

MATERIALS DEFINITION AND CHARACTERISTICS

GFRC

Glass Fiber Reinforced Concrete is a carefully designed mix of cement, fine aggregate, crushed stone, and polymer additives sprayed, along with alkali resistant glass fibers. GFRC with an acid-wash texture is virtually indistinguishable from architectural precast when it is removed from the mold. The difference is in the weight: precast weighs 45 lbs. per square foot for a 4" thick panel, while GFRC weighs only less than 25%.

Applications

GFRC can be used anywhere you might normally consider using concrete, but at a fraction of the weight:

Domes

Balustrade

Columns and trim

Restorative projects

Statues

Fountains

Planters

Cladding

Underwater applications

Other Architectural

components



Advantages of using GFRC

Highly moisture resistant: will not rot, disintegrate or swell when exposed to water, or even when completely submerged in water.

The light weight allows for reduced erection and transport costs due to ease and speed of handling.

Reduced loadings on buildings leading to substantial reductions in structural and foundation costs, especially for building renovation or restoration.

And Ability to reproduce fine surface details.

High Compressive strength

Fungi Free and moss resistant

UV resistant as per chosen components (e.g. organic pigments)

Low maintenance requirements and Low coefficients of thermal expansion.

Vapor permeability: GFRC allows any minor water intrusions through joints or openings to slowly diffuse outward through the exterior surface, preventing cracks.

High Fire Resistance & Environmentally Friendly.

The lightness of GFRC relative to other cladding materials is a factor well worth taking into account in the initial design calculations. This aspect is brought into even sharper focus when considering site craneage, particularly on multi-story building projects in congested city centers. GFRC panels can cover three to four times the area of precast concrete panels of the same weight, or permit lower capacity cranes the necessary outreach to handle units of economical size.

With rising concerns about the environment and a building's ability to conform to the environment surrounding it, GFRC offers a cost efficient solution. GFRC can be custom molded to match any texture, shape, or design, allowing your structure to better match its environment.

CAST STONE

Cast Stone is a highly refined architectural precast concrete building stone manufactured to simulate natural cut stone. One of the oldest known types of concrete, it is the most aesthetically refined form of concrete known today. Cast Stone is used as a masonry product to provide architectural trim, ornamentation or functional features on buildings and other structures.

Degrees of Customization: Since most other building products are either more "standardized" in nature (e.g. brick or window units) or less visible (e.g. structural steel) the Cast Stone usually becomes the custom element of the building facade which makes other materials fit together. The manufacturer details each piece with an aim toward simplification and standardization, each stone an architectural feat in itself. Cast Stone is available in various degrees of customization.

Patterns for Cast Stone can be made from almost any material. The most common are wood, plaster, fiberglass and rubber. Many advances have been made in rubber which have provided some very durable polyurethane and polysulfide which are suitable for not only casting final products, but for obtaining impressions of existing and historical work as well.

Cast Stone is a highly versatile architectural pre-cast building material which looks like, is usually stronger than, weathers better, has greater color consistency, can be reinforced, and costs less than natural cut stone.



POLYRESIN

Polyresin is a resin compound generally used for statues, figurines, and decorative furniture. It is a sturdy material that can be intricately molded, allowing a great level of detail with consistent texture. Additives can be incorporated into the compound to enhance the material's strength, reduce it's weight, add heat stability, decorative effects, and so on. Polyresin is also compatible with a large range of different finishes and materials, including paint and metallic finishes, which is why many decorative pieces are made from this.



Combining the strengths and flexibility of *cast stone and polyresin*, and with the help of extra additives, we come out with various articles that:

- can withstand extreme temperatures
- can withstand the elements
- fire resistant or low smoke emission if so required

