

تقنية الخرسانة ذ.م.م.  
CONCRETE TECHNOLOGY L.L.C

## CONCRETEC GRC PRODUCTS

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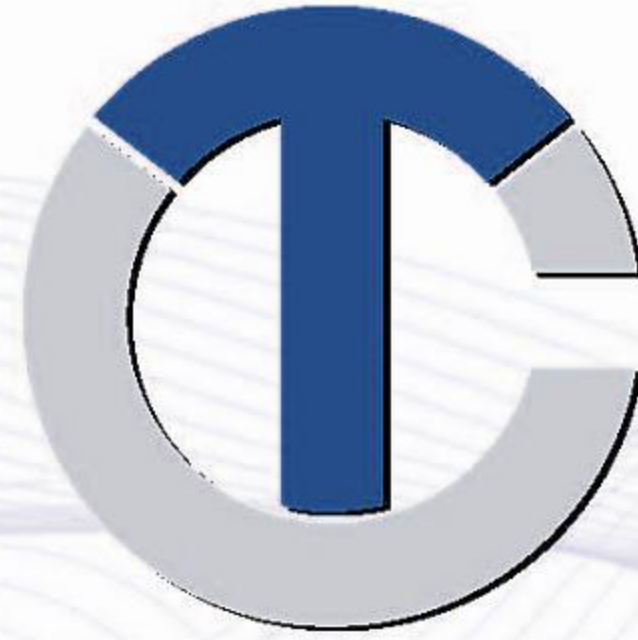
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## Introduction

*Glass Fiber Reinforced Concrete (GFRC or **GRC**) is a versatile material, globally used since the early 1970s. Its durability and light weightiness compared to traditional cast stone dressings made it popular as an alternative, with contractors, architects and builders. Now, it is used throughout the world as an architectural cladding and façade material, not only in engineering but also in utility and landscaping applications*

***CONCRETEC** is one of the UAE's leading manufacturers of **GRC** products, Armed with self motivated and qualified employees using state of the art technology, **CONCRETEC** could deliver the best. Vertical integration of its supply chain accelerated our agility resulting in providing better value to the customers. As a part of our total solution, we offer a full package, including design, mould manufacturing, casting, testing, supply, and installation services. By adopting the best practices in the industry we provide our clients with a wide range of high quality **GRC** solutions and provide them with the best customer service and technical support.*

***CONCRETEC** offers our clients with a complete design and detailing service to ensure that profiles are correctly manufactured to resist the various loads they will be subjected to. Throughout the design process our skilled form and pattern makers advice on the practicalities of creating the moulds required to translate drawings into high quality **GRC** components. Using automated pump spray stations and combination mixers for spray and premix **GRC** we are capable of producing over 250 M<sup>2</sup> of high quality **GRC** everyday.*

***GRC** products are formed by casting the composite in moulds manufactured from rubber, timber or glass fiber reinforced Plastic (GRP).*

*Our **GRC** panels are produced by skilled craftsmen and technicians, and by using specialized equipments. **CONCRETEC** provides a superior product due to a factory controlled manufacturing environment. As a part of our total quality management approach, quality is built into the design process itself. Adherence to the same is ensured during each stage of production and installation. Rejections are thus eliminated and the value created is passed on to the customer. Dimensions, finish and accuracy are checked before delivery to site.*





## Why CONCRETEC GRC

*CONCRETEC GRC panels have been used successfully since the year 2002 on a variety of buildings.*

*Our GRC claddings offer numerous benefits to the contractor and the client, such benefits are:*

- **Strength;** High Compressive Strength, and good Impact Strength, with improved bending properties
- **Lightweight;** Casting GRC profiles as thin as 10 mm reduced the unit weight by up to 90%.this benefited the contractors in reducing structural loads on buildings' structures, and hence leading to significant savings in superstructure and foundations. This characteristic simplified installations and connections detail, which resulted in reduction of erection and transport cost due to ease and speed of handling.
- **Improved Thermal & Acoustic properties;** The thin section of GRC Cladding increased usable floor space for a given building, which improved thermal and acoustic properties of the building.
- **Durability, Low permeability,** high resistance to chemicals and carbonation, as well as superior weathering performance makes GRC cladding durable and low maintenance.
- **Sustainability ;** GRC offers reduced environment impact by over 40% compared to precast concrete, which makes it environmentally friendly.
- **High Fire Resistant;** GRC is made from 100% non combustible materials and offers a flame spread of 0.



### **Company Quality Management System**

The company quality management system is well established to the requirements of ISO 9001:2008 and accordingly certified for the design, fabrication, manufacturing, supply and installation of Glass Reinforced Concrete (GRC) products besides other products that the company offers, i.e., precast and prestressed concrete products, hollow core slabs, and plastbau slabs.

