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Insulated Steel Walls Give Rocket Center a Design Lift

It's not the norm when a museum is literally built around the prime exhibit that it houses. But then a Saturn V rocket isn't your typical museum artifact.

So it's understandable that the architects for the new \$22 million Davidson Center for Space Exploration in Huntsville, Ala., breathed a sigh of relief when they learned that the centerpiece of the new museum would fit snugly in its new home. The 77,000-square-foot center opened earlier this year, 50 years to the day after the launch of America's first satellite, Explorer I.

Owned by the Smithsonian Museum, the 363-foot-long rocket was previously displayed near the entrance of the U.S. Space & Rocket Center, where it was subjected to Alabama's often harsh climate. So the center decided to

provide a permanent, climate-controlled home for the tireless workhorse of the U.S. space program. The rocket on display is the original Saturn V, the first to be transported to the Cape Kennedy launch pad. It was returned to its home in Huntsville in 1969.

The Saturn V display area — some 476 feet long, 90 feet wide and 64 feet high — showcases the rocket's 300,000-pound first stage, with its five engines, and 95,000-pound second stage. The two huge components are cradled on steel pedestals rising from the ground, while the 34,000-pound third stage, instrument ring, service module and

CASE HISTORY



BUILDING: DAVIDSON CENTER FOR SPACE EXPLORATION

LOCATION: HUNTSVILLE, AL

OWNER: U.S. SPACE & ROCKET CENTER, HUNTSVILLE, AL

ARCHITECT: GRESHAM, SMITH AND PARTNERS,

BIRMINGHAM, AL

FABRICATOR: JWC SPECIALTIES, INC., NASHVILLE, TN

CONSTRUCTION: TURNER UNIVERSAL, HUNTSVILLE, AL

command module, including escape rocket, are suspended from the ceiling. The stages are separated so visitors can obtain a clear view of each.

Jeffrey S. Miller AIA, Senior Project Architect for Gresham, Smith and Partners of Birmingham, Ala., said virtually everything related to the overall building design centers on the display of the rocket. "The sheer size of the rocket alone makes the building monumental," he explained. "So we designed the



building as backdrop for a display that pays a distinct visual homage to the Apollo space program.”

Center serves as museum’s front door

The Davidson Center was designed to serve as the new front door of the space and rocket museum. Visitors enter the center by crossing a plaza featuring an upright Saturn V model that towers high over the museum. Entering the first level, visitors obtain their tickets and visit a small display area and gift shop before proceeding to a 360-seat theater to view a short video on the Saturn V and Huntsville’s role in the space program. Visitors then exit the theater at the top level into the Saturn V display, where they are greeted by the five F-1 engines at the rear of the first stage.

The building’s utilitarian exterior is sided with 85,000 square feet of insulated steel panels with a polar white finish, reminiscent of the color scheme of the rocket. The finish on the interior side of the metal wall is matte black, creating a striking backdrop for the rocket display, which is primarily white and black with yellow and blue components. The north and east sides of the center are enclosed by 17,200 square feet of glass,

adding to the building’s ambiance.

“The exterior color scheme of the building borrows from the main components of the Saturn V, while the interior colors are much bolder and incorporate all the detail colors found on the Saturn V,” Miller said. “Red is used to signify points of entry and recalls the fiery re-entry of the command module.”

Metal was material of choice

While metal was the exterior wall material of choice from the project’s outset, Miller said he was pleased to learn that the insulated metal wall panels provided the most economical cladding option. “It was an easy decision for us,” he said. “The wall system not only projects a clean, high tech look with the desired interior and exterior finishes, but it also provides the required insulation values.”

The display hall and other areas of the 77,000-square-foot center includes exhibits representing the past, present, and future. Major attractions in addition to the Saturn V include the first



SPECIFICATIONS

PANEL TYPE: *INSULATED, 26-GAUGE COATED STEEL*

SIZE: *2" THICK, 42" WIDE*

PROFILE: *EMBOSSED, LIGHT CORRUGATED*

COLOR: *POLAR WHITE, MATTE BLACK*

Alabama-built airplane, the 1908 Quick Monoplane, and models of Ares I and Ares V rockets now being designed by NASA in Huntsville for future flights to the moon and to Mars.

The center has doubled the exhibit space previously available to the museum, and allows the introduction of exhibits that have been in storage for years, including a number of Apollo-era space suits.



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