MITREX™ | Cladify

Building a Greener Future:

Sustainable Material Solutions Presentation

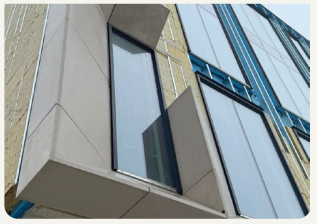
Who We Are

Natural Roots to Solar Innovation

Our mission is to be the catalyst that accelerates the adoption of sustainable, energy- generating, human-made structures.

Our Background

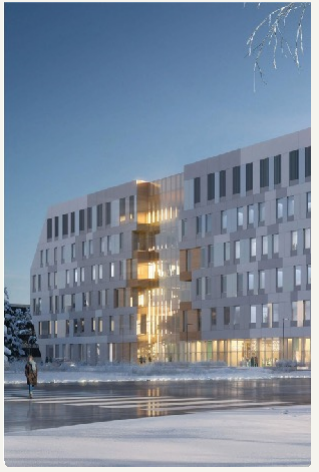
- 25+ years in cladding construction
- Manufacturing in Canada with 25,000 square feet daily output
- In-house team of skilled architects, designers, engineers, sales consultants, and project managers
- Fully code-compliant, fire-rated, and installation-ready architectural facade material



Stone Cladding

Lightweight Cladding

Multi-Facing & High-Performance Cladding



Solar Facade

Major Milestones

+25Million SQFT Installed

+700 Projects Installed

+1.6Million SQFT In The Pipeline

2003 — GCAT Group Founded

2014 — Cladify Founded

2019 — Mitrex Founded

2024 — MithraGPT (AI) Launching

2025 — Guinness World Record - Largest BIPV Solar Mural
The SunRise Building

2026 - Q1 — North America's Largest BIPV Building
University Of Toronto

2026 - Q2 — The World's Largest BIPV Building
Binghatti Mercedes Benz Residences

Discover Energy-Generating Products

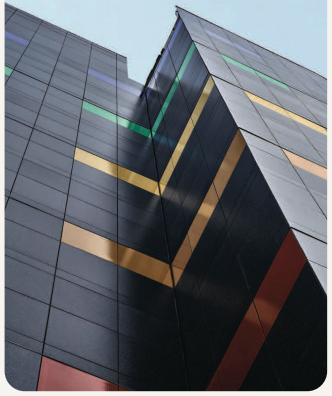
Mitrex

eFacade LITE Cladding

BIPV in 5 colors and 2 sizes

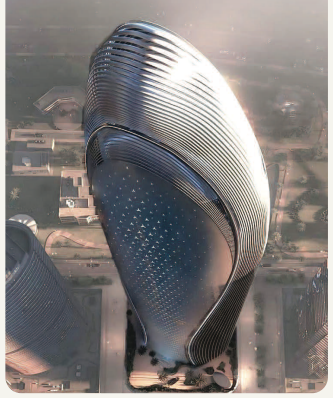
eFacade PRO Cladding

BIPV in 48 colors with rainscreen installation



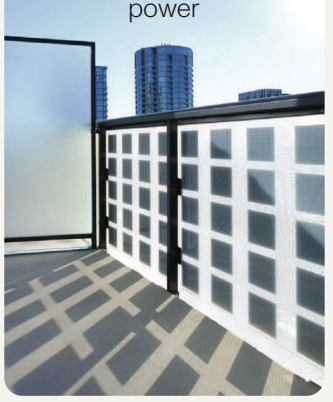
eFacade PRO+ Cladding

Custom BIPV in any color, size & system



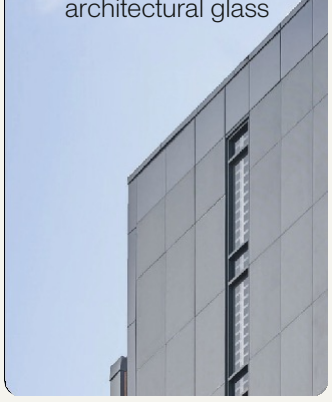
Solar Railing

Balcony railing systems with integrated solar power



Solar Glass

High-performance, energy-generating architectural glass



Discover Sustainable Products

Cladify

Manufacturing & Company Video

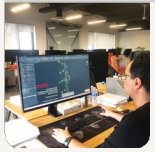
Our Approach

We have a holistic approach to ensure architectural and sustainability needs are met and challenges on site are addressed.

Our team provide guidance every step of the way from BIPV feasibility, optimization strategies, energy analyses, installation methods, and more.

Project Initiation

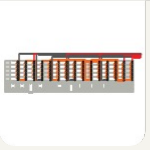
Design Assist



Project Proposal & Modeling

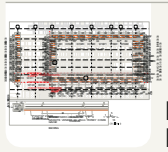
Manufacturing

Procurement & Scheduling



Project Design

Project Management



Installation Manual

Installation

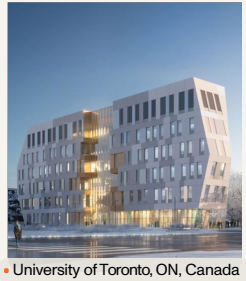
Why Mitrex?

Ideal for New & Retrofit Projects

High-Rise Residential

The SunRise, AB, Canada

Educational Buildings

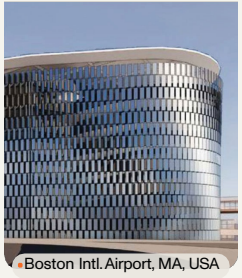


University of Toronto, ON, Canada

Healthcare Facilities

Chinook Hospital , AB, Canada

Large Scale Infrastructure



Boston Intl. Airport, MA, USA

• Architects

- Available in thousands of colors and textures.
- LEED and net-zero certifications.
- Retrofit projects with sustainability needs and façade upgrades.
- Building code compliant.
- Fire tested (NFPA 285, S134, EN 13501).

• General Contractors & Builders

- Fast, simple installation.
- Traditional installation systems & electrical work (No tower crane required).
- Low scrap volume on site.
- Single trade onsite / very little storage space.
- Fire tested (NFPA 285, S134, EN 13501).

