



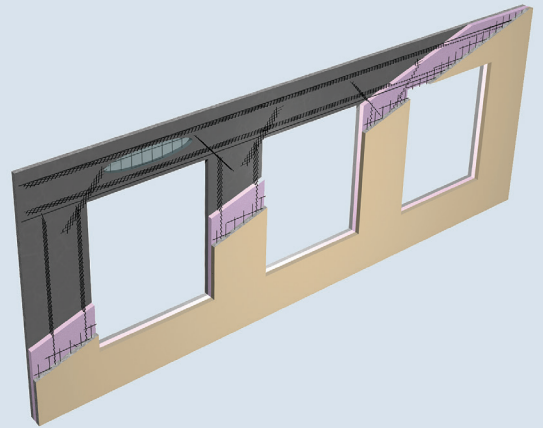
ENTERPRISE
PRECAST CONCRETE

E50-IAC

Insulated
Architectural
Cladding



- + THINNER
- + LIGHTWEIGHT
- + INSULATING



E50-IAC is an aesthetically versatile enclosure system. Its lighter weight enables a reduced superstructure and foundation design compared to traditional precast concrete. E50-IAC also provides many additional benefits:

- Fire resistant
- Continuous insulation (c.i.) to meet ASHRAE 90.1 requirements
- Code compliant – ICC-ES with EPS or XPS insulation
- Lower carbon footprint – 50% less concrete than a conventional insulated composite panel
- Weighs less than a traditional full brick skin system

E50-IAC — INSULATED ARCHITECTURAL CLADDING



THINNER, LIGHTER AND FULLY INSULATED FOR ENERGY COST SAVINGS

E50-IAC – The “E” stands for Enterprise Precast Concrete. The “50” represents its weight of approximately 50 pounds per square foot. The “IAC” stands for thin (Insulated Architectural Cladding) panels. Through research and development we’ve created a more efficient façade panel. This is a full barrier façade system.

The E50-IAC features inner and outer wythes of concrete connected by C-GRID carbon fiber grid trusses. The concrete wythes sandwich a layer of insulation of 2", 3", or 4" (51mm, 76mm, or 102mm), depending on R-value demands.

The thicker the insulation layer, the higher the R-value. Utilizing composite prestressed panels with Carbon Fiber Shear grid technology, allows for reduction in the amount of concrete required in each face

The benefits include:

- Reduced Load / Superstructure – Lighter panels mean the building’s superstructure and foundation can be engineered for less dead load, resulting in cost savings and a lower carbon footprint.
- Lower Transportation Costs – Precasters can ship more panels on each truck, lowering fuel consumption.
- Smaller Cranes – Crane size and expense may be reduced with lower-weight panels. This is an important option when limited weight capacity tower cranes are being utilized.
- Seismic Performance – Lighter panels are generally more desirable in high seismic areas.

HIGHLY INSULATED FOR LOWER ENERGY COSTS

E50-IAC features edge-to-edge continuous insulation (c.i.) typically EPS, XPS, or NGX. The thermally efficient panel provides steady-state R-values starting at R-8 (with 2" of EPS) or R-10 (with 2" of XPS) and going higher from there as insulation thickness increases. The additional properties of the C-Grid wythe connectors virtually eliminates thermal transfer.

This is ideal when a cladding system is needed that does not require load bearing capabilities. Panels can span up to 15' floor to floor without intermediate bracing and can be as large as 15'x30'.

