Acoustical Coating Adds a Little *Color* to Charlotte’s New Transportation Center

By Roy E. Schorer

Charlotte, N.C., with the addition of new public facilities such as the Carolina Panther’s football stadium and the new Charlotte Convention Center, is incorporating color in unique ways to symbolize the city’s dynamic personality.

Architects were looking for a way to add some color to the ceiling of the new Charlotte Transportation Center while providing superior sound absorption to a noisy environment. They found their solution in Sonotex™ 35, a high-density, spray-applied acoustical finish developed by Grace Construction Products specifically for sound absorption applications.

The project’s designer, the firm of Gantt Huberman Architects, was looking for an acoustical coating that would match the rich turquoise color of a standing-seam roof system. The acoustic coating they chose would have to be custom manufactured to match the unique color.

The architects had envisioned a large hemispherical building that would provide a covered transfer area with heated public lobbies, food courts and retail shops. The semicircular arched ceiling would reach 60 feet in height and provide a large open atmosphere. Their concept was to use a spray-applied acoustical product that could be colored for the ceiling yet still provide acoustical control to a potentially very noisy environment.

Typically, painting acoustical material often degrades the material’s acoustical absorption properties. The solution was a product that would allow them to integrate the custom color directly into the material.

Grace Sales Representative Kevin Kitchens recalls, “We realized this project would be awarded on the ability of a manufacturer to deliver the exact color. Although we had experience working with custom colors, they were usually black or various shades of gray—not a bright turquoise. We immediately put together a team of marketing and tech-
The new Charlotte Transportation Center features a large, semi-circular arched ceiling that provides a covered transfer area with heated public lobbies, food courts and retail shops.

Technical people that could develop the samples and deliver the correct color. And we also had to have confidence that we could manufacture the material consistently, so that there would be no variation in color from batch to batch. We ultimately delivered to the architects a submittal sample that demonstrated we could achieve the exact color and hue they were looking for.”

**Sound Solution**

Standard Insulating Co. of Charlotte, N.C., was awarded the contract for the spray application of the acoustical coating to the ceiling of the transportation center. Standard Insulating, a 50-year-old company headquartered in Charlotte has an extensive background in the application of acoustical products, commercial insulation and fireproofing. “We could tell early on that the transportation center was going to be an extremely difficult, challenging application,” says Standard Insulating’s President Rick Judson. “The architect was looking for a very specific color and had investigated a number of acoustical products. We knew the color tolerances would be very tight. We were also faced with a very constrained work site and very tight scheduling.”

Although aesthetics were extremely important to this project, the product had to exhibit superior sound absorption qualities to handle the noisy environment of the transportation center, with numerous buses arriving and departing frequently.

“The architects had originally specified a competitive acoustical coating that had targeted acoustical performance to the 250 hertz range—a low range frequency typically found in transportation centers. We had independent acoustical consultants develop a sound profile of the station; results showed that higher frequencies, from 500 to 2,000 hertz, needed to be controlled, especially to ensure that the public address system could be clearly heard,” notes Grace Product Manager John Sorenson. “We were able to convince not only the architect but also the acoustical consultant that Sonotex presented the best solution.”

The application began in August 1995 and was scheduled to be completed within a 12-week window of time while working alongside other trades such as painters and electricians. Although Standard Insulating was experienced in applying acoustical coatings, they had not yet worked with the relatively new product.

Standard Vice President Jack Morrison explains, “The surface texture is what gives Sonotex its sound-absorption capability. You have to spray it with the correct surface texture and consistency. But we had no time for mockups and little time for additional training. We had to be right up to speed on the first square foot to meet our schedule.”

Judson adds, “Grace representatives were on-site during start-up and helped
us make the adjustments necessary to do it right the first time.”

The site itself provided many challenges. The building’s high ceiling, which required working from boom pladforms up to 60 feet in the air, incorporates a number of girders and trusses to support its dome. Maneuvering the boom between the trusses while trying to spray apply a heavy-duty product proved to be very demanding. The ceiling’s struts and girders had already been painted, so they needed to be protected from overspray as well.

Jack Morrison adds, “We sprayed one section at a time. It was a four-step process: first, the poly protecting, then, two passes for the spray application and, finally, removal of the poly. Timing was of the essence. We had to complete a certain section on schedule in order for the other trades to proceed. The product applied well and hung better than we anticipated—with minimal fallout.”

**Physical Properties**

As with many acoustical surfaces, maintenance and serviceability can be a major issue. Over time, the textured surfaces and low density of some acoustical products may cause the surface to degrade or show dirt and grime. Exhaust emissions from many vehicles using the transportation center, as well as the open-air design of the facility, are just two sources of dirt and particulates that could adhere to the acoustical surface.

Sonotex 35 is a portland cement-based material that forms a hard, cement-like coating, and the color is integrally mixed throughout the surface—so even if it is accidentally chipped, it will require no painting. Early tests of the public address system indicate that the product is providing the specified acoustical control.

The Transportation Center opened to the public with rave reviews. It features a bright, clean, contemporary atmosphere thanks to its very distinctive *turquoise* ceiling.

**About the Author**

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