



CASE STUDY

DUKE
ENERGY
CENTER

Charlotte, United States



ARCONIC



More than just a trophy tower, the Duke Energy Center was created as the physical manifestation of the energy giant’s commitment to environmental accountability. The crystalline 50-story tower—the first office building in the country to be certified LEED Platinum®—has a distinct, sculptural roofline with a handle-shaped bridge at the crown and faceted, truncated corners.

As the centerpiece of downtown, the mixed-use tower—part of a cultural complex consisting of three museums and a performing arts center, all jewel-box size in comparison—had to have enough detail at ground level to complement the neighboring edifices and excite retail tenants. Every entrance to the building in the pedestrian-friendly complex was designed as if it was the front door.

To trim the visual weight of the 1,500,000-square-foot tower, the architects designed a high-performing building envelope of Reynobond® Composite Material and spandrel and vision glass. The Reynobond® 4mm FR Composite Material—specified with a neutral palette of Pearl White that was paired with white Brazilian granite and stainless steel accents—were used for corner details, exterior colonnades, recessed entry portals and the tapered crown at the roof, to define and balance the building.

The complex geometry used in the tower design evolves as it reaches skyward. Reynobond® Composite Material takes on a prominent role at the 48th story, where the glass walls begin to slope inward toward the crown. The building corners rise into the air beyond the angular glass façade and reconnect through a metallic bridge that forms a sweeping horizontal sky window extending 160 feet across. The panels at the crown were most the challenging to fabricate due to its design—a bond pattern, tapered and sloped downward toward a rainwater collection point.

Reynobond® Composite Material’s rigid construction, light weight, high strength-to-weight ratio and superior flatness were instrumental in the installation. Access to the crown was limited by the geometry of the building itself. To complete the installation, the team had to rappel down the façade like rock climbers, hanging off ropes suspended 786 feet in the air on a 72-degree incline, to install the Reynobond® 4mm FR Composite Material by bolting them to L-brackets on the substructure.

According to the architect, the unique sculptural piece at the crown of the building could be accomplished only with metal—by working with Reynobond® Composite Material, they could play with the geometry to achieve the desired effect.



ARCHITECT	tvS design of Atlanta, GA
GENERAL CONTRACTOR	Batson-Cook Construction of Atlanta, GA
PANEL FABRICATOR	Miller-Clapperton Partnership, Inc., of Austell, GA
PANEL INSTALLER	Juba Aluminum Products of Concord, NC
PRODUCT	127,400m ² , Reynobond® 4mm FR Composite Material
COLOR	Pearl White Colorweld® 300XL paint coating
APPLICATION	Back-ventilated rainscreen system (sides) and exposed sealant attachment system (top)
CERTIFICATION	LEED® Platinum

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