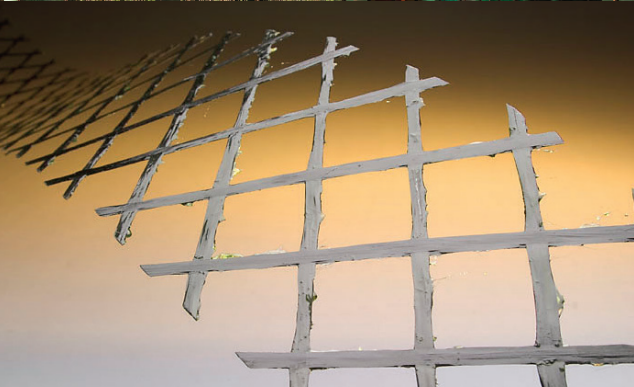
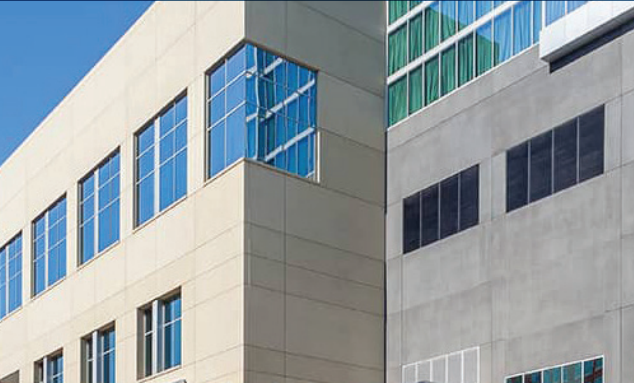
MINIMIZE FIELD WORK

Modular fabrication greatly reduces the need for costly and inconsistent field labor. Installers can simply lift and attach the panels to the building substructure. Because continuous insulation is integrated in the panel, you can eliminate the need to install insulation, metal studs, drywall, and paint when finishing the interior side of the panel.

C-GRID® is a trademark of Chomarat North America LLC. CarbonCast is a trademark of AltusGroup. CarbonCast® precast products are protected under the following US patents: 6,898,908 B2; 7,100,336 B2; 8,677,720, patents pending.



Insulated Architectural Cladding panel undergoing load testing at North Carolina State University.



RESEARCH VALIDATES PERFORMANCE

IAC panels were tested at North Carolina State University in a pressure chamber that allowed for the application of uniform positive and negative pressure. The full-scale panel measured 10' x 30' x 6.5" (3.05m x 9.1m x 165mm) and included three punched window coverings.

The panel was initially loaded to over 75% of its 60psf (2.87kPa) design capacity in the positive and negative direction before being subjected to nearly 5000 lateral load cycles at (and above) +/- 30 psf (1.44kPa). After the lateral load cycles, the panel was loaded to the maximum chamber capacity of +80/-67 psf (+3.83/-3.21 kPa).

The panel did not fail, nor did it exhibit signs of distress during flexure and cyclic loading. No connection damage or distress was observed at any point during or after testing. Proper panel handling, storage, and dunnage during transportation by the precaster coupled with proper strand and reinforcement placement during manufacture can minimize any torsion or hairline cracking, which can be a concern when dealing with thinner precast panels.

This study is on top of more than 15 years and \$2 million of research on High Performance Insulated wall panels, on which the E50-IAC design is closely based. The similarity in sandwich design means the Insulated Architectural Cladding panels are engineered to exhibit exceptional strength and durability benefits.

REMARKABLE AESTHETICS

E50-IAC offers a multitude of finish options to meet a project's aesthetic demands.

- Select from an assortment of pigments, aggregate colors and sizes, surface treatments to create your custom color.
- Finishes available such as Abrasive Blast, Acid Etch, or retarder finish options available.
- Embedded items such as Thin brick, tile, or formliners are available.
- Graphic Concrete technology is available for imparting any image, pattern, or design can be applied to the exterior face.
- Interior finishes available include Smooth Trowel, broom, or sand blast.

