

# REPAIR AND STRUCTURAL STRENGTHENING BROCHURE



**GREY PRODUCTS WITH GREEN DIFFERENCE ...** 

## **ABOUT US**

GreenGrey W.L.L., based in Qatar, operates in partnership with Al Sraiya Holding Group, an esteemed entity established in 1975. Al Sraiya Holding Group, known for its foundational commitment to "innovation," has ascended to the ranks of the top companies in Qatar through its dedication to pioneering and excellence.

Furthermore, GreenGrey W.L.L. is affiliated with TA GROUP, which was established in Lebanon in 1990 by Civil Engineer Hasan Saab, a distinguished concrete expert with over four decades of professional experience in pioneering innovative concrete repair methodologies. Leveraging this expertise, the company expanded its operations to Qatar and Cyprus, drawing from the invaluable insights garnered through countless construction projects.

Renowned for our prowess in providing effective engineering solutions, TA GROUP specializes in the repair, structural strengthening, renovation, and protection of concrete structures and infrastructure. We have earned widespread recognition for formulating genuine repair and strengthening strategies tailored to address the most critical challenges encountered by building structures and infrastructures. For over 35 years, we have been at the forefront of rectifying concrete structures utilizing a diverse array of certified Concrete Repair, Structural Strengthening, and Protection Solutions sourced from globally recognized industry leading manufacturers.

TA GROUP mainly follows the following methodology in repair and strengthening:

- Concrete Behavior Assessment
- Concrete Problems Evaluation
- Surface and Leak Repair
- Structural Strengthening
- Protection

We offer a broad range of globally accredited products and utilize comprehensive design support services for:

- Existing Structures: to strengthen, repair deterioration, and protect structures to extend their lives.
- New Construction: to improve the performance and extend the life of structures, as well as correct construction defects.

TA GROUP provides comprehensive Design-Build Solutions, ensuring that our technological solutions are implemented by skilled professionals committed to the highest quality and safety standards. Our service package, including product selection, design and engineering support, alongside our contracting expertise, enables us to offer complete turnkey solutions, covering everything from the initial problem assessment to the final implementation.

We work closely with project teams, meticulously planning every project phase. From the outset with design and constructability reviews, through to sequencing and safety measures, TA GROUP has the skilled workforce necessary for any task. Our capabilities range from routine maintenance in residential and industrial settings to complex, phased renovations in the commercial and public sectors. With a proven track record, we excel at completing projects on time, even under the most stringent deadlines and challenging conditions.

#### **Enhancing Strength, Longevity, and Durability of Concrete Structures**

We have the expertise to select and install a wide variety of repair materials, each with an installation technique that best suits both the material and the repair situation. This strategy helps to ensure that the result is both effective and long-lasting.

#### CORROSION REPAIR AND PROTECTION

Given the intricate challenges involved in diagnosing, repairing, and preventing corrosion in reinforced concrete, it is crucial for owners to collaborate with a specialty contractor who boasts considerable expertise in corrosion repair, along with a track record of effective field procedures and experience.

Our role involves assisting project teams in choosing the right solution, followed by overseeing the application of the chosen product. We bring a wealth of experience in implementing a diverse range of corrosion repair and protection products, including:

Protective Coatings, Sealers & Waterproofing Systems

## SUSTAINABLE CONCRETE REPAIR, STRUCTURAL STRENGTHENING, AND SEISMIC RETROFITTING

Many factors play a vital role in increasing or restoring the strength of concrete structural elements, buildings, and other structures. Among them are:

- Code changes
- Seismic retrofit
- Changes in use (which increase service loads)
- Deficiencies within the structure caused by errors in design or construction
- Loss of capacity due to deterioration

TA GROUP has accumulated extensive experience and advanced technology in the repair and strengthening of structures to extend their service life or accommodate changes in use.

Repair and strengthening of spalled, cracked, honeycombed or otherwise damaged concrete is achieved using the most innovative methods and materials including:

- Repair Concretes, Grouts, and Mortars
- Anchoring Capsules
- Injection Solutions
- Fiber Reinforced Concrete
- Fiber-Reinforced Polymer (FRP) Composite Systems
- Sprayed Concrete/Shotcrete
- Leak Repair System for Cracks, Cavities, and Joints
- Enlargement and Overlay Systems
- Internal and External Post-Tensioning Systems
- Supplemental Steel Systems

TA GROUP combines these materials to create engineering solutions that repair and extend a structure's useful life by preventing further damage and returning the structure to its original or upgraded design requirements.

