



AIRPORT FLOORING DESIGN ASCENDS TO NEW HEIGHTS

In the winter of 2017, the City of Dayton, Ohio initiated the Dayton International Airport Terminal Modernization Program – a reconstruction and remodeling project for the airport's terminal, concourses and administration spaces. To continue providing airline services to travelers, the project occurred while daily operations continued, presenting complex challenges for architecture firm, LWC, and the project team.

In tribute to Dayton aviation pioneers, Wilber and Orville Wright, the project called for an intricate flooring installation featuring the outlines of 19 historical aircrafts. Aluminum divider strips filled with various terrazzo colors sourced from Sherwin-Williams High Performance Flooring formed the silhouettes.

While the design soared above standard commercial flooring, the installation process was demanding. Experienced installers from Cincinnati, Ohio-based Siemering Tile Co. were hired to install 26,000 square feet of meticulously patterned, multi-color terrazzo after rehabbing the imperfect existing concrete slab. Throughout the project's 20 installation phases, the crew overcame numerous hurdles from tight working quarters to leveling challenges to install the intricate flooring design.

Substrate

Concrete

Requirements

Flooring with high-traffic durability and creative flexibility

System

- Resuflor™ Terrazzo TG
- Resuflor™ 3556

Area covered

26,000 square feet

Owner

City of Dayton, Ohio / Dayton International Airport

Consulting Firm

LWC, Inc.

Flooring Contractor

Siemering Tile Co.



SMALL WORKSPACES ADD LAYER OF LIMITATIONS

To prohibit interference with daily operations, they divided the area into 600-square-foot sections that needed to be fully prepared, poured, ground and squared one at a time. Crew members were mostly limited to 10-foot by 60-foot workspaces surrounded by 8-foot plywood barricades that made visibility to the surrounding areas impossible. To overcome this obstacle, Siemering Tile invested in a control line and full-scale templates that featured the final flooring design.

METICULOUS INSTALLATION ACHIEVES DESIRED AESTHETICS

Before installing the terrazzo, team members prepared the concrete slab by removing existing carpet and tile within each workspace. Then, they grinded any previously installed glue, thin-set material and self-leveling compounds to reveal acceptable concrete. After leveling, team members applied Resuflor 3556 flexible epoxy membrane from Sherwin-Williams High Performance Flooring to create a clean surface for the terrazzo installation. The Resuflor 3556 membrane provided an adherent surface to protect the thin-set epoxy terrazzo and filled in any cracks in the leveling coat.

The terrazzo system comprised of white, gray, black, tan and red matrix resins, and 28 different marble, recycled glass and mirror aggregates from Sherwin-Williams High Performance Flooring. To install it, each section involved meticulous grinding, polishing and topcoat sealing before moving to the next one.

To avoid loud installation noise, the crew wet-grinded the terrazzo instead of dry grinding it. Due to space constraints, with no room to overlap with the next flooring section, the team had to do a lot of hand-grinding around the exposed perimeter of the installed terrazzo to create smooth transitions from one section to the next.

“Normally, you would stop rough-grit diamond grinding about six inches from the edge, stop 80-grit diamond grinding 12 inches from the edge and then stair-step it back so you can tie one section into the other and work backward,” said Joe Albert, President and Owner of Siemering Tile. “But we couldn’t do that. We were literally hand-grinding to the edges with 400-grit polish.”

WORKING CONDITIONS ENABLE LEED GOLD

To maintain airport operations throughout the installation, the project required materials with low levels of volatile organic compound (VOC) emissions to mitigate health and safety hazards. To comply, Siemering Tile specified the low-VOC Sherwin-Williams terrazzo system, which contributed to a low-emitting materials LEED credit. The newly renovated terminal achieved LEED Gold status.

“Arriving at the successful on-time installation for this intricate floor was a feat,” said Albert. “While we faced multiple obstacles, everything lined up and leveled properly, coming together in a beautifully executed design that welcomes and educates travelers with unique aspects of aviation history.”

THE SHERWIN-WILLIAMS DIFFERENCE

Sherwin-Williams High Performance Flooring delivers world-class industry subject matter expertise, unparalleled technical and specification service, and unmatched regional commercial team support to our customers around the globe.