



TORONTECH

# SPI FLAMMABILITY TESTER



# **SPI Flammability Tester - ToronFT™ SPI**

ToronFT™ SPI is a specialized flame retardant tester designed to evaluate the flammability and flame-retardant properties of vinyl plastic products. As a dedicated flame retardant testing instrument for the vinyl plastics industry, the FR-VP delivers controlled, repeatable open-flame exposure tests that determine whether vinyl plastic materials and components meet the fire safety requirements mandated by the U.S. Consumer Product Safety Commission (CPSC) under 16 CFR 1611.

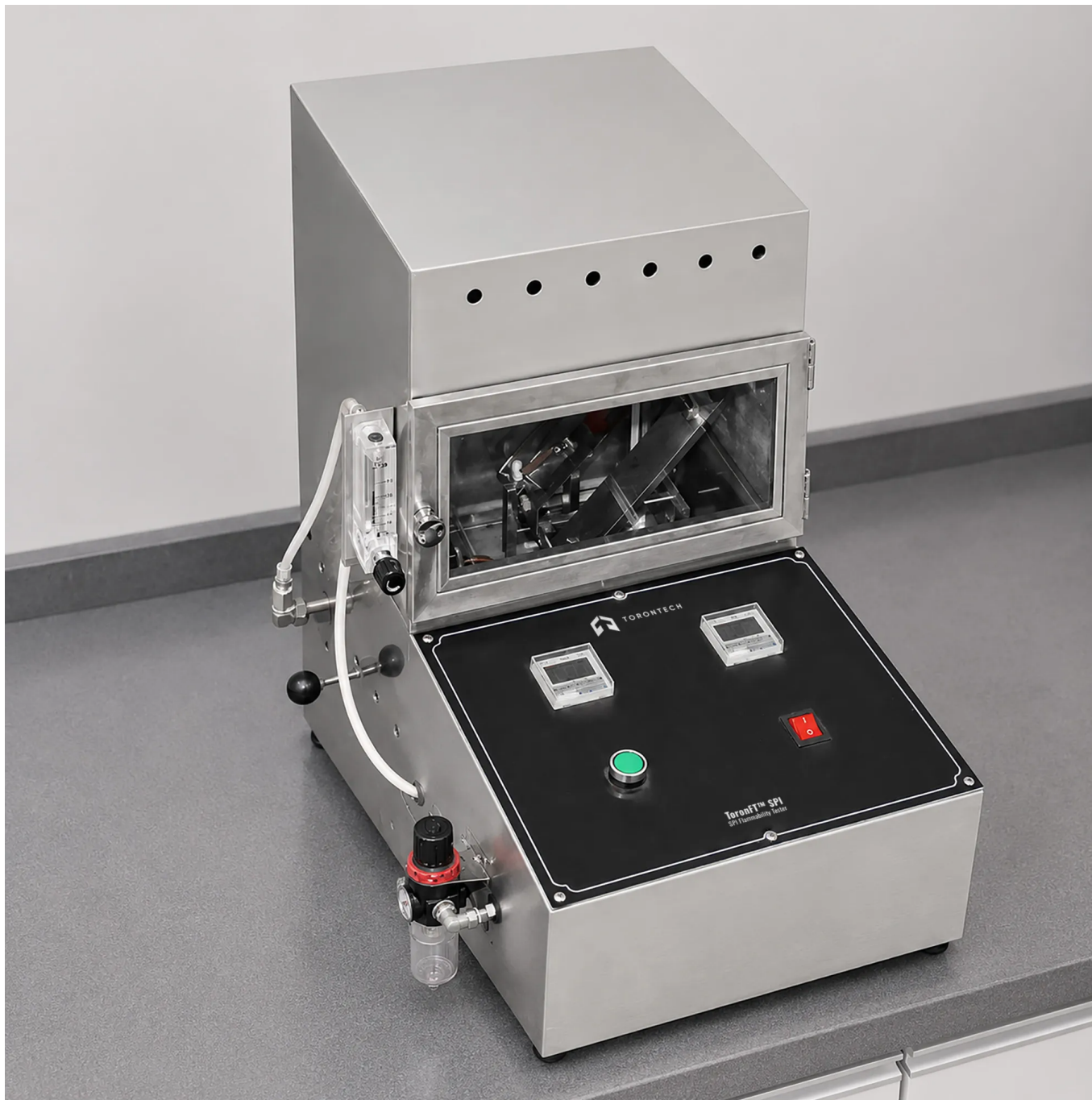
The system is engineered for manufacturers, testing laboratories, and quality assurance departments working with vinyl plastics — including PVC (polyvinyl chloride) films, sheeting, and plastic-based products — who require reliable flame retardant verification to ensure regulatory compliance and consumer safety.

