



Structural Strengthening Solutions from GeoTree®



www.GeoTreeSolutions.com | 1-855-655-6750



GEOTREE SOLUTIONS

At GeoTree, we solve infrastructure challenges differently. More than just a materials provider, we partner with the industry to deliver smart, practical, innovative solutions. Our solutions rehabilitate, strengthen, and protect infrastructure components.

Backed by our engineering expertise and support, these systems install easier and faster than functional equivalents. Whether you are building new or repairing existing infrastructure, we can help you reinforce your structures to deliver the performance you need.

DELIVERING VALUE

Engineering Expertise

- Assess challenges and recommend customized solutions
- Leverage multiple technology platforms
- Provide in-depth documentation, system characterization, and third-party validation

Technical Support

- Cater to virtual and on-site needs
- Deliver in-field training and support
- Provide responsive and on-demand service

Project Optimization

- Lower total project cost
- Improve contractor productivity
- Reduce user impact
- Extend asset life cycle

APPLICATIONS AND STRUCTURES

Buildings | Bridges | Marine Structures | Parking Structures | Pipes and Tunnels | Tanks | Silos

We address

- Seismic-related deficiencies
- Code changes
- Deterioration/degradation/corrosion
- Changes in the use of the structure
- Design or construction errors
- Openings cut into existing structures
- Differential settlement

We strengthen

- Columns
- Slabs (RC and PT)
- Beams and joists
- Walls
- Piles and pier caps
- Connections
- Concrete and Timber Piles
- Internal & External Pipe Repair

We provide

- Flexural strength
- Shear strength
- Compression strength
- Improved ductility
- Tensile strength
- Protection





RenewWrap FRP

SOLUTIONS

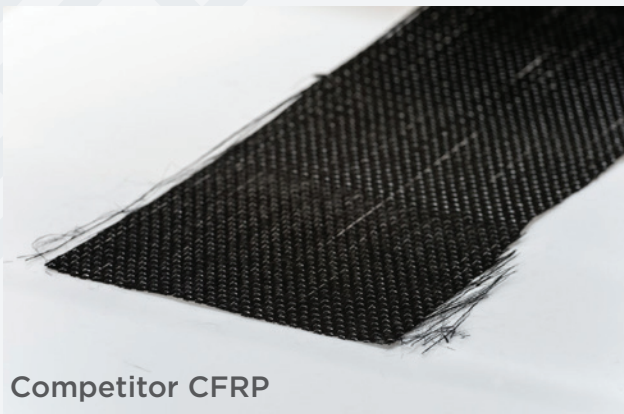
RENEWWRAP® FRP

The RenewWrap FRP strengthening system comprises a wide range of carbon and glass FRP reinforcements and compatible saturating resins, including our ICC-ES certified FRP strengthening system.

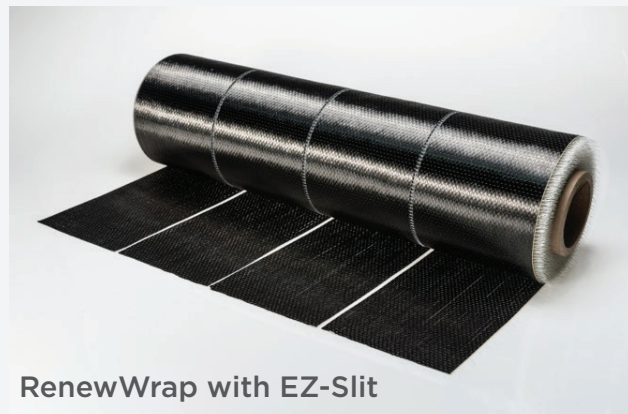
With hundreds of projects completed, RenewWrap FRP is a proven system in multiple applications including strengthening and seismic upgrade of buildings and structures, bridges, columns, caps, piers, and many other areas of need.

EZ-SLIT®

With a focus on installation efficiency RenewWrap reinforcing fabrics can be supplied with the patented EZ-Slit system to simplify the handling and manipulation of the fabrics in the field. EZ-Slit slitting zones eliminate loose fibers, fraying and waste when field cutting to narrower widths.



