



GFRC

Play-Doh for Architects



You strive for design freedom.

- *Design freedom only works if it's constructable, cost effective, sustainable, repeatable and durable. And with the right partners.*



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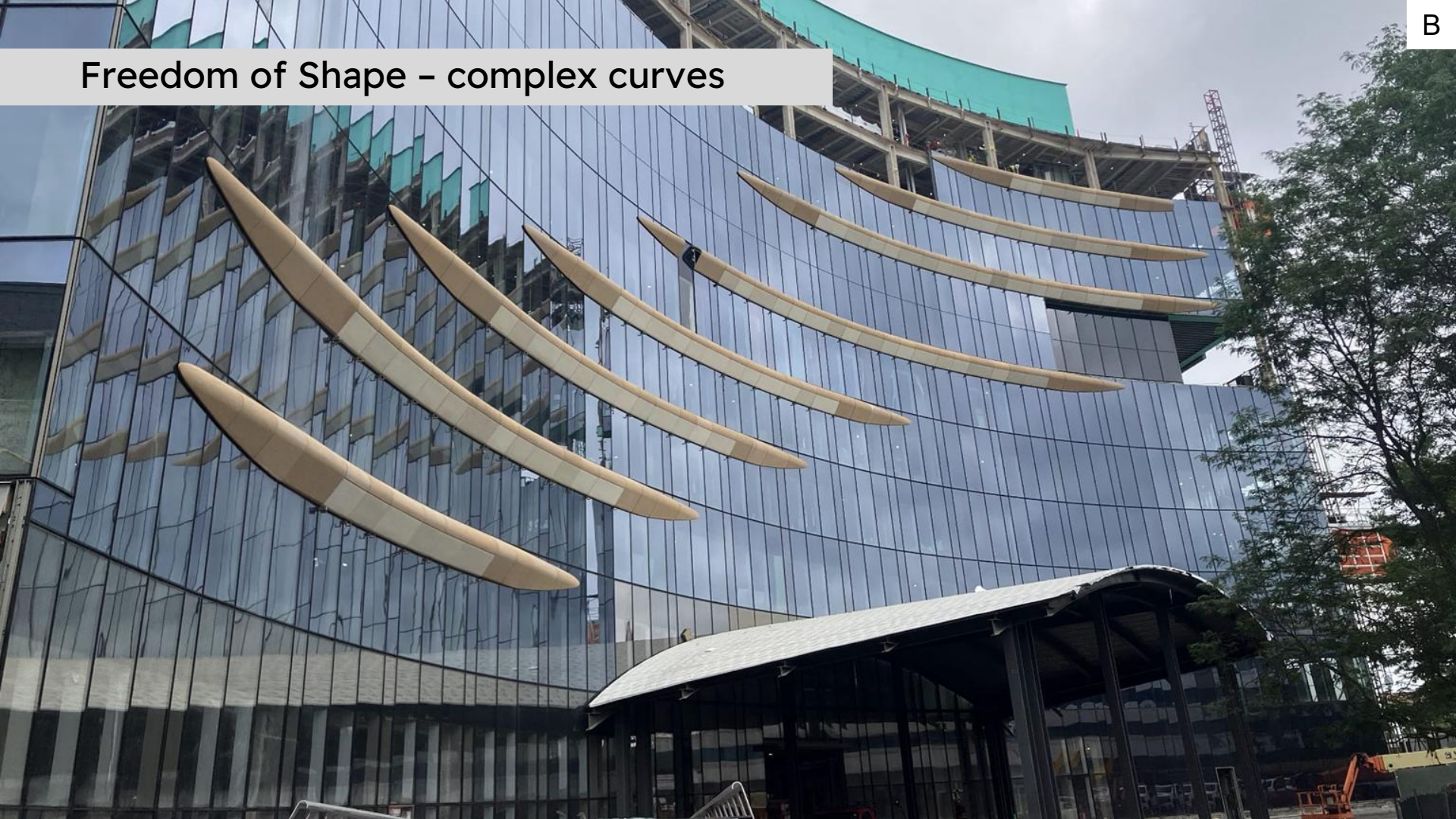


