



Rainscreen Wall Systems

Form and Function





Form



and Function

Architecture is a visual art form that can evoke emotions through the use of space, and create a context for living and working. Fundamentally, though, it is a structure, a shelter, a monument that is reliant on high-performance cladding elements to see it through years of wind, rain, snow and other harsh elements. Even further, the wall and roof are integral to the management of the indoor comfort of the building structure—to create everything from a functional workspace to an efficient learning environment.

At CENTRIA, we understand that to weather the storms, your vision must balance the form, or design, with the function. Our **Rainscreen Wall Systems** offer countless, exciting design options backed by the **superior thermal and moisture protection** your building envelope requires to stand the test of time. Because true performance, like beauty, starts from within.



MetalWrap™: CENTRIA's Ultimate Rainscreen Solution

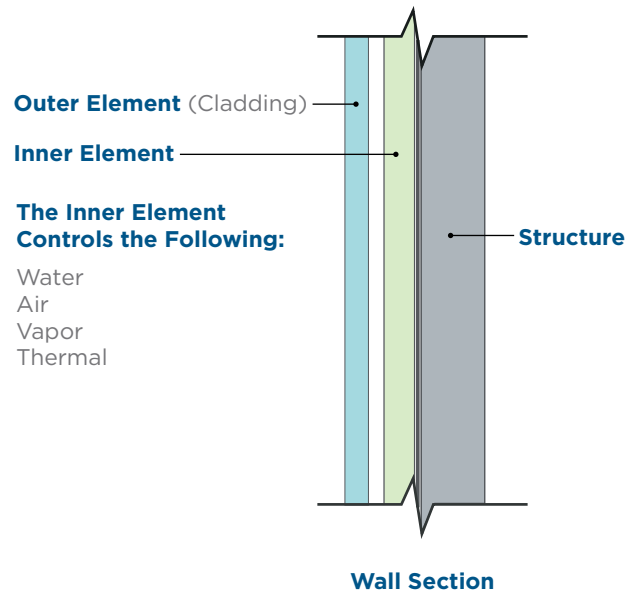
The First—and Second—Line of Defense

The Rainscreen Wall System has evolved into the premier design choice in exterior wall construction. It consists of an **outer element** that often acts as the aesthetic component and sheds and controls the majority of rainwater (but does not eliminate it). The **inner element** performs multiple functions, serving as the final water, air, vapor and thermal barrier.

The multi-component rainscreen wall is a popular choice today, with numerous components, methods, materials and assemblies readily available based on aesthetic preferences and environmental and climatic conditions. But multi-component rainscreen assemblies are susceptible to unintended performance issues due to:

- numerous penetrations
- potential moisture entrapment
- thermal short circuits

These assemblies often require multiple contractors for installation, leading to potential problems with quality control and jobsite coordination.



MODERN RAINSCREEN BACKUP SYSTEMS

Performance Requirements	Desired Characteristics
<ul style="list-style-type: none"> • Provide a high-performance air barrier • Provide a watertight envelope • Provide an effective vapor barrier • Provide a thermal envelope • Meet all code requirements 	<ul style="list-style-type: none"> • Allow for aesthetic flexibility • Durable and sustainable • Easy-to-understand system • Allow for ease of design and detailing • Allow for faster installation • Cost-effective

The Science Behind Rainscreen Wall Systems

MOISTURE ALWAYS FINDS A WAY IN

One of the amazing features of air, moisture and vapor is also one of the most destructive—inevitably they find the path of least resistance into buildings. The main ways moisture infiltrates a building and its components are:



1. Rainwater impingement

or leakage through voids in the moisture barrier—One of the biggest contributors to moisture in building elements, rainwater often enters in discrete locations.



2. Vapor infiltration

via breaks in the vapor barrier—Moisture slowly diffuses, causing condensation within the building envelope.



3. Air-transported moisture

through any unsealed paths within the building cavity—Moving from high to low pressure.

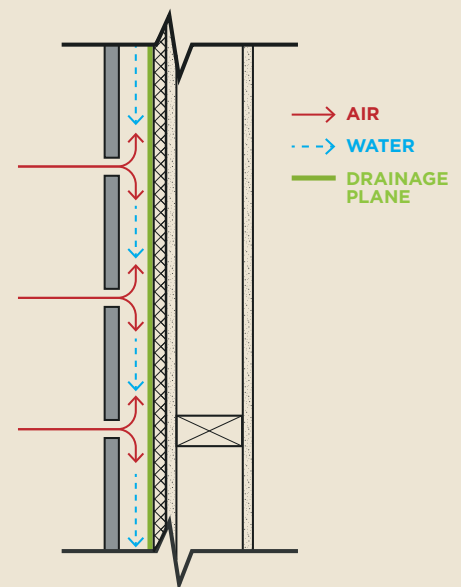
DRAINED AND BACK-VENTILATED RAINSCREEN SYSTEM

The drained and back-ventilated rainscreen system is designed to drain off the majority of the rainwater at the outermost wall surface. This allows the remaining rainwater to enter a pre-designed drain cavity created between the exterior rainscreen and the moisture barrier, where it drains and evaporates. The outer element has openings at joints and end conditions, which are designed to control rainwater by minimizing (not preventing) moisture penetration from the exterior.