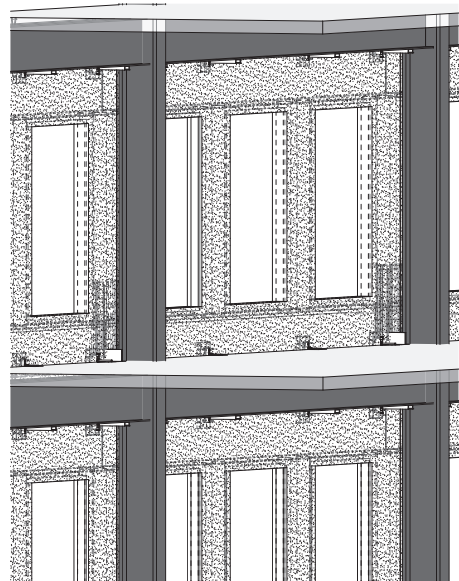
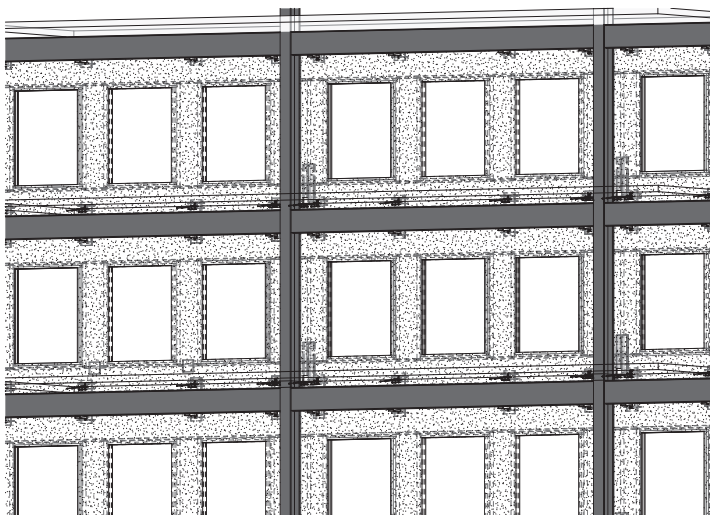
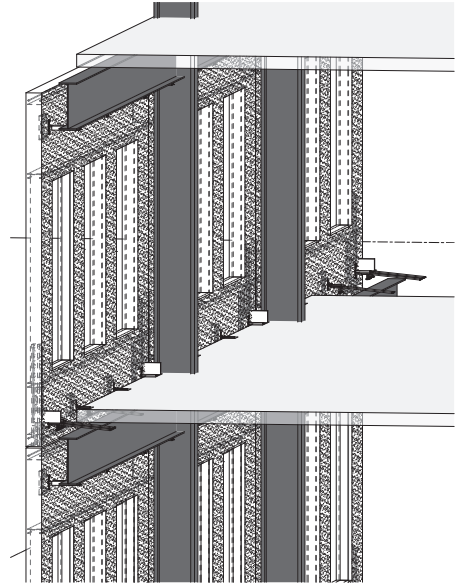
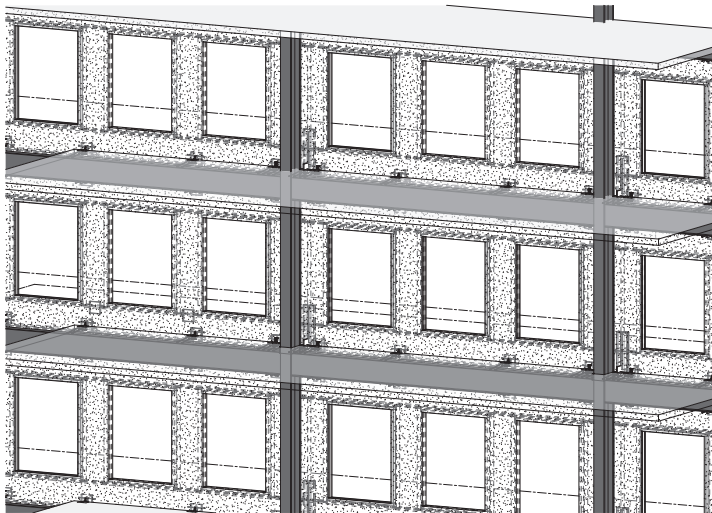
COMMERCIAL AND INSTITUTIONAL APPLICATIONS

- Mid- and High-rise Office Buildings
- Multi-unit Residential
- Mixed-use Commercial/Residential
- Healthcare and Medical Facilities
- Education
- Hotels
- Student Housing



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E50-IAC AXON DRAWINGS



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