

**CASE STUDY: PIPER HIGH SCHOOL
LOCATION: KANSAS CITY, KANSAS**



PROJECT DESCRIPTION

Due to the growing student population in the Piper Unified School District No. 203, Piper High School in Kansas City, Kan. recently underwent a large-scale renovation and addition. DLR Group's design solution incorporates sunshading, daylighting, graphic design and space-utilization to create a unique, 21st century learning environment. To promote school spirit and create an easily identifiable main entrance area, the school's mascot, a pirate, was etched into GKD's Omega 1510 woven mesh fabric.

Design architect Ken Graham, AIA, LEED AP, with DLR Group worked with GKD-USA to develop an aesthetically pleasing entryway that would become the focal point of the building- capable of providing sun shading and daylighting. Graham selected Omega 1510, a stainless steel woven mesh fabric from GKD, based on its durability, sustainable attributes and aesthetics.

"A school building shouldn't just be about functionality; it should have personality," said Graham. "The building itself should be a place where creativity and excitement are fostered and encouraged. We wanted to use a material that would help bring the building life by providing contrast and a more refined image."

Making up the 520-square-foot stainless steel woven mesh facade are two panels: one is 14 feet wide and 15 feet high; the other 18 feet wide by 16 feet high. The mesh, installed using tensioned panels pulled taught with rods and custom eyebolts on the top and bottom, is flexible in one direction and rigid in the other. Using a special process, the image of the pirate was applied to the mesh fabric and then etched into the steel. Because of the detail in the image, the process was fairly time consuming.

"Etching and installation took about three months; start to finish," said Jeff Abbott, GKD-USA project liaison. "Over time the image will darken, which will enhance the clarity of the pirate. This innovative graphic presentation makes Piper High School unique from other buildings of its kind."

Beyond the need for sunshading that the stainless-steel mesh provided, the durability, longevity and maintenance-free nature of the Omega 1510 mesh facade were major factors in the decision to use this product. The mesh facade also glows as a lantern in the nighttime, serving the dual function of sunshading in the day and lighting for evening events.

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The project team was able to meet the challenge of renovating with a low budget, while incorporating a range of sustainable elements. The Omega 1510 allowed for a visual graphic to be presented at the front of the school with no long-term maintenance costs.

“The design is one-of-a-kind and the ability to use the mesh as sunshading for the entry added to the school’s overall sustainability goals,” Graham commented. “The mesh provides both visibility and filters day light, which when combined with the clerestory of glass we incorporated, eliminates the need for artificial lighting in the commons area during the day.”

Renovations to Piper High School were completed in August 2009.