However, it is the inner element, or backup wall, that protects and forms the weather barrier.

Because some amount of water is permitted inside the cavity, the moisture management within the cavity is critical to ensuring proper drainage and air, vapor and thermal management of the building envelope. Without this control, cavity moisture would have only one place to go: into your building.

As energy codes continue to become more stringent, the inner layer of typical wall systems has become more complex. As a result, the designer may be forced to consider the use of multiple product types in order to design an effective rainscreen system.



METALwrap™ THE ULTIMATE BARRIER SYSTEM

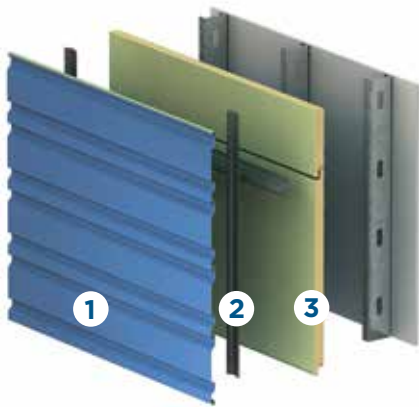
METALWRAP™ INSULATED COMPOSITE BACKUP PANEL

Too often, rainscreens focus solely on the outer layer of the cladding. While exterior panels give your building outward appeal, the inner layer provides the long-term performance.

Engineered with CENTRIA's Advanced Thermal and Moisture Technology (ATMP®), MetalWrap is the ultimate barrier wall system, providing long-term performance in a single, easy-to-design and easy-to-install system.

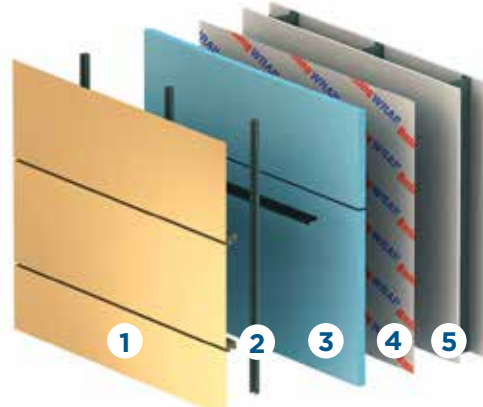
MetalWrap integrates with all of CENTRIA's back-ventilated metal rainscreen panels and virtually any type of exterior cladding. The combination creates multiple layers of protection, with MetalWrap forming a continuous air, water, vapor and thermal barrier.

METALWRAP SERIES



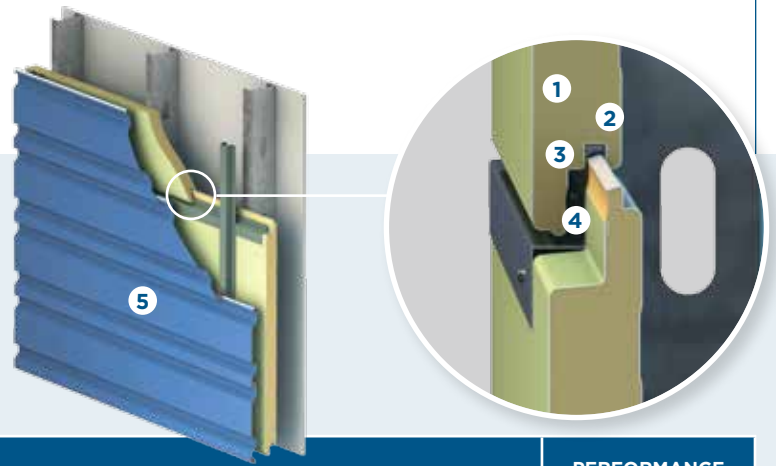
1. Exterior Rainscreen
2. Subgirts
3. MetalWrap Series with integral attachment system

TYPICAL MULTI-COMPONENT ASSEMBLY



1. Exterior Rainscreen
2. Zee Support & Vertical Subgirts (May cause thermal short circuits)
3. Insulation
4. Air and Vapor Barrier
5. Exterior Sheathing

