Explore limitless possibilities.

PERIMETER FIRE BARRIER SYSTEMS

One World Trade Center, New York City, NY
Protect your creative vision with real world firestop solutions.

A building’s facade is distinctive. Perimeter fire barrier systems in high rise construction are an important life safety consideration, but sound fire containment practices should not interfere with design aesthetics. As a designer or builder, you need perimeter fire barrier systems that afford adaptability to work with your design, and STI can help.

System Coverage Breadth Matters
Perimeter fire barrier systems are code mandated, and code officials or inspectors verifying building code compliance scrutinize slab-edge conditions. STI can keep your projects on track with more tested and listed systems that assure code compliance.

Tested and Listed Systems Ensure Code Compliance
STI Firestop understands the nuances of curtain wall and perimeter fire barrier systems because of our commitment to research and development. With more tested and listed systems for perimeter fire barrier systems than any other manufacturer, our versatile solutions conform to virtually any job site condition.

Most UL® Systems

"STI provides unmatched technical support for perimeter fire barrier systems."

Jim Warbrouck
Senior Consultant, Curtain Wall Design & Consulting Inc.

Codes & Technology
Curtain wall perimeter fire barrier systems are tested to ASTM E2307. This test method uses a two-story structure known as the intermediate scale multi-story test apparatus (ISMA). The ISMA structure subjects the test assembly to fire exposure from two sides simultaneously with an exterior burner that replicates a fire induced window break.
STI offers the complete breadth of tested coverage that provides designers the flexibility to execute their creative vision while ensuring ongoing code compliance and life safety.

**Back Pan Curtain Walls**
Our patented safing shelf system replicates real world curtain wall construction. It is the only practical system that can be built in a factory.

**Shorter Spandrels, Lower Sill Heights**
Accommodates more vision glass.

**More Facade Types**
Glass (opaque or clear), aluminum, stone, brick veneer, EIFS, GFRC, precast concrete, composite metal panels, and more.

**Multiple Insulation Attachments**
A variety of tested methods, to support and attach curtain wall insulation, offer unmatched flexibility in the field and lower the overall cost of installation.

**Pipes & Cables Through Floor Gap**
Pipes for radiators or electrical cables are tested to pass through the safing gap.

**Fire Ratings**
Tested and listed systems up to 4 hours.

**All Major Mineral Wool Brands**
Testing for all commercially available mineral wool brands.

**Block Smoke Leakage**
Low L Ratings (<1 CFM/LF) are included in the systems to confirm ability of coating to limit air and smoke movement.

**Real World Movement**
Dynamic tests replicate real world movement ranges and remain practical to install for construction workers using common tools and methods.

"STI has the UL® tested designs and field support that limits liability and exposure while providing cost-effective peace of mind. It’s why CDC and STI work closely together."

Jim Warbrouck
Senior Consultant, Curtain Wall Design & Consulting Inc.
Aluminum Frames

Backpans

Unitized backpan designs have become increasingly popular, presenting a multitude of new challenges under fire conditions. During a fire, deflection of the steel backpan can cause severe repercussions on the performance of the spandrel insulation, the safing insulation, and the firestop spray—all of which are designed to maintain the integrity of the wall to meet code requirements.

- One or two-piece tubular aluminum frames
- Minimum 22 gauge flush or recessed steel backpans vs. 18 gauge

STI has the most extensive testing for aluminum framed curtain walls whether factory-built unitized or field-fabricated stick. Our UL® Certified Systems provide the flexibility you need to complete your project on time with demonstrated code compliance.

- Multiple spandrel types
  - Transparent or opaque glass panels
  - Aluminum or aluminum composite panels
  - Stone
- Optional shadow box systems for transparent glass panels
- Multiple spandrel insulation attachment methods
  - Continuous steel angles
  - Hat channels
  - Insulation hangers and steel pins
- Tested by multiple insulation manufacturers
- Optional penetrations in the safing slot
- Documented L Ratings

The Bow
Calgary, CAN

Westin Hotel
Charlotte, NC

The Residences at Marina Gate
Dubai, UAE

FMC Tower
Philadelphia, PA

1450 Brickell
Miami, FL

Wilshire Grand
Los Angeles, CA

1144 15th Street
Denver, CO

Comcast
Philadelphia, PA

Real world attachments
Compatible with all major mineral wool brands

Optional framing covers above the slab
Multiple insulation attachment methods

Lower sill heights allows for more vision glass

ALUMINUM FRAMES

STI has the most extensive testing for aluminum framed curtain walls whether factory-built unitized or field-fabricated stick. Our UL® Certified Systems provide the flexibility you need to complete your project on time with demonstrated code compliance.