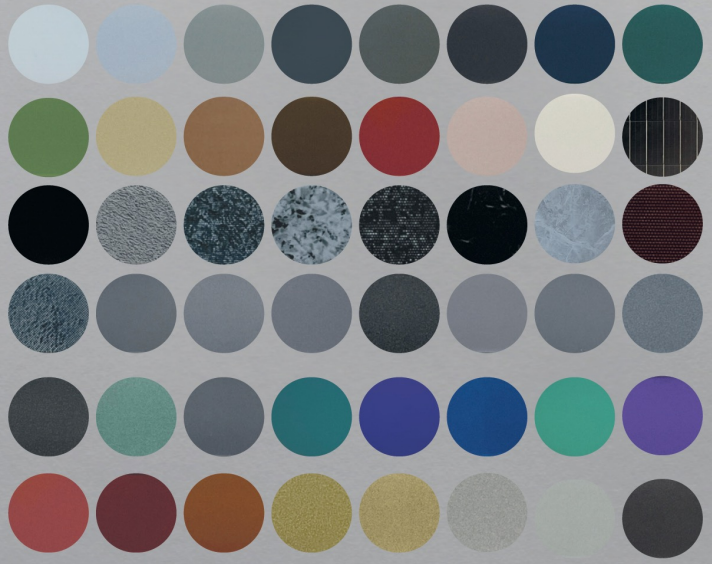
• Building Owners

- Accessing green financing and funding opportunities.
- ESG or carbon neutrality goals.
- Green building or renewable energy mandates.
- Low maintenance and a lifetime warranty.
- Sustainability targets while generating a ROI.

Solar Energy Generation


Does BIPV Work?
1. What does BIPV look like?
2. Isn't solar ugly?

Facing Color Options

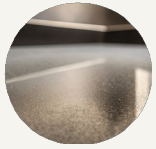


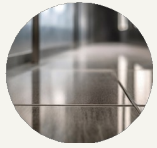
Facing Finishes

Mitrex's diverse range of textured solar facades offer BIPV with a smooth, high-gloss finish to a rustic, earthy feel of stone-like textures, to enhance building envelopes.


Super Satin Glass


Satin Glass

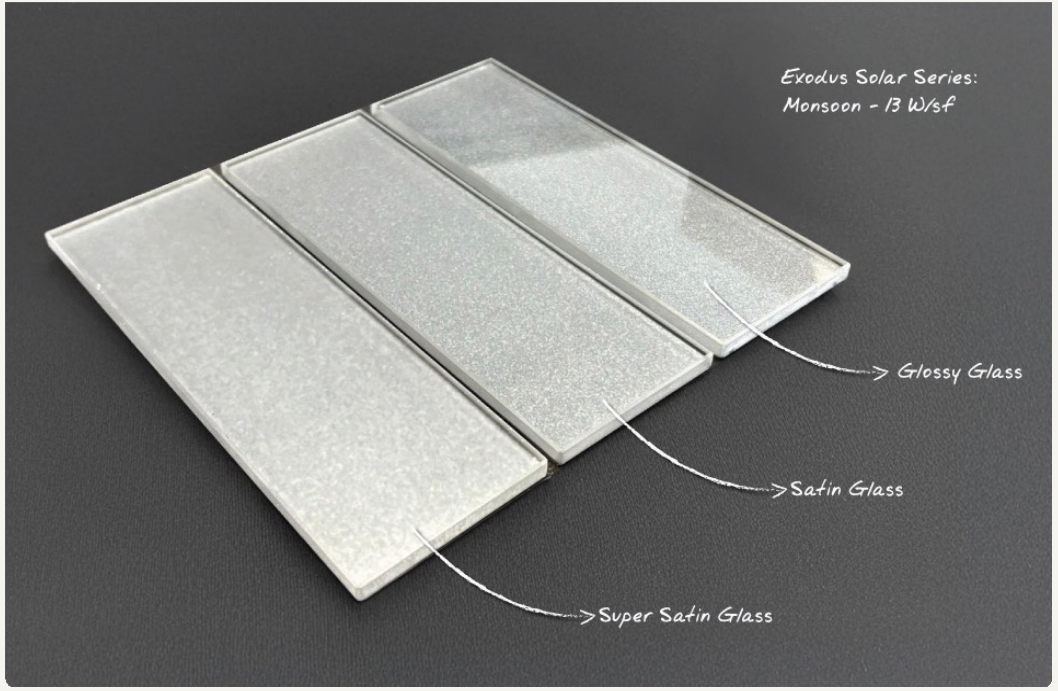

Matte-Matte Glass


Glossy Glass


Wood Texture Glass


Small Wood Texture Glass

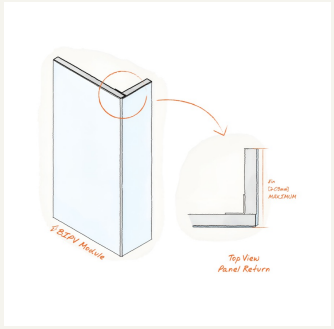

Granite Glass



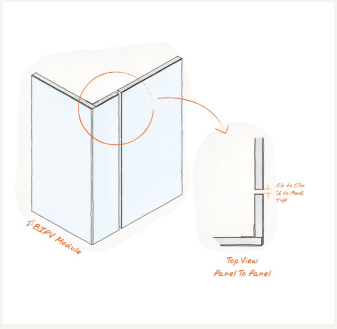
Designing With Sustainable Materials

Mitrex products allow for complete freedom in dimensions, shapes, and finishes, and can support unique project requirements, whether you're building with complex geometries or need systems for one-of-a-kind projects.

