



Oswego High School Rooftop Ducts

Replacing a failing and water-logged HVAC rooftop duct insulation system

After years of patching a failing high school rooftop duct insulation system, a local Chicago-based installer was finally able to completely replace the system, putting XSPECT® ISOfoam APF board to work for a solid and long-lasting solution. Bonded to a foil facer on both sides, XSPECT is a closed-cell polyisocyanurate foam core board. The foil facer acts as an excellent vapor-retarder and together with the closed cell foam, the product creates a tightly sealed system. Lightweight and easy to install, XSPECT is perfect for applications such as rooftop ducts, HVAC equipment, refrigerated transportation, railcars and storage vessels.

CHALLENGE

The existing duct system on the roof of Oswego High School in Chicago had failed and was, in General Manager of the contracting company Gordon Vierck's words, "a mess." There was a mixture of fiberglass, styrofoam and another product that appeared to be a foam board without a proper jacket being used. Fiberglass can be a suitable insulation solution in a variety of systems, including chilled water and washdown applications, but it must include properly applied jacketing. This jacketing failure here was the big offender – because of it, over time, water had gotten into the insulation system. The poor-quality jacket had been patched in many places and was not doing its job by allowing rain and snow melt water to permeate insulation.

"Fiberglass absorbs water at a rate much higher than foam board, and so every time a jacket would get punctured, water was getting in there and never really left," Vierck explained. "It continued to get water-logged, then froze, then thawed, and caused extra weight on the duct. This caused it to break down even further and allow even more water intrusion."

This heavy, wet-blanket-like system was not a good solution for insulating the ducts. School officials reported the HVAC system wasn't working well, and it was discovered that condensation was a big reason why the system was under performing.

PRODUCT
XSPECT® ISOfoam APF

LOCATION
Oswego High School
Chicago, Illinois



SOLUTION

A replacement project was approved, and in the bid, XSPECT was specified for the job. Dave Isaacson, the Estimator/Project Manager, said it made perfect sense.

“It’s a far superior product, compared to what was previously used” he said.

An advantage to using XSPECT is its resistance to water absorption. As Vierck explained, if it’s punctured, it doesn’t absorb water, so all that is required is a fix to the puncture and it continues to operate as normal. Compared to the previous system that was taking on moisture on a regular basis, it’s a game-changer.

Another big plus for XSPECT, in terms of moisture, is that during installation, product could be left on the roof overnight without installers worrying about inclement weather causing damage to insulation.

“We had 1,000 sheets of it, and we do our best to cover it, but it’s not a deal-breaker. We could never leave a large amount of fiberglass overnight and expect to be able to use it the next day,” Vierck said. “With XSPECT, we could stock the job site and not worry about weather impacting the quality of the materials.”

Additionally, the board is lightweight, so the contractor was able to use a scissor lift on the side of the building to get all the materials to the rooftop. An alternative, such as Phenolic insulation, would have required the use of a crane or something similar because of the weight. Using XSPECT enabled an easier, quicker and less expensive finished product.

Click [here](#) learn more about XSPECT ISOfoam APF board and its benefits.

