

Jackson Preparatory School



JOB PROFILE

PROJECT LOCATION:
Jackson, MS

CARLISLE APPLICATOR:
M&S Roofing Co., Inc.

BUILDING OWNER:
Jackson Preparatory School

ROOFING SYSTEM:
Carlisle Medium Bronze Sure-Weld
TPO 60-mil membrane, fully
adhered with Carlisle Sure-Weld
TPO Bonding Adhesive

Established in 1970, Jackson Preparatory School is a coeducational day school and one of Mississippi's finest college preparatory institutions. The school has excelled in academics and athletics throughout its history. With its new K–5 elementary school, which opened in early 2023, Jackson Prep now offers opportunities for students in grades K–12 on its 84-acre campus in Flowood, Mississippi.

The new 25,200 square-foot elementary or lower school facility is divided into four 'halls' for dedicated subject learning and includes 20 classrooms, a media room, an art room, a STEM lab, a tech lab, a creative studies area as well as support and administration offices and areas. The two-story building also includes outdoor lab spaces, two age-specific play areas, and will allow for future classroom growth with a gymnasium and cafeteria.

The main design concept for the lower school building was to reinforce the school's collegiate atmosphere, while interweaving a fun, creative, and colorful whimsy into the facility, as depicted by the bright blue metal and brick facade with red, almond, and bronze trim. The school was designed by Ferguson & Associates Architecture, P.A., of Madison, Miss., and built by the Jackson office of Brasfield & Gorrie General Contractors.



The 14,600 square-foot roof of the new facility was installed by M&S Roofing Co., Inc., of Pearl, Miss. M&S Roofing is a 32-year-old commercial roofing contractor specializing in single-ply roofing including TPO, EPDM, and PVC installations, and a Carlisle Centurion member. The firm also installs architectural standing seam metal roofing, synthetic slate shingles, metal wall and soffit panels, gutters, downspouts, and roof coatings, and has a full sheet metal shop where they fabricate metal trim, accessories, and flashings.

“The original design intent was for the roof to be a Standing Seam Metal Roof. The school wanted a roof that would be aesthetically pleasing to the eye as it is visible from the nearby highway and surrounding buildings,” said Leland Hinton, CSI, CDT, and Project Manager and officer of M&S Roofing. “Due to the roof’s low-sloped structure, we proposed a bronze-colored TPO roof to the GC as an alternative. This offered the owner a less expensive roofing option and gave them an aesthetically pleasing roof that would perform well.”

The roof that M&S recommended was a medium bronze 60-mil Carlisle Sure-Weld TPO membrane. Sure-Weld is a premium, heat-weldable, single-ply thermoplastic polyolefin membrane designed for new and re-roofing applications. At the heart of the membranes is advanced polymerization technology that combines the flexibility of ethylene-propylene (EP) rubber



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with the heat weldability of polypropylene. In addition, Sure-Weld TPO membrane includes OctaGuard XT™, a state-of-the-art weathering package that enables the membrane to withstand extreme weather conditions.

“We like the performance that single-ply membranes can provide on a low-slope roof like this one, which is not an ideal candidate for a standing seam system in our opinion,” said Hinton.

The roofing assembly on the new steel deck includes 3.5 inches of Carlisle InsulBase® Polyisocyanurate Insulation, made up of a 2-inch and a 1.5-inch layer of polyiso, loose laid on the deck. A half-inch SecurShield® HD Plus Polyiso cover board was installed over the top and the insulation was secured to the deck using Carlisle InsulFast™ Fasteners and 3-inch Insulation Plates.

The roof is divided into several sections, including the main or upper-level roof, and three radiused canopy roofs that protect the doorways. The main roof has a 1:12 slope to a gutter across the rear of the facility and the eaves extend a few feet beyond the face of the exterior walls on all four sides of the building.

The upper roof is wide open with only 11 stack penetrations that had to be flashed. So once the insulation and cover board were installed, the M&S crew of six to eight were able to move quickly installing the TPO membrane.

“We really like the way fully adhered roofs look and perform,” said Hinton, “so for this project we used Carlisle’s quick-drying Sure-Weld TPO Bonding Adhesive, which is a high-strength contact adhesive.”

To adhere the membrane to the deck, the crew first blew off the roof to remove the dirt, dust, and debris. The next step was rolling the bonding adhesive onto the clean cover board, and onto the bottom side of the membrane. Once the adhesive was allowed to flash off, the crew rolled the membrane onto the cover board and used brooms and rollers to ensure positive contact.

For the flashing around the penetrations and along the gutter edge, M&S used TPO Molded Pipe Seals and white six-inch Pressure-Sensitive Cover Strip, and then primed and painted them to match the membrane’s bronze color following Carlisle’s Special Color Painting Guide.



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Around the perimeter of the upper roof on the eaves, M&S installed a band of 24 ga. Medium Bronze DMC FWQ 100 soffit and wall panels from Drexel Metals. Each wall panel was 1 ft. wide by 1 inch tall and serves as a decorative frame or band for the roof. They then installed Metal-Era’s One Edge Fascia in matching bronze as a drip edge over the top of the membrane and metal wall panels to complete the roofing installation.

CASE STUDY



M&S specializes in metal fabrication, among other things, and while they didn't fabricate the fascia, coping, or metal panels for this project, they did fabricate a large gutter that they installed along the entire 160-foot-long back side of the building.

"We matched the bronze color of the metal panels and fascia system, and then installed the large box gutter and four downspouts on the back side of the building," said Hinton.

"The upper roof was fairly straight forward," said Hinton, "but the canopy roofs were a bit more challenging."

That's because each of the radiused canopy roofs required careful measuring for the MetalEra PermaTite Coping, and each of the canopy roofs has several internal drains as well as some overflow drains that needed to be properly flashed. In addition, M&S had to install tapered polyiso on each of the canopy decks, and then add crickets for maximum drainage.

The PermaTite Coping on the canopies over the front and back doors was colonial red. M&S Roofing installed matching wall panels approximately 12 inches wide by 2.5 feet tall around the edges of the

canopy roofs. They also installed an almond-colored PermaTite Coping on one other radiused section of the roof.

"The challenging part was installing the Drexel's seamless soffit panels on the underside of the canopy roofs," said Hinton. "The panels were only a foot wide, but some of them were 25 feet long, and every one of them had a radius end which had to be carefully measured and cut. It's intricate and time-consuming work, but it looks great, and our whole crew including J.R. Hamilton (Superintendent and Company Officer), Andrew Beckham (Sheet Metal Foreman), and Lowranzo Spann (Single-Ply Foreman) did an excellent job."

In the end, the new lower school has a distinctive design and a great-looking roof from any angle, including from the highway below. Clearly if they were graded, M&S Roofing would get an A+ from Jackson Preparatory School for this project.