TORONTECH

FIRESTOP MATERIAL CORROSION TESTER

Firestop Material Corrosion Tester — ToronFT™ FS-C

ToronFT™ FS-C Firestop Material Corrosion Tester is a precision test system designed to evaluate the corrosiveness of fireproof sealing materials (specifically fire-retardant modules and other sealing products) on steel pipe substrates. By exposing carbon steel pipe specimens and steel plate specimens to direct contact with the fireproof sealing material under standardized test conditions, the ToronFT™ FS-C enables manufacturers and testing laboratories to verify that the sealing material does not promote galvanic or chemical corrosion of the metallic substrates with which it contacts during installation and service.

The Firestop Material Corrosion Tester provides all the test hardware required for both fire-retardant module corrosiveness assessment and the corrosiveness evaluation of other sealing material types — including steel pipes, steel plates, and cable specimens — in a single, complete test kit.

APPLICATIONS

Firestop Material Corrosion Tester — ToronFT™ FS-C Applications

- Fireproof sealing material manufacturers: corrosiveness qualification of fire-retardant modules, gap sealing materials, and formed sealing products
- Third-party certification and testing laboratories: corrosion testing of fireproof sealing materials per international building fire protection standards
- Quality assurance departments: incoming inspection and batch-sampling corrosiveness verification for fireproof sealing products
- Construction and fire protection product manufacturers: material compatibility evaluation for sealing products in contact with structural steel substrates

- R&D departments: evaluation of new fireproof sealing material formulations for corrosiveness reduction and substrate compatibility

Standards

The ToronFT™ FS-C supports corrosion testing of fireproof sealing materials in compliance with internationally recognized fire protection and building material standards, including:

- ISO 9227: Corrosion tests in artificial atmospheres — Salt spray tests
- ASTM G31: Standard guide for laboratory immersion corrosion testing of metals
- EN 1366-3: Fire resistance tests for service installations — Seals
- ISO 11925-2: Reaction to fire tests — Ignitability of building products subjected to direct impingement of flame
- EN 13501-2: Fire classification of construction products and building elements — Classification using data from fire resistance tests

FEATURES

Firestop Material Corrosion Tester — ToronFT™ FS-C Key Features

- Dual-configuration test capability: fire-retardant module corrosiveness test and other sealing material corrosiveness test — both covered in one instrument kit
- Fire-retardant module test substrates: steel pipe (OD 30–40 mm × L 250 mm, Q235 carbon steel, 2 pieces) with dedicated clamp set
- Other sealing material test substrates: steel plate (150 mm × 100 mm × 0.8 mm, Q235 carbon steel, 2 pieces) and cable (OD 30–40 mm × L 25 mm, 3 pieces)
- Complete test kit includes all specimen hardware — no additional substrate materials required
- Designed specifically for Q235 carbon steel substrates — the most common structural steel grade used in building penetration sealing applications
- Clamp set included for secure, consistent contact between sealing material and steel pipe specimens
- Compact, self-contained test apparatus for efficient laboratory integration

THEORY & METHOD

Theory and Method

Fireproof sealing material corrosion testing evaluates the material's chemical interaction with metallic contact surfaces over a standardized exposure period. For fire-retardant module corrosiveness testing, steel pipes (outer diameter 30–40 mm, length 250 mm, Q235 carbon steel, 2 pieces) are secured in contact with the sealing material using the provided clamp set. For other sealing material corrosiveness testing, steel plates (150 mm × 100 mm × 0.8 mm, Q235 carbon steel, 2 pieces) and cables (outer diameter 30–40 mm, length 25 mm, 3 pieces) are used as the contact substrates.

After the specified exposure period, all metal contact surfaces are inspected for corrosion — including pitting, rust formation, discoloration, and surface degradation — and compared against the acceptance criteria defined by the applicable standard. The test assesses whether the sealing material's chemical constituents (salts, acids, halides, or other reactive species) promote accelerated corrosion of the carbon steel substrates under the temperature and humidity conditions of typical building installations.

TECHNICAL SPECIFICATIONS

Firestop Material Corrosion Tester — ToronFT™ FS-C Technical Specifications

Parameter	Specification
Model	ToronFT™ FS-C
Test Application	Corrosion testing of fireproof sealing materials on steel substrates
Fire-Retardant Module Test — Steel Pipe	OD 30–40 mm, L 250 mm, Q235 carbon steel, 2 pieces

Parameter	Specification
Other Sealing Material Test — Steel Plate	150 mm × 100 mm × 0.8 mm, Q235 carbon steel, 2 pieces
Other Sealing Material Test — Cable	OD 30–40 mm, L 25 mm, 3 pieces
Clamp Set	Included

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