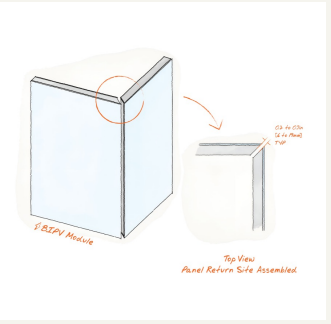
Details & Returns



Extruded Aluminum Profile Panel Return



Extruded Aluminum Profile Panel to Panel



Aluminum Honeycomb Panel Return

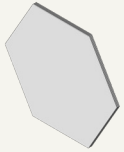
Module Shapes

Rectangular

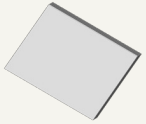
Square

Triangular

Circular

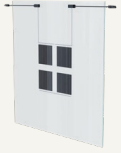


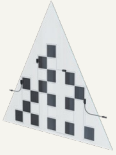
Hexagonal

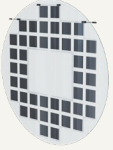


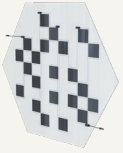
Parallelogram

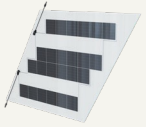
Cell Layout

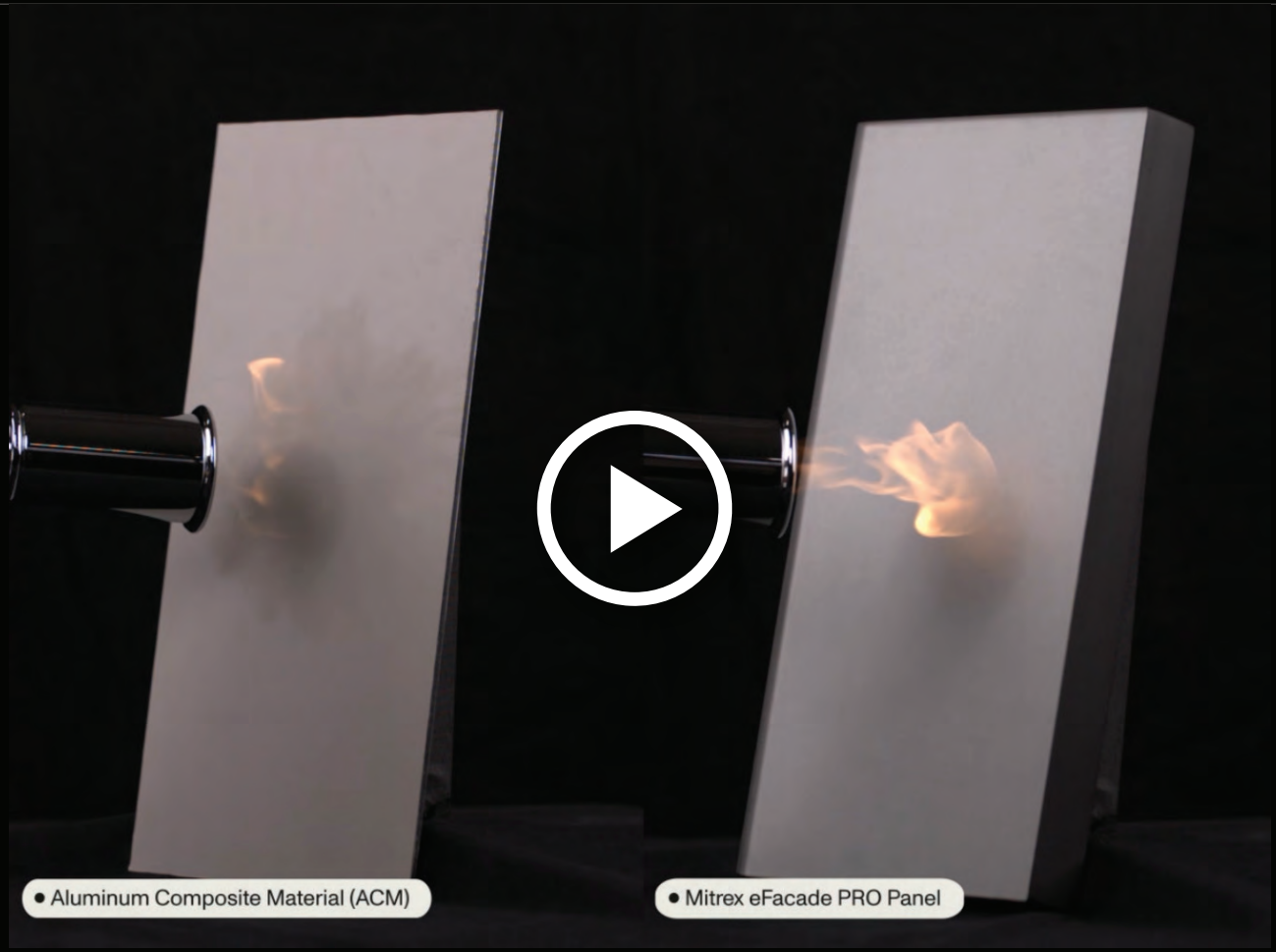











• Aluminum Composite Material (ACM)
• Mitrex eFacade PRO Panel

Solar Facade Product Options

Mitrex

	• eFacade LITE	• eFacade PRO	• eFacade PRO+
Colors & Patterns	5 color options	48 color options	Unlimited customizable colors & patterns
Sizes	2 size options	Custom sizes up to 80 x 39 in (2034 x 994mm).	Customizable single piece sizes up to 125 x 80 in (3175 x 2032mm). Preassembled pieces up to 420 inches (10.7) long.
Systems	Ventilated rainscreen system, eFacade LITE system	Ventilated rainscreen system (interlocking channel or anchor plate)	Customizable rainscreen, unitized or prefabricated system options
Material Cost	$	$$	$$$
Electrical Cost	$	$$	$$$
Project Fits	Retrofit or large-scale budget sensitive projects	High-rise residential, educational buildings, healthcare facilities, and large-scale infrastructures	Unique projects, mega projects, and design assist

Pricing varies depending on project complexity. Contact us for regional pricing.

