CASE STUDY

NASA AEROSPACE COMMUNICATIONS FACILITY CLEVELAND, OHIO

KAWNEER

NASA's Aerospace Communications Facility (ACF), the newest building at the Glenn Research Center in Cleveland, Ohio in 30 years, was designed with a primary aim to enhance NASA's ability to develop faster, higher-capacity communications for future space missions. LEED Gold®-certified, the ACF is set to play a crucial role in the Artemis mission to establish a long-term human presence on the moon.

The $40.5 million, 54,000-square-foot facility houses more than 80 researchers from seven different buildings and features 25 research laboratories, collaboration spaces and rooftop and ground-based antenna fields. The building's design directly supports its purpose of advancing research in radio frequency and optical communication technologies using Kawneer's architectural aluminum systems to play a vital role. The design also focuses on sustainability and energy efficiency, reflecting NASA's commitment to cutting-edge research and environmental responsibility.

Architect: Ross Barney Architects, Chicago, IL
Glazing Contractor: Carroll Glass & Maintenance, Inc., Euclid, OH
General Contractor: Austin Building and Design, Cleveland, OH

ENERGY EFFICIENCY AND INNOVATION FAICILTATING CRITICAL RESEARCH

The project's architectural design was driven by the need for energy-efficient, low-carbon building materials and sustainable construction methods. Kawneer's products help enable the facility to push the boundaries of aerospace communication technology and building design by helping deliver the practical aspects of the project's complex requirements.

The NASA Aerospace Communications Facility features a variety of Kawneer's architectural aluminum systems, including our Clearwall® Curtain Wall System, Trifab® 451UT Framing System, 1600UT System™1 Curtain Wall, 500 Standard Entrances and 500T Insulpour® Thermal Entrances.

SUSTAINABILITY THROUGH ARCHITECTURAL DESIGN AND FORWARD-THINKING TECHNOLOGY

The utilization of our Trifab® 451UT Framing System and 1600UT System™1 Curtain Wall helps contribute to the building's sustainable architectural design, through minimizing energy consumption and preparing the facility for Net Zero Energy operations. The large, glazed areas made possible by Kawneer's Trifab® 451UT Framing System help maximize natural light in the building, while the thermal performance of our 1600UT System™1 Curtain Wall and 500T Insulpour® Thermal Entrances allow the building to conserve as much energy as it consumes.

The Clearwall® Curtain Wall System, Trifab® 451UT Framing System, 1600UT System™1 Curtain Wall and 500T Insulpour® Thermal Entrances all play a crucial role in providing an environment conducive to work and research, while meeting stringent sustainability goals.

Kawneer's Clearwall® Curtain Wall System creates a sleek, minimalist look on the facade, while ensuring excellent insulation and energy savings with its four-sided glazing technology.

The building achieved LEED Gold® certification, creating a fine balance between function, sustainability and aesthetics.

THERMAL PERFORMANCE, CONVENIENCE AND DURABILITY

The dual thermal break of our Trifab® 451UT Framing System dramatically improves the overall thermal performance of the building. Our 1600UT System™1 Curtain Wall uses thermal barrier technology, ensuring high thermal performance and reducing heat transfer.

Meanwhile, Kawneer's 500T Insulpour® Thermal Entrances provides superior thermal insulation through IsoPour™ technology. The use of double-pane insulating glass units ensured enhanced thermal performance, while the entrance doors also provided blast mitigation, making them suitable for the research facility.

These product features support the building's thermal performance, durability and aesthetic appeal, aligning with NASA's sustainable design goals. Kawneer's products not only enhance the operational energy efficiency but also help contribute to the building's resilience and long-term sustainability.

CHALLENGES

- The aim of achieving LEED Gold® certification and NZER standards meant every aspect of the project needed to contribute to advanced thermal performance.
- Balancing natural light, glare reduction and heat control was crucial to the design's aesthetic and performance.
- The facility needed robust materials to withstand frequent use by 80+ researchers and support staff.

SOLUTIONS

- Kawneer's Trifab® 451UT Framing System and 1600UT System™1 Curtain Wall, provided exceptional insulation and thermal performance, aligning with the NZER goals and meeting LEED Gold® certification requirements.
- Our Clearwall® Curtain Wall System allowed natural light into the building while minimizing glare and heat gain.
- Kawneer's 500T Insulpour® Thermal Entrances, designed for high-traffic areas, provided the necessary durability and thermal efficiency.

PRODUCTS USED

- Clearwall® Curtain Wall System
- Trifab® 451UT Framing System
- 1600UT System™1 Curtain Wall
- 500 Wide Stile Entrances
- 500T Insulpour® Thermal Entrances

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Building Legacies

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