CENTRIA RAINSCREEN SYSTEM ASSEMBLY FEATURES & BENEFITS



INNER ELEMENTS		PERFORMANCE
1 Insulating foam core	Achieve optimal thermal performance with a factory foamed-in-place core. MetalWrap utilizes polyisocyanurate foam insulation, and is available in several thicknesses with thermal ratings and performance that exceed IECC requirements in all climate zones.	Thermal
2 Steel face and liner	Unlike many multi-component wall systems, the MetalWrap panel utilizes a metal liner combined with sealant that creates an air and vapor barrier to provide unmatched protection. The steel face also provides a drainage plane.	Air Vapor Water
3 Factory-installed joint sealant	High-performance butyl sealant is applied in the joinery at the factory for ease of installation and to provide an air and vapor barrier.	Air Vapor
4 Pressure-equalized tongue-and-groove joinery	MetalWrap's innovative panel joinery eliminates thermal short circuits, while pressure equalization and joint sealant prevent moisture from entering the building. The innovative design accommodates integrated rails for ease of cladding installation.	Thermal Water
OUTER ELEMENTS		PERFORMANCE
5 Multiple cladding options available	CENTRIA offers a wide variety of cladding options that can be paired seamlessly with MetalWrap. Each system offers an array of profiles to create a wide variety of unique exterior aesthetics. For details, see pages 15-20.	Water

SINGLE-SOURCE PRODUCT AND INSTALLATION

Minimize risk and costs by sourcing all your rainscreen system products from one trusted provider: CENTRIA. Utilizing one company for your exterior metal cladding, aesthetic rainscreen and thermal weather barrier system also saves coordination time compared to sourcing from multiple vendors and installers.

WEATHERTIGHT WARRANTY

CENTRIA backs its rainscreen systems with a weathertight 10-year warranty. When any CENTRIA cladding panel is used with MetalWrap, you get the extra quality and performance assurance that no other backup wall with multiple components and layers can offer.

The CENTRIA Rainscreen System in Action



Project name

Kansas City Power & Light (KCP&L)
Safety and Training Center

Location

Kansas City, MO

Architect

Bell/Knott & Associates

Contractor

McCownGordon Construction, LLC

Dealer/Installer

Mays Maune McWard Inc.

Products Used

MetalWrap

300 Series
33,000 sq. ft.

Cascade

CC-260 Vertical
6,688 sq. ft.

Formavue

FV-600S KD

Intercept

Entyre
27,015 sq. ft.

Versapanel

Vertical
35,054 sq. ft.

CS MetalWrap Louvers

Shining a Light on Sustainable Design and Performance

In late 2015 when KCP&L launched an addition to their offices and Safety and Training Center in Kansas City, architects Bell/Knott & Associates' major focus was on sustainable design. The two-story, 53,000-square-foot Safety and Training Center supports KCP&L's linemen and apprentices.

Built with LEED (Leadership in Energy and Environmental Design) principles, the \$22-million, state-of-the-art education center boasts a number of energy-efficient design features as part of the focus on sustainable solutions, including renewable energy and better air quality and habitats.

Speed of construction was also a major consideration. Bell/Knott & Associates were faced with just an 18-month span to move the impressive project from ground-breaking to ribbon-cutting.



“We wanted to achieve that corrugated look with a panel that we knew was going to perform well.”

Amy Gilbertson, Project Manager, Bell/Knott & Associates

Why Rainscreen Systems Were Used

Project Manager Amy Gilbertson, Bell/Knott & Associates, was attracted to the clean aesthetic of CENTRIA's Intercept™ Modular Metal Panel System as well as the wide variety of product options for dynamic custom designs.

“Intercept offered us the same look and feel, but it was a more competitive bid,” Gilbertson noted. “It proved to be the most economical solution.”

Cascade® Metal Panel Systems offer a distinctive curved aesthetic and comprehensive functionality. The product was used as an accent wall in areas with industrial applications, filling “a necessary visual role” for the Center.

The total Rainscreen System is backed by CENTRIA's Advanced Thermal and Moisture Protection (ATMP®) technology in the form of MetalWrap™ Insulated Composite Backup Panels. MetalWrap integrates seamlessly with the Intercept system, Cascade single-skin panels, and even Formavue™ Windows and CS Louvers. All told, CENTRIA provided nearly 80,000 square feet of high-performance building products for the exterior envelope.

As the inner layer of the rainscreen system, MetalWrap panels provide defense against the harsh weather conditions. While MetalWrap's 3-inch panels boast a considerable R-value of 21, building designers were also impressed with the product's unique, single-component construction. As construction continued through the cold winter months, MetalWrap lived up to its reputation of easy installation.

“With this sheathing system we weren't required to have three passes by sheathers, insulators and water barrier subcontractors. MetalWrap would be all under one installer with one pass,” Gilbertson reported.

