

MEDICAL PROTECTIVE MASK FLAME RETARDANT TESTER



Medical Protective Mask Flame Retardant Tester — ToronFT™ FR-MP

The ToronFT™ FR-MP Medical Protective Mask Flame Retardant Tester is a precision flame retardancy testing instrument specifically designed for the evaluation of the flame retardant performance of medical protective filter masks — including masks suitable for filtering particles, blocking droplets, blood, body fluids, and secretions in medical working environments. By replicating the actual worn position of the mask on a metal headform and passing the mask through a standardized flame at a defined linear speed, the ToronFT™ FR-MP accurately characterizes the real flame retardant performance of the mask under conditions that simulate live fire exposure during use.

The Medical Protective Mask Flame Retardant Tester features a standard energy heat source, an integrated flame temperature measurement device, and a metal headform that simulates the human head geometry to reproduce the authentic in-use flame retardant behavior of the mask — providing manufacturers and testing laboratories with the most realistic and reproducible flame retardant test data available for medical mask qualification.

APPLICATIONS

Medical Protective Mask Flame Retardant Tester — ToronFT™ FR-MP Applications

- Medical mask manufacturers: flame retardant performance qualification of protective filter masks per international medical device and PPE safety standards

- Third-party testing and certification laboratories: flame retardancy testing of medical protective masks for regulatory approval and market access
- Healthcare procurement departments: incoming inspection flame retardant performance verification for medical masks used in environments with fire risk
- R&D departments: evaluation of new mask materials, filter media, and construction configurations for improved flame retardant performance
- Occupational safety compliance programs: flame retardant performance verification for masks used in fire-risk medical and industrial environments



FEATURES

Medical Protective Mask Flame Retardant Tester — ToronFT™ FR-MP Key Features

- Specifically designed for medical protective filter masks: particles, droplets, blood, body fluids, and secretions filtration masks
- Standard energy heat source for consistent, reproducible flame characteristics across all test events
- Flame temperature measuring device: monitors heat source temperature to verify compliance with the standard-specified flame energy requirement
- Metal headform: simulates human head geometry to reproduce the authentic in-use flame retardant performance of the mask when worn
- Test geometry: burner-to-mask bottom distance $20 \text{ mm} \pm 2 \text{ mm}$; flame height $40 \text{ mm} \pm 4 \text{ mm}$
- Headform travel speed: $(60 \pm 5) \text{ mm/s}$ linear speed through the flame — standardized transient flame exposure condition
- Accurate recording of burning state after flame exposure — complete, traceable documentation of mask flame retardant performance

THEORY & METHOD

Theory and Method

The flame retardant performance test simulates fire exposure to a medical protective mask in its worn condition by mounting the mask on a metal headform that reproduces human head geometry. The metal headform is placed on the test apparatus with the bottom of the burner-to-mask distance set to 20 mm ± 2 mm, and the flame height adjusted to 40 mm ± 4 mm. The headform then moves through the flame at a linear speed of (60 ± 5) mm/s, replicating a transient flame exposure event.

After passing through the flame, the burning state of the mask is recorded — documenting whether the mask continues to burn, self-extinguishes within the required time, or maintains structural integrity protecting the wearer's face. The standard energy heat source provides consistent, reproducible flame characteristics for every test, and the flame temperature measuring device verifies that the heat source meets the required temperature specification, ensuring that the flame energy applied to the mask is standardized and traceable.

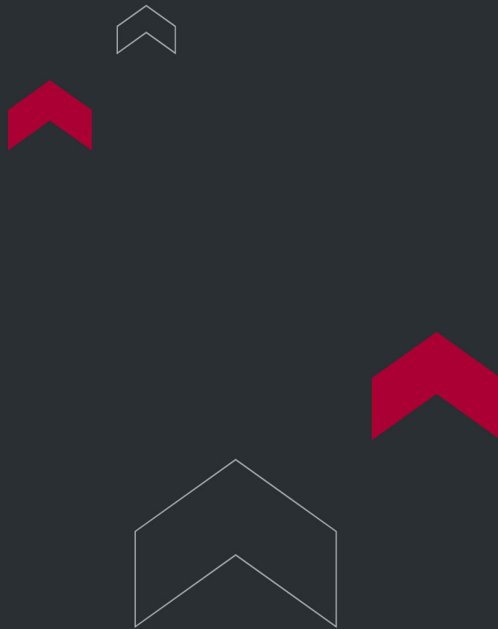
TECHNICAL SPECIFICATIONS

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Technical Specifications

Parameter	Specification
Applicable Products	Medical protective filter masks (particles, droplets, blood, body fluids, secretions)
Heat Source	Standard energy heat source
Flame Temperature Verification	Flame temperature measuring device (integrated)
Headform Material	Metal (simulates human head geometry)
Burner-to-Mask Bottom Distance	20 mm ± 2 mm
Flame Height	40 mm ± 4 mm

Parameter	Specification
Headform Linear Travel Speed	(60 ± 5) mm/s
Standard Reference	EN 14683; ISO 16603; EN ISO 13688



Torontech Inc.

251 Consumers Road, Suite 1200
Toronto, Ontario, M2J 4R3, Canada 

Phone: +1 416 368 2721 | Fax: +1 416 981 7652
Email: info@torontech.com

Torontech, LLC

601 Brickell Key Drive, Suite 700
Miami, FL 33131, USA 

Toll-Free: 1-866-383-7919
Email: sales@torontech.com

Torontech ME FZE

Meydan Grandstand, 6th Floor,
Meydan Road, Nad Al Sheba,
Dubai-261440, UAE 

Phone: +971 488 19252
Email: me@torontech.com