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The Art – The Mystery



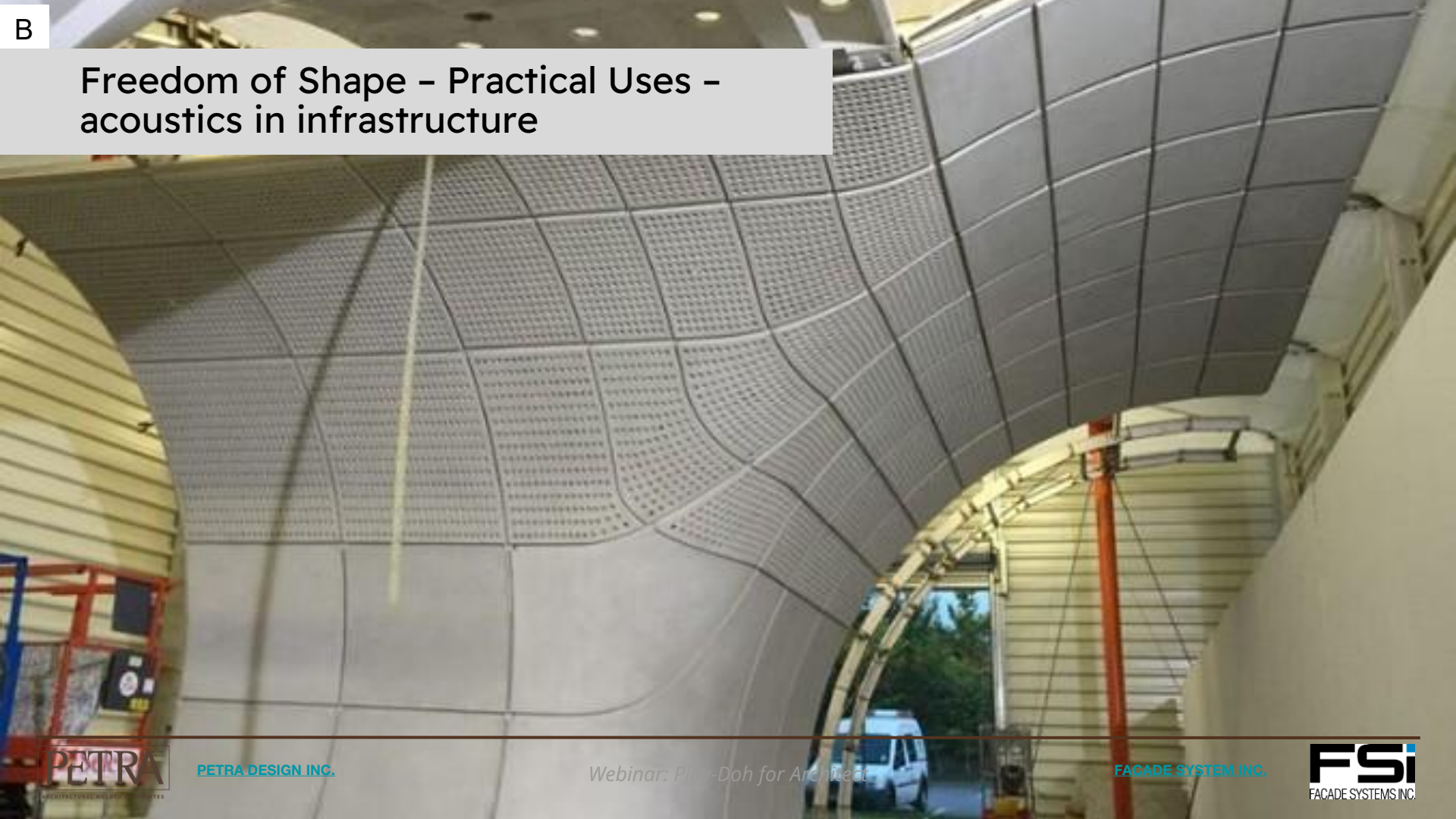
Freedom of Shape – complex curves



Freedom of Shape – origami



Freedom of Shape – Practical Uses – acoustics in infrastructure



Freedom of Shape - anything





Pulling back the drapes

- Demystify GFRC





GFRC FUN FACTS



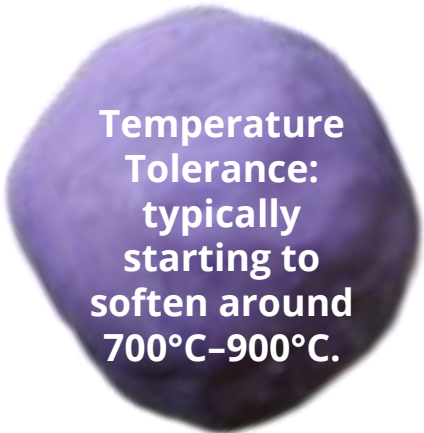
Flexural
Strength
(Bending):
2,000–3,500
psi,

● **Fact:** 2x to 4x higher than
conventional unreinforced
concrete.



Tensile
Strength
(Pulling
Apart):
1,500–3,500
psi

● **Fact:** 1-inch thick panels can
support roughly 100–150
pounds per square foot



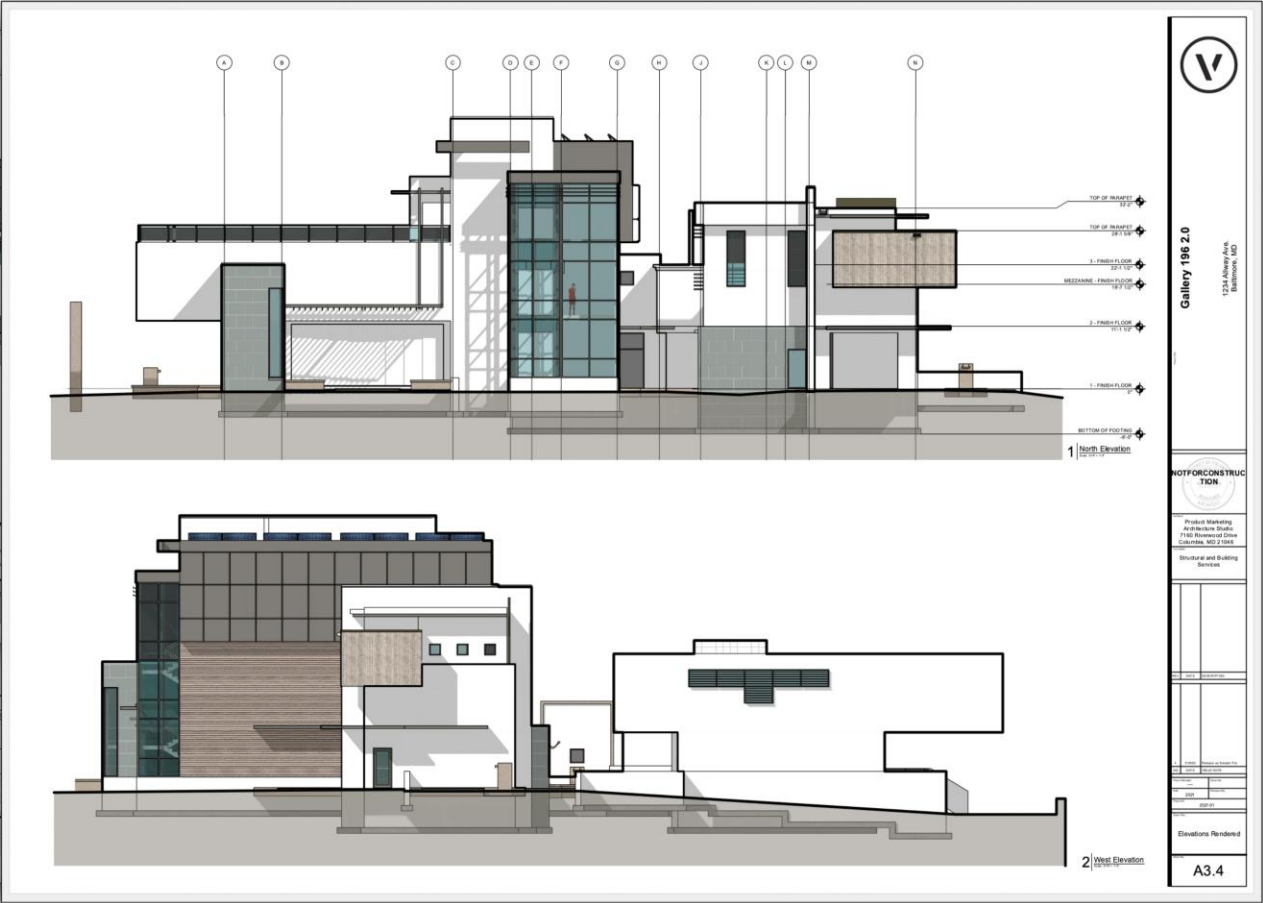
Temperature
Tolerance:
typically
starting to
soften around
700°C–900°C.

● **Fact:** It has a 0 rating for fuel
contribution, surface burning,
and smoke development.

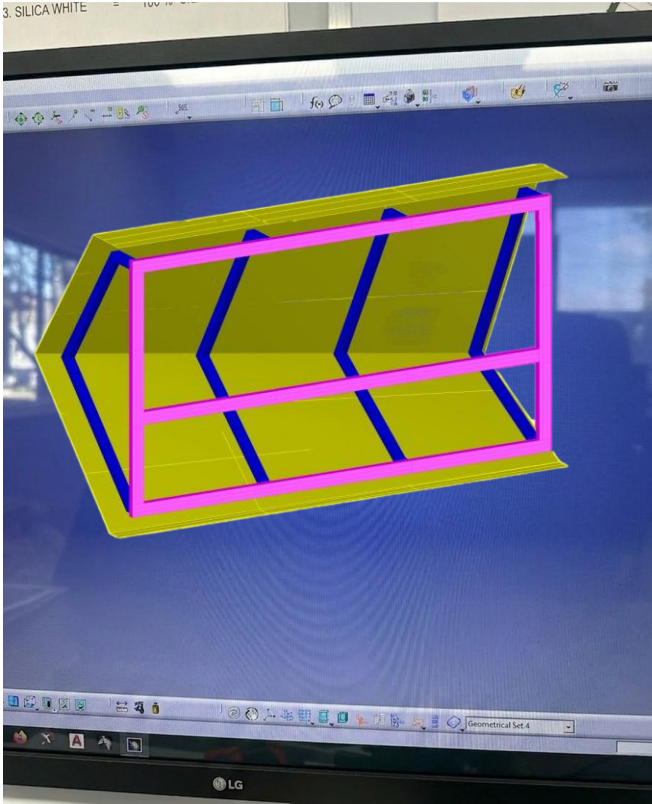
Cost Drivers

-  Number and complexity of molds
-  Post manufacturing requirements
-  Attachment methodology – custom or standard.