## **APPLICATIONS**

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### **SPI Flammability Tester - ToronFT™ SPI Applications**

- Flame retardant compliance testing of vinyl plastic films and sheeting used in consumer products
- Flammability testing of vinyl plastics for garments, soft goods, and consumer articles
- Quality assurance of PVC and other vinyl plastic products for retail and commercial markets
- Product development and formulation testing of flame-retardant vinyl plastic compounds
- Regulatory compliance verification for CPSC-regulated vinyl plastic products
- Certification testing of vinyl plastics components for household and commercial applications



## Standards

- 16 CFR 1611 (CPSC): Standard for the Flammability of Vinyl Plastic Film (U.S. Consumer Product Safety Commission)

## FEATURES

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### **SPI Flammability Tester - ToronFT™ SPI Key Features**

- Combustion box with inner dimensions of 310 mm wide × 500 mm high × 350 mm deep, providing defined test volume for the flame retardant evaluation of vinyl plastic specimens
- Compact external cabinet dimensions: 315 mm wide × 515 mm high × 508 mm long
- Dual No. 2 needle burner configuration for consistent, defined flame application geometry
- U-tube pressure gauge and regulating valve for precise gas pressure control and consistent fuel delivery to ensure repeatable flame retardant test conditions
- Dedicated fixture for measuring and setting the standard flame height prior to each test
- High-pressure automatic ignition system for reliable, hands-free flame initiation and improved operator safety
- Timer compliant with 16 CFR 1611.4(a)(4) requirements for accurate flame application timing
- Includes one roll of standard combustion line for specimen mounting and positioning
- Designed specifically for flammability testing of vinyl plastics, including PVC film and related materials

## THEORY & METHOD

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### **Theory and Method**

The ToronFT™ SPI subjects vinyl plastic specimens to a defined open-flame exposure under controlled environmental and geometric conditions specified by 16 CFR 1611. The specimen is mounted vertically (or at a defined angle) within the combustion box, and a calibrated burner flame is applied at a standardized angle and duration. The flame retardant performance is assessed based on the material's response to ignition — including whether it ignites, sustains combustion, and the extent of burn propagation after flame removal.

The dual No. 2 needle burner with U-tube pressure gauge and regulating valve ensures precise and consistent fuel delivery, while the high-pressure automatic ignition system provides reliable, reproducible flame initiation. The fixture for measuring flame height enables accurate pre-test calibration in accordance with the standard.

TECHNICAL SPECIFICATIONS

SPI Flammability Tester - ToronFT™ SPI Technical Specifications

| Parameter                   | Specification            |
|-----------------------------|--------------------------|
| Product Name                | SPI Flammability Tester  |
| Brand                       | ToronFT™ SPI             |
| Combustion Box Inner Width  | 310 mm                   |
| Combustion Box Inner Height | 500 mm                   |
| Combustion Box Inner Depth  | 350 mm                   |
| External Width              | 315 mm                   |
| External Height             | 515 mm                   |
| External Length             | 508 mm                   |
| Burner Type                 | No. 2 needle burner (×2) |

| Parameter            | Specification                               |
|----------------------|---------------------------------------------|
| Pressure Control     | U-tube pressure gauge with regulating valve |
| Ignition System      | High-pressure automatic ignition            |
| Flame Height Setting | Dedicated measuring fixture                 |
| Timer Compliance     | CFR 1611.4(a)(4)                            |
| Accessories          | One roll of standard combustion line        |
| Applicable Standard  | 16 CFR 1611 (CPSC)                          |



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