

CASE STUDY

# THE LEDGER BENTONVILLE, ARKANSAS





## THE WORLD'S FIRST BIKEABLE BUILDING

Situated in the heart of Bentonville, Arkansas, The Ledger represents a step forward in sustainable, integrative building design. The innovative commercial and social hub supports the healthy and active community of one of the United States' major biking destinations. A variety of Kawneer's aluminum solutions combined with our design expertise helped bring the architectural vision to life in a way that positively impacts building occupants and visitors alike.

The 230,000-square-foot building combines a variety of features, including offices, coworking spaces, retail outlets and a community hub. The building's most distinctive feature is its bike ramp, which makes all six stories accessible to bicycles, walkers, wheeled personal transport and mobility aids.

The 3,900 feet of bikeable paths and terraces make The Ledger's facade unique, as it is currently the only bikeable building in the world. Its bike ramps allow occupants to traverse the entire building from the street level to the rooftop, blending seamlessly with the surrounding environment and connecting interior and exterior spaces.

Kawneer was chosen to help realize the architect's vision and ensure the project delivered the sustainability, thermal comfort, design aesthetics and natural light required for the project, all without compromising its ambitious design concept.

**Architect:** Marlon Blackwell Architects, Fayetteville, AR, Callaghan Horiuchi, Bentonville, AR, and Michel Rojkind, Mexico City, Mexico  
**General Contractor:** Nabholz Construction, Rogers, AR  
**Glazing Contractor:** ACE Glass, Little Rock, AR

Photography: © Timothy Hursley

## DESIGNING SUSTAINABLE AND ACCESSIBLE BUILDINGS

The Ledger exemplifies a forward-thinking approach to urban design and resilience through providing a unique transportation route and embracing highly sustainable practices throughout the building.

The architects' primary goal was to create an environmentally responsive space that enhances the experience and well-being of occupants while maintaining a vital connection to nature in the built environment. Kawneer's 1600 Wall System®2 and System®3 Curtain Wall Systems, with their wide spans and slim sightlines, were specified for the project to help provide occupants with ample views of the outside.

## BENTONVILLE'S BIKEABLE BUILDING REVOLUTIONIZES URBAN DESIGN

The project's focus on environmental responsibility led to the use of sustainable building materials and design strategies to enhance energy efficiency and durability, which was vital for the project's success. Our products were utilized to help maintain ideal indoor temperatures and limit background noise from the street, nearby meetings or other areas of the building.

Visually impressive open spaces with ample views of the exterior can make a positive impact on occupant concentration, performance and well-being, thus improving productivity and morale with natural light and panoramic views. Keeping these in mind, The Ledger was constructed with occupant well-being as the primary focus, delivering a functional, energy-efficient building that seamlessly meets the diverse demands of social, retail, office and coworking spaces, all in one building.

## ACOUSTIC PERFORMANCE: OPTIMIZING SOUND INSULATION

Acoustic performance is an increasing priority for modern architectural design and is becoming a recurring requirement in project specifications, often driving product choice. An important factor for mixed-use developments, sound insulation was a key factor to consider during the design of The Ledger, as the building was designed to hold a wide range of activities that would take place in close proximity.

Our systems were specified to help contribute to the overall acoustic performance of the building as they have been tested for acoustic performance according to American Architectural Manufacturers Association (AAMA) 1801 and American Society for Testing and Materials (ASTM) E90.

Kawneer's architectural aluminum systems were used to help contribute to the overall acoustic performance of the building and provide quiet, peaceful interiors amidst the bustle of the exterior environment. Our facade systems help contribute to more peaceful indoor environments, which are ideal for working, relaxing and enjoyment.





## COMBINING WORK AND PLAY WITH SUSTAINABILITY

Known for its performance and unmatched fabrication flexibility, our Trifab® VersaGlaze® 450 Storefront Framing System complements The Ledger's energy-efficient, modern and functional design, creating a smooth, monolithic appearance with concealed fastener joinery.

Our Trifab® VersaGlaze® 450 Storefront Framing System was structural silicone glazed (SSG) to help adapt to the building's various architectural needs, including sections that required larger spans of glass. Further, its 2" sightline adds a sleek, clean appearance and contributes to The Ledger's contemporary, visually appealing facade.

The thermal performance of our 1600 Wall System®2 Curtain Wall adds to The Ledger's environmentally responsible design, helping to reduce energy consumption with its impressive insulation. With its 7-1/2" horizontals and 10-1/2" verticals, this system satisfies the project's requirements for a visually appealing and modern look.

Kawneer's 1600 System®3 Curtain Wall incorporates our IsoStrut® thermal barrier technology, providing superior thermal performance and significantly reducing heating and cooling demands for the building.

## BUILDING LONGEVITY WITH QUALITY ENGINEERING

Kawneer's 350 Medium Stile Entrances were specified for the interior of the building due to their ability to withstand constant, heavy use while balancing durability and functionality in a dynamic, high-traffic environment. Its 1-3/4" system depth allows for greater design flexibility in adapting to various structural and aesthetic needs within the building.

Further, Kawneer's local sales representative presented ACE Glass with the idea of utilizing Kawneer's 1600 Wall System®5 Curtain Wall verticals with the IG (Inside Glazed) System®3 Curtain Wall, as the verticals feature a chamfered edge on the face of the mullion, allowing the glazier to shuffle glaze the system easier from the inside of the building. The system's thermal barrier technology also helps enhance building performance and occupant comfort.

## CHALLENGES

- The building's bike ramp, which wraps around the exterior, created a complex structural demand while requiring a modern facade to blend with the overall building aesthetic. The exterior had to be both striking and robust enough to handle the building's height and innovative features.
- The large expanses of glass, particularly those along the ramp, needed to be energy efficient, maintain comfortable interior temperatures and keep operational costs low, despite the large area of glazing.
- The glazier desired a more efficient way to glaze our 1600 Wall System®3 Curtain Wall from the inside of the building.

## SOLUTIONS

- Kawneer's 1600 Wall System®2 and System®3 Curtain Wall as well as our Trifab® VersaGlaze® 450 Framing System were specified to provide a clean, glass-heavy aesthetic for the project. Further, the structural silicone glazing (SSG) method used for our Trifab® VersaGlaze® 450 Framing System provides additional design flexibility.
- Our IsoStrut® thermal barrier technology incorporated in our 1600 Wall System®3 Curtain Wall provides high thermal performance, helping meet sustainability goals while reducing energy loss. Meanwhile, our 1600 Wall System®2 Curtain Wall helps maintain comfortable temperatures in the interior, reducing energy consumption while meeting the need for a sustainable, energy-efficient design.
- Kawneer sales representative presented the architect and glazier the idea of utilizing our 1600 Wall System®5 Curtain Wall verticals with the IG (Inside Glazed) System®3 Curtain Wall, as the verticals feature a chamfered edge on the face of the mullion, allowing the glazier to shuffle glaze the system easier from the inside of the building.

## PRODUCTS USED

- 1600 Wall System®2 Curtain Wall
- 1600 Wall System®3 Curtain Wall IG (Inside Glazed)
- 1600 Wall System®5 Curtain Wall Verticals
- Trifab® VersaGlaze® 450 Framing System 2" sightline
- 350 Medium Stile Entrances