Sustainable Product Options

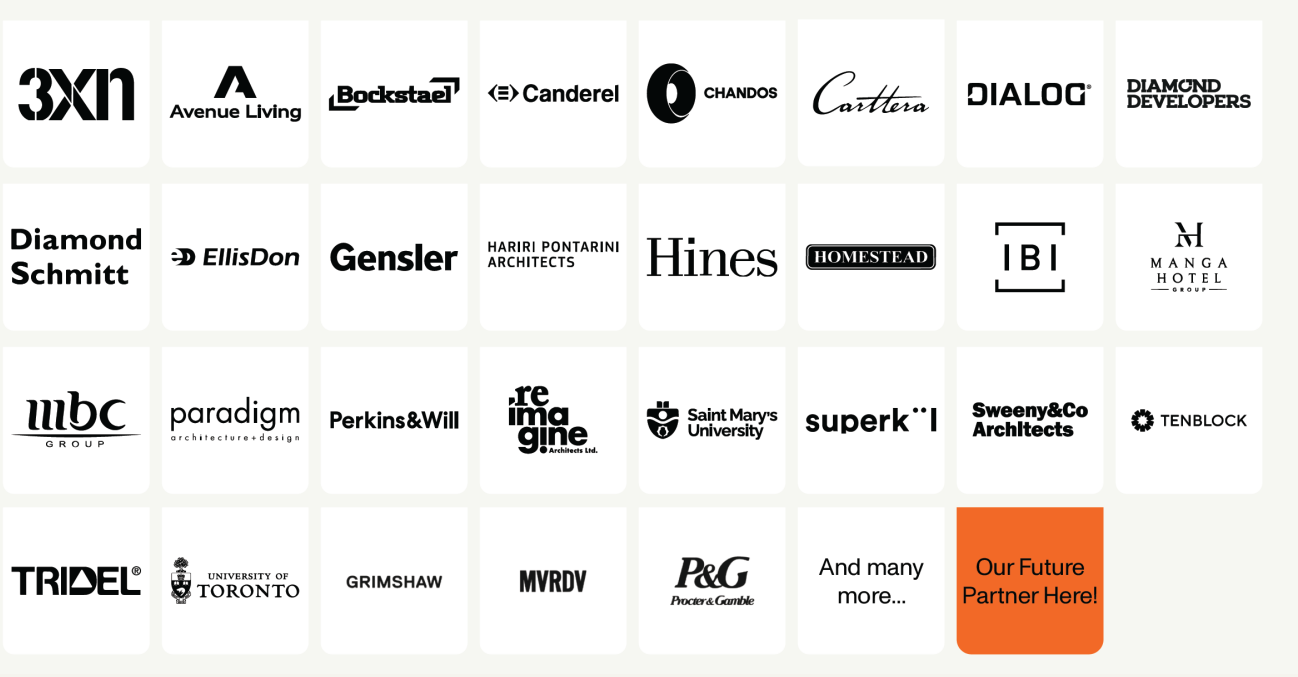
Cladify

	Cladify LITE	Cladify PRO	Cladify PRO+
Materials	5 stone options 5 porcelain options	20 stone options 20 porcelain options	Stone, porcelain or metal panel options
	Facing Finish: Polished and Honed	Facing Finish: Polished and Honed	Facing Finish: Polished, Brushed, Honed, Grooved
Sizes	2 size options: 73 x 36 in (1854 x 922 mm) 73 x 18 in (1854 x 456 mm)	Custom sizes up to 80 x 39 in (2034 x 994mm).	Customizable sizes up to: Stone: 120 x 60 in (3048 x 1524 mm) Porcelain: 120 x 60 in (3048 x 1524 mm) Metal: 300 x 96 in (7620 x 2438 mm)
	Backing: Extruded aluminum profile with panel thickness of 1.3in (34mm)	Backing: Extruded aluminum profile with panel thickness of 1.3in (34mm)	Backing: Extruded aluminum profile with panel thickness of 1.3in (34mm). Aluminum honeycomb with 1 or 2 in (25 or 50mm) thickness excluding facing.
Systems	Ventilated rainscreen system	Ventilated rainscreen system	Customizable rainscreen, unitized or prefabricated system options
Testing	3rd party tested, Code-compliant & safety tested, Fire tested	3rd party tested, Code-compliant & safety tested, Fire tested	3rd party tested, Code-compliant & safety tested, Fire tested

Does BIPV Work?

1. Who has implemented BIPV before?
2. What projects are suitable for BIPV?

Our Global Industry Partners



University of Toronto,
Myron & Berna Garron Health Sciences Complex

Mitrex

The University of Toronto Scarborough selected Mitrex to meet its ambitious goal of generating at least 20% of building energy from renewables, integrating a 632 kW BIPV system into the façade to replace conventional cladding.

Mitrex's design-assist process enabled architectural freedom through multi-colored panels while ensuring energy performance and cost-effectiveness.

PRODUCT USED:
eFacade PRO+

ARCHITECT:
Diamond Schmitt Architects/ MVRDV
DEVELOPER:
University of Toronto
BUILDING TYPE:
University, Medical
PROJECT SIZE:
63,000 SQFT
SYSTEM SIZE:
632kW
ANNUAL POWER OUTCOME:
420,000kWh
COMPLETION DATE:
2026

ROI:
Immediate

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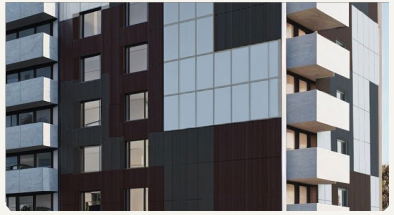
Victoria Park Community Homes

Mitrex

The Victoria Park Community Homes retrofit in Hamilton, Ontario, demonstrates how solar technology can be an ideal solution for retrofits.

Spanning 11,000 square feet, designed by Invizij Architects and developed by Victoria Park Community Homes, the building now generates 110kW of clean electricity.

PRODUCT USED:
eFacade LITE



ARCHITECT:
Invizij Architects
OWNER/DEVELOPER:
Victoria Park Community Homes
BUILDING TYPE:
Residential, Retrofit
PROJECT SIZE:
11,000 SQFT
SYSTEM SIZE:
110kW
ANNUAL POWER OUTCOME:
71,000kWh
COMPLETION DATE:
2026

ROI:
Immediate

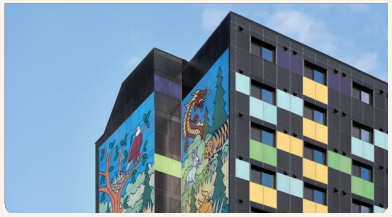
The SunRise Retrofit

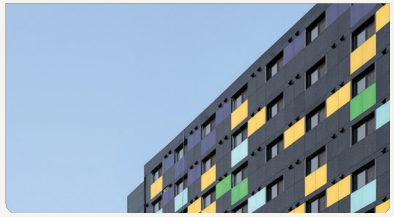
Mitrex

Avenue Living chose Mitrex's BIPV façade to exceed a 50% carbon emissions reduction target required for retrofit financing, replacing traditional fiber cement siding with a 267 kW solar cladding system.

The design also incorporated a culturally significant mural, creating the world's largest BIPV art installation while delivering long-term energy savings and ROI in under five years.

PRODUCT USED:
eFacade PRO and PRO+





ARCHITECT:
MBC Group
OWNER/DEVELOPER:
Avenue Living/Logyx Solutions
BUILDING TYPE:
Residential Retrofit
PROJECT SIZE:
30,534 SQFT
SYSTEM SIZE:
267kW
ANNUAL POWER OUTCOME:
180,000kWh
COMPLETION DATE:
2025

ROI:
4 Years

MITREX | Cladify

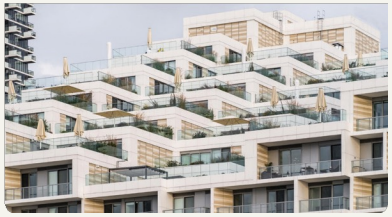
Aquabella

Cladify

Tridel and Hines collaborated with Cladify (a Mitrex company) during schematic design to replace over 8,500 individual porcelain slats with 944 pre-assembled panels.

