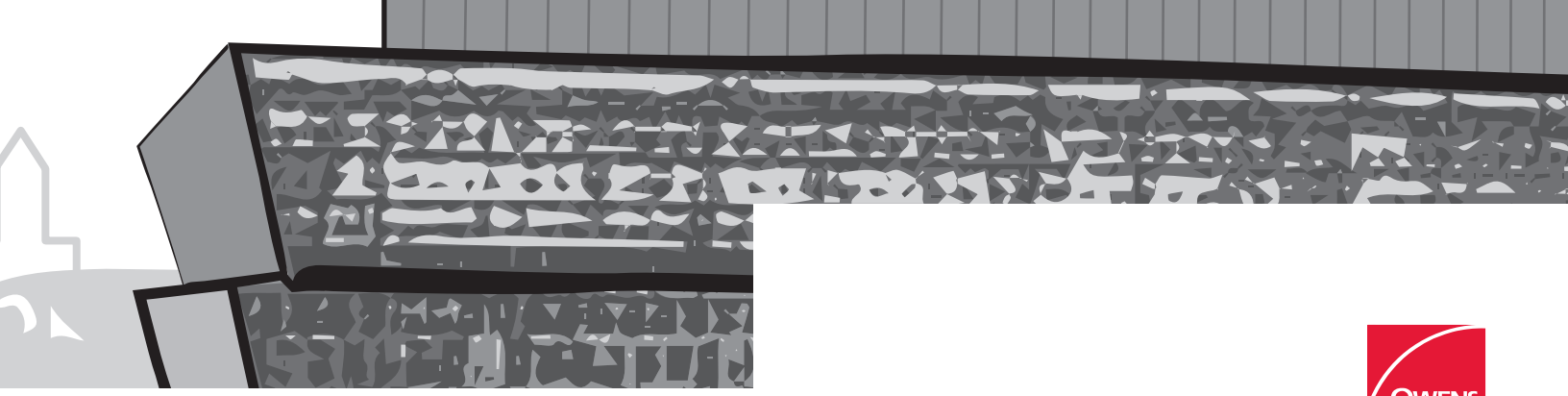


SYMBOLISM AND SUSTAINABILITY
NATIONAL MUSEUM OF AFRICAN AMERICAN HISTORY AND CULTURE

BUILDING DESIGN & CONSTRUCTION

Completed in 2016, the $540 million National Museum of African History and Culture (NMAAHC) located on the National Mall in Washington, D.C. is home to 3,500 artifacts reflecting 400 years of African-American history and culture.

