# Explore limitless possibilities.

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 containment 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 containment systems that afford adaptability to work with your design, and STI can help.



STI provides unmatched technical support for perimeter fire containment systems.

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

#### **System Coverage Breadth Matters**

Perimeter fire containment systems are code mandated. Code officials 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.



### **Codes & Technology**

Curtain wall perimeter fire containment 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.





### Tested and Listed Systems Ensure Code Compliance

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

### Most UL® Systems



\* STI has more UL® Certified perimeter fire containment systems than all other suppliers combined. Source: UL® Directory as of 1/2019



### TESTED DESIGNS



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.

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.

### CERTIFIED SYSTEMS

Lower sill heights and shorter spandrels allow for more vision glass

> Patented safing shelf makes backpan installation easy

### Curtain Wall Solutions

Real world attachments



Pipes, cables, etc., can be located closer to the facade to save floor space

> All spandrels glass, aluminum, stone, composites

Compatible with all major mineral wool brands



#### ACKPANS В

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

- Lowest sill and spandrel heights
- Multiple spandrel types
- Transparent or opaque glass panels
- Aluminum panels and stone panels
- Aluminum composite panels
- Optional shadow box for transparent glass panels
- Tested by multiple insulation manufacturers
- Shortest transom spacing
- Shortest sill heights
- Documented "L ratings"
- Penetration in the safing slot
- Vertical shear movement

ALUMINU/M

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



Real world attachments



Compatible with all major mineral wool brands





The Bow Calgary, CAN



Westin Hotel Charlotte, NC



The Residences at Marina Gate

Dubai, UAE



FMC Tower Philadelphia, PA



Multiple insulation attachment methods





1450 Brickell Miami, FL

Wilshire Grand Los Angeles, CA

## Curtain Wall Solutions

### FRAMES

- 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



Lower sill heights allows for more vision glass





1144 15th Street Denver, CO



Comcast Philadelphia, PA



## PRECAST / GFRC

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



Water-based or all-weather formula



**Stanford Medical Center** Palo Alto, CA



MD Anderson's Alkek Hospital Houston, TX

New York, NY





tube steel and flex rods

**Hearst Tower** Charlotte, NC

### EIFS/VENEERED DESIGNS

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



Glass fiber or mineral wool



FORSCOM USARC Combined HQ FT Bragg, NC

Aloft Hotel Charlotte, NC

## Curtain Wall Solutions

- 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 safing slot
- Documented L Ratings
- No gypsum on underside of wall



Water-based or all-weather formula

Competitive systems sometimes require gypsum board to be installed here



Harrahs Cherokee Hotel Cherokee, NC



Harrahs Poydras St Hotel New Orleans, LA



### PERIMETER FIRE CONTAINMENT SYSTEM

SpecSeal<sup>®</sup> Quick Clip<sup>™</sup> L-Bracket Perimeter Fire Containment System

SpecSeal<sup>®</sup> Quick Clip<sup>™</sup> L-Bracket is the fastest way to install curtain wall insulation for perimeter fire containment 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**

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- 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



### PERIMETER FIRE CONTAINMENT SYSTEM

SpecSeal<sup>®</sup> Quick Clip<sup>™</sup> Perimeter Fire Containment System

**SpecSeal<sup>®</sup> Quick Clip**<sup>™</sup> is designed to accelerate the installation of curtain wall insulation for perimeter fire containment 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 Spiral Screw attachment by screws.

#### **Features & Benefits**

- Tested to ASTM E1233 for 100 MPH+ wind-loads
- Reduce or eliminate use of steel screws into framing members

Quick Clip<sup>™</sup>

 Tested for up to 2 Hours of fire resistance when tested to ASTM F2307



Perimeter Fire **Containment System** Exploded View (shown from interior) Quick Clip™ U-Bracket Quick Clip™ Fastene Mullion Mullion Cover Quick Clip™ U-Bracket

Patent Nos. 10,329,761, 10,329,762, others pending

## Curtain Wall Solutions



#### **Completed field installation** (some components installed by others)





### SAFING SPRAY FOR PERIMETER FIRE BARRIERS SpecSeal® **SFS105** Safing Spray



**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 requirments.

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



### FIRESTOP SPRAY FOR PERIMETER FIRE BARRIERS SpecSeal<sup>®</sup> FastTack<sup>®</sup> Firestop Spray

**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 @ 77°F, 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





## Curtain Wall Solutions









FastTack® Firestop Spray application performing under weather conditions. Shown here completely submerged underwater.



### PERIMETER FIRE BARRIER CONTAINMENT SYSTEM

SpecSeal<sup>®</sup> Window Wall Gasket

SpecSeal® Window Wall Gasket is an intumescent rubber gasket embedded with glass fiber mesh designed for edge of slab firestopping in window wall construction. Window Wall Gasket installs between the floor and aluminum framing directly behind the slab closure panel. Under fire exposure, Window Wall Gasket rapidly expands (intumesces) to form a dense, highly insulative char to seal the void against the spread of flames and hot gases.

#### Features & Benefits

- Designed for Window Wall and Hybrid Window Wall Construction
- Compatible with common exterior grade sealants
- Installs to top of floor or directly to panel framing
- Tested to ASTM E2307 for Window Wall Assemblies

### CURTAIN WALL ANCHOR PROTECTION SpecSeal® CP100 Connection Protection

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



STI is dedicated to providing our clients and partners with the industry's most advanced cost-effective solutions for perimeter fire containment 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.













World Trade Center – West Bay, Oatar





### YOUR SUCCESS IS OUR SUCCESS

### Prominent Curtain Wall Projects

# Specified STI. Technologies Inc.



#### Latin America Regional Office

Av. Das Nacoes Unidas 8501, 17° andar Sao Paulo – SP, Brasil 05425-070 Tel: +55 (11) 3434 6662 Email: cs\_latin\_america@stifirestop.com

#### Middle East Regional Office

The Bridge Tower, Office 202 Dubai Sports City, Dubai, United Arab Emirates Tel: +971 55 872 11 89 Email: cs\_middle\_east@stifirestop.com

#### North America Corporate Headquarters

210 Evans Way Somerville, NJ 08876 USA Tel: +1 908 526 8000 Email: customerservice@stifirestop.com

#### Southeast Asia Regional Office

77, Robinson Road #13-00, Robinson 77 Singapore 068896 Tel: +65-96369000 Email: cs\_south\_east\_asia@stifirestop.com

#### Europe Regional Office

118 Avenue de France Paris, 75013, France Tel: +33 674 930 111 Email: cs\_europe@stifirestop.com

#### China Regional Office

Room 2111, Block C, South Tower, The Hub 1068 Xin Gang East Road, Haizhu District Guangzhou, PR China 510335 Tel: +86-20-89048831 Email: cs\_greater\_china@stifirestop.com

#### India Regional Office

Mumbai Maharashtra, India Tel: +91 98 19 79 69 15 Email: cs\_india@stifirestop.com

Comcast Center, Philadelphia, PA





Scan to learn more about our Curtain Wall Solutions



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