

AIRCRAFT CABIN INTERIOR FLAMMABILITY TESTER



Aircraft Cabin Interior Flammability Tester — ToronFT™ ACI

ToronFT™ ACI Aircraft Cabin Interior Flammability Tester is a comprehensive aerospace fire performance testing instrument designed for the evaluation of combustion performance of non-metallic materials used in aircraft cabins. Covering four distinct burning test orientations — vertical burning test, horizontal burning test, 45° burning test, and 60° burning test — the ToronFT™ ACI provides the complete multi-angle fire performance characterization required for aircraft interior material certification under FAR 25.853, CCAR-25-R4.853, HB5469, HB5470, and RTCA/DO-160G standards.

The cabin interior non-metallic material burning performance tester integrates a shared combustion box for vertical, horizontal, and 45° tests with a separate independent burning box for the 60° test, a tempered glass sealed observation window, and a precision dual-nozzle Bunsen burner system — providing the most complete, versatile aircraft cabin interior material fire test platform available in a single instrument.

APPLICATIONS

Aircraft Cabin Interior Flammability Tester — ToronFT™ ACI Applications

- Aircraft interior material and component manufacturers: multi-angle burning performance qualification for cabin lining materials, seat components, insulation, and interior trim
- Aerospace OEMs and Tier 1 cabin integrators: incoming material fire performance verification for aircraft interior certification programs
- Third-party aviation testing and certification laboratories: FAR 25.853 and CCAR-25-R4.853 burning test compliance
- R&D departments: evaluation of new aircraft interior material constructions and flame retardant systems across all four test orientations

- Aviation regulatory compliance programs: material qualification for type certificate and supplemental type certificate applications



Standards

The ToronFT™ BP-NM supports aircraft cabin interior material burning performance testing in compliance with internationally recognized aviation fire safety standards, including:

- FAR Part 25.853: Compartment interiors (burning requirements for aircraft interior materials — vertical and horizontal tests)
- RTCA/DO-160G: Environmental conditions and test procedures for airborne equipment (fire test reference)

FEATURES

Aircraft Cabin Interior Flammability Tester — ToronFT™ ACI Key Features

- Four test modes in one instrument: vertical burning, horizontal burning, 45° burning, and 60° burning — complete FAR 25.853 aircraft interior material test coverage
- Vertical, horizontal, and 45° tests share a single combustion box; 60° test uses an independent burning box — efficient, space-saving dual-box architecture
- Tempered glass sealed observation window on the front of each box — sealed during the test to replicate standard conditions while enabling visual monitoring
- Dual-nozzle Bunsen burner: flame outlet $\Phi 9.5 \pm 0.1$ mm; steam outlet $\Phi 0.9 \pm 0.03$ mm; air inlet height 100 ± 10 mm from nozzle; 2 total burners
- Blowtorch angle adjustable: 0°, 45°, 60°, 90° — matching the precise flame application geometry of each test mode
- Compliant with FAR 25.853 and RTCA/DO-160G — comprehensive aviation interior material certification coverage

THEORY & METHOD

Theory and Method

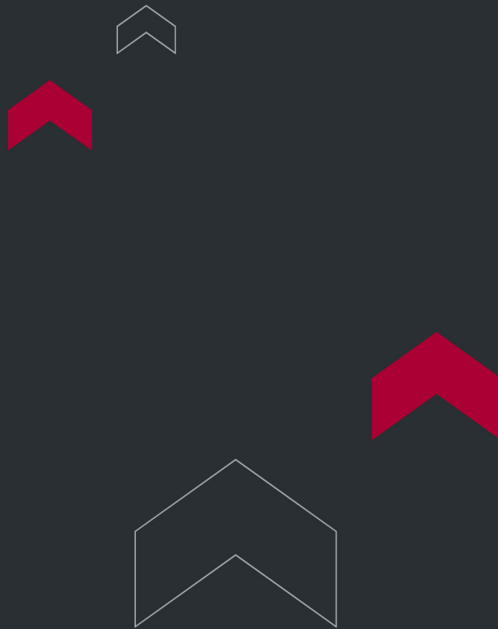
The vertical, horizontal, and 45° tests share a single combustion box, while the 60° test uses an independent burning box — all equipped with tempered glass sealed observation windows on the front for unobstructed visual monitoring. The dual-nozzle Bunsen burner system features flame outlet diameter $\Phi 9.5 \pm 0.1$ mm, steam outlet $\Phi 0.9 \pm 0.03$ mm, burner-to-air inlet nozzle height 100 ± 10 mm, and operates with two total burners. The blowtorch angle is adjustable at 0°, 45°, 60°, and 90° — providing the precise flame application geometry required for each test mode.

TECHNICAL SPECIFICATIONS

Aircraft Cabin Interior Flammability Tester — ToronFT™ ACI Technical Specifications

Parameter	Specification
Test Modes	Vertical burning, horizontal burning, 45° burning, 60° burning
Combustion Box Configuration	Shared box (vertical/horizontal/45°); independent box (60°)
Observation Window	Tempered glass, sealed during test (each box)
Burner Flame Outlet Diameter	$\Phi 9.5 \pm 0.1$ mm
Burner Steam Outlet Diameter	$\Phi 0.9 \pm 0.03$ mm
Nozzle-to-Air-Inlet Height	100 ± 10 mm
Number of Burners	2
Blowtorch Angle Settings	0°, 45°, 60°, 90° (adjustable)

Parameter	Specification
Standard Compliance	FAR 25.853; RTCA/DO-160G



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