Formavue windows and CS louvers “provided all the design aspects to meet the architect's goals to construct the building so it is airtight and watertight and provided one of the highest-performing exterior envelopes in the country,” said Gary Mays, president/owner of Mays Maune McWard Inc., the project's dealer.

The CENTRIA Rainscreen System in Action



Project name

Hard Rock Rocksino
Northfield Park

Location

Northfield, OH

Architect

Richard L. Bowen
& Associates

Contractor

Gilbane Building
Company

Dealer/Installer

A.C. Dellovade Inc.

Products Used

MetalWrap

100 Series
72,414 sq. ft.
200 Series
17,600 sq. ft.

Concept Series

CS-200
39,212 sq. ft.
CS-210
5,347 sq. ft.
CS-260
1,788 sq. ft.

IW Series

IW-10A
3,450 sq. ft.

Rock and Roll Is Here to Stay

Cleveland, a city already known for the iconic Rock and Roll Hall of Fame, was the perfect home for Hard Rock Rocksino Northfield Park. Famous rock stars or not, visitors are bound to find excitement here. The first property of its kind, Rocksino is a true entertainment destination complete with a casino, racetrack, live entertainment, bars, restaurants and, of course, classic rock and roll memorabilia throughout the 200,000-square-foot property.

The architects wanted to create a timeless yet contemporary image. One look at the sleek metal façade behind the iconic larger-than-life Hard Rock guitar, and that vision comes across loud and clear. Designed around an “Arena Rock” theme, the high-energy venue resembles a soundstage featuring dramatic uplighting. You may feel like a rock star yourself before you even walk in the door.



“The general contractors like this system because you can enclose the building in one pass and it’s ready for the finishes.”

Tom Brown, Project Manager, A.C. Dellovade Inc.

Why Rainscreen Systems Were Used

Hard Rock International called for a very specific vibe for the new Rocksino—the modern aesthetic epitomized by rock and roll.

“It’s a certain feeling,” explains David Bowen, principal at Cleveland-based Richard L. Bowen & Associates, the architect of record on the Hard Rock Rocksino. “Their focus is delivering an aesthetic and creating that feeling you get when you go into a Hard Rock.”

Architects didn’t want to gamble with the design and used metal to create the overall feel. The project utilizes CENTRIA’s MetalWrap™ Insulated Composite Backup Panels behind IW Series Concealed Fastener Panels and MCM panels.

For an ultra-modern look that could withstand Cleveland’s unforgiving weather, CENTRIA’s Rainscreen System proved the ideal solution. Since MetalWrap integrates with a variety of CENTRIA cladding, architects were able to achieve the “Arena Rock” theme, combining unique colors and textures to suit their design vision.

Thanks to MetalWrap’s simple installation process and integrated panel systems, contractors were able to install 6,000 square feet of panels per day, going from ground-breaking to ribbon-cutting in only one year.

Color was an essential detail to this project, and IW Series Concealed Fastener Panels provided numerous options. The IW Series panels featured Surrey Beige and Copper colors, while the MCM panels showcased CENTRIA’s unique Allusion Pre-Finished Metal Print Coating System in Rust. The colors in tandem were used to create the dramatic, custom effect of Rocksino’s façade.

The insulated common-lock joint on each of these drained, back-ventilated rainscreen panels, when combined with MetalWrap backup walls, provided hall-of-fame-worthy thermal and moisture protection.

The CENTRIA Rainscreen System in Action



Ahead of Schedule and Under Budget

At Sherwood Middle School in Shrewsbury, Ma., having the right materials is the pathway to success—and that doesn't just apply to the students.

This award-winning project combined exceptional planning, design, construction and high-performance materials. The school district partnered with the Massachusetts School Building Authority to rebuild the facility and meet the school's growing needs. The result was a sustainable, state-of-the-art school that could provide a 21st-century learning environment for its 900 students.

The \$33.8-million project was completed six months ahead of schedule and more than \$3 million below budget. It earned several awards, including the School Planning & Management Award for "Outstanding Architecture & Design in Education," the Green Education Design Showcase, the "Judges Choice: Sustainability & Innovation Award" and the Metal Construction Association "Chairman's Award for Education." Sherwood Middle School also received a Massachusetts "High Performance Green School" rating for environmental sustainability.

Project name

Sherwood Middle School

Location

Shrewsbury, MA

Architect

Lamoureux Pagano & Associates

Contractor

Gilbane Building Company

Dealer/Installer

LYMO Construction

Products Used

Concept Series

CS-200
5,095 sq. ft.
CS-620
12,360 sq. ft.
CS-660
12,274 sq. ft.

MetalWrap

300 Series
66,375 sq. ft.



“MetalWrap is one of the reasons why we finished ahead of schedule and under budget.”