Competitor CFRP

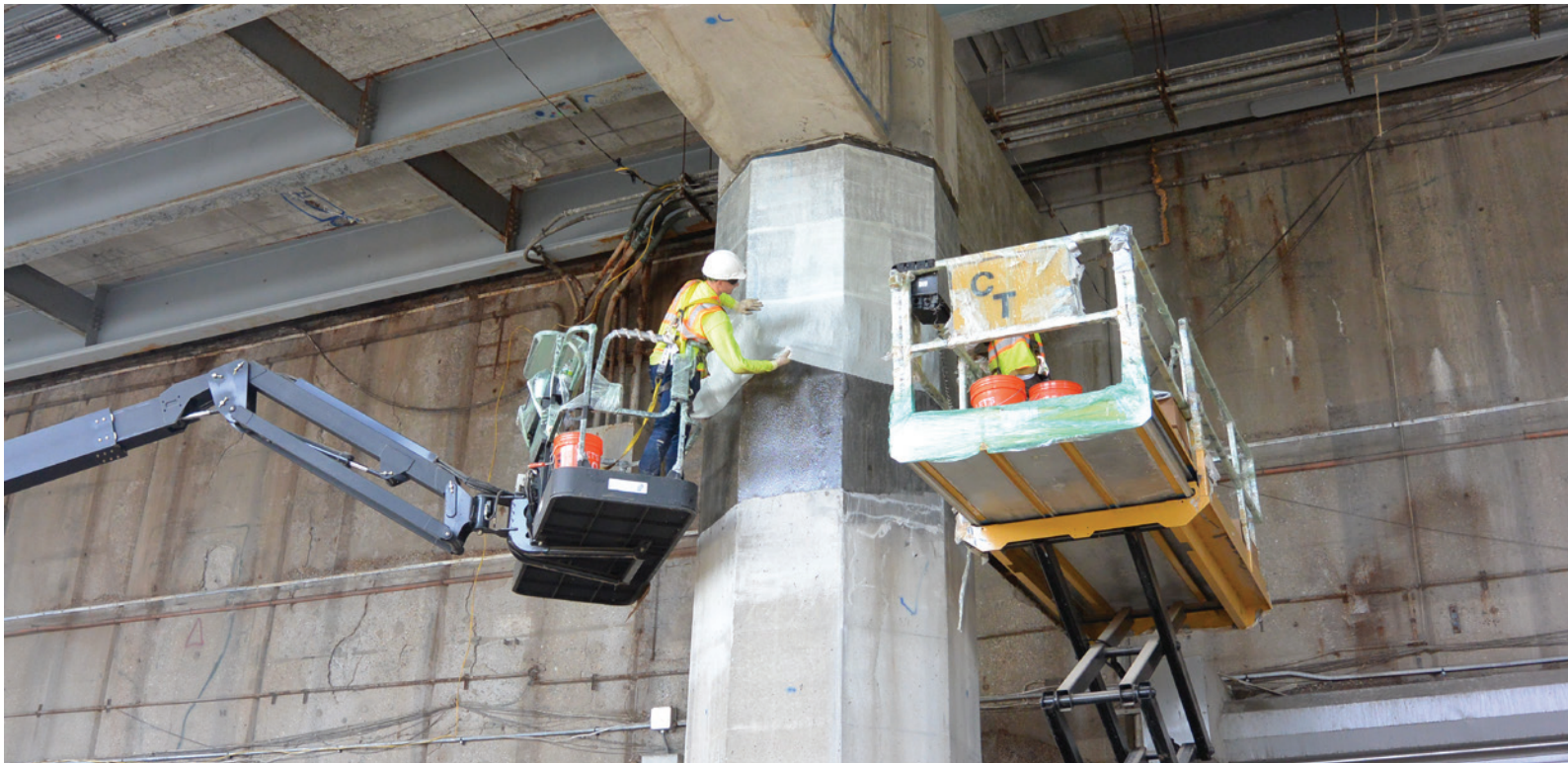


RenewWrap with EZ-Slit

RENEWWRAP® MCU

The RenewWrap MCU FRP strengthening system comprises a carbon fiber fabric that is impregnated a water-activated polymer. Eliminating the need for field saturation, the system is delivered in sealed bags, applied to the structure, and then sprayed with water to initiate cure of the resin.

RenewWrap MCU FRP can be used in a broad range of environments, possess excellent chemical resistance, and is ideal for use in exposed structures, columns, and areas where wet/dry layup is difficult.



