STRUCTURAL STRENGTHENING SOLUTIONS

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GEOTREE

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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 breadth of 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 strengthen your structures to deliver the performance you need.

Delivering Value

Engineering Expertise

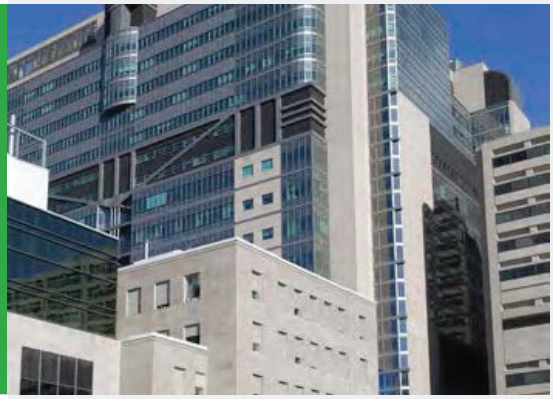
- Assess challenges and recommend customized solutions
- Leverage multiple technology platforms
- Provide in-depth documentation (or system characterization) and third-party validation

Technical Support

- 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



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 (ESR-3663) 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 and EZ-Measure

With a focus on installation efficiency RenewWrap reinforcing fabrics can be supplied with the patented EZ-Slit and EZ-Measure systems 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. EZ-Measure colored tracer yarns spaced every 12” help a contractor quickly measure fabric length in the field.

RenewWrap MCU

The RenewWrap MCU (moisture cured urethane) family of FRP strengthening system comprises fiberglass and carbon fiber fabrics pre-impregnated with a water-activated polymer. Eliminating the need for field saturation the system is delivered to the site 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 are ideal for use in exposed structures, industrial buildings, and interior pipe linings.

RenewWrap Strand Sheet

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 traditional wet lay-up fabric and pre-cured plate FRP system creating a cost effective method for strengthening steel structures.

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 in existing structures
- Differential settlement

We strengthen

- Columns
- Slabs (RC and PT)
- Beams and joists
- Walls
- Piles and pier caps
- Connections

We provide

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

Engineering and Construction Support

Engineering Support

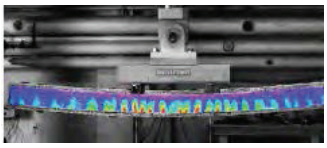
Complementary technical services to help you at all stages of your project.

- **Feasibility studies**
  Determine if FRP is a suitable strengthening technique for your application. 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.
- **Engineering project documents**
  Assist with the development of your FRP design, FRP details, and specifications.

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



Our Structures Laboratory was established to support our research into the fire resistance of concrete members strengthened with FRPs. The lab has the capability of doing large-scale structural testing at temperatures up to 500°F.

A 250,000 lb load frame along with state-of-art electronic instrumentation is used to support the development of new products and applications. With our in-house testing capabilities, we can help you validate design details unique to your project. In addition, we have extensive mechanical and physical property testing capabilities. We are capable of performing a range of ASTM tests to fully characterize our FRP strengthening systems.

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.

Contact us directly to see how we can help perfect your next project.

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