



INNOVATIONS IN PRECAST CONCRETE TECHNOLOGY

Precast Profile

Greenville Schools go to head of the class with high performance precast wall system

Greenville County's (SC) massive school program, valued at \$910 million, includes some 70+ schools that are being built, renovated, or expanded in a period of 5 years. It will provide new or renovated facilities with a capacity of 71,096 students and will lower the average age of the Greenville County schools in the program from 38 years to 9 years.

With a program this dynamic, it was clear that conventional thinking would not get the job done. Of the new schools, 10 have used precast concrete walls reinforced with C-GRID™ carbon fiber mesh, produced by TechFab, LLC, in nearby Anderson, S.C.

For many of the school's insulated wall panels, carbon fiber grid was used for shear transfer, connecting the inner and outer wythes to yield a 100% 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, creating a more comfortable and energy efficient school.

Improved thermal efficiency and reduced energy expenditures, combined with a 100% structurally composite panel, are just a few benefits the school district received by using C-GRID reinforced precast.

Combine these with precast's speed of installation, improved fire and safety performance, reduction of moisture penetration (reducing mold potential) and increased security, it is easy to see why the designers chose C- GRID reinforced precast for many of the Greenville Schools.

The vertically installed Wall Panels were used for load bearing and non-load bearing applications, with heights up to 45' and widths up to 13'. The panels typically have 2-1/2" inner and outer wythes which encase foam insulation for R-11 performance.

The panels further provided a beautiful facade with the use of integrally cast thin-set brick, sandblasted finishes, reveals, medallions, and colored concrete mixes.

CarbonCast panels 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. More than 30 projects nationwide totaling over 5 million square feet have used CarbonCast.

The CarbonCast panels were fabricated and installed by AltusGroup founding member Metromont Corporation.

Quick Facts

Project: Greenville County Schools

Location: Greenville, S.C.

Type of CarbonCast: Insulated Wall Panels

CarbonCast surface area: 1,082,000 sq. ft.

Program Manager: Institutional Resources

Architectural Firms: Arcadis/Facility Group; McMillan Smith and Partners; Durrant; Craig Gauden Davis, AIA; Michael Keesheem and Associates; Neal Prince and Partners, AIA; LS3P

Lead GC/CM Firms: Turner Construction Company; Suitt Construction Company; Melloul-Blamey, Ltd.; Brantley Construction Company; BCE, Inc.; Oscar J. Boldt Company

Precast Company: Metromont Corporation, Greenville, S.C.

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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