Mitrex Panels

Mitrex panels are an energy-efficient solution for both existing or new facades. These panels are lightweight and can provide thermal resistance and exterior noise control to a building while offering a durable and aesthetically-pleasing appearance.

Transparent, Opaque, Translucent & Transitional PV Modules are available with the option of an aluminum honeycomb backing or a layered glass backing. These panels act as a building envelope while generating power.

Mitrex panels can be used with our Rainscreen or Cladicast system. There are different methods and materials used for the installation of Mitrex panels, which are available in a variety of colors, textures, and sizes.

Our panels are flexible and can be adjusted and altered as per the construction needs of any project.
MITREX PANEL | Introduction

PV Modules Types:

- Transparent
- Opaque
- Translucent
- Transitional

These are available with the option of an aluminum honeycomb or a layered glass backing. These serve a dual purpose for the building; they act as a building envelope and provide power generation. The cell arrangement can change depending on the needs of the project and design aesthetic.
MITREX PANEL | Introduction

• **Max. Panel Size**
  47 7/8" (1219mm) - 80 3/4" (2050mm)

• **Min. Panel Size**
  24" (609mm) - 43 1/4" (1100mm)

• Fully automated sizes that can be adjusted and altered as per the project requirements.

(Aurora) (Cassia)
(Columba) (Sagittarius)
(Peridot) (Mandorla)
PANEL | Aluminum Honeycomb

1. Glass/ Solar Facing
2. Solar Cell
3. Aluminum Honeycomb

Aluminum Honeycomb Panel Backing
- Thickness varies from 1” to 8”.
- Min 2” thickness recommended for cold weather conditions.

Advantages:
- Lightweight and strong
- Fire resistant
- Impact resistant
- Sound and heat insulation
Why Pressure-Equalized Ventilated Rainscreen System?

- Rainscreen systems are applied to the external wall which preserves the building from extreme weather conditions by providing an air cavity between the cladding panel and external wall.

- Rainscreen panels keep rainwater out. An air and vapor barrier is installed on external wall to allow water drainage and prevent absorption of moisture into the building.

- This rainscreen is efficient in all weather conditions. They incorporate permeable outer cladding with designated air spaces, moderate ventilation, air and watertight wall support.

- The air void stimulates quick air pressure equalization—thus, reduces moisture interference.
**Pressure-Equalized Ventilated Rainscreen System**
In this system, the panels themselves act as a rainscreen and prevents water penetration into the building surface. The air cavity between the panels and the exterior wall maintains air pressure between the air cavity and the outside air. It helps in the evaporation of moisture naturally.

**Cladding (1)**
Panels have solar cells sandwiched between exterior glass and an aluminum honeycomb backing, open or closed joints, in one plane or lapped.

**Sub framing (2)**
To support the cladding, vertical panel supports are timber or metal.

**Ventilation cavity (3)**
Cavity behind panels with ventilation gaps that allow air to pass through.

**Thermal insulation layer (4)**
The purpose is to increase the thermal insulation capacity of the wall.

**Substrate (5)**
This is the exterior wall face (plaster, concrete, exterior sheathing, wind proofing layer, etc.).

**Exterior wall (6)**
Brick, concrete, wood and steel studs.
ATTACHMENT SYSTEM | Types

Interlocking Channel System

Anchor Plate System

Z-Clip Attachment

Adhesive Attachment System
ATTACHMENT SYSTEM | Interlocking Channel System

Isometric View

Section

MITREX
FASTENING SYSTEM | Thermally Broken Bracket Angle
JOINT | Sealant

Sealant Face- Face Joint

Mitered Corner Sealant Joint

Inner Corner Joint

Mitered Corner Joint
SHOP INSTALLED METAL ANGLE PROFILE CREATES SHADOE REVEAL HIDES EXPOSED HONEYCOMB EDGE
JOINT | Metal Support

Metal L-Angle - 2"x2"/4"x4"
Supporting panels with screws as required

Outer Corner Detail

Inner Corner Detail
METAL SUPPORT | Details

Corner Return

Miter Joint & Return Panel Width > 8"

Return Panel Width > 8"
Miter Joint & Return Panel Width < 8"

Inner Corner Detail

METAL SUPPORT | Details
METAL SUPPORT | Details

Outer Corner

Outer Corner - Corner Joint

Outer Corner

Outer Corner - Mitered Corner Joint
Window Jamb Detail

Window Jamb with Metal Flashing
WINDOW | Details

Window Lintel Detail

Window Sill Detail

MITREX
FLASHING | Metal Support

Coping

Metal Flashing – Coping (Behind the Panel)

Parapet

Metal Flashing – Parapet (Over the Panel)
FLASHING | Metal Support

Bottom Flashing

- Cladding
- Caulking & Backer Rod
- Semi-Rigid Insulation
- Membrane
- Base Flashing

Metal Flashing – Bottom (Adjustable)

Bottom Flashing

- Balcony
- Sealant and Backer Rod
- Membrane
- Thermally Broken Bracket
- Interlocking Channel
- Panel
- L-Angle
- Base Flashing

Metal Flashing – Bottom (Non-Adjustable)
There are different types of fastener sizes and shapes used in our cladding systems for steel, wood & concrete walls.

**Screws:**
- #6-#8 Hex Head Self-drilling Screws

**Fasteners**
- Type A #14-10 x L
- Type AB 1/4-14 x L

**Washer:**
- Integral Washer System

Stainless Steel, Corrosion Resistant, and can be used both indoor and outdoors
Example Project of Curvature
Example: Curved Panel

Concave Panel View

Detailed Plan View
CLADICAST
SYSTEM
Why Cladicast Wall Panels?
• Quick installation, rapid construction capability
• Fire and corrosion resistant
• Weather Resistance
• Extremely Durable
• Less maintenance
• Energy-Efficient

Lightweight & Strong
Aluminum honeycomb makes panels lightweight and provides structural strength

Quality Control
Cladicast panels are produced in a controlled environment which provides a high-quality product.

Flexibility
Cladicast panels are available in a variety of textures and colours, and are easy to install and transport.
CLADICAST | Terminology

**Exterior Cladding Finish (1)**
Exterior panel finish; Up to 20mm thick.

**Panel Backing (2,3,4)**
100 mm Aluminum Honeycomb (3) backing, sandwiched between two 3 Gauge Stainless Steel Plates (2,4) and fitted with Vapor/Air Barrier and Tape sealed joints, edges, and corners.

**Air Cavity (5)**
1" Air Cavity at the back of Panel.

**Interior Wall Layers (6)**
Dry wall and studs.

**L-Angle (7)**
3 Gauge Stainless Steel Hot Rolled Laser Angle.

**Structural Bolts (8)**
CLADICAST PANEL
ANGLE SUPPORT CONNECTION
SLAB
AIR CAVITY
CLADICAST PANEL

Cladicast Panel System