Mike Pagano, President, Lamoureux Pagano Associates Architects

Why Rainscreen Systems Were Used

CENTRIA Rainscreen Systems are engineered for moisture, vapor and air control along with superior thermal efficiency, which is critical for environmental sustainability as well as time and cost concerns. Lamoureux Pagano Associates Architects chose the MetalWrap™ insulated composite backup panel system integrated with the Concept Series® Concealed Fastener Panels drained, back-ventilated rainscreens with MicroSeam® Corners so they could be installed in a fraction of the time required to install traditional multi-component assemblies, while still providing quality, value and an aesthetic appeal to Sherwood Middle School. Today, CENTRIA's MetalWrap backs and protects nearly the entire school façade with 66,000 square feet of product.

In this project, horizontal panels in Harvest Gold and Southwest Gold add texture and warmth to the building's exterior. MicroSeam corners form a structural bond, making corners virtually seamless.

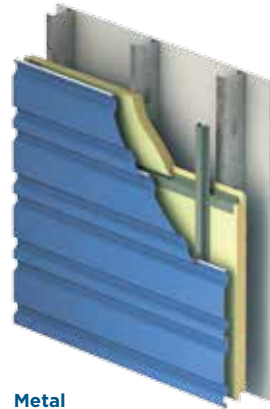
“With an educational facility, there is no single factor that determines our design choices, but rather a number of equally important considerations— aesthetics, thermal value, weather resistance, installation time and budget,” said Katie Crockett, AIA, project architect at Lamoureux Pagano Associates Architects. “Each of these aspects played a key role in the Sherwood Middle School project, and CENTRIA's MetalWrap Series was the right choice to address our priorities.”

CENTRIA Rainscreen Panels with MetalWrap: Better Together

As one complete system, CENTRIA's back-ventilated rainscreens with MetalWrap insulated composite backup panels provide the ultimate barrier wall system and a variety of distinctive design options, all with a 10-year weathertight warranty.

UNLIMITED DESIGN FREEDOM

In addition to CENTRIA's metal cladding profiles, MetalWrap also integrates with other cladding products, including brick and terra-cotta, providing unlimited design freedom.



Metal



Brick



Terra-Cotta

METALwrap™ THE ULTIMATE BARRIER SYSTEM

CENTRIA Rainscreen Products

Intercept™ Modular Metal Panel System

The beauty of the Intercept modular metal panel system lies in its design features. Versatile and sustainable, CENTRIA's Intercept can take your project to the next level. Whether with its multiple panel depths, curved corners or any number of unique project parameters, Intercept answers the call for nearly limitless design potential.

- Designed with a concealed attachment flange that can be configured in almost limitless ways.
- Can be custom fabricated in different shapes, planes, angles and sizes to suit specific project needs.
- Available in up to 48-inch modules and up to 12-foot lengths and solid aluminum or a natural monolithic metal.
- Broad spectrum of coating options.
- Flashing, panel finish and thickness are uniform, and coil coating is consistent.
- Nearly 100% recyclable, sustainable solution.



Intercept LVLZ



For information about all of CENTRIA's cladding options, visit CENTRIAPERFORMANCE.COM/rainscreens.

CENTRIA Rainscreen Products

Concept Series® Concealed Fastener Panels

Concept Series back-ventilated rainscreen panels are engineered to allow for a customizable aesthetic with a combination of concealed fasteners and a common-lock joint. Create interesting profiled wall relief designs for both new construction and retrofit projects.

- High-performance clip design creates the ventilation cavity and drain plane.
- Clips allow for thermal and seismic movement.
- Nine different profiles with common asymmetrical articulation provide a variety of style options.
- Panels integrate with Cascade Metal Panel Systems.
- Panels are available in widths of 12 inches and 16 inches, and lengths up to 30 feet.



