

Project Profile

KYMAX®



All photos are courtesy of Progressive Roofing, Foster + Partners, Virgin and Nigel Young



U-shaped clerestory



KYMAX® application

Virgin Galactic Gateway to Space, Las Cruces, NM



In the rolling hills of the desert of New Mexico lies the world's first commercial spaceport to take travelers to space. A collaboration with the New Mexico Space Authority, "Spaceport America" is the home of Richard Branson's Virgin Galactic spaceflight program. The design is based upon Foster + Partners, URS Corp., and New Mexico's SMPC Architects' vision of creating minimal impact to the landscape. The building glides like a manta-ray, blending in color and shape to the desert. Like space flight itself, the design is futuristic and mysterious, all while being environmentally conscious and keeping sustainability in mind. This building has been designed to achieve LEED Gold Certification.

The roof is outfitted with quite an innovative system; there are 12 primary undulating steel trusses spanning over 180 feet with a 45-foot cantilever at the eastern edge, a blackened stainless steel bull nose edge around the perimeter, a U-shaped clerestory in the center, and 42 skylights on top. The roof consists of 90,000 square feet of 60-mil EPDM membrane, fully adhered to ½" HD cover foam board and three layers of 2" ISO to achieve a minimum thermal insulation value of R-38. To add longevity to the EPDM and achieve the desired "desert blend" finish, the design team called upon United Coatings' unique and unparalleled line of products.

Immediately following the installation of the EPDM membrane, the roof surface was cleaned with United's UCC (United Cleaning Concentrate), a biodegradable cleaner, and ADHERE-IT rinse primer for EPDM. Once the roof was clean and primed, ROOF MATE base coat was sprayed at 100% coverage and back rolled for sure-fast adhesion of the subsequent KYMAX® coatings. Three layers of KYMAX® coating were applied to achieve a mottled finish and mimic the color of the surrounding landscape. Foster + Partners provided computer-generated drawings of the entire roof showing the desired percentages of colors to be sprayed. The first coat of tan colored KYMAX® was applied at 75 percent, the *» continued on back*

Information:

- **Total Square Footage:**
90,000 ft²
- **Products Applied:**
UCC, ADHERE-IT primer,
ROOF MATE™ &
KYMAX® over EPDM
- **Roofing Contractor:**
Progressive Roofing

second, reddish brown coat at 65 percent and the third, a mocha color, was sprayed at 35 percent. "The trickiest part was finding the optimal application technique for replicating the original faux finish mock-up. The team experimented with different approaches of spraying, rolling and brushing," explained David Hassard, principal architect at SMPC.

"We were very pleased with how the spray technique worked", said Steve Elsley, project manager for Progressive Roofing. "We achieved the desired mottle and four-colored appearance by using different nozzles so that we didn't get 100 percent coverage, and it allowed us to do final touch ups to take out some of the high and low spots so there wasn't as much contrast."

KYMAX® was chosen not only for its ability to be tinted to any color imaginable, but also for its extreme weatherability. It is a fluoropolymer, thin-build elastomeric coating that provides long-term color stability, resistance to dirt buildup, and protection against severe weather conditions. It cures at ambient temperatures, meaning it can be field-applied to a variety of substrates, and as a finish coat over acrylic base coats. Another benefit of the coating is the potential energy savings created by KYMAX's ability to resist biological growth and other external factors that reduce the reflectivity of other more traditional roofing materials. "In this part of the country, there is concern about heat gain and degradation of roofing materials over time due to the extreme weather conditions," said Elsley. "As such, **durability and sustainability of the color are two very important performance considerations when choosing a topcoat finish. Based on our**



The Spaceport blends seamlessly into the landscape

experience, KYMAX® holds up very well under demanding weather conditions and comes with a 10-year warranty against cracking, delamination and discoloration."

Weather was one of the most difficult challenges on the job site. To apply KYMAX®, the temperature has to be at a minimum of 50°F for two hours before the application can start, and the wind has to be 15 mph or less to spray the coating. The start date had to be pushed back to June due to high winds and erratic temperature conditions.

"The winds were our biggest enemy. We would have to start at dawn and work until 10 a.m. each morning and at that point the winds would get too strong where we couldn't spray any longer..." explained Elsley.

"The KYMAX® coating mixed and sprayed well...We use KYMAX® all over the place, and we will definitely use it again, especially in projects requiring custom color and where customers want a high quality coating that will keep that color for 10, 15, 20 years or more." said Elsley. ■

“

The result was a magnificent, one-of-a-kind facility built in harmony with the natural surroundings of the area.

— David Hassard
PRINCIPAL ARCHITECT AT SMPC

”



Testing KYMAX® color blends



First two coats of KYMAX®