101 Freeway Overcrossing

Los Angeles, California

The ongoing gentrification of downtown Los Angeles continues with a newly installed hot-dip galvanized freeway overcrossing that will help bridge the divide created by the 101 freeway. The City of Los Angeles spent seven years and more than $2 million constructing this new overcrossing. It traverses one of the most heavily trafficked freeways in Southern California and joins the city's historic district on the north side of the 101 to the financial and civic districts on the south side.

The overcrossing is more than just functional, it is also a visual addition to the freeway. The 123-foot long arc-canopy structure is impressive at 22 feet tall and 17 feet wide, utilizing multiple sizes of hot-dip galvanized radius pipes. The tapered arc-canopy also has an artistic finish – a detailed stenciling pattern painted over the galvanized coating. Finally, the overcrossing has a series of etched aluminum panels with colored LCD lights fastened to the main structure by an interconnecting network of netted stainless steel cables, which form a mesh-like awning. The awning offers pedestrians a large degree of shade during the day and a colorful lit path to guide them on a moonlit night.

The artistic, duplex (paint over hot-dip galvanizing) finish was a solution to enhance the overall appearance of the galvanized pieces. The galvanized arc-canopy design required varying sizes of pipes to accommodate the tapering aspect, and all the pipes had slightly different steel chemistries. As steel chemistry has the most profound effect on the final zinc coating appearance, this led to some differences in the look of the coating. After the pieces were hot-dip galvanized and constructed, they were set for a final inspection. Unfortunately, the city inspectors had envisioned a consistent, uniform galvanized finish, similar to galvanized sheet metal, but, due to the variances in steel chemistry, the final product showed visual differences between the connecting radius pipes.

The galvanizers met with the city inspectors and the city architect to explain the variation in the coating appearance, and how the differences were unavoidable due to the steel chemistry and compounded by the tapered design. The galvanizer also explained the superficial differences would not impact the performance of the hot-dip galvanizing and would even out over time as the zinc patina develops. For this particular project, the city wanted to have a consistent, spangled appearance, and thus, chose to duplex-coat the material during installation in the stenciled pattern. The final appearance gave the galvanized radius pipes a more uniform finish and blended organically with the overall aesthetic of the upper section's decorative, colorful awning.

The new pedestrian crossing is now not only functional, but also an enhancement to the landscape. And thanks to hot-dip galvanizing's amazing metallurgical bond, the arc-canopy will be completely protected from environmental corrosion for many decades to come. ■

Galvanizer
Valmont Coatings - Calwest Galvanizing

Fabricator
Compton Steel Company, Inc.

Owner
City of Los Angeles, CA

Duplex