Construction

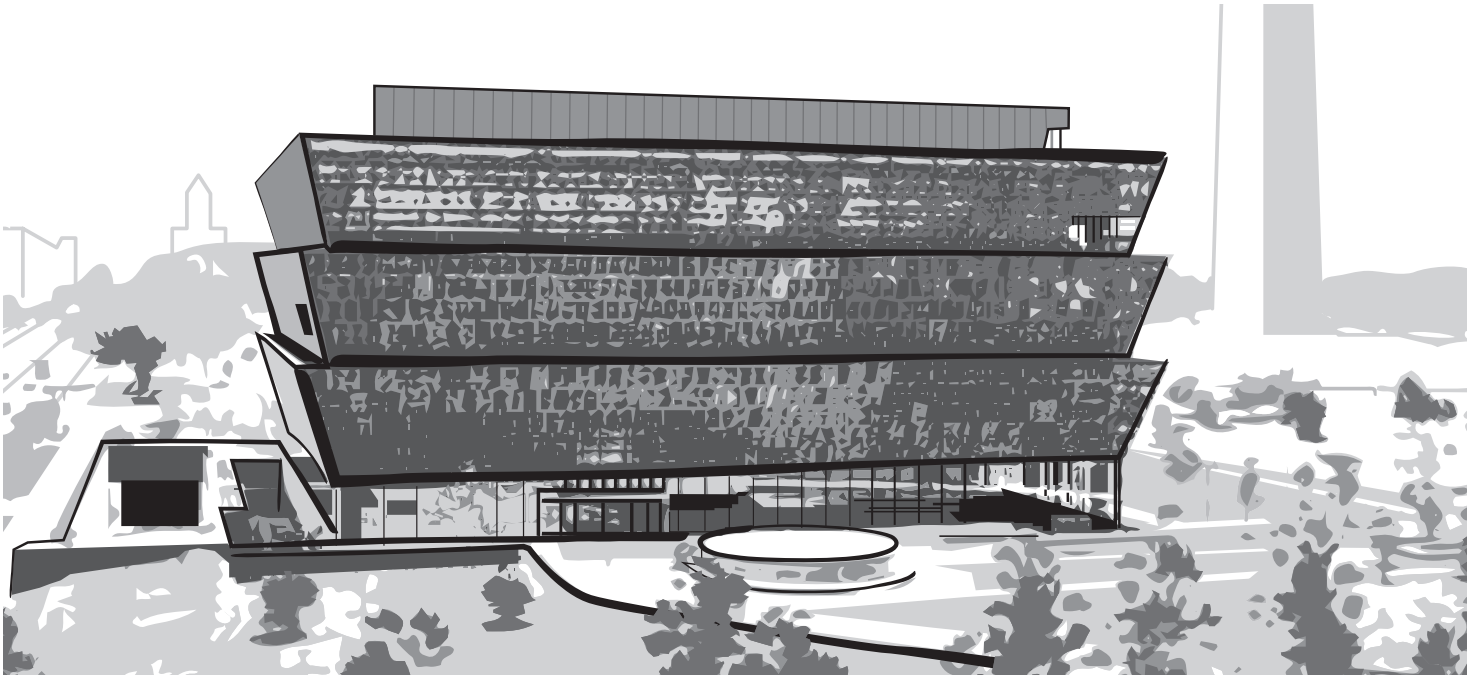
The high-profile design and construction of the 420,000 square foot museum began in 2012 under the direction of lead designer, David Adjaye and lead architect Phil Freelon. Together they led a multi-firm architectural team of Freelon Group (now part of Perkins and Will), SmithGroupJJR and Davis Brody Bond along with a cross-functional team of curators, exhibit designers, engineers and building contractors throughout the four-year build.

Design

Virtually every architectural design team decision was influenced by the need to preserve the significant history housed within the museum's priceless exhibits. This included a critical focus on specifying product solutions with performance attributes that would help maintain temperature and humidity standards throughout the 10-story building split above and below ground.

As part of the iconic exterior, special attention was paid to marrying form and function on the unique NMAAHC roof areas. The architectural team tapped the Preservation Protection Systems, Inc, Henry Company and Maryland-based Gordon Contractors, Inc. to advise on the museum's roof design and install.

In addition to using a hot rubberized asphalt membrane on the flat rooftop, a striking 5,500 square foot live or vegetative roof overhang above the primary visitor entrance created a giant "porch" at the south (National Mall) side of the building. The vegetative roof was also extended to create a north lawn covering the galleries located directly beneath in the subterranean portion of the museum.



Product

Based on its exceptional moisture resistance long-term durability, Owens Corning® FOAMULAR® 404 & 604 extruded polystyrene (XPS) were incorporated as the insulation in the roofing assembly. The unique closed-cell structure of FOAMULAR® XPS 404 & 604 rigid foam board makes it highly durable and resistant to moisture, retaining its excellent R-value even following prolonged exposure to moisture and temperature fluctuations experienced in the Washington, D.C. climate.

Following typical Protective Roof Membrane Assembly (PRMA) installation standards as prescribed by International Building Code, ANSI-SPRI RP-4, and ANSI/SPRI RP-14, Owens Corning® FOAMULAR® 404 & 604 XPS was used

Results

Utilizing environmental design best practices and products, like FOAMULAR®, to minimize the building's environmental footprint resulted in the museum becoming the first building on the National Mall to get awarded a Gold certification by the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) program.

These sustainable strategies are helping to maximize the building's efficiency resulting in 19,400 gallons per day of the repurposed rain, condensation and ground water it collects for building operations. The flat roof has 301 photovoltaic panels, which gather sunlight and convert it to produce 122,803 kilowatt hours annually.

Serving as monument and museum—and memorial, the NMAAHC is a world-class example of architectural design. From its exterior design to the exhibits within, the museum is an inspirational destination for all Americans.

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