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## LOUISIANA SPORTS HALL OF FAME IN USA

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CAST STONE APPLICATION: LEHIGH PORTLAND WHITE CEMENT



### PROJECT DESCRIPTION

The interior walls and the polished floor of the Louisiana State Museum and Sports Hall of Fame in Natchitoches, Louisiana are made entirely of white concrete. This 12.6-million-dollar project unites the past and present of Louisiana athletics and the state's history within a 28,000 square foot work of art. The extraordinary designed building on Natchitoches' historic main street has been featured in several architectural and concrete related publications for its cutting-edge design and execution.

The most noteworthy feature in the project are the white concrete walls which required over a thousand cast stone (architectural precast) concrete members in all unique sizes and shapes based on White Cement produced in Cementir's USA plant: Lehigh White Cement Plant. Each piece of between 6000-9000 pounds weight and the largest size of 18 by 12.5 feet was constructed offsite and precisely placed into the structure.

BIM (Building Information Modeling) technology was used to fully plan the construction and

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establish the construction production and erection scheduling for each of the cast stone panels. Both panel geometry establishment and load bearing analysis adopted BIM technology to ensuring accurate location of anchor points on the panels and prevent placement conflicts. BIM also facilitated accurate production for each of the 1,250 unique panels. Advanced Architectural Stone (AAS) employed a 5-axis CNC (computer numerical control) router to create the molds for the cast stone panels. Prior to casting concrete, each mold was digitally scanned to verify it met tolerance requirements. Only then was the concrete placed to create the cast stone panels used to create the project.

Aesthetics of the interior walls was the primary focus for the architects and engineers. They sought a complex relief of space, a feeling of weight and mass, coupled with the visual effect of a meandering shallow stream. The design represents the landscape and environment that surrounds the project, thus creating a beautifully aesthetic building delivering a quiet intimate space that flows visually and creates a connection between visitor and structure.

### **PROJECT PARTICIPANTS**

Cast Stone Producers: Advanced Architecture Stone

Architect: Trahan Architects

White Cement Producer: Lehigh White Cement