



Design Freedom with Architectural Stone Panels Combine Products for Optimum Cost, Simpler Construction Process



AAS Products: Cast Stone, Architectural Precast, GFRC

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Technology for designing and manufacturing architectural stone products presents unparalleled opportunity to develop high-end design with precision and accuracy.

Advanced Architectural Stone (AAS – formerly Advanced Cast Stone) has successfully combined different product materials to optimize cost while maintaining a seamless look and feel. **Glass Fiber Reinforced Concrete (GFRC)** in particular, opens up opportunities to simplify construction with its much lighter weight, yet very competitive strength to weight ratio.

## Project Image: SMU Commons Hall project

Cast stone and GFRC (Glass Fiber Reinforced Concrete) panels seamlessly combine for intended design impact. GFRC at a higher elevation simplified structural support requirements. It also helped with construction site planning.









## Project Image: SMU Commons Hall project

NºN III





The Caruth Hall building is home to the Caruth Institute of Engineering Education at SMU (Southern Methodist University). The architect for the building, Hahnfeld Hoffer Stanford Architects, wanted the new building to be an integral part of the campus. The vision was for the new building to blend seamlessly with design accents of other buildings that are 75-80 years old. The AAS team got control stone samples from the existing buildings and developed a precise mix so that the manufactured stone panels matched the color and finish of the older buildings on campus. AAS team combined manufactured stone panels of three different types - dry vibrant-tamp cast stone, wet architectural precast and GFRC (Glass Fiber Reinforced Concrete) with seamless design across all three materials. The load bearing columns and stairs of the outdoor amphitheater are made using architectural precast concrete product material. The cladding elements used throughout the elevations of the building and stone veneer is constructed using architectural cast stone. The ornate design elements at higher elevation are designed using thin GFRC panels.



Project Name: Southern Methodist University (SMU) – Caruth Hall Location: Dallas, Texas Architect: Hahnfeld Hoffer Stanford Architects General Contractor: Austin Commercial Masonry Contractor: Dee Brown Masonry Product Materials Used: Architectural Cast Stone, Wet-precast Concrete, Architectural GFRC



## DETAILED PROJECT CASE STUDY >>

**Project Name:** Higher Education Complex **Architect:** PBK Architects

Masonry Contractor: Tim Hughes, Dee Brown Products Used: Architectural Cast Stone with Custom Batch Mix for Unique Design Color Requirement, GFRC

## Cast Stone Panels, Thin GFRC Panels with Glass, Steel Structure

The exterior cladding use of cast stone panels integrated with the glass and steel structure created the feeling of a monolithic and contemporary entry.

Custom manufactured cast stone and GFRC panels covered the walls of the interior grand foyer of the building. GFRC panels at the higher elevation of the foyer simplified structural requirements. To achieve the contemporary, bright white color, the AAS team used titanium dioxide pigment in the batch mix for the concrete panels.





Project Name: Cook Children's Hospital Location: Fort Worth, Texas Architect: David M Schwarz Architectural Service and FKP Architects General Contractor: Linbeck Masonry Contractor: Dee Brown Masonry

**Products Used:** Architectural Cast Stone, Architectural GFRC, Architectural Wetprecast Concrete

Cook Children's Hospital had expansion of a new 250,000 sq. ft. facility.

The architect for the building wanted to maintain the design accent of the other buildings in the hospital complex that used natural limestone cladding. However, the estimate for cladding new building with limestone pushed the cost significantly over the available budget.

The AAS team took the control sample of limestone and created manufactured stone panels for review and approval. Once approved, the project team created two custom mixes: for both vibrant-tamp dry cast stone as well as wet-precast concrete panels for load bearing cladding elements. With computerized control of the batch mix and rigorous testing, AAS delivered consistent stone panels for the more than year-long lifecycle of the project.

The lower cost of the cast stone product material made it possible to complete the project within budget.











Project Name: Stoneleigh Residential Tower Architect: Jeff Smith/Gromatzky Dupree & Associates Products Used: Cast Stone, GFRC

AAS stone panels are used on this project in various applications, as an exterior veneer rain-screen, at the entry and base of the facade, as the surround stone on all balconies, as a banding at the penthouse tower area, and extensively at the garden and pool areas. This project is an excellent example of using matching masonry materials, GFRC and cast stone.

When the structural shell of this building was completed in 2008, AAS provided cast stone for the first two floors of the parking garages. However, the building went into receivership soon after construction started, and was then purchased by a new owner in 2012. After a four years hiatus, a different general contractor was hired to complete the project along with a number of new suppliers. The architects for the project continued to emphasize the importance of the original design vision particularly of the stone panels on the balconies and on every floor of the tower. The AAS team recommended using GFRC panels for this to take advantage of the lighter weight and ease of installation. The carefully controlled batch mix matched the color and finish of the cast stone used on the first two floors.

The challenge for AAS team was to understand the idiosyncrasies of the installer, and to modify the stone panels accordingly. While the balcony areas on different floors appear the same visually, there was a large variation in the dimensions. The support cut-out further complicated the balconies because there were different railing suppliers with varying cut-out positons. AAS engineering team created a series of unique notch and block-outs in the panel molds in order to create custom panels for almost every balcony. The built-in, pre-engineered GFRC connections simplified the installation for the contractor significantly and allowed the project to be highly successful.



























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