

# **Glass Fiber Reinforced Concrete**

A Complete Process of  
Manufacturing



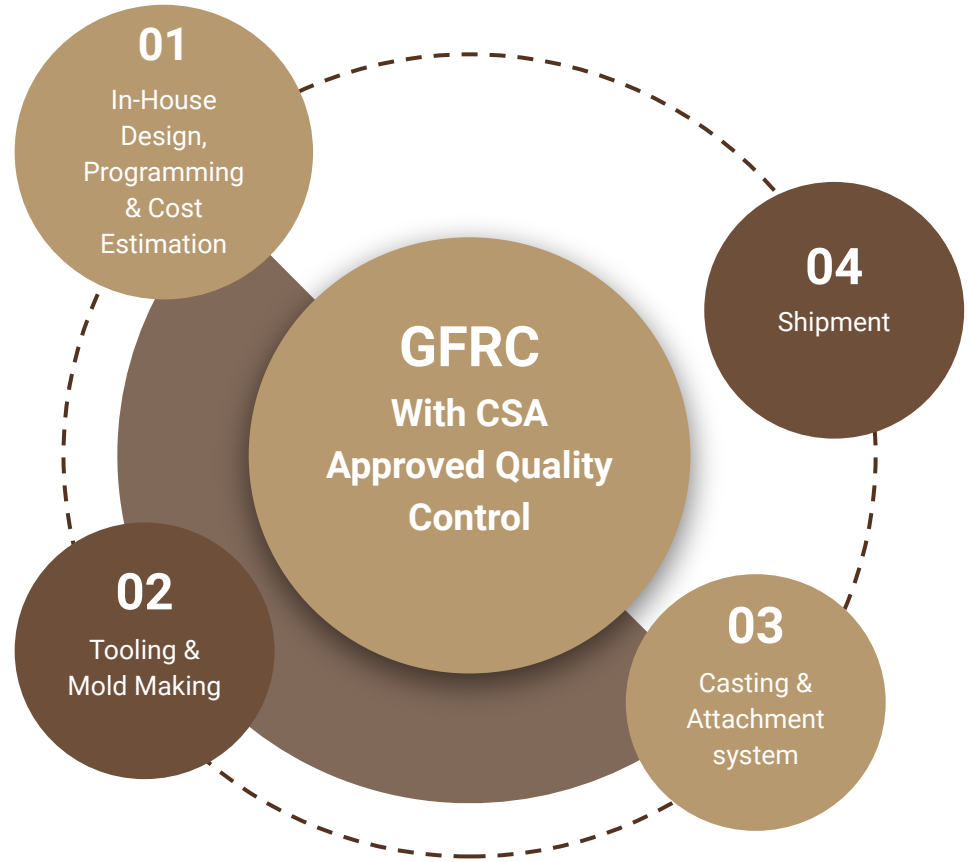
ARCHITECTURAL MOLDED COMPOSITES

# Fabrication

## A Stages of GFRC Manufacturing

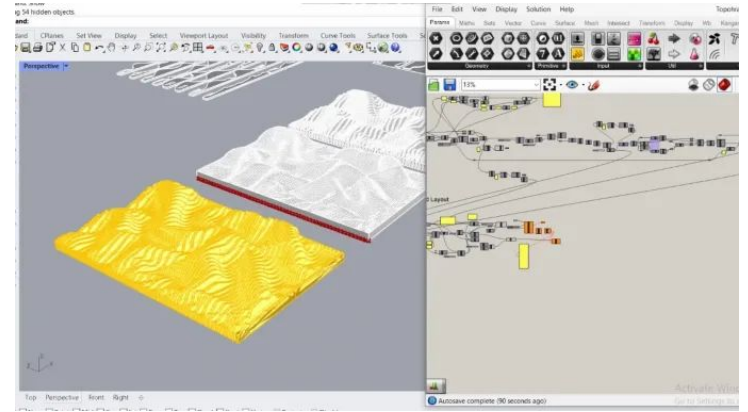
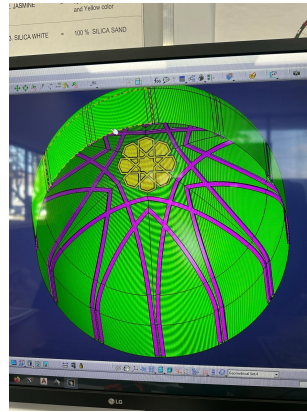
A Collaborative  
Design Process

An experienced Team  
of Project Manager,  
Designer, and Crafts  
person



# Stage 01

## Design Programming & Cost estimation



### **Integrated design and Automation**

- For creating of actual scale mold
- CAD-CAM-CATIA integration for Production

### **Smart Project Management System**

- Overall scheduling and project tracking
- Shop tickets/ Barcode to identify parts on site

