



TORONTECH

AUTOMOTIVE INTERIOR MATERIAL FLAMMABILITY TESTER



Automotive Interior Material Flammability Tester — ToronFT™ FT-AI

ToronFT™ FT-AI Automotive Interior Material Flammability Tester is a precision horizontal burning test instrument designed to evaluate the flammability characteristics of automotive interior materials. By subjecting specimens to a standardized horizontal flame exposure within a controlled combustion chamber, the ToronFT™ FT-AI measures the horizontal burn rate and self-extinguishing behavior of materials used in vehicle interiors — providing the fire performance data required for automotive interior material qualification and regulatory compliance.

The automotive interior material flammability tester features a 1.5 mm thick steel plate combustion box with a heat-resistant glass viewing window, a standardized ventilation system, and a four-foot support structure — all designed to replicate the test geometry for horizontal burning rate determination of automotive interior trim materials.

APPLICATIONS

Automotive Interior Material Flammability Tester — ToronFT™ FT-AI Applications

- Automotive material suppliers: horizontal flammability qualification of interior trim materials including headliners, seat upholstery, carpet, door panels, and dashboards
- Automotive OEM quality assurance departments: incoming material compliance verification for interior components
- Third-party automotive testing laboratories: horizontal burn rate testing for regulatory compliance certification
- Polymer and textile manufacturers: flammability screening of candidate materials for automotive interior applications
- R&D departments: evaluation of flame retardant treatment effectiveness for automotive interior materials



FEATURES

Automotive Interior Material Flammability Tester — ToronFT™ FT-AI Key Features

- Combustion box material: 1.5 mm thick steel plate — robust, dimensionally stable construction
- Heat-resistant glass viewing window on the front of the combustion box — unobstructed visual observation of burning behavior during the test
- Ventilation system: 10 holes of 19 mm diameter at the bottom; ventilation slots 13 mm wide near the top — standardized natural draft airflow
- Four-foot support structure raising the combustion box to a height of 10 mm — standard elevated test geometry
- Thermometer insertion hole at rear center top, centered 20 mm from inside rear panel — standardized temperature measurement point
- Closable opening at one end for rack-and-sample insertion; small door at opposite end for gas supply connection and flame height indicator board

THEORY & METHOD

Theory and Method

The horizontal burning test mounts the specimen horizontally in the combustion chamber on a wire support grid and applies a standardized Bunsen burner flame to the free end of the specimen for 15 seconds. After the flame is removed, the distance the flame front travels across the specimen surface and the time taken are measured to calculate the horizontal burn rate in mm/min. If the flame self-extinguishes before reaching the measurement mark, the material is recorded as self-

extinguishing.

The ToronFT™ FT-AI combustion box (1.5 mm thick steel plate) is equipped with 10 ventilation holes (19 mm diameter) at the bottom and ventilation slots (13 mm wide) near the top, providing the natural draft airflow specified by the standard. The front of the combustion box has a heat-resistant glass viewing window for observation during the test. One end of the combustion box has a closable opening for inserting a rack containing the sample. A thermometer insertion hole is located at the rear center top (center 20 mm from the inside of the rear panel). The opposite end has a small door with openings for the gas pipe, gas lamp support, and flame height indicator board.

TECHNICAL SPECIFICATIONS

Automotive Interior Material Flammability Tester — ToronFT™ FT-AI
Technical Specifications

Parameter	Specification
Test Orientation	Horizontal burning
Combustion Box Material	1.5 mm thick steel plate
Bottom Ventilation Holes	10 holes, diameter 19 mm each
Top Ventilation Slots	Width 13 mm
Support Height	10 mm (four-foot support)
Observation Window	Heat-resistant glass (front face)
Thermometer Hole Location	Rear center top; center 20 mm from inside rear panel
Sample Loading	Closable opening with rack at one end

Parameter	Specification
Gas Supply Access	Small door at opposite end; includes gas pipe port, lamp support, flame height indicator
Standard Compliance	FMVSS 302; ISO 3795; SAE J369



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