

Roof Coatings Smarts: Contractor Coats Middle School Roofs

By Jennifer Frakes on 2/6/2014 4:25 PM



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ver the years, Randy Wilson of J.B. Turner & Sons Roofing & Sheet Metal

has been keeping a close eye on the roof of Prairie View Middle School, recording data and reporting on the condition of the roof using specialized roofing software called RoofPro (see

sidebar). After the most recent survey of the roof of the middle school, it was clear that the time had arrived for a new coating system to be applied on the roof. Read on to find out just how Wilson and his crew applied a coating system that took the roof from “needs improvement” to “top marks.”

Inspection 101

Prairie View Middle School is near La Cygne, Kan., and it serves three small towns in the rural area. The roof is approximately 50,000 square feet (4,645 m²), and the roofing substrate is white modified bitumen with granule surfacing. “After a hail storm some years ago, we inspected the roof for damage and found that everything looked good up there, but there were some loose granules,” Wilson said. “Every year during the roof survey, we found more and more loose granules, some that were starting to get into the drains. During the most recent inspection, we found that there were areas of exposed membrane.”

According to Wilson, the roof was otherwise in good shape for its age, with very few leaks. This meant that the roof did not need to be torn down and replaced, making it the perfect candidate for a coating application to restore the damaged areas and extend the life of the existing roof. “We chose Johns Manville TopGard Type A aluminum emulsion coating. It is water-based, so there were no VOC [volatile organic compound] concerns,” explained Wilson. (Johns Manville Top Gard Type A maximum VOC is 152 g/l, 1.3 lb/g).

An “A” for Good Slope

With the coating system determined, it was time for the four-man crew to get to work. Using an ECHO backpack blower and brooms, loose granules and dirt were cleaned off the roof area. The crew collected loose granules and any debris in containers and then removed them from the roof. “The roof has good slope, so there only a few low areas where we needed to apply primer,” said Wilson. In these areas, the crew used 9-inch (23 cm) rollers to apply Tamko’s Tam-Pro 813 asphalt primer.



Head of the Class

With the roof clean and free of debris and the low areas primed and ready to coat, the crew was ready to apply the protective coating to the roof. Using a Graco GH 833 sprayer with a .043

spray tip, they applied Johns Manville TopGard Type A aluminum emulsion coating to the entire roof area at a rate of 2 gallons per 100 square feet (8 L/9 m²). This coating is a one-part roof coating that is a combination of aluminum flakes and non-asbestos reinforcing fibers suspended in emulsified asphalt. “This coating was the right choice for the job because it will protect the waterproofing components of the existing modified bitumen and extend the life of the roofing system and protect the roof from UV [ultraviolet] degradation,” said Wilson.

The job was completed in six working days and was scheduled during the summer when school was not in session. However, even with the students out of the building, the crew still had an overspray concern. “We put up screens to protect air conditioning units and also put up boards in some areas that were not protected from the wind to contain any overspray,” said Wilson. And speaking of wind, according to Wilson, there were times of high winds during the job that made spraying next to impossible. Luckily for Wilson and his crew, there was plenty of other work to be done on the project. “We had very little downtime even in windy conditions,” revealed Wilson.

A Lesson in Safety

Safety is a vital part of every coatings job, and the Prairie View Middle School roof project was no exception. “When using high-pressure spray equipment, there are concerns about airborne particles and possible direct contact with the high-pressure spray. The applicator and assistant wore boots, safety glasses, and particle masks for protection,” said Wilson. And although the job took place on a roof, the surrounding parapet walls were high enough and the slope was not significant enough to require fall protection. However, there were warning lines in place near the edges of the roof.

Top Marks

In the case of the Prairie View Middle School roof coating job, several factors were in place to ensure that the project would be a success. A comprehensive software program allowed Wilson to work directly with the school district on repair recommendations and timing; products were chosen that were the right fit for the job; and a skilled crew kept on schedule even during less than optimal weather conditions. Overall, this fairly straightforward roof coating job earned top marks in all areas.