This shift streamlined installation, reduced costs by $4–5 million and met architectural demands for non-reflective textures to minimize lake glare.

PRODUCT USED:
Cladify PRO+



ARCHITECT:
3XN, Kirkor Architects and Planners
DEVELOPER:
Tridel, Hines
BUILDING TYPE:
Residential /Retail Building
PROJECT SIZE:
160,000 SQFT
COMPLETION DATE:
2022

MITREX | Cladify

1154 Wilson Ave.

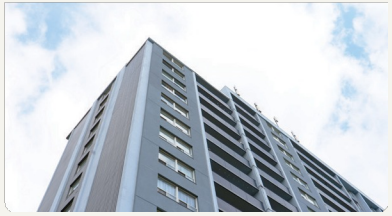
Balcony Retrofit

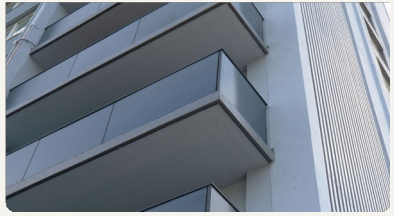
Mitrex

Ten Block adopted Mitrex SolaRail™ balcony panels to replace aging infrastructure and generate on-site energy, achieving a 142 kW system that powers the equivalent of 16 residential units.

The system offered a strong ROI, minimal tenant disruption, and a modernized aesthetic that aligned with sustainability goals.

PRODUCT USED:
SolaRail[1]





DEVELOPER:
Tenblock Development
OWNER:
DIS Wilson
BUILDING TYPE:
Residential Building
PROJECT SIZE:
4,000 LFT
SYSTEM SIZE:
162 kW
ANNUAL POWER OUTCOME:
89,300kWh
COMPLETION DATE:
2024

ROI:
Immediate

MITREX | Cladify

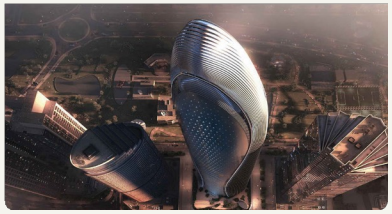
Binghatti Mercedes-Benz Residences

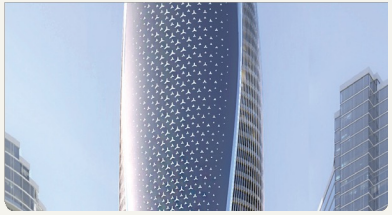
Mitrex

Binghatti Developers selected Mitrex to design a custom BIPV façade that integrates Mercedes-Benz branding with LED-lit solar panels, achieving both fire-rated compliance and visual impact.

Mitrex provided full design support, testing, and engineering to deliver a seamless blend of performance and luxury identity.

PRODUCT USED:
eFacade PRO+





ARCHITECT:
Silverstone
OWNER/DEVELOPER:
Binghatti Developers, Mercedes-Benz
BUILDING TYPE:
High-End Residential
PROJECT SIZE:
7,475 sqft
SYSTEM SIZE:
619kW
ANNUAL POWER OUTCOME:
597MWh
COMPLETION DATE:
2026

MITREX | Cladify

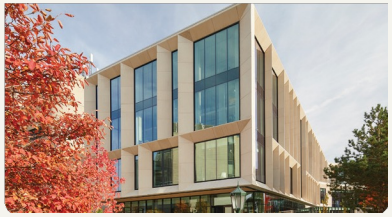
Western University Entrepreneurship & Innovation Centre

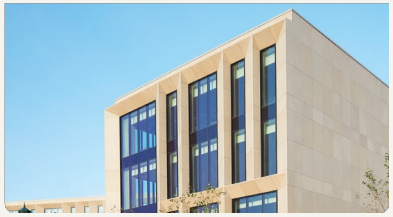
Cladify

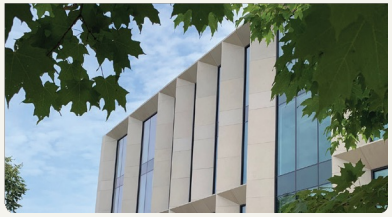
Western University partnered with Cladify to replace heavy stone cladding with lightweight, pre-assembled panels to reduce structural load, improve thermal performance, and meet energy efficiency goals.

The system enabled rapid installation, eliminated complex framing, and saved $3–4 million in wall assembly costs.

PRODUCT USED:
Cladify PRO+





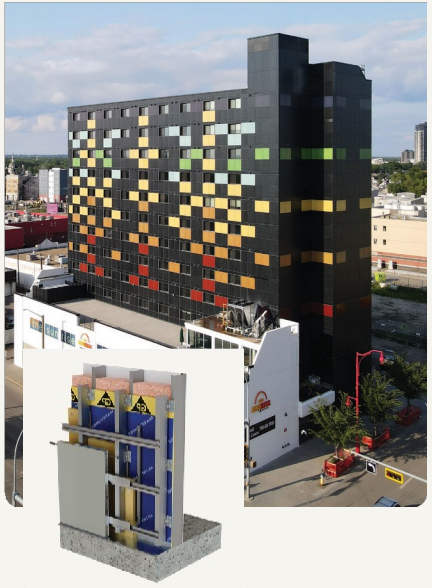


ARCHITECT:
Perkins & Will
DEVELOPER:
Hayman Construction
BUILDING TYPE:
Educational Building
PROJECT SIZE:
44,000 SQFT
COMPLETION DATE:
2024

Installation Systems

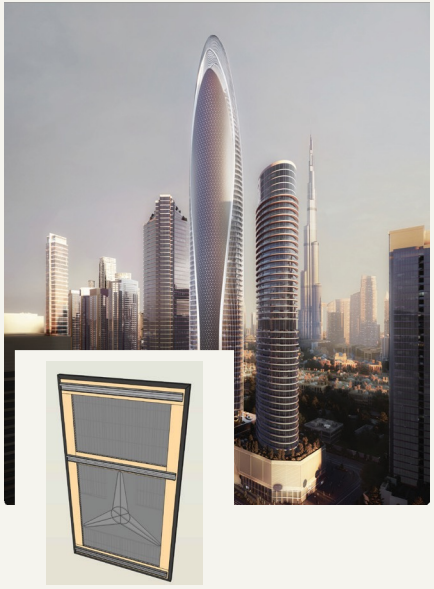
We understand that your vision is unique; our solutions match it.

From rainscreen to unitized wall systems, our versatile systems can accommodate any project with any facing material.



