CladiShield Installation System
Rainscreen System
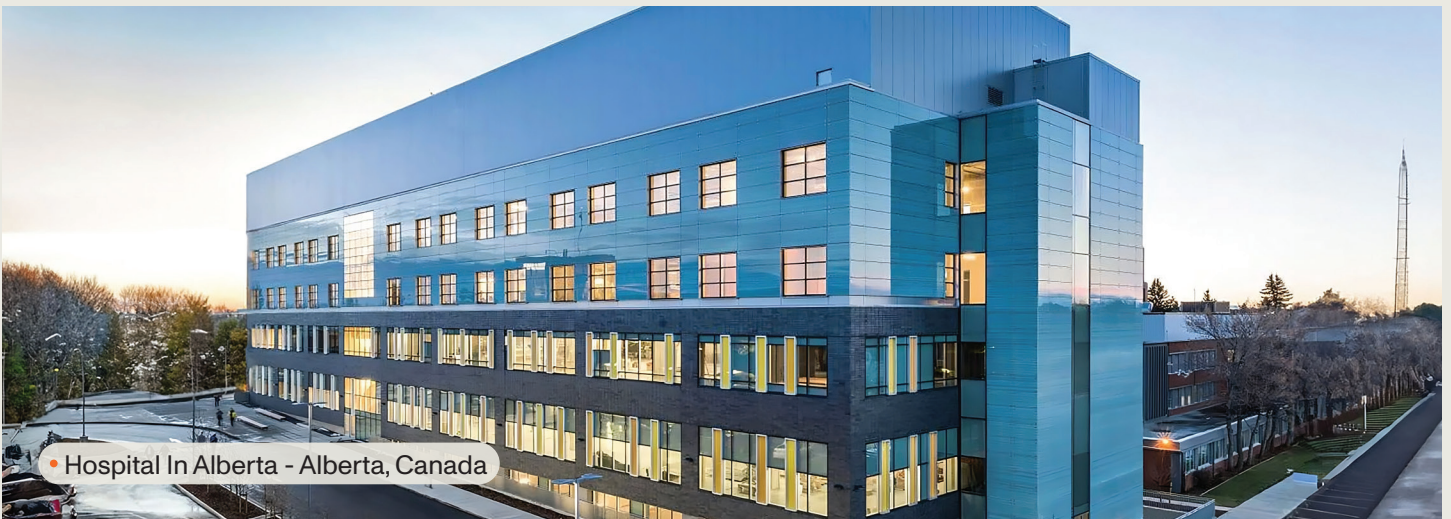
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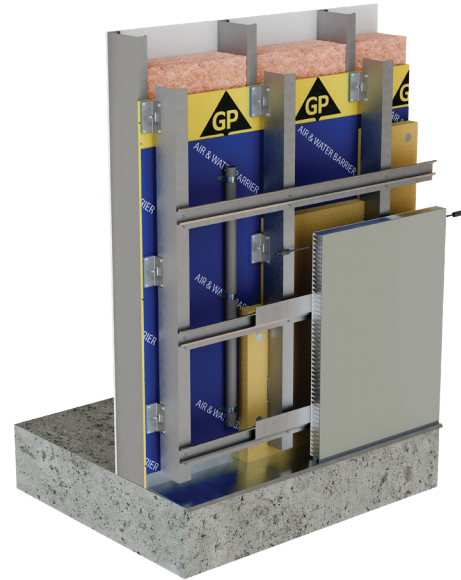# CladiShield Installation System

Introduction

The Mitrex CladiShield rainscreen system is a comprehensive solution for building exteriors. It includes an air and moisture barrier, continuous insulation, and adjustable sub-framing systems. Versatile and easy to install, it caters to various architectural projects, offering high-performance features such as unlimited R-value insulation and compliance with building codes. With its durability and aesthetic appeal, the CladiShield system is a reliable choice for architects and contractors alike.