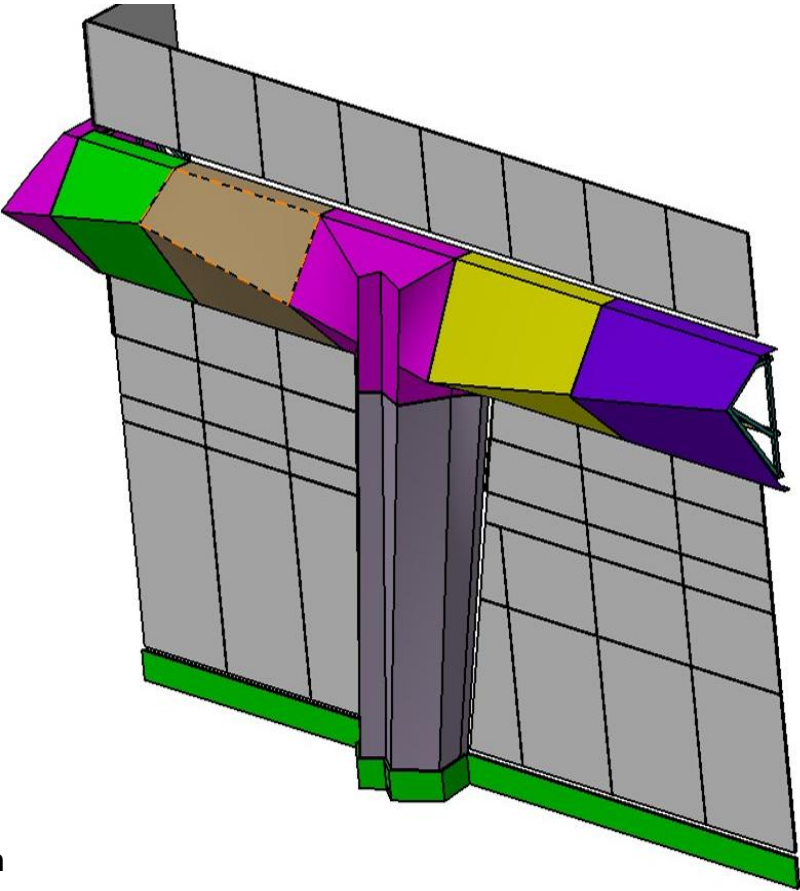
B



DESIGN & COLLABORATION



*Rhino
Catia
Revit*
Model integration



M SPRAYING MOLDS

Molds drive cost



SCULPTED INVERTED MOLDS

M



GFRC SPRAY METHOD

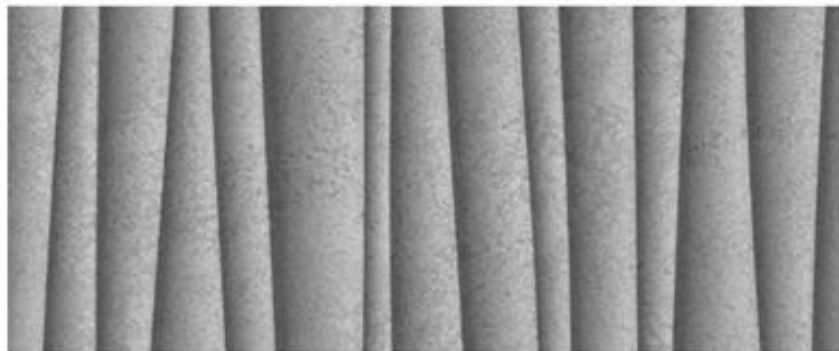


REPEATABILITY

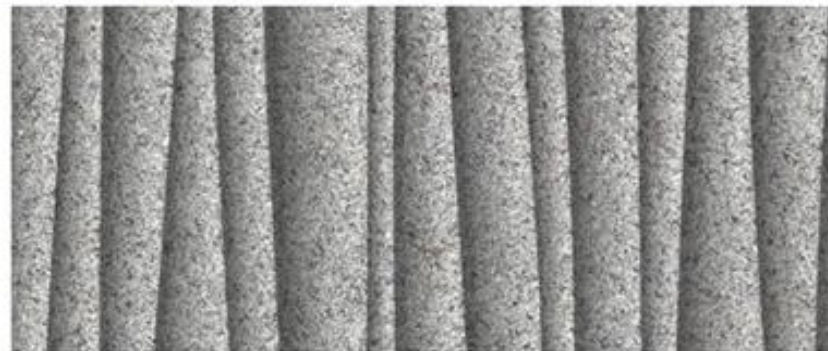
M



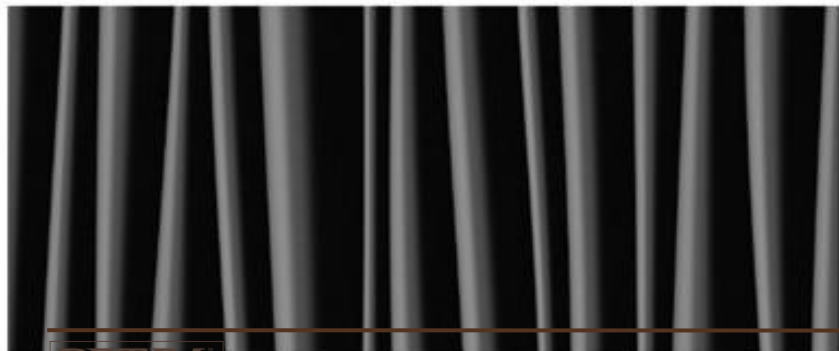
Texture to the shape - formliners



CAST FINISH STANDARD



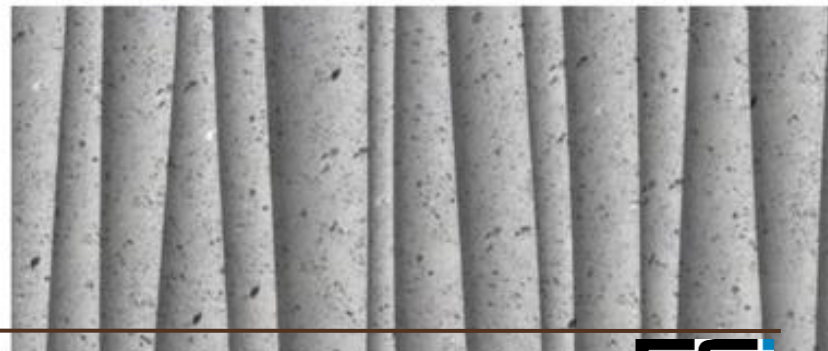
LIGHT SANDBLAST FINISH STANDARD



PETRA
POLISHED COLORED PREMIUM
ARCHITECTURAL MOLDED COMPOSITES

PETRA DESIGN INC.

Webinar: Play-Doh for Architects



AGGREGATE FINISH PREMIUM

FACADE SYSTEM INC.

