

FleeceBACK® TPO
Roofing Systems

CASE STUDY

**Carlisle's FleeceBACK Protects
Kansas High School**



JOB PROFILE

PROJECT LOCATION:
Wichita, KS

SQUARE FOOTAGE:
224,000

PROJECT DURATION:
16 months

ROOFING CONTRACTOR:
Mahaney Roofing Company

- ROOFING SYSTEM:**
- 115-mil white FleeceBACK TPO membrane fully adhered with Flexible FAST Adhesive
 - ½"-thick Securock coverboard
 - Two layers 1.8"-thick SecurShield polyiso

Established in 1957 to service the growing population of southeastern Wichita, Kansas, Southeast High School was the first high school built in its district. The school is known for its academic excellence, and a majority of its over 1,500 students are on the National Honor Roll. By 2014, this well-respected school was in dire need of significant technology and facility renovations. On September 29th of that same year, ground was broken for the construction of a brand-new high school facility.

This new facility, budgeted at \$60 million, was designed to replace the original facility built in 1957, and would enable the school's enrollment to expand upwards of 2,000 students. In addition to providing more space, this 330,000-square-foot facility would include an athletic and physical education complex, a two-story technology plaza and academic wing, and a fine arts area. Each classroom in the new facility would include smartboards and lab spaces.

Building this expansive facility required extensive project management, with multiple construction crews working together to complete the project as quickly as possible while meeting the stringent requirements for premium product quality and top-notch workmanship.

Local contractor Mahaney Roofing was chosen to complete the roofing portion of this project, and began rooftop construction in April 2015. Mahaney chose to use Carlisle SynTec's FleeceBACK TPO white roofing membrane to provide superior weatherability, reflectivity, and long-term performance for this school facility.

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The installation crew from Mahaney Roofing worked from one end of the site to the other, roofing portions of the facility as they were completed. Choosing appropriate installation materials and methods was an essential part of this project, as part of the facility's rooftop featured a concrete deck and the remaining portion featured a metal deck. The crew from Mahaney installed the rooftop materials on these two portions of the project using varying methods, although the primary materials remained the same.

Both roof decks were initially covered with two layers of Carlisle's SecurShield® polyiso insulation. Over the metal portions of the roof deck, the insulation was mechanically fastened, and followed by a half-inch layer of Securock coverboard. On the concrete portions of the roof deck, the layers of insulation and Securock coverboard were adhered using Carlisle's Flexible FAST™ Adhesive. A two-component, low-rise insulating adhesive, Carlisle's Flexible FAST creates a durable bond for enhanced wind-uplift resistance while providing quick-and-easy installation. Once the insulation and coverboard were in place, Carlisle's 115-mil FleeceBACK TPO membrane was then adhered to the coverboard with Flexible FAST adhesive applied in a four-inch bead pattern.

The use of Carlisle's FleeceBACK system provided the enhanced hail and puncture resistance that was needed to protect the facility and its students from the high winds and extreme weather of Wichita. Manufactured with a 60-mil TPO (thermoplastic polyolefin) membrane joined to a 55-mil fleece backing, FleeceBACK membranes are specially designed to withstand extreme weather conditions.

This premium-performance, warranted Carlisle SynTec roofing system enabled the crew from Mahaney to complete this installation ahead of schedule while providing Southeast High School with the long-term weatherability and performance needed to protect its cutting-edge facility for a long time to come.