- Air pressure equalized rainscreen system
- Swift and precise installation
- Stick-built or pre-assembled capabilities
- Unlimited R-value equivalency
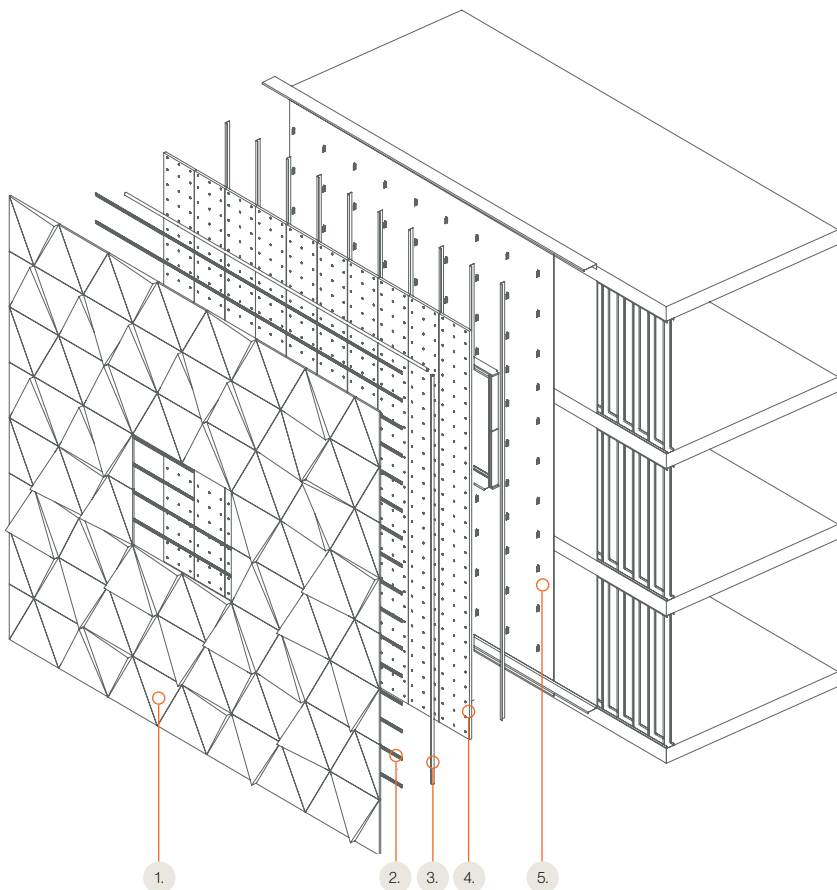- 3rd party tested to withstand Martian environment

CladiShield Types

- Stick-built: Components assembled on-site.
- Pre-assembled: Components fabricated off-site for quicker installation.

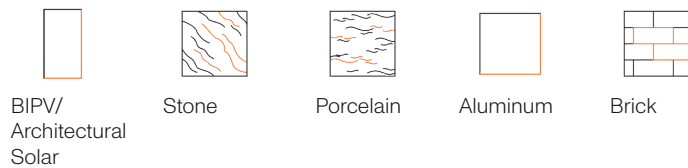## System Components

CladiShield System - Components Detail

1. Customizable BIPV Module (Facing + Aluminum Honeycomb Backing)

2. Interlocking Channel

3. Conduit And Wiring

4. Insulation

5. Air & Moisture Barrier

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System Features

1. Rainscreen system
    - An air pressure equalized cavity wall system.
    - Air and water tight & allows ventilation, Continuous insulation & air vapour barrier.
2. Improved installation
    - Precise installation & irregular design capabilities.
    - Faster installation with pre-assembled units.
3. Versatile assembly
    - Stick built or pre-assembled capabilities.
    - Floor to floor panels.
4. High-performing envelope
    - From 0-60 R-value in less than 8 inches
    - Unlimited R-value equivalency
    - Thermal & acoustic insulation.
5. Code compliant
    - 3rd party tested and code compliant system.
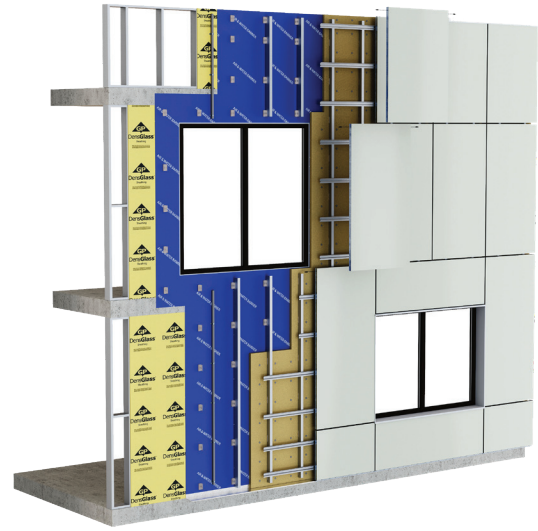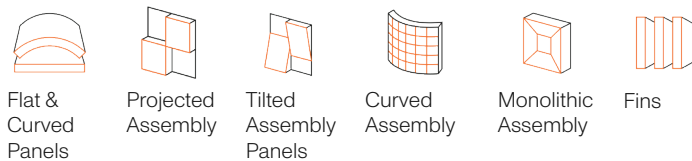   - Fire testing including NFPA 285, S134, EN 13501, and more.