CS-220



CS-260



CS-620



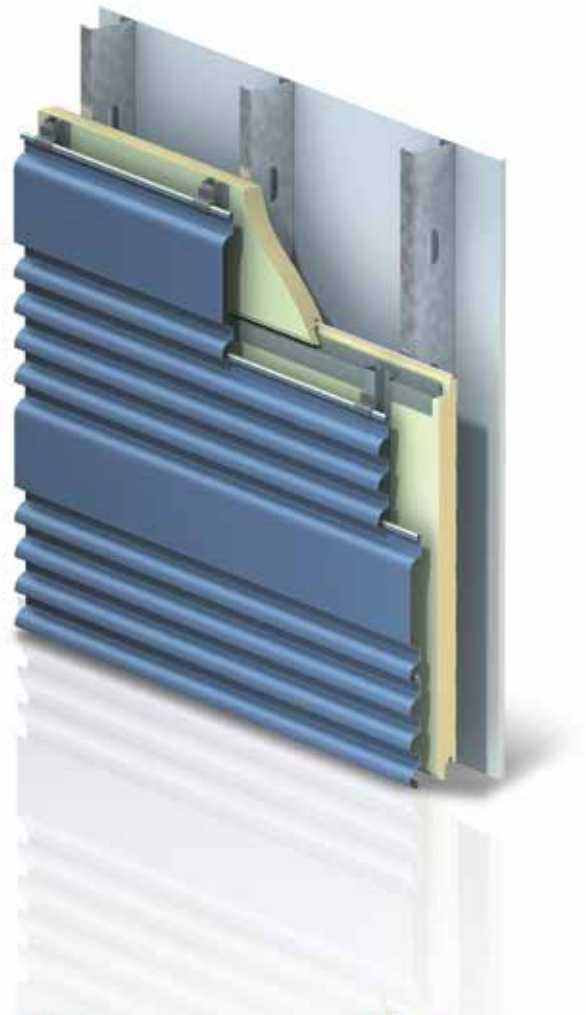
CS-660

For information about all of CENTRIA's cladding options, visit CENTRIAPerformance.com/rainscreens.

Cascade™ Metal Panel Systems

Bring more life to designs with panels inspired by nature. With their signature flowing curve and range of profile options, Cascade rainscreen panels give your project a bold, unique aesthetic. Serving both form and function, the panels offer exceptional thermal and moisture control.

- The 16 patented profiles have asymmetrical ribs, concealed fasteners and a common-lock joint.
- Panels can be installed vertically or horizontally and are available in a palette of colors.
- Air flows freely and moisture drains easily, thanks to the clip design.
- Panels are interchangeable with Concept Series Concealed Fastener Panels.
- Panel widths of 12 inches and 16 inches, and lengths up to 30 feet are available.



CC-220



CC-260



CC-623



CC-664

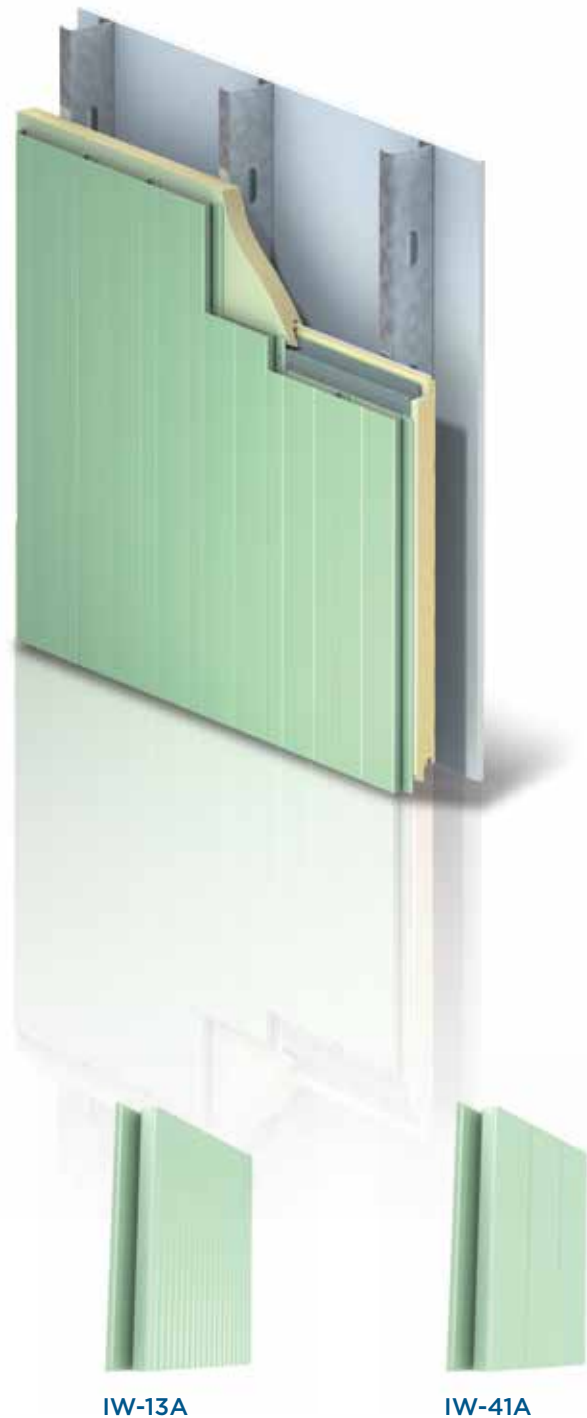
For information about all of CENTRIA's cladding options visit CENTRIAPerformance.com/rainscreens.

CENTRIA Rainscreen Products

IW Series Concealed Fastener Panel

Create exciting texture and visual interest with IW Series rainscreen panels. Choose from twelve interchangeable profiles featuring flush, ribbed, striated and stepped designs—and a wide choice of embossed and smooth finishes.

