



ARCHITECTURAL MOLDED COMPOSITES



Petra Systems – 25 years in architectural composites

UHPC

Lafarge Ductal flat panel with customizable surface shape and texture (form liner, sandblasting, aggregates).

Reinforced with PVA or steel fibers

128 MPa compressive strength, **3-5x precast, GFRC or other concretes.**

very low water absorption—superior on freeze-thaw climates.

Excellent substitute for flat panel GFRC and FRC.

100+ Year lifecycle



GFRC

Custom product using standard cement and glass fibers,

3D molded with integrated steel structure.

Texture options include form liners, sandblasting, and aggregates.

Sprayed material process with infinite design flexibility.

Brick Faced GFRC

Everything GFRC +

Innovative brick shapes. 1” brick slips with grooves and mechanical fastening, cast in GFRC for strength.

Uses low water, fast to apply and cure lime-based mortar for accurate aesthetic.

Infinite design flexibility

GRG

Custom product. Interiors only.

Very precise

Industry standard gypsum.
Industry standard glass fibres.

3D mold process, design skills critical.

Texture with form liner, sand blasting, aggregate choice
Hand laid and sprayed material process.

Infinite design flexibility

Common to all

Integrated design and mfg. essential.
High design freedom.

Light, little to no slab reinforcement
100-year durability

Precise design = molds = precise results..



Petra – Proximity and Skills Matter

Distance [hours]

NYC	7
Boston	9
Chicago	7
DC	8
Ottawa	4

Type equation here.

Why **Canada**

- Skilled trades's here?
- Engineering schools
- Logistics to USA
- Canadian dollar
- Social system

From Infrastructure to UHPC Facade



Petra UHPC



Large size – infrastructure cladding material for transport client
Custom stainless attachment designed by Petra
Conveyor line developed by Petra to optimize panel flow, curing and shipping.

Petra GFRC



- 78 panels, 8 molds.
- installed 1 floor every three days.
- rainscreen self supporting façade.

ELISE TOWER
North York, ON

Petra GFRC





Note very light lifting harness

Petra Brick Faced GFRC





Petra Brick Faced GFRC





Approach

Petra Cast promotes a collaborative approach, investing in early development with architects and builders.

Optimize fabrication and construction **processes and costs** while enhancing the design intent.

We believe that precision is free, even less expensive than trying to make up design tolerance compromises later in the process

Services

- **Budgeting**
- Initial structural and fabrication design
- **Comprehensive** preconstruction proposal.
- Design **collaboration** and value engineering.
- Post award **engineering** and design including façade support system.
- Manufacturing
- Delivery
- **Construction collaboration**

Proximity Pays Off



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