RENEWWRAP® NSM CFRP BARS

Near Surface Mount (NSM) bars are used for strengthening existing structural members in flexure and shear. Structures that are deficient due to either a structural flaw, deterioration, or because of a change in use, can often be brought to useful capacity using NSM bars. Typical uses are in bridges (parapets), decks, and parking structures.



Near-Surface Mount (NSM) Bars



Near-Surface Mount NSM Bar Parapet Strengthening



NSM Bar Bridge Strengthening

RENEWWRAP STRAND SHEETS

RenewWrap Strand Sheets are unidirectional reinforcement sheets consisting of an assembly of pre-cured carbon fiber micro bars. Sheets are externally bonded to existing steel, concrete, and masonry structures to enhance their strength and stiffness.

Strand Sheets combine the best features of a traditional wet lay-up fabric and a pre-cured plate FRP system to create a cost effective method for strengthening steel structures.



RenewWrap Strand Sheet & RenewWrap FRP

RENEWWRAP PILE REPAIR

RenewWrap Pile Repair is the first factory-saturated, ACI 440.2R-17 compliant composite repair system designed for structural repairs and reinforcement underwater.

This CFRP system is a high strength, lightweight product that is highly resistant to aggressive environments. This system consist of two components:

- A glass felt that is field saturated with an underwater primer and is the carrier for the primer in underwater & splash zone areas
- The RenewWrap MCU composite which is a pre-saturated, unidirectional carbon fabric that provides the strengthening

RENEWWRAP PILE SHIELD

RenewWrap Pile Shield is an innovative GFRP system that offers exceptional mechanical and impact strength as well as corrosion protection for applications underwater, in the splash zone, or above the water line.

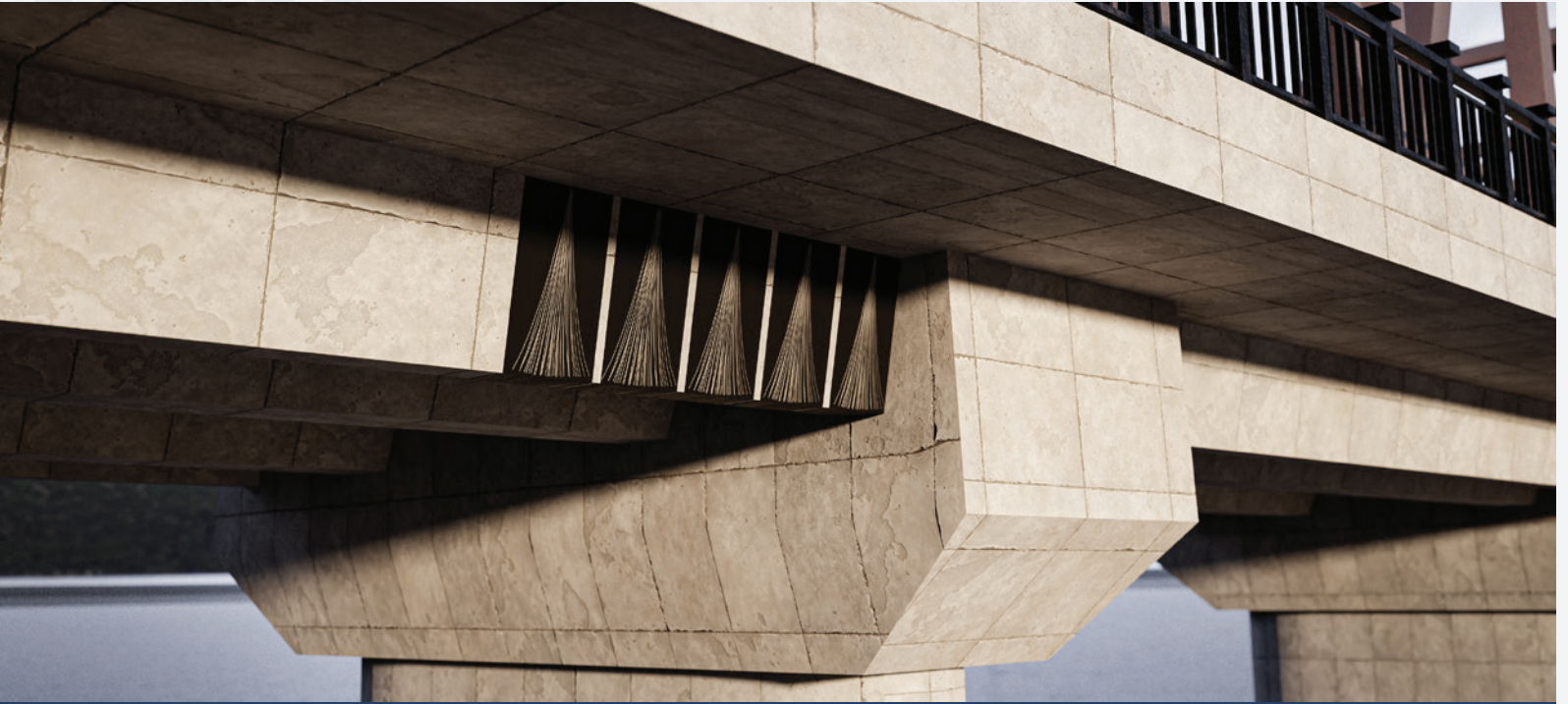
RenewWrap Pile Shield consists of an underwater primer that is used in conjunction with a specially designed fiberglass fabric that is impregnated with a water activated resin and acts as a protective wrap. For areas exposed to UV, a layer of RenewWrap Pile Shield SPF may be added.