## Production Methods of CONCRETEC GRC

*CONCRETEC is one of the country's leading manufacturer of both simultaneous sprayed and premix GRC*

### Premix GRC

*Premix GRC is a process which involves blending chopped fibers into the concrete slurry during the mixing process. This material is then poured in to moulds or forms using such similar method to precast concrete. Premix GRC contains approximately 2-3% of fibers of lengths, generally, less than 25mm with 13mm being the most popular. As glass fibers are evenly distributed in the mix, the material is reinforced throughout, enabling products with the finest of detail to be created.*





## Sprayed GRC

*Sprayed GRC is a process where the concrete slurry and glass fibers chopped from continuous roving are simultaneously sprayed into open moulds allowing large scale GRC cladding panels ( $> 20 \text{ m}^2$ ) to be manufactured. Sprayed GRC contains approximately 5% of ARG fibers of lengths, generally, 25 mm minimum and are applied in a multi-directional orientation. In order to achieve the correct fiber content in spray mix, calibration of the concrete flow and fiber feed is maintained. In this process the application of spray GRC is by several layers, to build the GRC up to the required thickness. CONCRETEC adopts both, wet curing and dry curing processes.*



## CONCRETEC GRC Specifications

- All **CONCRETEC GRC** products are **DESIGNED**, manufactured, and tested in accordance with the project specifications and the applicable standards; BS EN 1169, BS EN 15191, BS EN 1170 (1-7), BS 1881, BS EN 15455, BS EN 15422, ASTM C947, ASTM C948, ASTM C1230, PCI MNL 130 and/or IGRCA.
- All embedded or cast in fixings are to be in appropriate grade steel and as per design requirements
- All **GRC** raw materials should comply with the applicable standards; Alkali-resistance glass fiber should comply with ASTM C1666 / C1666M, and/or BS EN 15422, Cement should comply with ASTM C150 or BS EN 197-1, and Silica Sand to be compliant to PCI MNL-130-09 and/or GRCA Specification,
- All **GRC** components to be fully identified with product item code, Job reference, and date of cast.
- All **GRC** components to be installed by in accordance with **CONCRETEC** erection drawings and fixing details.
- All joints between **GRC** Components are filled with appropriate joint sealant and in accordance with the manufacture's instructions.
- **GRC** claddings and components are covered with protective coverings during construction in order to avoid dirt and staining of the products. And whenever/wherever deemed necessary, cleaning of **GRC** claddings shall be in accordance with **CONCRETEC** method statement.





## CONCRETEC GRC Products

With different colors & textures **CONCRETEC** offers a wide range of GRC products made to the highest quality and beyond the customer expectation including but not limited to;

- \* Arches
- \* Balustrades & Railings
- \* Bases & Pedestals
- \* Brackets
- \* Cladding panels
- \* Columns, Column crowns and Caps
- \* Cornice
- \* Cupolas/domes
- \* Door surrounds and Door Canopies
- \* Gazebos and Pergolas
- \* Grates/screens
- \* Lintels and Sunshades
- \* Moulding & features
- \* Planters & Urns
- \* Quoins
- \* Roofing accessories such as finials
- \* Wall Copings
- \* Windows surrounds
- \* Misc Decorative GRC products such as Benches, Tables, Bollards, Entablature, Entry ways, Signage, Head & String Courses, and Site amenities









## CONCRETEC GRC Applications

*CONCRETEC GRC products have been used in large scale in many of the prestigious buildings and community developments in the country.*

### ***Commercial Buildings;***

*Many of our architectural GRC products are ideal for Building Entrances in Towers, Studios, Souqs, and offices.*



### ***Communities & Housing projects;***

*With long-lasting, high quality, durable and high end appearance, GRC panels from CONCRETEC helps developers maximize the value of development.*

*Fast construction, quality finish and flexibility allow CONCRETEC GRC to become ideal cladding for Communities & Housing projects*



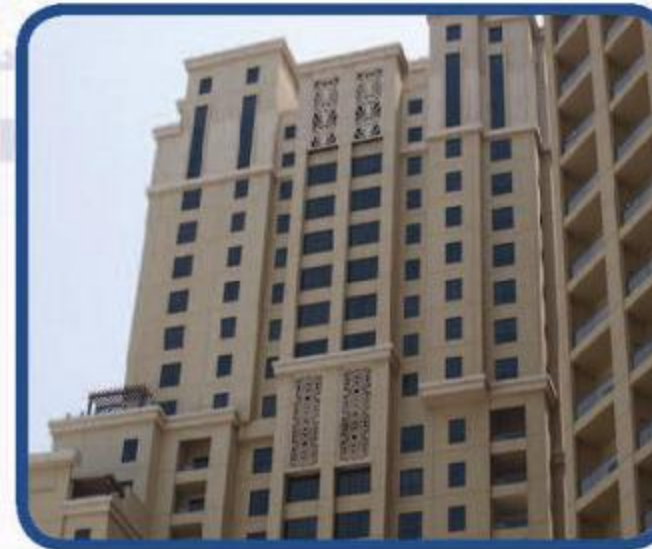


## *Palaces & Villas*



## *Residential Buildings;*

*Clients choose CONCRETEC for our large selection of products, our design assistance, and our ability to develop customized elements. CONCRETEC with a variety of GRC products presents residential construction companies with the ability to add a quality look and feel to a build.*



*CONCRETEC can work with clients in order to provide high quality, high fashion, durable and sophisticated patterns and shapes GRC products provided with high speed installation for many other buildings such as public buildings, educational buildings, Healthcare facilities and hospitals, High-Tech offices and facilities, Retail showrooms, Hotels and resorts.*

*CONCRETEC High fashion GRC cladding lends itself to unique, creative solutions and a customized high quality appearance, and makes it easy for many developers or clients to select while constructing.*



## CONCRETEC GRC Finishes & Textures

*CONCRETEC offers a variety of GRC finishes and textures by utilizing wood, GRP, and rubber moulds and by consulting producers of form liners for numerous shapes and textures such as the followings;*





## CONCRETEC GRC Finishes & Textures







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