#### **SOIL STABILIZATION**

Stable soil is fundamental to the design and construction of any structure, as it ensures long-term durability. Soil stabilization takes poor-quality soil and turns it into a valuable engineering material, improving its load-bearing capabilities.

Moreover, stabilization of the soil by injection can reroute water flow, limit dewatering systems, and prevent water ingress when constructing large underground infrastructures.

TA GROUP excels with successfully tested solutions that increase the stability of the soil structure. Among them are:

- Fluid-Injectable, Expanded Clay-Based Premixed Mortar
- Resin and Polymer Injections

### WATERPROOFING AND MOISTURE CONTROL

TA GROUP stands at the forefront of repair and maintenance services, specializing in addressing moisture control challenges. We adhere strictly to the most rigorous technical standards and quality assurance practices in every waterproofing solution we craft, guaranteeing its effectiveness. Leveraging our extensive experience, comprehensive trades training programs, and technical support in solution development, TA GROUP earns the trust of clients seeking long-lasting, high-quality moisture control solutions.

No matter the type of structure, the selection of suitable waterproofing methods and solutions necessitates a thorough analysis of various factors, including the cause and effect, lifespan, feasibility of construction, environmental impact, aesthetic considerations, and the overall cost-benefits of different options. With a deep understanding of the broad spectrum of solutions available and a wealth of experience in choosing and applying these solutions, TA GROUP is adept at meeting our clients' needs efficiently and effectively.

TA GROUP provides a wide range of specialty moisture control and waterproofing solutions, including:

- Chemical Grouting
- Leak Repair System for Cracks, Cavitites, and Joints
- Sealant Systems
- Protective Sealers and Coatings
- Protective Membranes
- Pipe Penetration Treatment
- Drainage Systems
- Expansion Joint Systems

#### HISTORIC STRUCTURE PRESERVATION AND RESTORATION

A GROUP possesses profound knowledge and installation expertise with historic building materials, making us the ideal partner for owners seeking structural preservation and restoration services for their historic buildings and properties. Given the inherent intricacies of such endeavors, meticulous attention to both design and flawless execution is paramount for achieving success.

At TA GROUP, we adhere to rigorous technical standards and meticulously craft project-specific quality control protocols for every undertaking.

Our team of historic restoration specialists boasts extensive experience in working with diverse material types, including:

- Masonry and stone
- Facade inspection support
- Building façade cleaning
- Stone pointing, stone replacement
- Marble and Granite cladding repairs and replacement
- Cast stone repairs and replacement
- Terra cotta repairs and replacement
- Timber frames repair and strengthening
- Structural steel repairs and replacement
- Strengthening of masonry walls
- Painting and coating
- Monocouche Rendering
- NHL Plastering

# REPAIR AND MAINTENANCE FOR BUILDING ENVELOPES AND FAÇADES

TA GROUP is a premier provider of repair and maintenance services, focusing on the preservation, repair, and restoration of all aspects of the building envelope. Issues with the building envelope can swiftly escalate into expensive property damage, safety concerns, and tenant dissatisfaction.

The depth of knowledge and expertise we have guarantees that the maintenance, repair, and protection of our clients' building assets are thoroughly managed and enduring.

TA GROUP offers an extensive array of specialized services for the building envelope, including:

- Brick and stone repair and replacement
- Façade stabilization and strengthening
- Seismic and blast upgrades
- Façade inspection support
- Leak investigation support

## **FORCE PROTECTION**

Owners of critical infrastructure confront the imperative of protecting their structures against various natural and man-made threats, necessitating the integration of force protection and blast resistance measures.

We uphold stringent technical standards and implement project-specific quality control protocols to ensure the delivery of superior structural upgrades and force protection solutions.

