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Duo-Gard's Canopy Creates Rooftop Playground

When architects George Beach and Jeremy Olsen began their collaboration to expand Rogers Park Montessori School, northwest of Chicago, they knew the space limitation would present challenges. Although their multistory 13,000-square-foot addition would expand administration, program and classroom space, it left no room for more play space. This was an important aspect since the school's existing gym had been renovated to also accommodate performances and presentations, adding to scheduling pressures.

With train tracks on three sides, there was no way to spread out. So the architects spread up – way up, all the way to the roof, where they designed a vaulted translucent canopy 88 feet long by 52 feet wide. Installed in mid-2015, the canopy was engineered by Duo-Gard Industries in Canton, Michigan.

It created a rooftop plaza that relieved much of the scheduling pressure for the gym and the existing outdoor play space.

The canopy was a later option in the design and construction process, according to Olsen, Studio Director at Olsen|Vranas Design in Chicago. "We were surprised that the client enabled us to make it happen," he adds. "Now it's become a signature element for the school."

In fact, says Beach, Principal/Owner of B3 architecture in Oak Park, "I think the kids like it better than the indoor gym. Outside is a perfect area." The canopy covers a concrete roof plaza that's geared to basketball and other sports. Yet it's not limited to just kids. The rooftop space hosts fundraisers and other social activities for the school.



Olsen says the collaborators went through a lot of ideas. They knew they wanted rigid translucent material. One of the parents on the building committee knew Blake Pavelich, national sales manager for Duo-Gard. That contact resulted in the massive canopy of 20mm opal-tinted multiwall polycarbonate glazing in aluminum framing with a clear anodized finish.

“This was a unique project, especially for an educational setting, and just as it reflects the architects’ creativity, it also reflects the custom versatility of Duo-Gard’s canopy systems,” says Pavelich.

“We chose translucent polycarbonate because it was cost effective, and aesthetically it adds beautiful characteristics of diffuse light while also providing shade,” says Beach. The material is virtually shatterproof with 200 times the impact strength of glass, yet with only one-sixth the weight.

The size presented an engineering challenge for Duo-Gard. “The main thing was the required length of the panels,” says Joe Furton, project engineer. “We split the panels and added a raised section above the two exterior sections. This helped minimize the appearance of the split and added to a seamless look from underneath the canopy.” Duo-Gard’s system was set atop a steel substructure.

So how do the kids at RPMS like their unusual canopied rooftop playground? “They love it. The students and the teachers are very complimentary,” says George Beach.