

End-to-End Strengthening Solutions



State-of-the-Art Products Engineered Solutions

strongtie.com | structuraltechnologies.com

A Strong Alliance for Stronger Structures

Through their alliance, Simpson Strong-Tie and Structural Technologies offer one-stop, end-to-end concrete strengthening and repair solutions with the best products, installation and support available.

Integrated Design-Build Solutions

Simpson Strong-Tie, a leading provider of tested, code-listed, high-performance products and technical services for the construction industry, and Structural Technologies, a renowned provider of state-of-the-art infrastructure strengthening solutions and engineering support services, have formed a strategic alliance within North America.

This new alliance enables both companies to jointly deliver complete end-to-end repair and strengthening solutions to engineering professionals, general contractors and owners across multiple construction and repair markets. The combination of innovative products, design support, engineering partners and contracting services allows us to deliver fully integrated design-build solutions from initial problem investigation through final installation.



Simpson Strong-Tie offers decades of innovative engineer-supported products, cutting-edge testing capabilities, relentless customer service and dedicated field-engineering support.



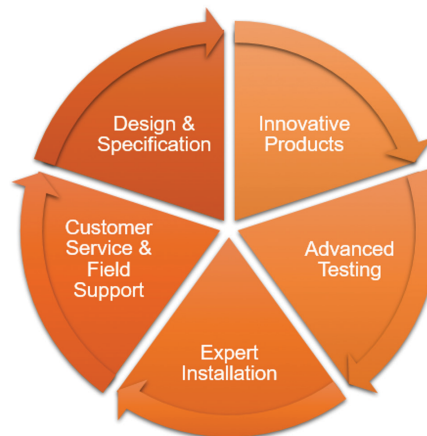
Structural Technologies brings their deep industry knowledge, solutions, design support and technical services, along with licensed installers, to the alliance.

Together, we offer a uniquely integrated scope of technical knowledge and solutions for concrete and masonry strengthening and repair that ultimately better serves your needs and helps ensure stronger, safer, longer-lasting structures.

One End-to-End Solution, Twice the Expertise

- Design, engineering and specification services
- Innovative product solutions
- Advanced testing capabilities
- Expert installation and maintenance service by licensed installers
- Dedicated customer service and onsite field engineers

Let us help you find the right solution for your project and budget. For additional information, visit strongtie.com/alliance or call (800) 999-5099 to discuss your project with a local field engineer.



CSS V-WRAP™ FRP Composite Strengthening Systems



The Simpson Strong-Tie and Structural Technologies alliance has state-of-the-art composite strengthening systems that utilize lightweight, durable, and high-strength carbon and glass fibers bonded with adhesive resins. CSS V-Wrap products are used to increase or restore the load-carrying capacity, ductility, and seismic resistance to a variety of structures. Significant flexural, axial or shear strength gains can be realized with an easy-to-apply composite without adding significant weight or mass to the structure.



Products

Carbon-Fiber Composites

- Carbon-Fiber Fabrics
- Carbon-Fiber Precured Plates
- Carbon-Fiber Grid (Fabric-Reinforced Cementitious Matrix/FRCM)
- Carbon-Fiber Bar
- Carbon-Fiber Precured Anchors
- Carbon-Fiber Anchors
- Carbon-Fiber Shear Transfer Bracket

Glass-Fiber Composites

- Glass-Fiber Fabrics
- Glass-Fiber Bar
- Glass-Fiber Anchors

Resins/Coatings

- 770 Epoxy Saturant
- PF Putty Filler
- FPS UL-Approved Fire Protection System
- WCS Watertight Coating System
- PCS UV Protective Coating System



Large Aspect Ratio Column Confinement



Shearwall Strengthening



Slab Flexural Strengthening



Tying Building Structures Together



FRP Coating, Flame and Smoke Resistance



Near-Surface-Mounted FRP Reinforcement

Key Features

Versatile. Used on a variety of structural elements including columns, beams, walls and slabs to increase load-carrying capacity applications with limited access and/or complex geometries, while improving ductility and seismic performance.

Code Reports and Compliance. CSS V-Wrap products have been evaluated for code compliance by ICC-ES (ESR-4930), meeting or exceeding industry standards for long-term durability. Additional approvals on select products include IAPMO, ANSI/NSF-61, and UL.

Low Impact. Composites have a very high strength-to-weight ratio, allowing for structural enhancement using a low-profile system, minimizing aesthetic impact.

Environmentally Compliant. Our systems are ANSI/NSF-61 compliant and meet local, state, and federal environmental regulations. With 0% VOCs, CSS V-Wrap materials can be installed in active construction environments.

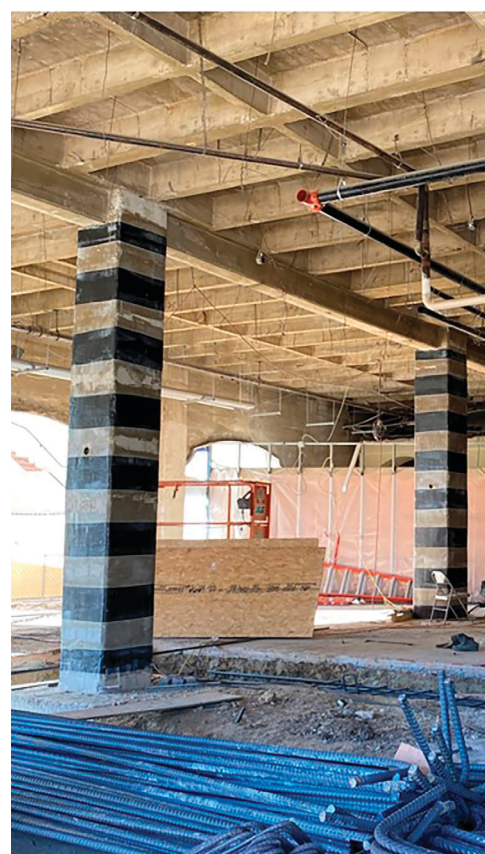
Applications

The alliance has a variety of repair and strengthening products, design support expertise, and repair and maintenance services, providing value-added solutions for owners. Our line of products provide structural strengthening solutions for:

- Change in Code
- Seismic Upgrade
- Increased Loads
- FRP Reinforcement
- Missing or Misplaced Reinforcement
- Deterioration
- Low Concrete Strength
- New Penetrations and Openings
- Force Protection
- External Post-Tensioning
- Post-Tensioned Structural Modification
- Concrete Repair
- Concrete Section Enlargement
- Steel Bar Corrosion
- Structural Steel
- Supplemental Steel
- External Steel Plates



Slab-to-CMU Wall Joint Shear Strengthening



Column Shear Strengthening



Wall Strengthening with FRP Anchors



Diaphragm Strengthening



Collector Strengthening

Solutions for Commercial and Public Infrastructure

We develop and integrate products, engineering support, and repair and maintenance services to make new and existing structures stronger and last longer.

- Parking Structures
- Office Buildings
- Retail Buildings
- Hospitality
- Multi-Family Residential
- Historic Structures
- Healthcare Facilities
- Government Buildings
- Higher Education

For Existing Infrastructure

Our products repair deterioration or damage and protect structures to extend life or comply with change of use requirements.

For New Construction

Our products and solutions can improve the performance and durability of structures, as well as correct construction defects.

Engineering and Design Solutions

Our staff of engineers and technical support specialists provide comprehensive design support services for our products. Our services include investigation support, application engineering for our products, design-assist, as well as cost and constructability consulting.

- Investigation Support
- Solution Development
- Budget Development
- Specification Assistance
- Constructability Consulting
- Application Engineering
- Quality Control Programs
- Means and Methods
- Material Development
- Project-Specific Design-Assist

Integrated Design-Build Solutions

By teaming with our alliance, clients can be reassured that our combination of products, design support, engineering partners and contracting services allow us to deliver fully integrated design-build solutions from initial problem investigation through final installation.

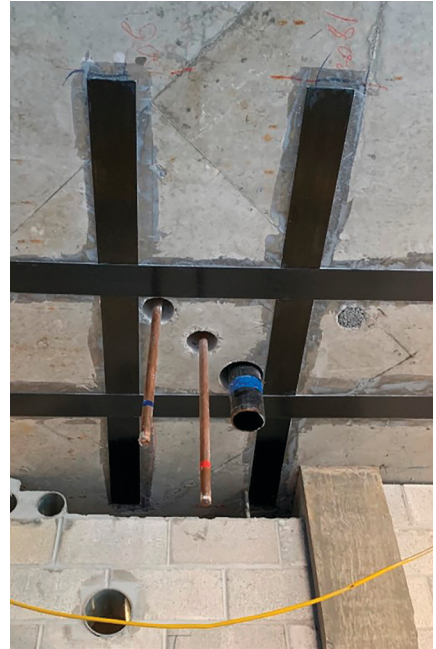
CSS V-WRAP™ FRP Composite Strengthening Systems



Project-Specific Testing



Boundary Element Confinement



Slab Penetration Flexural Strengthening

Application-Specific Testing

The Tyrell Gilb Research Laboratory is the hub of Simpson Strong-Tie research and product development activities. Accredited by IAS for various ICC-ES acceptance criteria (AC) and ASTM test standards, our lab is equipped with a seismic shake table, two cyclic/static test rigs and a 3D-testing area so that our products can be rigorously tested and load rated.

We have the ability to perform full-scale application testing to provide project-specific solutions. This enables us to model real-world, as-built conditions to make sure our products perform as intended on your structure.

Construction and Installation Services

When installing products and systems, Structural Technologies' construction licensees provide clients with the reassurance that our technology solutions are being installed by experienced professionals with the highest standards for quality control and safety. The combination of products, design support, engineering partners and contracting services allows us to deliver fully integrated delivery of solutions from initial problem investigation through final installation.

About Simpson Strong-Tie and Structural Technologies

Simpson Strong-Tie is the world leader in structural solutions — products and technology that help people design and build safer, stronger homes, buildings, and communities. As a pioneer in the building industry, Strong-Tie has an unmatched passion for problem solving through skillful engineering and thoughtful innovation. Through structural systems research and rigorous testing, the company can design code-listed, value-engineered solutions for a multitude of applications in wood, steel, and concrete structures. The company's dedication to pursuing ever-better construction products and technology and to surrounding customers with exceptional service and support has been at the core of its mission since 1956. For more information, visit strongtie.com.

Structural Technologies is firmly committed to its mission of making structures stronger and last longer. We develop and integrate products, engineering support, repair and maintenance services to provide value-added solutions to owners, engineers and contractors. Structural Technologies provides state-of-the-art proprietary products and engineering support and delivers repair and maintenance services through its construction licensees. For more information, visit structuraltechnologies.com.



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