- Concealed fasteners create a crisp, clean aesthetic.
- Common-lock joint design allows for interesting aesthetic effects.
- Panels may be installed both vertically and horizontally.
- Panels are 12 inches wide and up to 30 feet long.



IW-10A

IW-11A

IW-13A

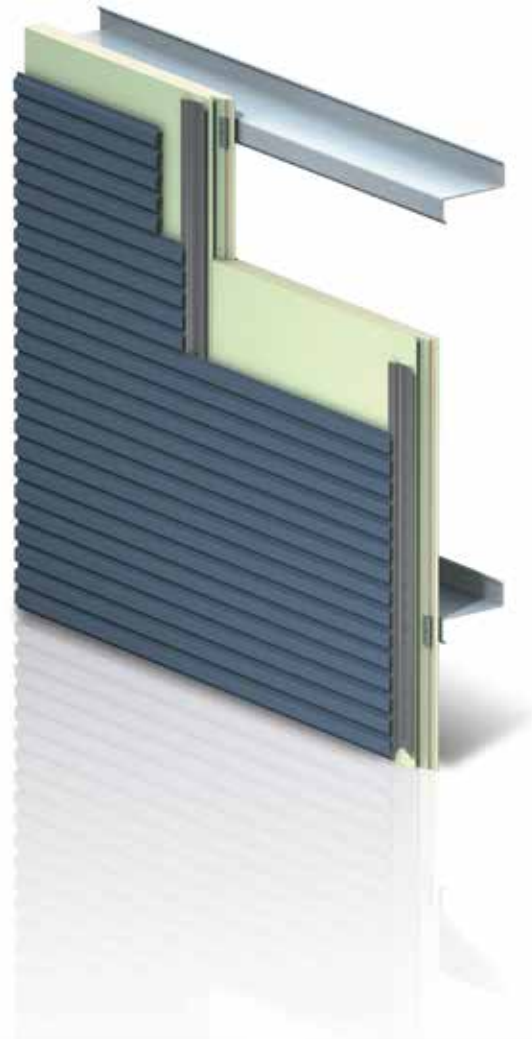
IW-41A

For information about all of CENTRIA's cladding options, visit CENTRIAPerformance.com/rainscreens.

Exposed Fastener Panels

CENTRIA Exposed Fastener Panels are extremely versatile for new construction or modernizing an existing design. Use them in a variety of applications, from exterior walls to roofs or even soffits.

- Seven different profile options have ribs that run horizontally or vertically.
- Insulation may be added to increase thermal protection.
- Durable panels have excellent negative wind load properties.
- Panels are available in standard lengths up to 40 feet.



Econolap 3/4"



Style-Rib



MR3-36



BR5-36

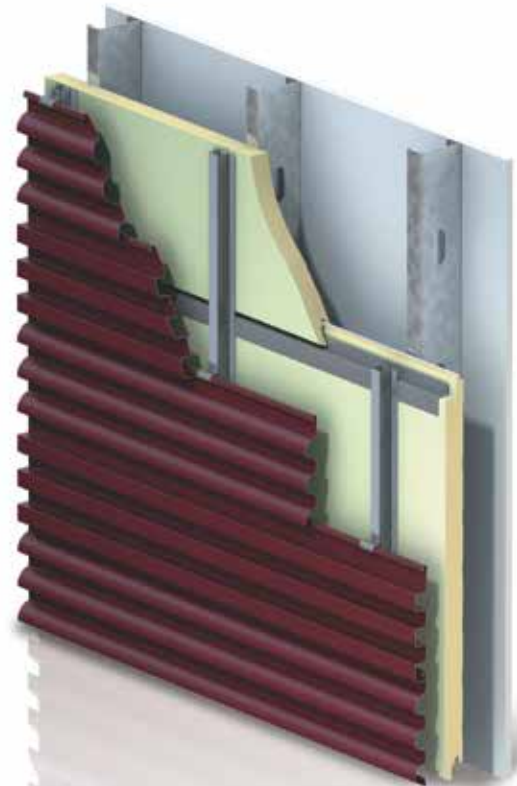
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CENTRIA Rainscreen Products

Paradigm™ Custom Fabricated Metal Panels

The standard for innovative custom design, Paradigm panels help bring any project vision to life. Create one-of-a-kind custom profiles in a full palette of colors and finishes. With the ideal combination of high performance from the CENTRIA Profile Series metal panels and unique aesthetics, there is no limit to your customized exterior wall design.

- Concealed or exposed fastener options.
- Horizontal or vertical orientation with variation in design and shadow relief.
- All-weather installation capability and fast-track scheduling.
- Confidence that panels meet project load and code requirements.
- More than 85 standard colors and 11 finish options available along with custom color availability.