FSI
FACADE SYSTEMS INC.

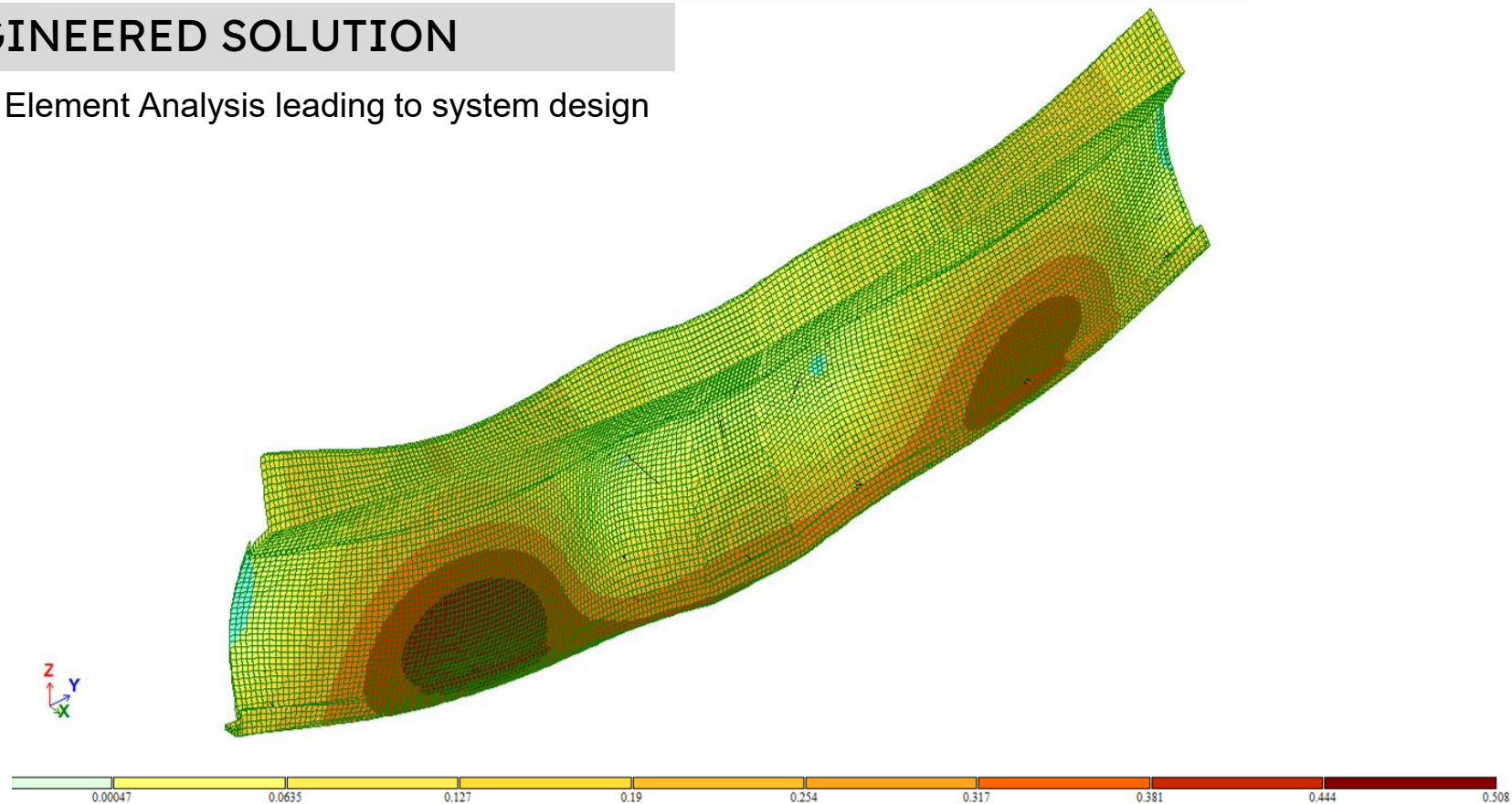


POST MOLDING CHOICES – SAND BLASTING

B

ENGINEERED SOLUTION

Finite Element Analysis leading to system design



B

CUSTOM GFRC BUILT-IN FRAME



WIRE FRAME MOLDED IN PANEL - ONE EXAMPLE





INTEGRATED LIGHTWEIGHT ASSEMBLY

B



**INTEGRATED LIGHTWEIGHT ASSEMBLY -
SIZED TO REQUIREMENTS**

DID I SAY LIGHT

PACKAGING AND SHIPMENT ANYWHERE

B



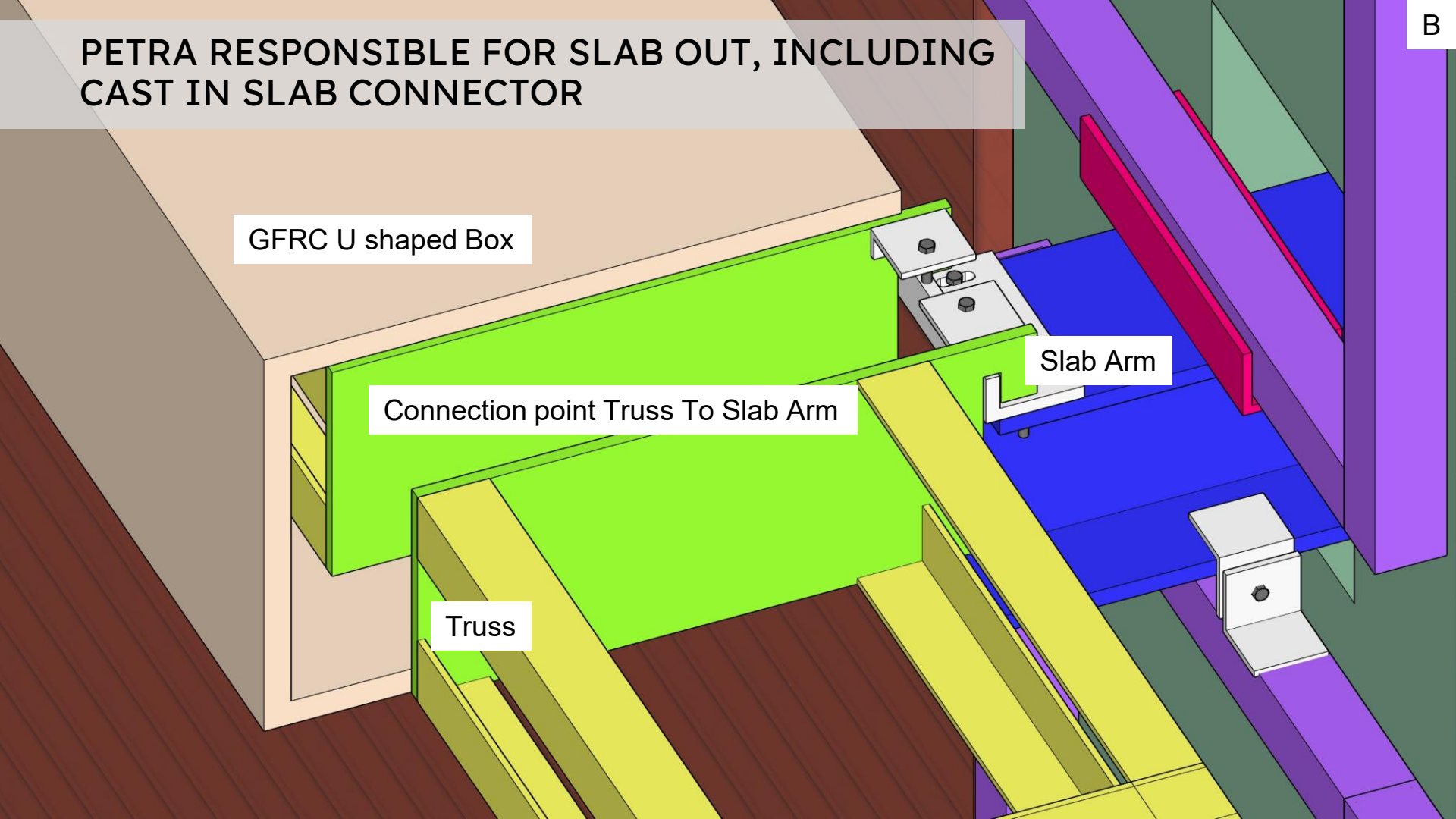
PETRA RESPONSIBLE FOR SLAB OUT, INCLUDING CAST IN SLAB CONNECTOR

