

Precast Profile

Magic Theatres reduces energy bills with innovative precast insulated wall panels

Magic Theatres can keep its patrons comfortable for less thanks to fully composite, carbon fiber reinforced, insulated wall panels.

The exterior walls of the 69,000-square-foot Magic Theatres use CarbonCast, an innovative precast concrete technology that replaces conventional shear reinforcement with a non-corrosive, high-strength carbon fiber grid. The 46-foot panels have a three-inch outer wythe and inner wythe enclosing six inches of foam insulation to deliver a healthy R-16.

The high R value—provided at the same cost as conventional precast with R-12 or lower—significantly reduces Magic Theatres' heating and cooling costs, creating affordable comfort for moviegoers.

The panels feature 1/2-inch horizontal reveal and parapet with alternating beige and taupe finishes for stunning visual appeal.

In Magic Theatres' insulated wall panels, carbon fiber grid was used for shear transfer, connecting the inner and outer wythes to yield a 100 percent structurally composite panel. And because carbon fiber is virtually non-conductive, the panels provide an even insulation profile; they do not have problems with hot spots or cold spots that can plague other wythe connection options. The added insulation value can lead to performance up to R-24. They can be considered as an alternative to conventional precast, tilt-up or masonry construction. In addition, CarbonCast technology can also be used in architectural panels, double tees and a variety of multi-family residential uses.

The CarbonCast panels were fabricated and installed by AltusGroup founding member Oldcastle Precast, Building Systems Division.



Quick Facts

Project: Magic Theatres

Location: Landover, Md.

Footprint: 69,000 sq. ft.

Type of CarbonCast:
Insulated Wall Panels

CarbonCast surface area:
52,000 sq. ft.

Architectural Firm:
Fishbeck, Thompson, Carr and Huber, Grand Rapids, Mich.

Lead GC/CM Firm:
Chesapeake Contracting Group, Resterstown, Md.

Precast Company:
Oldcastle Precast, Building Systems Division, Edgewood, Md.

About Altus Group
The first-ever national partnership of precast companies, AltusGroup was founded to develop, manufacture and market precast innovations such as the breakthrough CarbonCast™ line of products. With more than 20 structural and architectural locations in the United States, AltusGroup companies have an unparalleled national network of manufacturing plants, technical staff and sales personnel to ensure architects, engineers and contractors that they will get the help they need—and the quality and performance they expect—when they select C-GRID reinforced CarbonCast products.

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