● CladiShield System

Multi-Facing Panels

Mitrex takes pride in pushing the boundaries of facade technology, offering an unparalleled range of customizable facing options including BIPV, stone, porcelain, brick, and aluminum PVDF.

BIPV/
Architectural
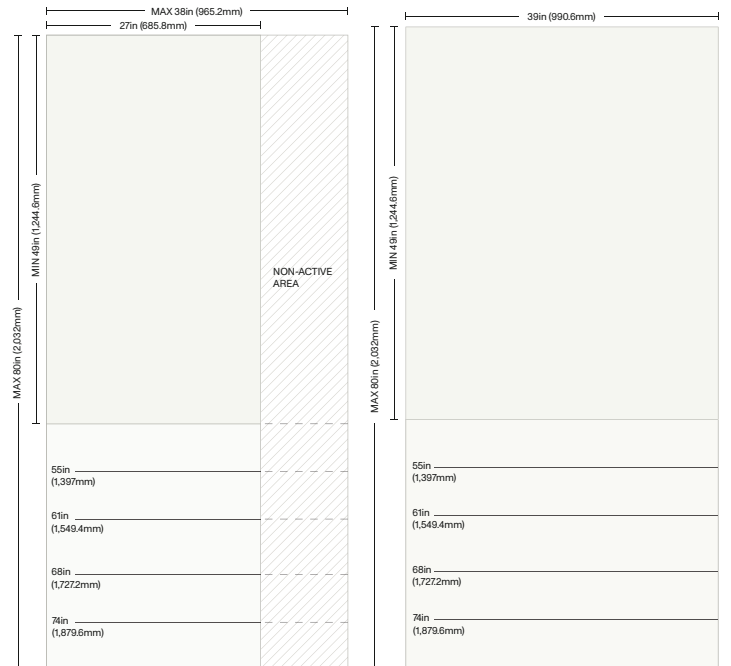Solar   Stone   Porcelain   Aluminum   Brick

Shapes

Mitrex Solar Facade system is a symphony of versatility and flexibility, harmonizing with the rhythm of modern architecture. It's not just about panels; it's about monolithic architectural elements that breathe life into columns, curve around contours, and stretch across extruded facades. Imagine panels cut at daring angles, high-performing bonding materials, and reinforced with aerospace metal for a seamless, monolithic appearance.

Flat &
Curved
Panels   Projected
Assembly   Tilted
Assembly
Panels   Curved
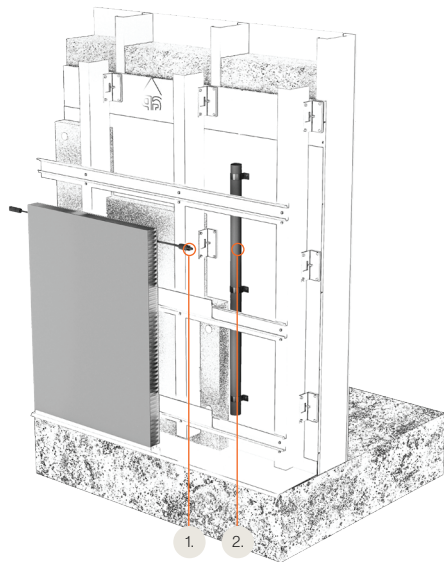Assembly   Monolithic
Assembly   Fins

Sizes

The CladiShield Rainscreen System utilizes standard panels measuring 80in x 39in or 80in x 27in. Pieces can be preassembled for larger panel spans. These dimensions provide a versatile and practical size, suitable for a wide range of architectural applications, ensuring easy integration and efficient installation on various building facades.

Connection and Wiring

Concealed circuitry and wiring make incorporation of BIPV easy - and we are here to help every step of the way. Our CladiShield System not only ensures a safe and resilient wall system, but it also provides energy with concealed electrical components run behind each panel.

1. Module Wiring

2. Conduit

Environmental

The CladiShield Rainscreen System embodies environmental consciousness through its innovative design and choice of materials. With panels composed of 96% recyclable materials, it underscores a strong commitment to sustainability.

With its robust construction, the CladiShield System ensures long-lasting durability with an efficient installation process that conserves resources during construction. There is also a reduced need for frequent maintenance, thereby minimizing overall environmental impact.

Quality & Durability

Designed with high-quality materials using state of the art production, CladiShield maintains rigorous quality control standards demonstrated with ISO 9001 compliance. Our commitment to excellence is further validated with ISO 10002 and ISO 10004, ensuring that customer satisfaction and quality management is met.