Cladishield System
Rainscreen

Cladifab System
Prefab Wall



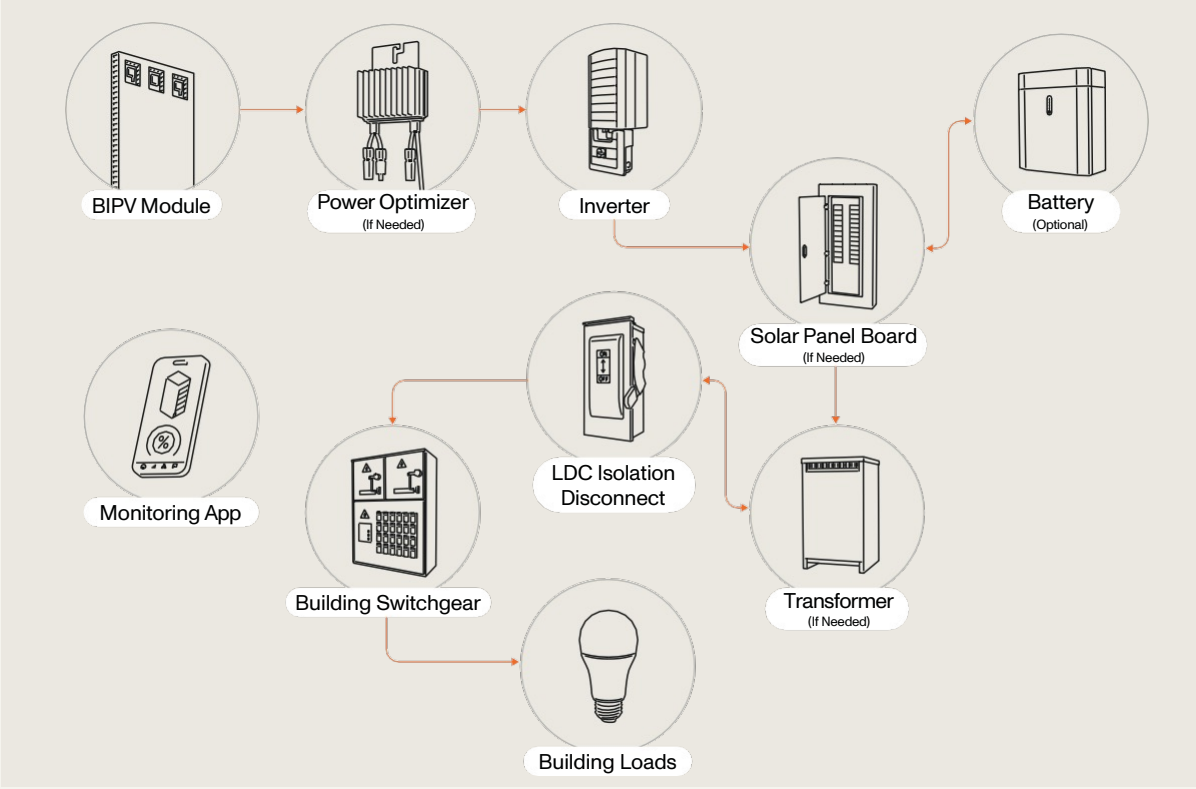
Customizable Integrations

Complete BIPV System

Our BIPV systems harness the essence of traditional solar arrays, but with a vertical twist.

Panels are linked into strings through pigtail connections, converting solar energy from DC to AC through efficient inverters.

For larger projects, string inverters manage the energy flow, while micro-inverters are perfect for smaller setups.



Electrical Installation

- Engineered and installed like typical solar system.
- Does not require specialty equipment.
- Monitoring software for tracking and performance management.

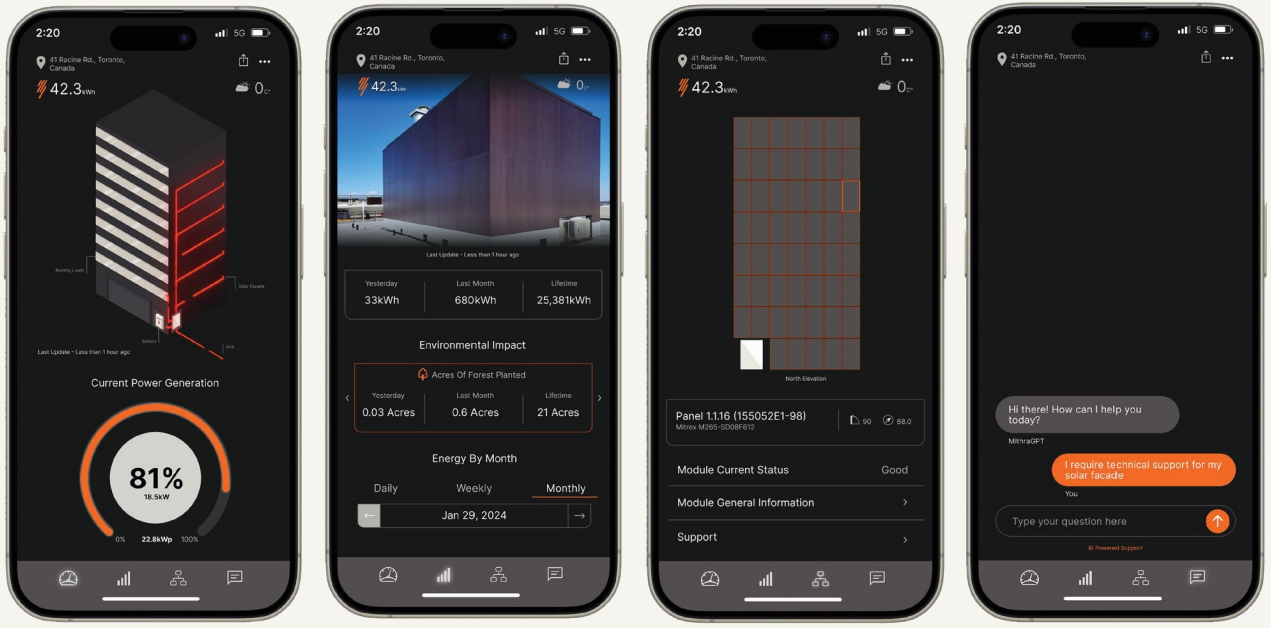
DESIGN SERVICE:
Electrical Design Support

eFacade Wiring Installation

Sample of Electrical Room

Monitoring System

The Mitrex Monitoring systems pairs with your energy-generating solar facade to give you real-time monitoring, and energy insights.