The water-activated composite is an outer wrapping for additional mechanical and UV protection.



RENEWWRAP ANCHORS

The RenewWrap Anchors are used to anchor RenewWrap fabrics to increase the development and bond of the fabric to substrate. The RenewWrap Anchors are also used to provide continuity of the strengthening fabrics across structural elements such as beams, walls and slabs.



RenewWrap FRP, RenewWrap Anchors, and GeoStrong Repair Mortar

GEOSTRONG® REPAIR MORTAR

GeoStrong Repair Mortar is a one-component, non-shrink, fast-setting geopolymer mortar designed for repairing horizontal, vertical and overhead concrete surfaces where high strength is desired. GeoStrong mortar has corrosion-resistance and can be used below, on, or above grade in civil infrastructure and industrial applications.



ENGINEERING AND CONSTRUCTION SUPPORT

ENGINEERING SUPPORT

GeoTree Solutions offers complimentary technical services to help you at all stages of your project:

- **Engineering project documents** Assist with the development of your FRP design, FRP details, and specifications.
- **Feasibility studies** Our team has a combined 50+ years of experience evaluating thousands of FRP projects around the world.
- **Fire performance requirements** Does your application require FRP to function during a fire or additional protection to achieve a fire rating? We will help you navigate code requirements and suggest the best solution.

CONTRACTOR SUPPORT

- **Interpretation of project documents** Assist with the interpretation of project documents prior to bidding.
- **Bidding support** Guidance on selecting the most appropriate solution to make your proposal a winning one.
- **Project support** Compile the necessary submittals and work with the Engineer-of-Record to help facilitate approval of the FRP portion of the project.
- **Design-build** We will help you successfully develop and execute your design-build projects by aiding in the selection of the most cost-effective and engineer- tested solution.
- **Training** We train our network of contractors to install our products and to perform QC inspections of completed work.

TESTING & QUALITY ASSURANCE

With access to multiple in-house testing facilities, GeoTree Solutions has the ability to do small and large-scale structural evaluations. To fully characterize our FRP strengthening systems, we have extensive experience & know-how to perform a wide range of ASTM tests

A 125-ton load frame with state-of-art electronic instrumentation is used to support the development of new products and applications. We can help you validate design details unique to your project.

Our QC lab ensures that every product meets the parameters and values that our customer rely upon.



MEETING INFRASTRUCTURE CHALLENGES WITH SCIENCE

GeoTree Solutions is a part of ClockSpring|NRI, the high-performance critical infrastructure solutions company. We strive to delight customers globally with innovative, verified, safe, and environmentally-conscious asset integrity solutions for construction, maintenance, and rehabilitation of critical infrastructure.

ClockSpring|NRI's highly engineered solutions are delivered rapidly, easy to install, cost effective to deploy, and durable for decades. We support our industry with engineering services, education and training programs, and high availability.

We are shaping the future of critical infrastructure by delivering valves, composites, and concrete products designed to minimize downtime and environmental hazards, while maximizing cost-effectiveness and safety.





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Before using any GeoTree product, the user must review the most recent version of the product's technical data sheet, safety data sheet and other applicable documents, available at www.geotreesolutions.com or by calling +1.855.655.6750