- Aluminum tube systems with solid one-piece or split two-piece mullions and transoms
- I-beam mullions
- Lower sill heights and shorter spandrel panels

Lower sill and spandrel heights

Multiple insulation attachment methods

Optional framing covers above the slab

STI has the most extensive testing for aluminum framed curtain walls whether factory-built unitized or field-fabricated stick. Our UL® Certified Systems provide the flexibility you need to complete your project on time with demonstrated code compliance.

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  - Transparent or opaque glass panels
  - Aluminum or aluminum composite panels
  - Stone
- Optional shadow box systems for transparent glass panels
- Multiple spandrel insulation attachment methods
  - Continuous steel angles
  - Hat channels
  - Insulation hangers and steel pins
- Tested by multiple insulation manufacturers
- Optional penetrations in the safing slot
- Documented L Ratings
Coverage for precast concrete or GFRC is another one of our specialties, and our UL® Certified Systems are the most comprehensive:

- Lower sill heights for windows
- Traditional precast panels or precast composite panels (e.g. Slenderwall®)

Real world GFRC on tube steel frames with flex rods
- Insulated or non-insulated designs
- Tested by multiple insulation manufacturers
- Documented L Ratings

STI has extensive testing with steel-framed exterior walls with EIFS or a variety of different veneers, offering the very best package of UL® Certified systems for common jobsite conditions:

- Lowest sill heights for windows
- Common steel stud configurations
  - Coverage for cantilevered track conditions
  - King stud options

Gypsum sheathing or cementitious backer units
- Multiple exterior finishes:
  - EIFS
  - Aluminum or steel siding
  - Brick veneer
  - Stucco
  - GFRC

Glass fiber or mineral wool insulation options
- Penetrations through the saffing slot
- Documented L Ratings
- No gypsum on underside of wall

STI has extensive testing with steel-framed exterior walls with EIFS or a variety of different veneers, offering the very best package of UL® Certified systems for common jobsite conditions:

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Gypsum sheathing or cementitious backer units
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  - GFRC

Glass fiber or mineral wool insulation options
- Penetrations through the saffing slot
- Documented L Ratings
- No gypsum on underside of wall
PERIMETER FIRE BARRIER SYSTEM
SpecSeal® Quick Clip™ Perimeter Fire Barrier System

SpecSeal® Quick Clip™ L-Bracket Perimeter Fire Barrier System
is the fastest way to install curtain wall insulation for perimeter fire barrier systems. Simply fasten the L-shaped brackets to the mullion, cut and fit the curtain wall insulation, and then secure the insulation in place with self-locking fasteners. The brackets also allow the stiffener channel to be locked into place without additional mechanical attachment. This versatile system is great for factory-insulated curtain wall panels or recladding projects where the system will be installed from the building’s exterior.

Features & Benefits
• Tested to ASTM E1233 for 100 MPH+ wind-loads
• All components can be installed from the glass side to make glazing easier — no more flipping units
• Meets ASTM E2307 for up to 2 hours of fire resistance

Quick Clip™ Perimeter Fire Barrier System
Exploded View
(shown from exterior)

1.5” x 1.5” (38.1 mm x 38.1 mm) 16 Gauge Steel Angle Sill
*Provided by Others

SpecSeal® Safing Spray or FastTack™

Completed field installation
(some components installed by others)

Sill Vision Glass
Mullion
Mullion Cover
Transom Spiral Screws

SpecSeal® Quick Clip™ U-Bracket

SpecSeal® Quick Clip™ Perimeter Fire Barrier System
is designed to accelerate the installation of curtain wall insulation for perimeter fire barrier systems. The system’s unique U-brackets clip onto the mullions without direct attachment by screws to support the curtain wall insulation. Self-locking fasteners secure the insulation panels in place. Each U-bracket has a receiving slot to lock an “L-shaped” stiffener channel in place without the need for mechanical attachment by screws.