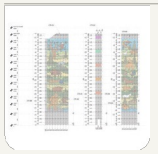
Design Assist Services

Through our Design Assist process, we provide system modeling, engineering validation, energy simulations, and prefabrication strategies— streamlining construction and reducing life cycle costs.

Our BIPV and prefabricated façade solutions ensure code compliance, sustainability, and design integrity.

Initial Consultation

TECHNICAL DELIVERABLES:
Site analysis summary, design brief



Solution Exploration

TECHNICAL DELIVERABLES:
System recommendation matrix, solar energy potential analysis

Collaborative Design Development

TECHNICAL DELIVERABLES:
CAD/Revit details, connection drawings, integrated facade layouts

Engineering & Energy Analysis

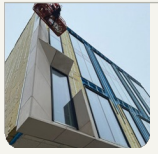
TECHNICAL DELIVERABLES:
Structural calculations, energy modeling reports, code compliance checklists

Prototyping & Testing

TECHNICAL DELIVERABLES:
Performance test reports, QA reviews

Prefabrication & Logistics Planning

TECHNICAL DELIVERABLES:
Factory QC documentation, logistics plan, panel maps



Implementation Support

TECHNICAL DELIVERABLES:
Site installation guide, QA checklist, commissioning certificate

Testing and Certifications

PV Testing

IEC 61730
IEC 61215
UL 61730
UL 61215
CSA 61730
CSA 61215
FSEC
NEW YORK STATE | NY-Sun
ETL LISTED C US

Building Material Testing

ASTM C1048
ASTM E2353
ASTM E935
ASTM E1886
ANSI Z97.1
NFPA 285
EN 13501 (A2-s1,d0)
MIAMI-DADE COUNTY
UL S134
UL S135
UL S101

Environmental Product Declaration

EPD INTERNATIONAL EPD SYSTEM
NORTH AMERICA EPD INTERNATIONAL EPD SYSTEM

Mitrex BIPV Aluminum Honeycomb: 40.79 kg CO_2e/m^2
Mitrex BIPV Extruded Aluminum Profile: 30.08 kg CO_2e/m^2
Cladify Porcelain: 25.70 kg CO_2e/m^2
Cladify Stone: 30.58 kg CO_2e/m^2
Cladify Metal Panel: 21.65 kg CO_2e/m^2

ROI & Payback Benefits

Mitrex turns your façade into a long-term asset, one that not only enhances your building but actively pays you back through clean, on-site energy production.

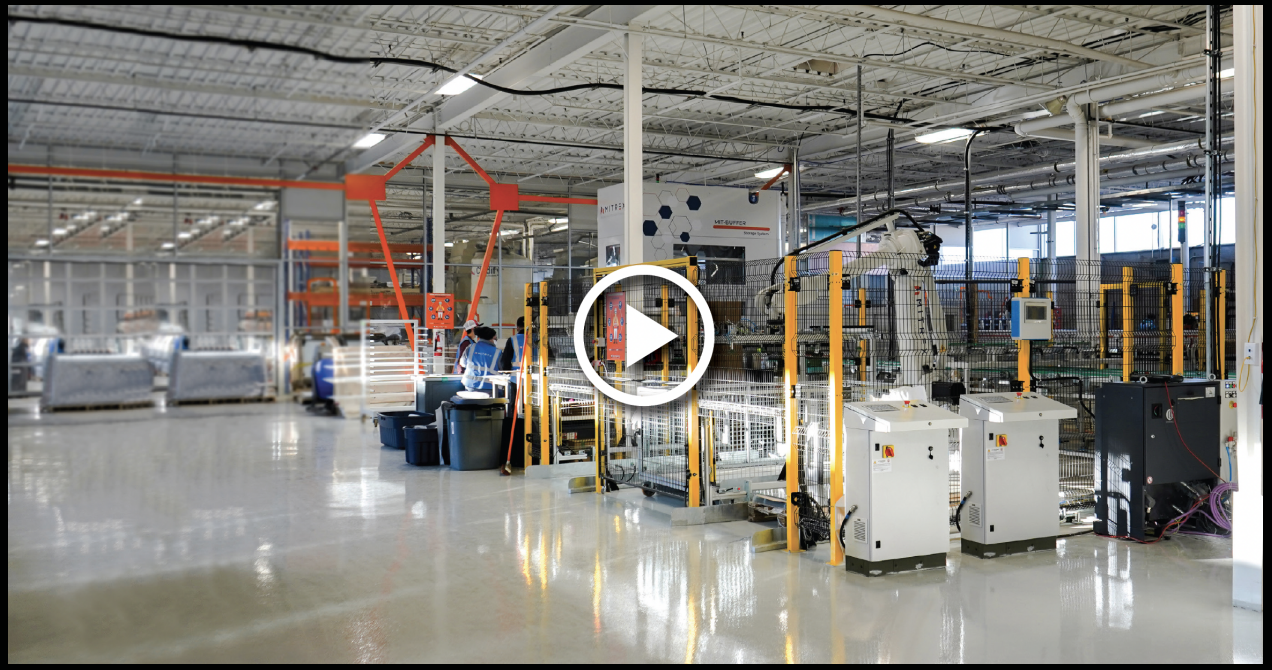
- The Mitrex facade pays for itself immediately or up to year 5 through electricity revenue from clean energy generation.
- Conventional material such as ACM or GFRC continue to cost you in maintenance, cleaning and replacement (typically after 30 years).
- Mitrex facade is maintenance free and has a lifespan of 60 years.

Thank You!

Let's work together to shape our cities into models of sustainability and resilience. The journey towards a greener and brighter future begins with each one of us taking proactive steps to embrace innovative solutions like BIPV and drive sustainable development. Together, we can make a difference.