Paradigm with Cascade™



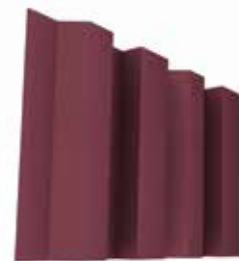
PCE-6



PCE-8



PCE-9



PCE-15

For additional library shapes, please refer to CENTRIA's product catalog.

Rainscreen Design Options

Add eye-catching accents to your projects with CENTRIA Rainscreen System design options that integrate with CENTRIA Rainscreen Panels. Create seamless edges with MicroSeam® Corners or coordinate aluminum extrusions visually and mechanically with MicroLine™ Extrusions. Profile Louvers blend louvers invisibly into the wall to create a clean, smooth finish. Curved panels add a radius design element and are available in a range of colors and finishes to harmonize with any project.



CENTRIA Service and Support

At CENTRIA, we're committed to the idea that form must follow function, the same way great design must be backed by exceptional service and support. CENTRIA's technically trained sales force and teams of experienced engineering and design professionals work with design teams from the first sketch to the grand opening to troubleshoot and collaboratively solve design challenges.

With more than a century of innovation, CENTRIA has developed scientific advances that drive our product development. Our engineers work with commercial construction industry experts to conduct independent research and product testing. It is through this dedication that we've engineered CENTRIA Rainscreen Systems to provide superior function and seamless form for your projects.

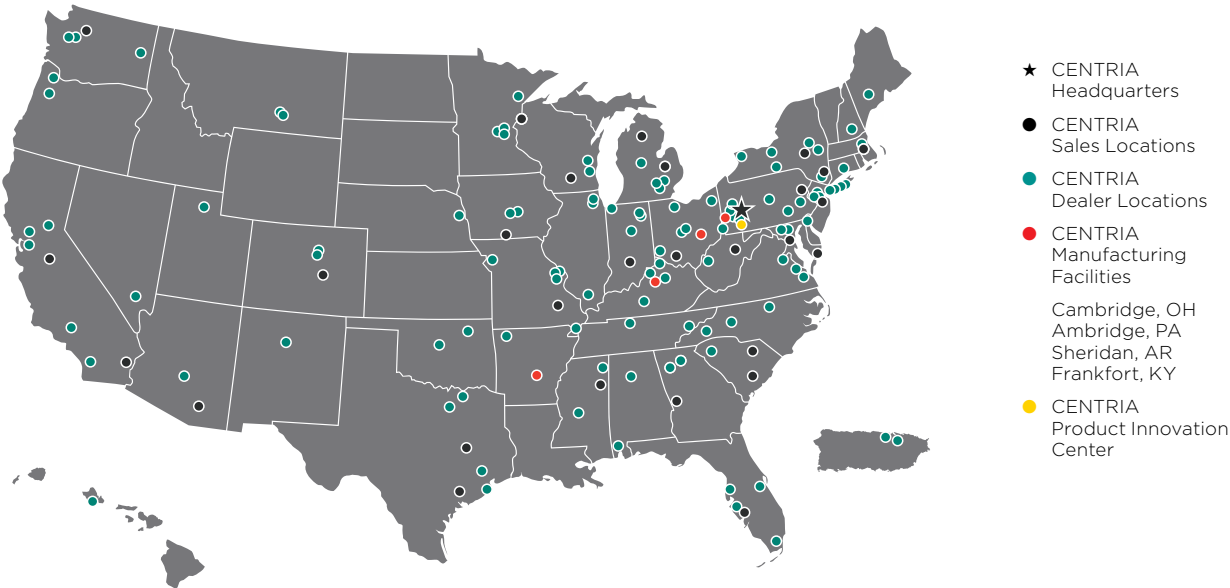
CENTRIA Dealer Network

With hands-on product knowledge and extensive training, our elite dealer network is the backbone of CENTRIA support. They are the force behind countless successful projects, providing building teams with the help they need, including training, project pricing and constructability reviews, and superior quality installation to ensure the job is done right.

CENTRIA International

CENTRIA serves the international building community with comprehensive products and services. In Europe, Asia, Africa, the Middle East and beyond, architects are experiencing the architectural innovation found only through CENTRIA. Learn more at global.centria.com.

CENTRIA DEALER NETWORK



There's no telling when **inspiration may strike.**

Find complete information on CENTRIA's entire line of Rainscreen System products and design options online, even when you're on the go. Explore a range of panel options, colors and finishes to give your project its own unique signature. Download product specifications and the technical information you need to ensure high performance.



CENTRIAPERFORMANCE.COM



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Due to CENTRIA's policy of continuous improvement, we reserve the right to change, discontinue or modify our products, specifications and designs without notice and without incurring obligations.

