

ELASTIC FLOOR COVERING FLAME RETARDANT TESTER



Elastic Floor Covering Flame Retardant Tester — ToronFT™ FRP-M

ToronFT™ FRP-M Elastic Floor Covering Flame Retardant Tester is a precision combustion testing instrument designed to determine the flame retardancy of elastic non-woven floor coverings — including fire-resistant rubber coatings, fire-resistant polyethylene asbestos tiles, and fire-resistant linoleum — under standardized burning conditions. The instrument tests the flame retardant performance of these elastic floor covering materials using a controlled burning environment and visual monitoring system, providing the quantitative flame spread and burning behavior data required for product compliance certification.

The micro-controlled flame retardant performance tester is a three-part system consisting of a burning hood, a burning car, and a control box — with a horizontal-and-vertical dual-flue design and real-time visual imaging of burning conditions for accurate, reproducible flame retardant performance assessment.

APPLICATIONS

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Applications

- Elastic floor covering manufacturers: flame retardant performance qualification for rubber coatings, polyethylene asbestos tiles, and linoleum products
- Third-party fire testing and certification laboratories: flame retardant testing of elastic non-woven floor coverings per US Federal Test Method standards
- Building materials quality assurance departments: production-lot flame retardant performance sampling for floor covering products
- R&D departments: evaluation of new flame retardant formulations and coating systems for elastic floor covering materials

- Architectural and specification consultants: fire performance verification of floor covering products for commercial and institutional buildings



FEATURES

Elastic Floor Covering Flame Retardant Tester — ToronFT™ FRP-M Key Features

- Designed specifically for elastic non-woven floor coverings: fire-resistant rubber coatings, fire-resistant polyethylene asbestos tiles, and fire-resistant linoleum
- Three-part instrument composition: burning hood, burning car, and control box — complete, integrated flame retardant test platform
- Rotameter for precise burning gas flow adjustment — maintaining stable, standard-compliant combustion conditions
- Real-time visual imaging of burning conditions — operator monitoring and documentation of flame behavior throughout the test
- Dual-flue design: horizontal flue and vertical flue — replicating the air flow geometry specified by the applicable test standard
- Horizontal flue bottom plate: thin steel plate construction — dimensional stability for consistent airflow during testing
- Compliant with US FED-STD-501A Method 6411 — the primary US federal test standard for elastic floor covering flame retardancy
- Micro-controlled test management for repeatable, accurate test execution

THEORY & METHOD

Theory and Method

The flame retardant performance test for elastic non-woven floor coverings evaluates the material's ability to resist sustained flame propagation when exposed to a defined ignition source under controlled conditions. The specimen is placed on the burning car, which transports it through the burning hood at a controlled rate. The burning conditions — including gas flow (controlled by the rotameter), flue geometry, and test duration — are maintained within the parameters specified by the applicable test standard throughout the test event.

The dual-flue design — with both horizontal flue and vertical flue sections — provides the air flow geometry required to replicate the burning environment experienced by elastic floor coverings in service. The bottom plate of the horizontal flue is constructed from thin steel plate to maintain dimensional stability and consistent airflow conditions during the burn. Visual imaging of the burning conditions is captured in real time through the integrated camera system, allowing the operator to observe and record flame behavior, char length, and after flaming throughout the test. The control box manages all test parameters and timing sequences through the micro-controller.

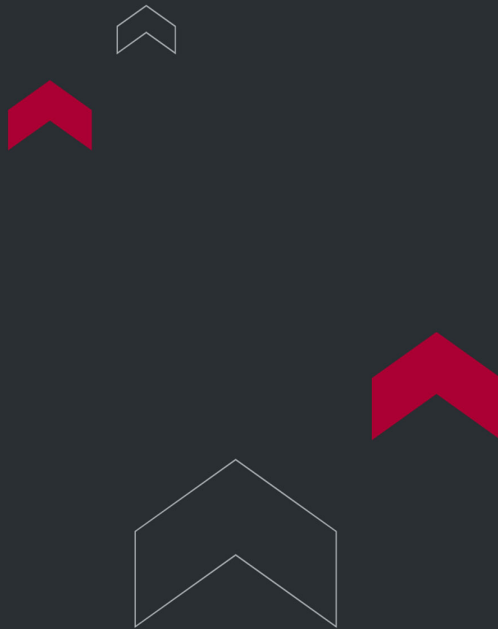
TECHNICAL SPECIFICATIONS

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Technical Specifications

Parameter	Specification
Model	ToronFT™ FRP-M
Applicable Materials	Fire-resistant rubber coatings, polyethylene asbestos tiles, linoleum (elastic non-woven floor coverings)
Instrument Composition	Burning hood, burning car, control box
Gas Flow Control	Rotameter (adjustable)
Flue Design	Horizontal flue + vertical flue (dual)
Horizontal Flue Bottom Plate	Thin steel plate

Parameter	Specification
Visual Monitoring	Real-time visual imaging of burning conditions
Control System	Micro-controller



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