GFRC U shaped Box

Connection point Truss To Slab Arm

Slab Arm

Truss

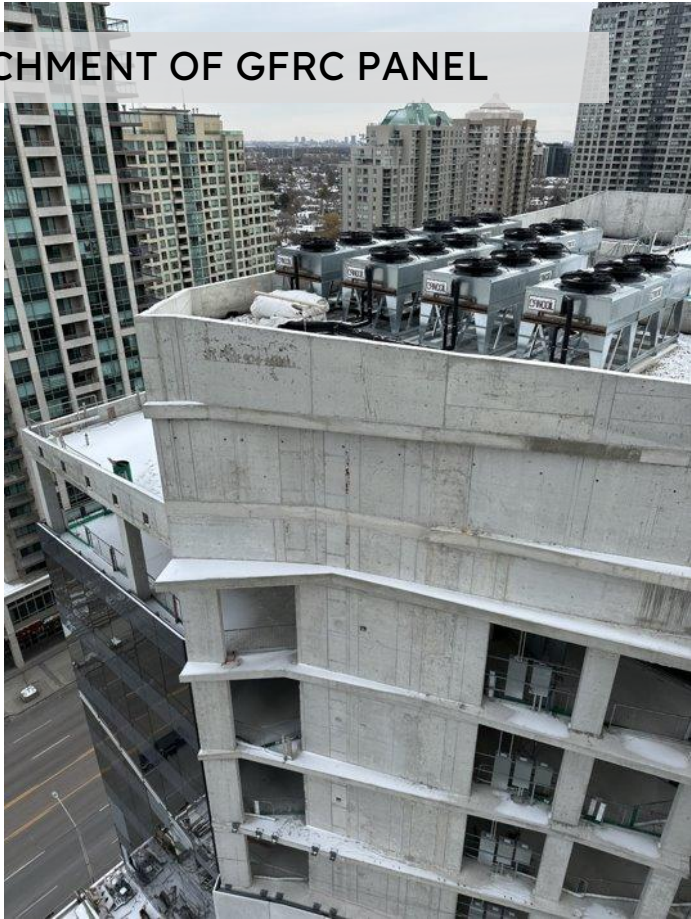




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CONSTRUCTABILITY

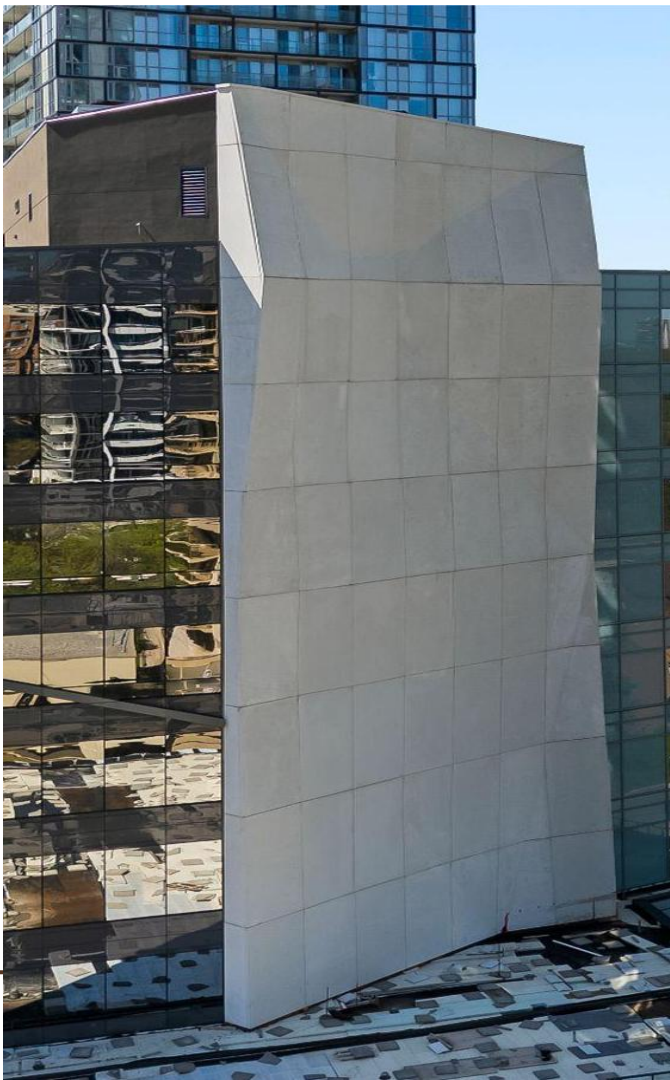
SLAB EDGE ATTACHMENT OF GFRC PANEL



Precision Fit &
System
coordination



Attachment detail before building
insulation



Project Architect:
*Kirkor Architects and
Planners*

Repetition = constructability and cost
management
(78 panels from 8 molds)

