

ParaClad summary: Three ventilated façade structural systems to understand better



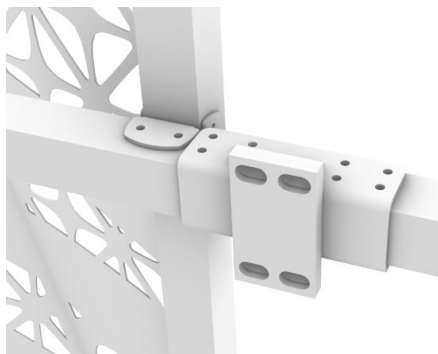
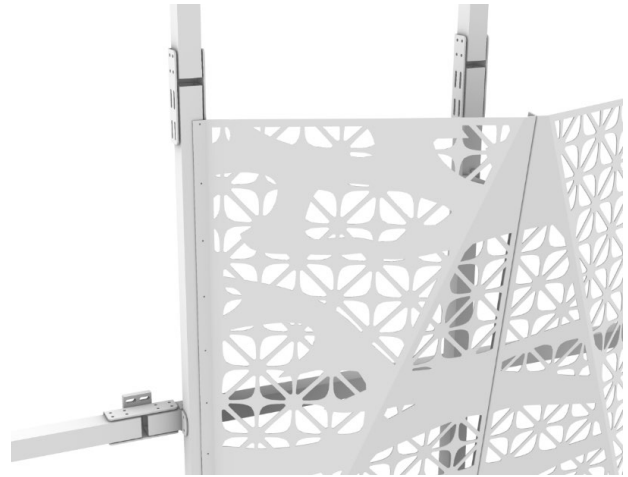
In response to Parasoleil having won the prestigious award for best façade structural system, this article unpacks its origins and options. The award came from “AN’s Best Products”, juried by some of the industry’s top architects and sponsored by Architect’s Newspaper, the leading organization hosting the regional Facades+ conference. The recognition noted the ParaClad ventilated cladding and screening product as the best structural system in the industry, particularly because of its complete system as a specifiable package. Parasoleil now releases this summary explaining the differences between the three systems included in this turnkey solution to different project needs to help specifiers understand which version to specify for each project. And while all three structural systems are engineered for specific ASD design pressures and all-weather performance, they are also each customizable for project specification requirements and to meet the design intent. There is a wide range of the costs and benefits of each of these, so specifying the right system makes a big difference.

ParaClad was first prototyped as a public art donation to the main public library in the city of Hutchinson, Kansas in 2022. The anodized aluminum structural system was installed by local sign company, Luminous Neon, one chilly Midwest morning, and then applied the powder coated art screen panels to finish the complete system in the same day. Both Mike Schock, product designer and head of the Parasoleil ALFA team, and Uriah Bueller, founding artist of Parasoleil, were present to witness and oversee the installation. The artwork incorporated into that installation included a perforated pattern from Parasoleil’s library of 75 performance-rated patterns and embedded a visual image into the modular design, an abstraction of the geometry in a sunflower – the state flower of Kansas. That ParaClad system was the robust -200 series. That’s the structural product we will start with in this summary.

Parasoleil

ParaClad-200 (<33psf) is an engineered series of cross-members of lightweight tube aluminum purlins and custom brackets that allow for seismic movement, installation tolerances, and a large span in two directions. This last part may be the most important part of the product system as the maximum span between penetrations into the building and the maximum span between structural supports for the panels is the only engineered system available in the industry with built-in engineering. Subject to

site requirements, the span between penetration points through the building envelope is as wide as over 11 feet, greatly reducing thermal bridging. The span between structural supports in the perpendicular direction is also nearly 12 feet and allows for an uneven façade or protrusions of mechanical equipment to be less of a concern behind the layout of panels. The system is designed to be anodized for maximum durability, while the grid of decorative perforated panels can be either anodized or powder coated. The panel sizing (typically 4x8' or 4x10' to minimize material waste) is coordinated to have the panel edges line up with the midpoint of the structural support. Panels can be flat or engineered with complex geometry for additional ventilation, visual sightlines, envelope articulation, and conceal fasteners.



All elements of the system are using either rust-free aluminum or stainless steel. The panels, as part of the complete package, often have a double return on the edges for maximum rigidity in 1/8" material as well as to suspend the panels in front of the structure to provide a visual distance between the artwork, its frame, and the building roughly 12 inches behind the panels. The manufacturing tolerances between all parts of this system helps contractors with an easy installation and provides peace of mind that the design intent will come from one supplier.

Best uses for ParaClad-200 include public art and reducing solar heat gain and peak load sizing by shade-screening over glazing for occupied spaces in high sun exposure elevations of a building.

Parasoleil

ParaClad-100 (<33psf) also spans up to 12' between attachment points to the building in one direction but stands about 4" closer to the building without the additional crossbeams used in the more versatile system described before. This robust structural system still has seismic movement built into the design and allows for floor-to-floor spanning over large openings in mechanical and parking screening applications. And like the -200 version, ParaClad-100 is designed to be anodized for low maintenance, while the grid of decorative perforated panels can be either anodized or powder coated. The panel sizing (typically 4x8' or 4x10' to minimize material waste) is coordinated to have the panel edges line up with the midpoint of the structural support. Panels can be flat or engineered with complex geometry for additional ventilation, visual sightlines, and envelope articulation.