Warranty

The CladiShield Rainscreen System is backed by a comprehensive 25-year product warranty, ensuring long-term reliability. This warranty guarantees the system will perform effectively for decades. Additionally, the system comes with an energy performance warranty, guaranteeing a power output of at least 80% at the 25th year, providing peace of mind and assurance of sustained performance over time.

Testing

Test	Test Description	Result
ASTM E283	Air Leakage Resistance	Qinf – 0.031 cfm/ft2 or 0.155 L / s-m2 at 300 Pa; Qexf – 0.024 cfm/ft2 or 0.122 L / s-m2 at 300 Pa
ASTM E330	Structural Performance by Uniform Static Air Pressure Difference	Design Load at +/-80 psf (+/- 3840 Pa), No failure or permanent deformation
ASTM E331	Water Penetration Resistance	No water infiltration at 15 psf or 720 Pa
CAN / ULC S134	Standard Method Fire Test of Exterior Wall Assemblies	Passed
CAN / ULC S135	Standard Test Method for the Determination of Combustibility Parameters of Building Materials Using an Oxygen Consumption Calorimeter (Cone Calorimeter)	Total Heat Release: ≤ 3 MJ/m²; Smoke Extinction Area: ≤ 1.0 m² (≤ 0.7 m²)
ASTM E84	Tunnel Test	Flame Spread Index: 10; Smoke Developed Index: 200; Class A
CAN / ULC S114	Non-Combustibility in Building Materials	Passed
ASTM E90	Sound Transmission Class	STC Rating 34
EN13501	Fire Classification of Construction Products and Building Elements	Rating: A2-s1,d0

Compare Our Systems

		CladiShield	Claditized	CladiFab
	System Render			
System	Lightweight Panel System	✔	✔	✔
	System Type	Rainscreen wall system	Unitized wall system	Prefabricated, complete wall system
	Wall Components Included	Insulation, AWB not included	Insulation, AWB, and wall assembly components not included	Insulation, AWB, and wall assembly components included
	Air and Water Tight	Air and water tight, and rainscreen principle	Air and water tight	Air and water tight, and rainscreen principle
	Insulation & AWB	Continuous insulation and AWB	-	Continuous insulation and AWB
Features	System Weight	3.16 lb/sq ft	2.63 lb/sq ft	3.19 lb/sq ft
	R-Value	Unlimited R-value equivalency	Unlimited R-value equivalency	Maximum R-60
	Panel Size	80in x 39in (2032mm x 990mm)	Maximum Custom: 125in x 80in (3175mm x 2032mm) Maximum Preassembled: 355in x 80in (9017mm x 2032mm)	Maximum Custom: 125in x 80in (3175mm x 2032mm) Maximum Preassembled: 355in x 80in (9017mm x 2032mm)
Installation	Sequencing	Structure built, walls and windows built, then panels installed	Structure built, walls and windows built, then panels installed	Structure built, walls and windows built, then panels installed
	Installation Speed	-	Quick installation	Quick installation
	Installation Capacity	250 Installed SF/Day/Crew	500 Installed SF/Day/Crew	500 Installed SF/Day/Crew

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Compare Our Systems

		• CladiShield	• Claditized	• CladiFab
	Installation position	Installation from outside	Installation from inside or outside	Installation from inside or outside
	Support required	Backup wall required	Structural slabs required	Structural slabs required
	Support Attachment	Attachment to backup wall with subframing	Slab to slab attachment	Slab to slab attachment
	Panel Spans	-	Floor to floor panel spans	Floor to floor panel spans
	Concealed Fasteners	✓	✓	✓
Design	Panel Spans	Multi-facing options including BIPV/architectural solar, stone, porcelain, aluminum PVDF, brick veneer	Multi-facing options including BIPV/architectural solar, stone, porcelain, aluminum PVDF, brick veneer	Multi-facing options including BIPV/architectural solar, stone, porcelain, aluminum PVDF, brick veneer
	Irregular design capabilities	✓	✓	✓
Performance	Connection Points	-	Fewer connection points	Fewer connection points
	Reduced thermal bridging	✓	✓	✓
	Improved acoustic performance	✓	✓	✓
	Reduced structural loads	✓	✓	✓
Testing	3rd party tested	✓	✓	✓
	Code-compliant & safety tested	✓	✓	✓
	Fire tested	✓	✓	✓

MITREX

• Toll Free

+1 (855) 254 0214

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mitrex.com

info@mitrex.com

• Headquarters

41 Racine Rd, Toronto, ON M9W2Z4, Canada

+1 (416) 497 7120

• USA Office

Chrysler Building, 405 Lexington Avenue Floor 26, New York, USA, 10174

+1 (646) 583 4486

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