Features & Benefits
• Tested to ASTM E1233 for 100 MPH+ wind-loads
• Reduce or eliminate use of steel screws into framing members
• Tested for up to 2 Hours of fire resistance when tested to ASTM E2307

Quick Clip™ Perimeter Fire Barrier System
Exploded View
(shown from interior)

1.5” x 1.5” (38.1 mm x 38.1 mm) 16 Gauge Steel Angle Sill
*Provided by Others

SpecSeal® Safing Spray or FastTack™

Completed field installation
(some components installed by others)

Sill Vision Glass
Mullion
Mullion Cover
Transom Spiral Screws

SpecSeal® Quick Clip™ Fastener

SpecSeal® Quick Clip™ U-Bracket

SpecSeal® Quick Clip™ L-Bracket

SpecSeal® Quick Clip™ Perimeter Fire Barrier System

Curtain Wall Solutions
SpecSeal® Safing Spray is a latex-based firestop spray specifically formulated for perimeter fire barrier applications. Safing Spray’s formulation is the perfect balance between elasticity and hardness, curing to form a durable seal that is resistant to water and damage from construction debris. Prior to cure, Safing Spray easily cleans up with water and has extremely low VOC’s to meet demanding regulatory requirements.

Safing Spray features a premium latex binder system that, once dry, is totally resistant to water and will not re-emulsify. The fast drying formula is tack free in <2 hours and completely dried through in 24-48 hours (dependent upon temperature and humidity). In the wet stage, it allows for easy cleanup with water and has extremely low VOC’s to meet demanding regulatory requirements. When dry, it forms a flexible shield against spread of fire, hot gases, and smoke.

**Features & Benefits**
- Shore A Hardness of 65 per ASTM D2240
- Tough polymer designed to resist damage from construction debris
- Tested for up to 4-Hour fire resistance when tested to ASTM E2307
- Listed in over 100 UL® tested curtain wall systems

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SpecSeal® FastTack® Firestop Spray is the ultimate in weather resistant firestop sprays. FastTack™’s hybrid copolymer formula was developed to counter the stalling effects of weather while providing unmatched washout resistance and the industry’s fastest tack-free times. FastTack® outperforms and outlasts all competing firestop coatings providing the most versatile protection on the market.

**Features & Benefits**
- All-weather formula
- Early rain resistance (24 Hr Exposure; ASTM D6904) PASS
- Skins over quickly to resist water
- Tack-free in 35-45 minutes @ 77ºF, 50% humidity (ASTM C679)
- For use in extreme weather conditions (cold or rain)
- Cures below freezing
- Can be top coated, spray coated or flow applied
- Auto-bonds for easy touch ups

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**Shore A Hardness**

<table>
<thead>
<tr>
<th>Material</th>
<th>Hardness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car Tire</td>
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<tr>
<td>Safing Spray</td>
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<tr>
<td>Pencil Eraser</td>
<td>85</td>
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<tr>
<td>Hybrid Sprays</td>
<td>100</td>
</tr>
</tbody>
</table>

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FastTack® Firestop Spray application performing under weather conditions. Shown here completely submerged underwater.
SpecSeal® Series AS200 Elastomeric Spray is a latex-based elastomeric firestop spray for construction joints and perimeter fire barrier applications. AS200 cures to form a durable seal that resists the passage of the products of combustion while accommodating for high dynamic joint movement.

Features & Benefits
- Slab edge/curtain wall conditions
- Head of wall—concrete fluted deck to gypsum wall/masonry wall
- Head of wall—concrete slab to gypsum wall/masonry wall
- Control/expansion joints (wall & floor)
- Metallic pipes, steel ducts

CP100 represents another industry first and is now the only UL® Certified System (No. CW-D-1032) for protecting undermount curtain wall connections. The patented molded design encapsulates framing connections for optimal anchor insulation that provides superior heat resistance during a fire. It’s made with a refractory ceramic material that includes a proprietary intumescent technology, coupled with a compressible fiber blanket to withstand up to two hours of fire exposure, protecting aluminum anchors, maintaining the integrity of the connection, and minimizing potential panel shedding.

- Provides measurable anchor protection
- Eliminates job site application variables
- Helps ensure code compliance
- Simplifies passing inspections
- Installs in minutes with concrete fasteners
- Works with multiple anchor designs
- Encapsulates framing connections
- Offers superior heat resistance

YOUR SUCCESS IS OUR SUCCESS
STI is dedicated to providing our clients and partners with the industry’s most advanced cost-effective solutions for perimeter fire barrier systems. Whether you are an architect, curtain wall consultant, or glazing contractor, STI offers the products, training, and support to help you get it right from the onset throughout all phases of the project. Call STI to find out how we can help you with your next project.

Prominent Curtain Wall Projects
Explore limitless possibilities.

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