (329 mm × 329 mm × 767 mm, high-temperature electrostatic baking paint) contains the combustion environment and protects the operator from flame exposure. The two-piece U-shaped stainless steel sample clamp (2.0 mm thickness, 422 mm length, 89 mm width, inner frame 356 mm × 51 mm) holds the safety network or fabric specimen in the vertical position without introducing mechanical stress that could affect the burning behavior.

TECHNICAL SPECIFICATIONS

Safety Net Flame Retardant Tester — ToronFT™ FR-SN Technical Specifications

Parameter	Specification
Applicable Materials	Safety networks, netting materials, and various fabrics (vertical burn)
Test Chamber Dimensions (LxDxH)	329 mm × 329 mm × 767 mm
Chamber Material / Finish	Steel plate, high-temperature electrostatic baking paint
Sample Clamp Construction	2× U-shaped stainless steel plates; 2.0 mm thick; 422 mm L × 89 mm W; inner frame 356 mm × 51 mm
Measured Parameters	Afterburning time, ignition time, damage length
Ignition Point	Center of bottom edge (vertical specimen)



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