

CASE STUDY

Architectural & Commercial

Project Specs

Location: Boulder, Colorado

Application: Elevated Walkway

Product: Corvex® Square Mesh Molded Grating

Overview

A university in Boulder was in need of a strong base underneath their paver system at the main entry way. This 17,000 square foot entry way has a restaurant, a bookstore, shops, and more that make it the central gathering point for the whole school.

Problem

Due to the constant foot traffic and the occasional use of a scissor lift to hang banners for football games, this application required a strong structural support system to help the concrete pavers carry the vehicular load and not break. The primary needs for this project were:

- **Non-Corrosive Material** - Boulder can have very cold, dry, and snowy winters. Due to the frequent snow in Colorado, throwing salt on the decking to prevent slippery surfaces is common. The salt melts the ice and the resulting water percolates through the concrete corroding the grating below the pavers on this application.
- **Lightweight Material** - The material needed to be lightweight to help the client with an easy installation process.
- **High Strength** - The grating used for this project was to be considered a "safety net" in case of failure of the pavers, so it was necessary to provide an extremely durable, and strong material.

Solution

Fibergrate was able to provide the ideal solution for this university by using Corvex molded grating as the structural grating support under the concrete pavers. Corvex is an isophthalic polyester resin system used in highly corrosive environments such as industrial, chemical, and water/wastewater facilities. This resin system will help prevent these gratings from corroding due to the maintenance process they go through every time there's snow on top of them. Molded grating was the chosen material because it covers the following needs for this application:

- **Corrosion Resistance** - Molded grating is known for its corrosion resistance in the toughest environments. These gratings will be able to withstand Colorado snowy weather with ease.
- **Low Maintenance** - The corrosion resistant properties of molded grating will reduce or eliminate the need for maintenance on this application even after salt water percolates through the concrete.
- **High Strength to Weight Ratio** - Fiberglass Reinforced Plastic (FRP) is less than one-half the weight of steel grating, yet FRP is strong enough to carry the vehicular loads this application will encounter. Its lighter weight allows easy installation and easy removal if necessary.

It is worth noting that before our team decided to use standard molded grating, they considered using High Load Capacity (HLC) molded grating for this walkway. After the engineering team and the Fibergrate sales representative carefully analyzed the alternatives, it was determined that HLC was not necessary. The grating was going to be below the concrete pavers which were capable of holding the weight from the traffic on the surface, so they just needed a "safety net" in case of a potential breakage. This proved to be more efficient and saved the client a considerable amount of money. This application has successfully gone through a winter already and will remain in good standing condition for years to come. The client is happy and satisfied with the solution provided by Fibergrate.