SMART PANELIZATION

CONCAVE GFRC POSSIBILITIES INTEGRATED WITH CURTAIN WALL





M

Cladding attachments

Standard and Modified Standards



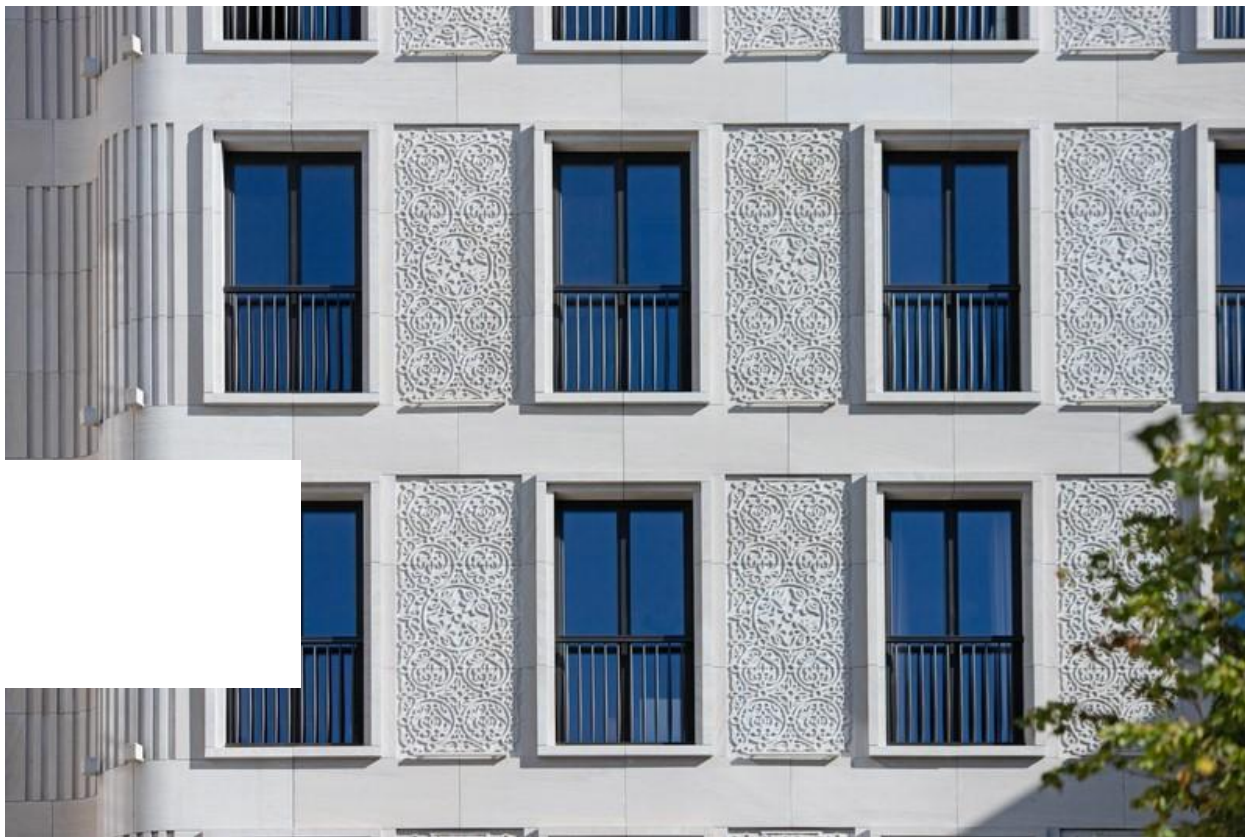


BACK VENTILATED FACADE
SYSTEMS

u-kon.com

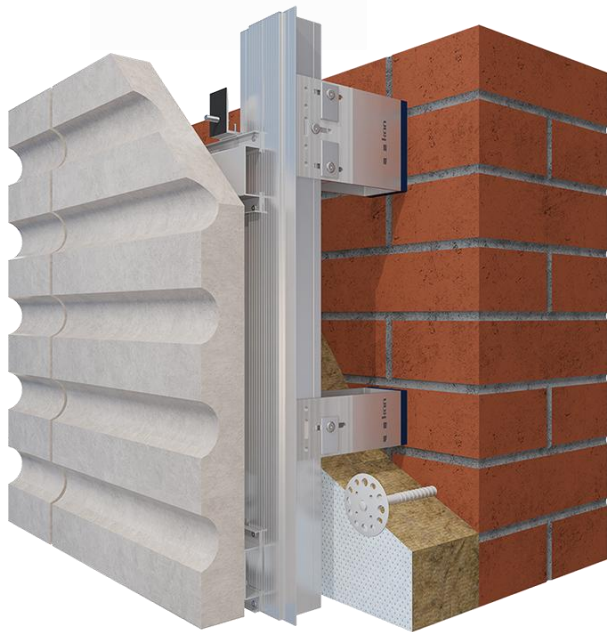
UHPC + GFRC

2026

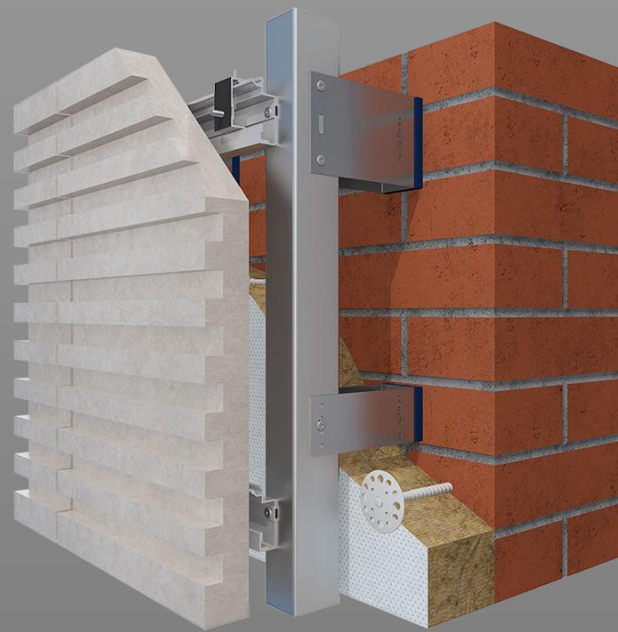


B

SYSTEM ATS-228

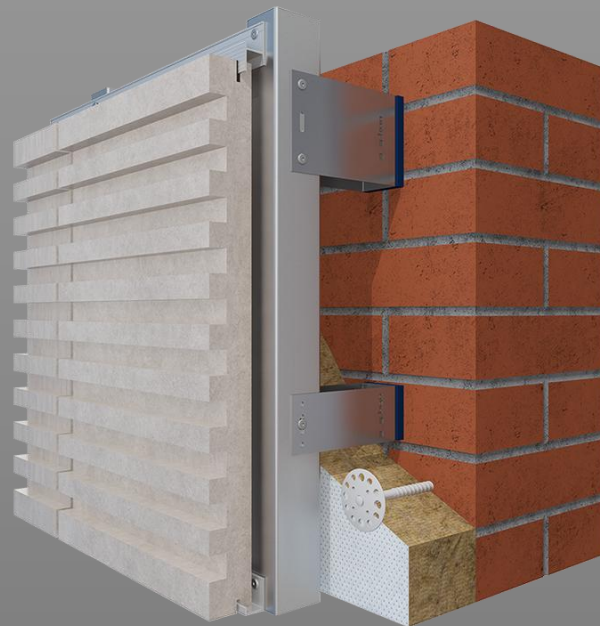
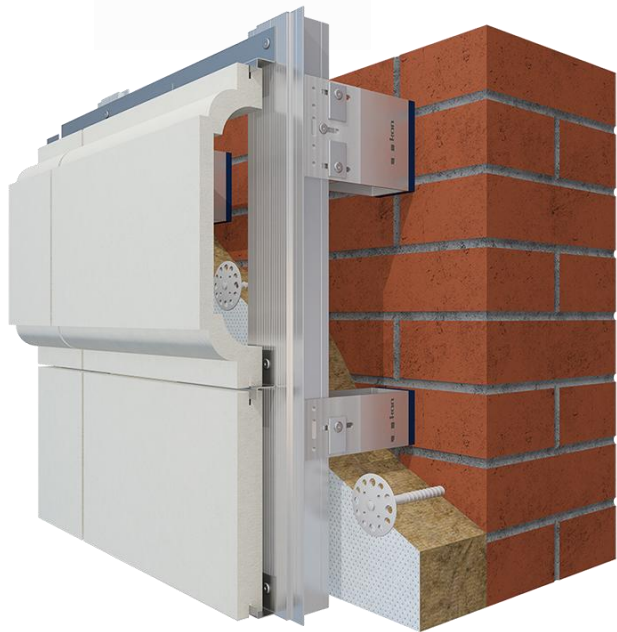