Mitrex and Cladify Projects

https://youtu.be/9uFctxXQaCo



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08/2025 - V2

Testing Summary

Category	Test Name	Test Specification	Result
Acoustic	Sound Transmission Loss	ASTM E90	Sound Transmission Rating: CladiShield Rainscreen: 34; Claditized Unitized: 35; CladiFab Prefab: 55
Environmental	Salt Spray Resistance	ASTM B117-16	No deleterious effects.
	Laboratory Aging of Sandwich Construction	ASTM C481-99 (Reapproved 2016)	ASTM C273; C297; C364; C393 tests were reconducted after aging: the variation was +1.36 %, -5.90%; +2.55%; -7.95%. Note: Positive variation indicates no decrease in strength after aging.
	Resistance to Rapid Freezing and Thawing	ASTM C666/C666M-15	No visible change to panel
	Air Leakage Resistance	ASTM E283-04 (2012)	Qinf = 0.031 cfm/ft^2 or 0.155 L/s-m^2 at 300 Pa; Qexf = 0.024 cfm/ft^2 or 0.122 L/s-m^2 at 300 Pa
	Fluorescent UV Exposure	ASTM G154 -16	No visible change
	Water Penetration Resistance	ASTM E331	No water infiltration at 15 psf or 720 Pa
Fire Safety	Fire Endurance Test	ASTM E119 / CAN/ULC S101	Passed
	Exterior Wall Assembly Fire Test	CAN/ULC S134	Passed
	Fire Classification	EN13501	Rating: A2-s1,d0
	Tunnel Test	ASTM E84	FSI = 10; SDI = 200; Class A
	Non-Combustibility (ASTM E136)	ASTM E136	Passed
	Multi-Story Fire Test	NFPA 285	Passed
	Surface Burning Characteristics	CAN/ULC S102	FSR = 0; Class A
	Non-Combustibility (CAN/ULC S114)	CAN/ULC S114	Passed
	Combustibility Parameters (Cone Calorimeter)	CAN/ULC S135	Passed NBCC 2015 requirements
Impact / Safety	Large Missile Impact Test	ASTM E1996 / TAS 201	Passed
	Cyclic Pressure Loading	ASTM E1886 / TAS 203	Passed. Over 3,500 positive and negative pressure cycles were applied at ± 2880 Pa (60 psf), equivalent wind load of 165 mph.

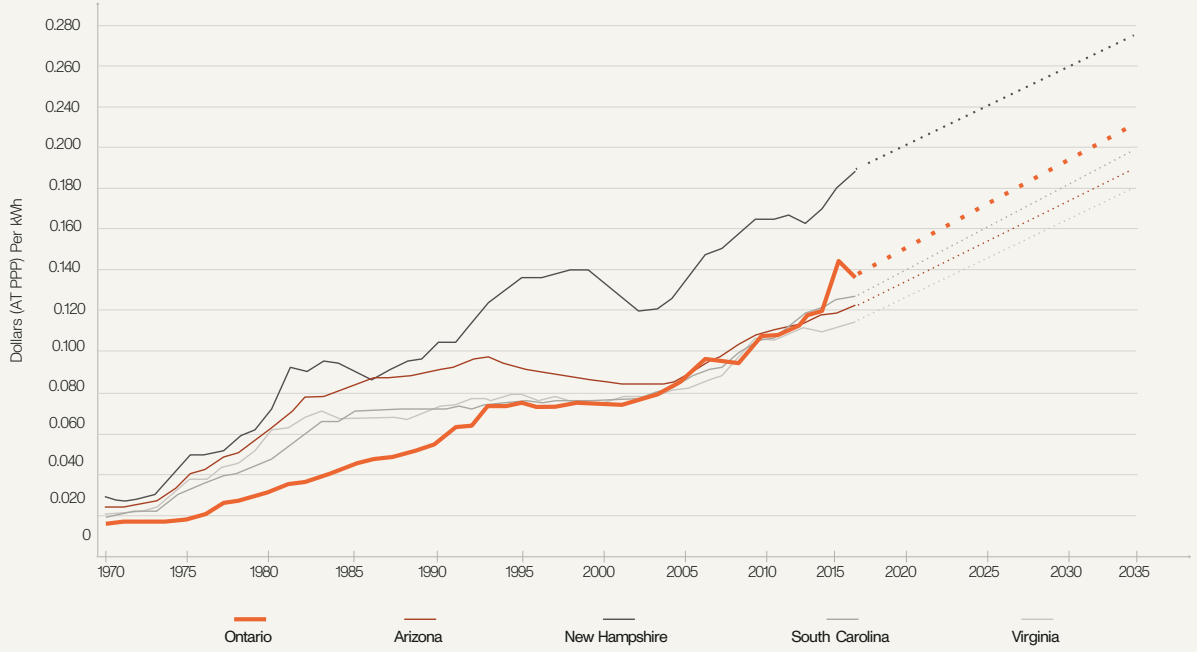
Testing Summary

Category	Test Name	Test Specification	Result
Mechanical	Shear Strength and Shear Modulus	ASTM C273/C273M-18	Ultimate core shear strength = 1.01 MPa (147 psi); Core shear modulus = 10.9 MPa (1583 psi)
	Shear Strength by Beam Flexure	ASTM C393/C393M-16	Max core shear strength = 0.94 MPa (137 psi); Facing bending stress = 8.14 MPa (1180 psi)
	Flexure Creep Evaluation	ASTM C480/C480M-16	Net creep (in/day) facing - 0.029
	Density of Sandwich Core	ASTM C271/C271M-16	327 kg/m^3 (20.42 lbm/ft^3)
	Flatwise Tensile Bond Strength	ASTM C297/C297M-16	1.52 MPa (220 psi)
	Edgewise Compressive Strength	ASTM C364/C364M-16	37.85 MPa (5490 psi)
	Flatwise Compressive Strength	ASTM C365	1.92 MPa (278 psi)
	Flexural Strength	ASTM C880/C880M-15	22.83 MPa (3311.21 psi); No failure
	Tensile Properties of Adhesive Bond	ASTM C897-08 (2016)	Adhesive bond did not fail
	Damage Resistance	ASTM D7766/D7766M-16	No panel deformation
Structural	Structural Performance	ASTM E330	+/-80 psf or +/- 3840 Pa; no failure
Thermal	Thermal Resistance	ASTM 1363-11	0.20 m^2.°C/W (1.12 hr·ft^2.°F/BTU)
	Linear Thermal Expansion	ISO 10545-8	11.28 × 10^{-6} /°C
PV Quality	Terrestrial Photovoltaic (PV) Modules - Design Qualification and Type Approval	IEC/UL 61215	Passed
PV Safety	Standard for Photovoltaic (PV) Module Safety	IEC/UL 61730	Passed

Electricity Cost Over The Years

On average electricity rates per kWh increase 1.4% - 1.7% per year in North America and almost doubles per decade.

Statistics Canada: Electric Power Statistics, Volume 2 (1970-1996); Electric Power Generation, Transmission and Distributions (1997-2004); Annual Electricity Supply and Disposition Survey (2005-2015). Energy Information Administration: State Energy Data System (SEDS).



Electric Utility Revenue per kWh for Residential Customers for Ontario and Selected States