### **Cost & Time Efficient Production**

- Using integrated automation systems
- Using molds to mass produce the parts



# Stage 02

## Tooling & Mold Making

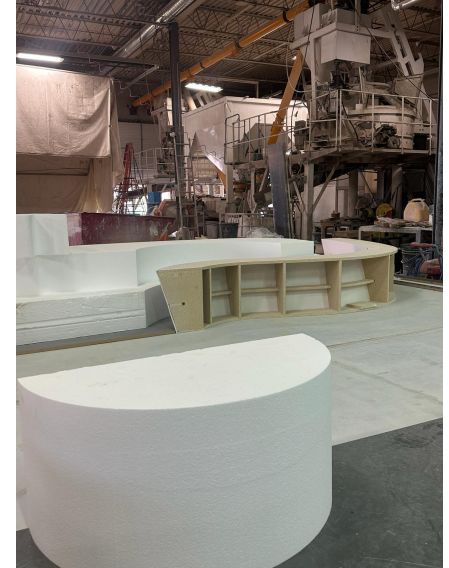


WITH HIGHLY EXPERIENCED  
TOOLING TEAM

*At Petra Design we take pride in our pursuit of cutting edge technology and experienced craftspeople*



*Image: Wooden mold for Mosque Dome*



*Image: Wooden+Foam mold for Bench at Calgary Alberta*

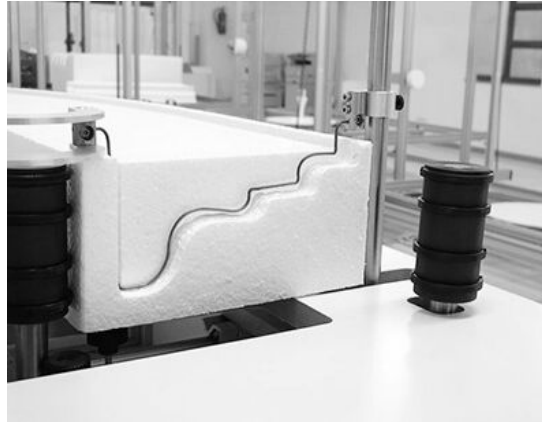
# Stage 02

## Tooling & Mold Making



WITH HIGHLY EXPERIENCED  
TOOLING TEAM

*Molds are fabricated using a variety of materials, either by skilled craftsmen, or on CNC machines*



**Hot wire Cutting**



**5 Axis CNC Machine**

# Stage 03

## CASTING & ATTACHMENT SYSTEM

WITH HIGHLY EXPERIENCED  
TOOLING TEAM



*Image: Ellie Tower Part Production*

- GFRC is cast by SPRAYING. Fluid concrete mixture is sprayed into the forms.
- The process uses a specialized spray gun to apply the fluid concrete mixture and to cut and spray long glass fibers from a continuous spool at the same time

# Stage 04

## Shipment

Effective Communication  
Channel  
Transportation Management



*Image: Ellie Tower Part Production*

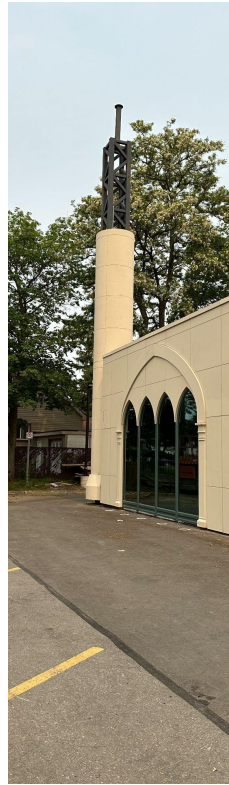
- GFRC is Lightweight which makes it easy to ship and move on lightweight Truck.
- Handling of GFRC requires Lightweight Crane.
- Each GFRC Part should have a unique label or tag that identifies the purpose, and any other relevant information.





## OLD KINGSTON MOSQUE

*Scarborough, ON*



Religious Building

GFRC Cladding + FRP Dome

**Fabricated by:** Petra Design, Toronto





## BROWNS BAY REVITALIZATION

*St. Lawrence Park,  
Kingston*



Recreational

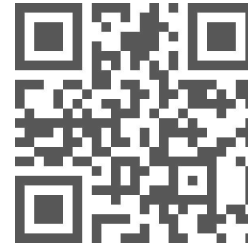
GFRC Cladding

**Fabricated by:** Petra Design, Toronto



# We Simplify Unique Solutions

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