U-kon[®]
SYSTEMS



B

ATS-316



U-kon
SYSTEMS



B

INTEGRATING THE STANDARD INTO THE SPECIAL



Застройщик: Ингеоцентр
System U-kon: ATS-600
Cladding: GFRC, Stone

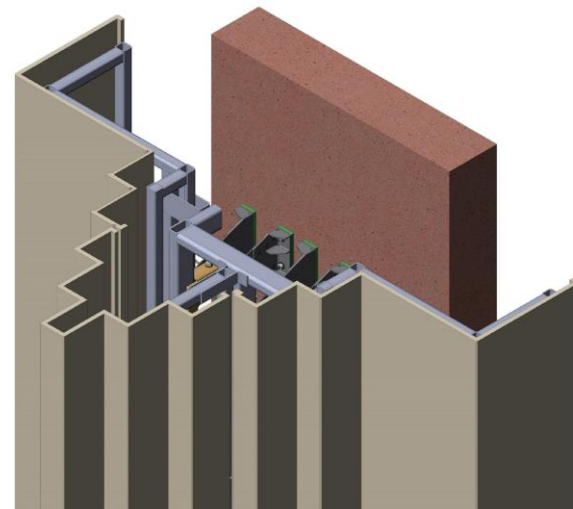
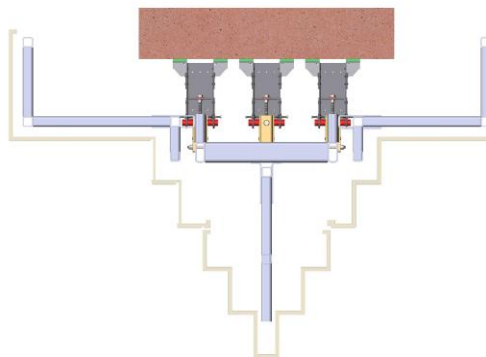
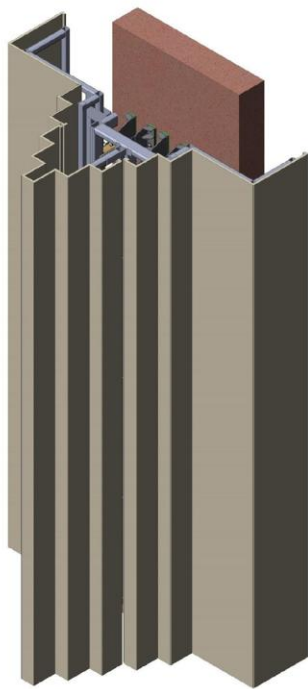


PETRA DESIGN INC.

Webinar: Play-Doh for Architects

FACADE SYSTEM INC.





ATS-600

Size 1500 x 4300 mm

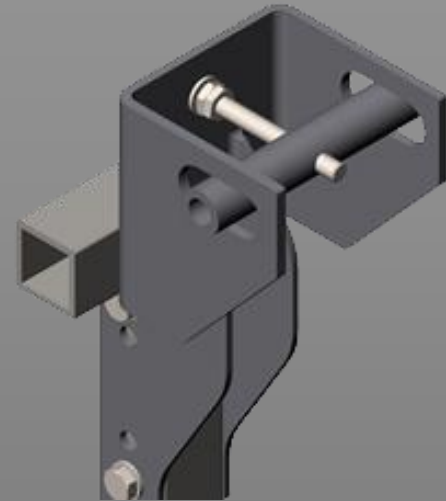
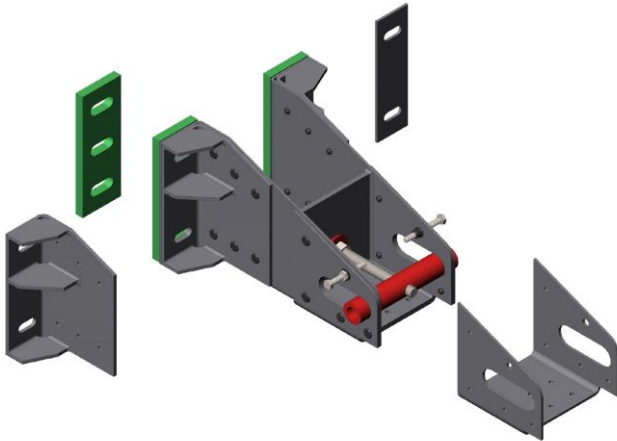
Weight 1900 kg

Webinar: Play-Doh for Architect

B



SYSTEM ATS-600



PROJECT U-KON



System U-kon: ATS-316

Cladding: GFRC

PROJECT U-KON



System U-kon: LT-316

Cladding: GFRC

PROJECT U-KON



System U-kon: LT-316

Cladding: GFRC

DESIGNS IN PROGRESS – CAN'T SHOW YOU

Frame of beams and columns forming lattice proud of building.

Build out of slab edges in luxury apartment building.

Simple column covers, brows, and large ledges.

Hospital shapes between curtain wall – may be installed on curtain wall.

V – shaped vertical, slab to slab protrusions.



YOU STRIVE FOR DESIGN FREEDOM

- ART IS ACCOMPLISHED WITH ENGINEERING, FABRICATION AND CONSTRUCTION IN COLLABORATION.

