Case Study

Nemours/Alfred I. duPont Hospital for Children
WILMINGTON, DE

Owner
Nemours Foundation
Jacksonville, FL

Architect/Designers
FKP Architects
Houston, TX

Vitro Products
Solarban® 70XL glass
Azuria® glass

Glazing/Curtain Wall Fabricator
Cristacurva
Houston, TX

Oldcastle BuildingEnvelope®
Terrell, TX

Coatings Applicator
Spectrum Metal Finishing

Glazing Contractor
R. A. Kennedy & Sons
Aston, PA

PROJECT BACKGROUND
When Paul Asteris of FKP Architects first conceived the signature façade of the newly expanded Nemours/Alfred I. duPont Hospital for Children, his vision was to have the glass and metal framing mimic the protective framework of an arbor. A random discovery of Azuria® glass by Vitro coupled with the use of DURANAR® SUNSTORM® coatings by Vitro Alliance Partner, PPG Industrial Coatings, helped make that idea a reality.

Located in Wilmington, Del., Nemours/duPont hospital has undergone a series of expansions since its founding in the 1940s. The latest, a 450,000 square-foot addition, was designed to maintain the facility’s legacy of world-class treatment by drawing on the latest principles in health care design, including cozy, child-friendly patient rooms; welcoming, amenity-filled spaces for families and caregivers; healing gardens and large, open areas filled with abundant natural light.

A combination of products from Vitro Architectural Glass and Vitro Alliance Partner, PPG Industrial Coatings, helps to create this bright curtain wall for the exterior façade of the Nemours/duPont hospital, which has achieved LEED Silver certification.
As lead architect for the project, Asteris sought to appropriate the “playful elegance” of the gardens surrounding the neighboring duPont family mansion by placing a vast atrium at the center of the hospital and designing a bright arbor-patterned curtain wall for the exterior façade.

A combination of glass and metal coatings products, including Solarban® 70XL glass by Vitro and DURANAR® XL and DURANAR® SUNSTORM® coatings by PPG, together with a timely recommendation for tinted Azuria® glass by Vitro, not only helped him achieve those aims, but enabled the project to stay on schedule too.

“The glass we were originally looking at [for the façade] had a blue/gray tint and was coming off a bit flat,” Asteris said. “By chance, a [Vitro] representative visiting our office saw the renderings and offered to help with some samples. He came back using Azuria® [glass] with some spandrel tones and it had the color punch we were looking for. That really helped us get the project back on track, as we were in danger of disrupting the schedule.”

The aqua-blue appearance of Azuria® glass is extraordinary for a tinted glass. Together, they yield an LSG ratio of 1.56, which makes it one of the highest-performing products in the industry. Even with its rich aqua-blue color, Azuria® glass has a similar VLT of 61 percent in the same configuration, along with a SHGC of 0.27 when combined with clear glass in a standard 1-inch insulating glass unit (IGU). The resulting 2.37 light-to-solar gain (LSG) ratio makes it one of the highest-performing products in the industry.

Solar tubes and the strategic placement of fritting on the glass façade alleviate the heat and glare of direct sunlight during the summer and channel light deeply into patient rooms to make them feel more spacious. Other green-related components in the hospital include water retention systems, roof gardens and enhanced mechanical systems.

To date, the feedback Asteris has received on the hospital’s design and performance has been universally positive. “The intent was to create a facility that would set Nemours apart from other children’s hospitals. The administration wanted this to be a place where families could bring their kids to get the best care available, so we needed to create spaces that would foster a family-friendly healing environment. Anyone who visits the hospital will sense that truly is the case.”