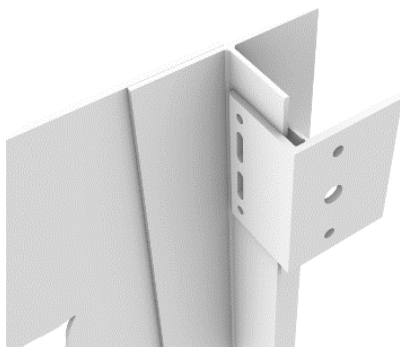
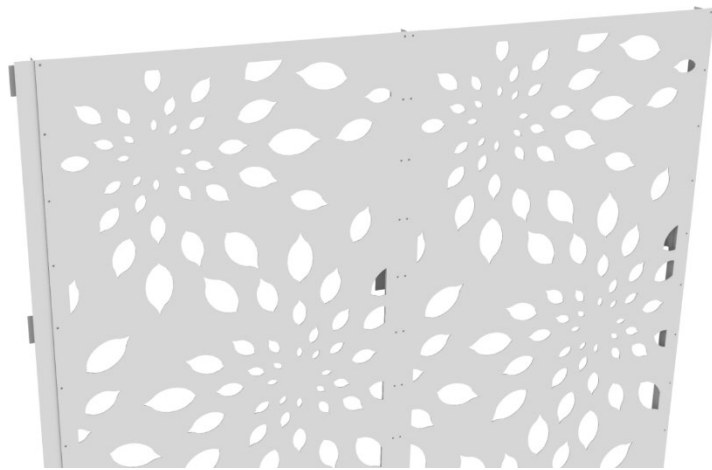
As will the -200 system, all elements of the system are using either rust-free aluminum or stainless steel. The panels, as part of the complete package, often have a double return on the edges for maximum rigidity in 1/8" material as well as to suspend the panels in front of the structure to provide a visual distance between the artwork and its frame. The manufacturing tolerances between all parts of this system helps contractors with an easy installation and provides peace of mind to the specifier that their design intent will come from one supplier.

Best uses for ParaClad-100 include public art, parking garage screening, hiding ventilated mechanical areas of the architectural envelope, and any application that must span floor-to-floor.

Parasoleil

ParaClad-Lite (<36psf) is the turnkey, cost-effective solution for projects that still require a visual statement. Fundamentally different in its intent, it is developed for installation on continuous wall surfaces, rather than spanning, so it allows for a lighter gauge, more cost-effective components. It features integrated tolerances to accommodate variations in the flatness of the building surface.

The structural system comes in a limited number of finish options but can be trimmed on the jobsite and adapt to unexpected field conditions.



Panel options are as standard or custom as anything in the other two product categories, but they most often flat and direct-mounted to the structure with self-tapping screws that match the finish of the panels. This system comes complete with panel labeling and a layout installation key and all the other details that each of our systems include to expedite the install process and lower and concerns by the contractor.

Best uses for ParaClad-Lite include giving an existing building a facelift, branding, wayfinding, and public art.

Summary:

Whichever ventilated façade system is right for the project, start with one of Parasoleil's baseline structural systems and work with our ALFA team to customize it to meet code requirements, site conditions, and your design intent. Parasoleil designs, engineers, and manufactures all its products in Colorado for projects across North America. We've been doing it for over 15 years, so we know a thing or two about exceeding industry standards to develop product systems with integrity to help create places where people want to be.

Parasoleil

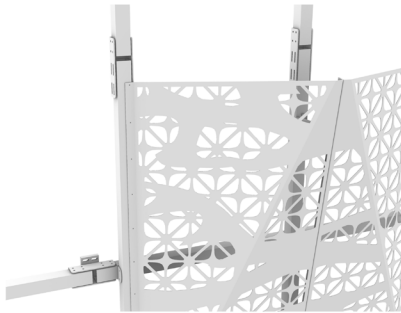
Parasoleil

*Filter light and frame space
to create better neighborhoods and
places where people want to be.*

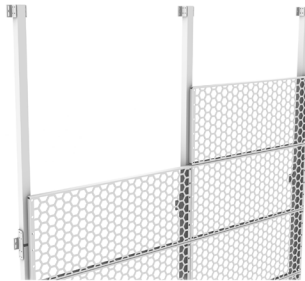


ParaClad: An award-winning, structural system for ventilated facade layouts by Parasoleil.

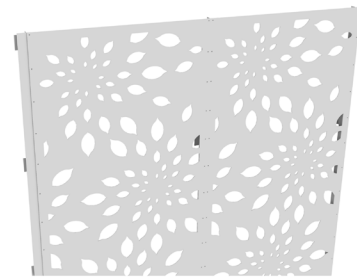
ParaClad-200
system



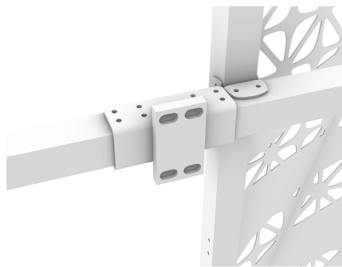
ParaClad-100
system



ParaClad-Lite
system



ParaClad-200
detail



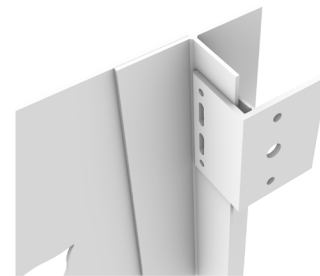
Reduce solar heat gain
Minimal penetration points
12' span in two directions
<33psf w/ seismic movement

ParaClad-100
detail



Floor-to-floor 12' span
Parking garage screening
<33psf w/ seismic movement

ParaClad-Lite
detail



Scrim over a solid wall
Wayfinding, branding
No prelim FEA available
<36psf w/ install tolerances

*ParaClad options are proprietary to Parasoleil and are
performance-rated for typical site conditions. Customization
and site-specific engineering available through design assist.*

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