More Stories



CANOPY STRUCTURE



End-to-End Ownership



BEFORE

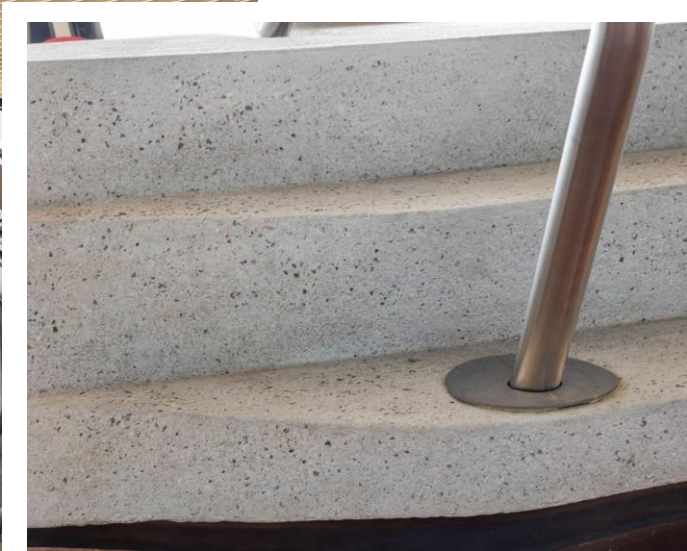


AFTER



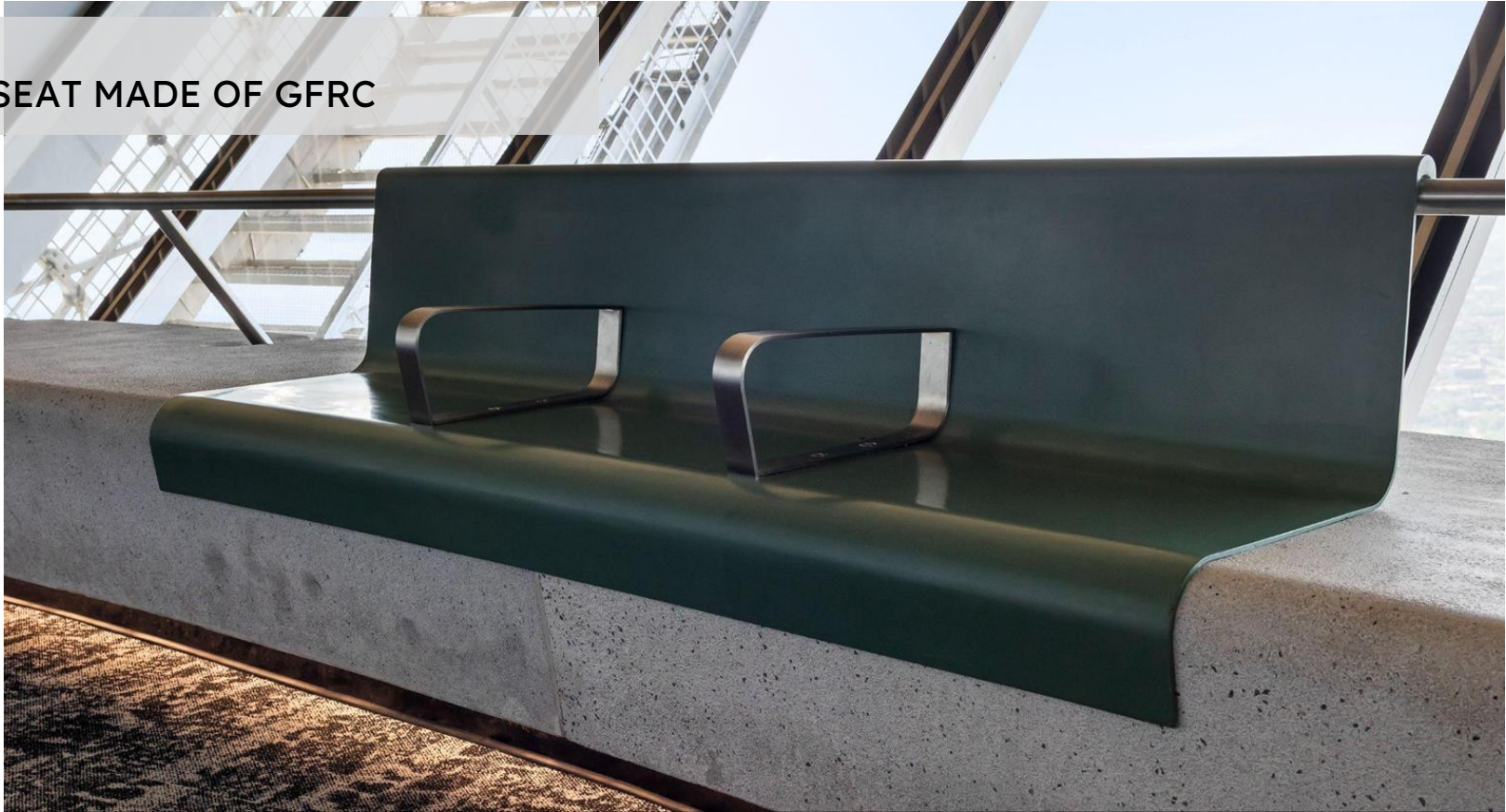
GFRC AT CANADA'S TALLEST BUILDING

Project with:
Astound Group



EXPOSE AGGREGATE

YES!
ITS A SEAT MADE OF GFRC



CASE: The Elizabeth line, London



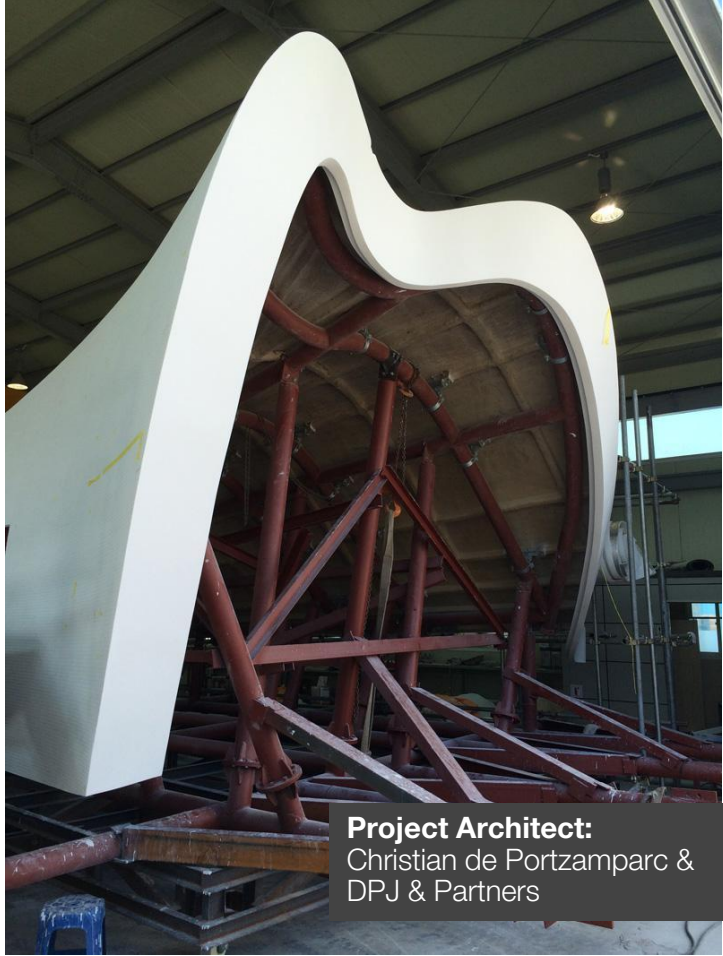
Project Architect:
Grimshaw

The Elizabeth line, London



Project Architect:
Grimshaw

CASE: Dior flagship store, south korea



Project Architect:
Christian de Portzamparc &
DPJ & Partners

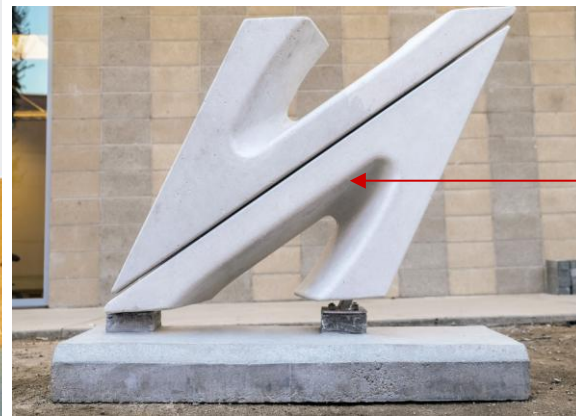
CASE: The Broad Museum, California



Project Architect:
Diller Scofidio + Renfro
(DS+R)



Metal Stud Framing



GFRP Design
cladded to back
support frame



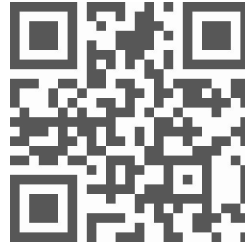






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