Whether it entails the implementation of individual systems or a combination thereof, our expertise encompasses the installation of a diverse range of systems, including:

- Fiber-Reinforced Polymer (FRP) Composite Systems
- Fiber Reinforced Concrete
- Enlargement and Overlay Systems
- Internal and External Post-Tensioning Systems
- Supplemental Steel Systems

# PRODUCTS AND SOLUTIONS

#### CORROSION REPAIR AND PROTECTION

- Protective Coatings
- Protective Sealers
- Protective Waterproofing Coatings

## SUSTAINABLE CONCRETE REPAIR, STRUCTURAL STRENGTHENING, AND SEISMIC RETROFITTING

- Repair Concretes, Grouts, and Mortars
  - ✓ Self-Consolidated Concrete SCC
  - ✓ Non-Shrink Grout
  - ✓ Repair And Bonding Mortars
  - ✓ Epoxy Repair Mortars
  - √ Structural Plasters
- Anchoring Capsules
  - ✓ Cementitious Anchoring Capsules
  - ✓ Epoxy Anchoring Capsules
- Injection Solutions
  - ✓ Epoxy Injection Resin
  - ✓ Polyurethane Injection
  - ✓ Pozzolanic hydraulic binder for marking injectable grout
- Fiber Reinforced Concrete
  - Macrofibres Fibers
  - √ Fibrillated Fibers
  - ✓ Monofilament Fibers
  - ✓ Specialty Fibers
- Fiber-Reinforced Polymer (FRP) Composite Systems
  - ✓ CARBON FIBER CFRP LAMINATES
  - ✓ CARBON FIBER CFRP TEXTILES/WRAPS
  - ✓ CARBON FIBER CFRP BAR
  - ✓ CARBON FIBER CFRP JOINT
  - ✓ CARBON FIBER FRCM
  - ✓ PBO FIBER FRCM
- Sprayed Concrete/Shotcrete
  - ✓ Specialty Fiber for Shotcrete
  - ✓ Waterproofing Admixture
- Leak Repair System for Cracks, Cavities, and Joints
  - ✓ Crystalline Repair Plug
  - ✓ Crystalline Repair Grout
  - ✓ Crystalline Cementitious Concrete Waterproofer
- Enlargement and Overlay Systems
- Internal and External Post-Tensioning Systems
- Supplemental Steel Systems

## **SOIL STABILIZATION**

- Fluid-Injectable, Expanded Clay-Based Premixed Mortar
- Resin and Polymer Injections
  - ✓ Polyurethane Injection
  - ✓ Silicate Injection

# PRODUCTS AND SOLUTIONS

#### WATERPROOFING AND MOISTURE CONTROL

- Chemical Grouting
  - ✓ Repair Grout
  - ✓ Waterstop Grout
  - ✓ Non-shrink Grout
- Leak Repair System for Cracks, Cavitites, and Joints
  - ✓ Crystalline Repair Plug
  - ✓ Crystalline Repair Grout
  - ✓ Crystalline Cementitious Concrete Waterproofer
- Sealant Systems
  - ✓ Curtain Injection
  - √ Water Sealing Cracks and Joints Acrylic Injection
  - ✓ Water Sealing Membranes Acrylic Injection
- Protective Sealers and Coatings
  - ✓ Crystalline Surface Waterproofing Coating
  - ✓ Elastic Cementitious Waterproofing Coating
  - √ Water Repellant
- Protective Membranes
  - ✓ Polyurethane Membrane, cold applied
  - ✓ Renovation Membrane
- Pipe Penetration Treatment
- Drainage Systems
- Expansion Joint Systems

## HISTORIC STRUCTURE PRESERVATION AND RESTORATION

- Masonry and stone
- Facade inspection support
- Building façade cleaning
- Stone pointing, stone replacement
- Marble and Granite cladding repairs and replacement
- Cast stone repairs and replacement
- Terra cotta repairs and replacement
- Timber frames repair and strengthening
- Structural steel repairs and replacement
- Strengthening of masonry walls
- Painting and coating
- Monocouche Rendering
- NHL Plastering

## REPAIR AND MAINTENANCE FOR BUILDING ENVELOPES AND FAÇADES

- Stone repair and replacement
- Façade stabilization and strengthening
- Seismic and blast upgrades
- Façade inspection support
- Leak investigation support

# **PRODUCTS AND SOLUTIONS**

# **FORCE PROTECTION**

- Fiber-Reinforced Polymer (FRP) Composite Systems
- Fiber Reinforced Concrete
- Enlargement and Overlay Systems
- Internal and External Post-Tensioning Systems
- Supplemental Steel Systems



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