MITREX SOLAR RAILING

Product Variety

MITREX™

BUILDING-INTEGRATED SOLAR TECHNOLOGY

MITREX.COM

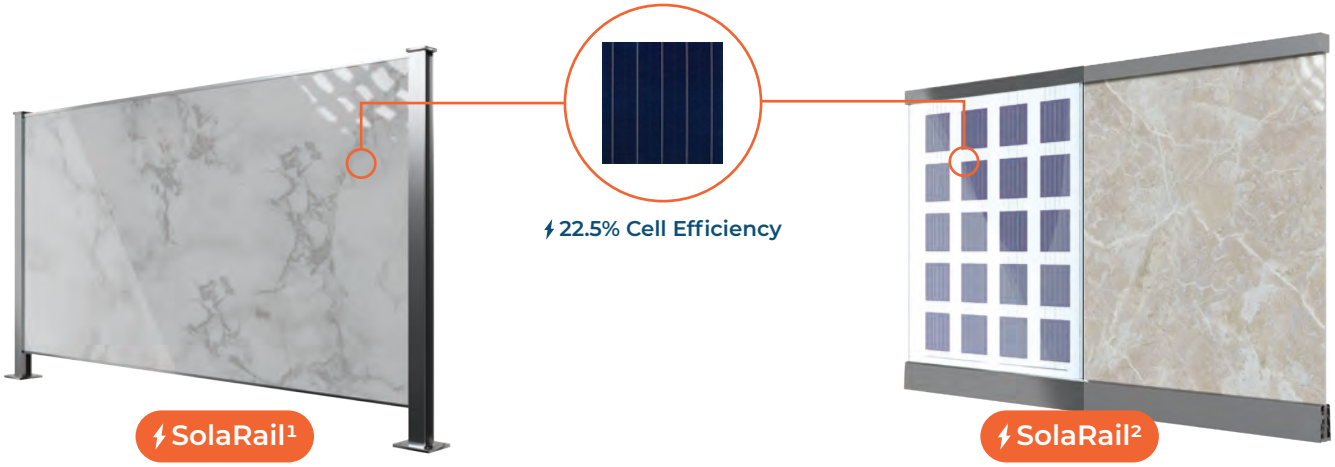
Mitrex Solar Railing

Mitrex SolaRail™ technology extends solar energy generation to balconies, maximizing energy production on otherwise unused surfaces. Mitrex solar railings consist of high-efficiency solar cells sandwiched between layers of heat-tempered, laminated glass with various framing options.

- Code compliant, easy to install, safe, and durable.
- Energy-generating while maintaining the functionality of the railing.
- Design flexibility, including colour, pattern, handrail, and base options.
- Produced in a North American automated state-of-the-art manufacturing facility.
- Various installation methods can be used while seamlessly integrating circuitry.
- Relies on advanced solar technology.

Mitrex Solar Railing Design Options

Mitrex solar railings can utilize opaque glass with seamlessly integrated circuitry and connection points of all the electrical components. The opaque option can be customized to any pattern or colour in the world.



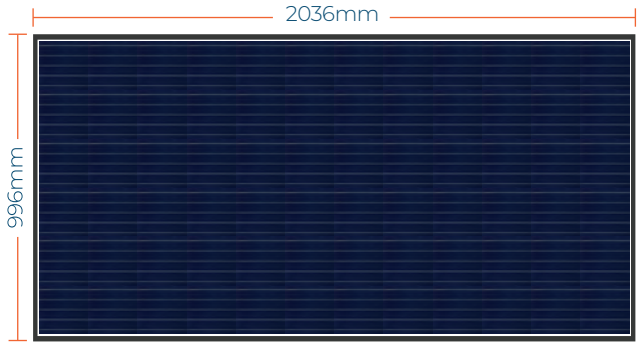
Granite | Marble | Limestone | Solid Colours

+ AND MANY MORE

Mitrex Solar Railing Types

SolaRail[1] - Opaque Only

Opaque - Monocrystalline Solar Cell

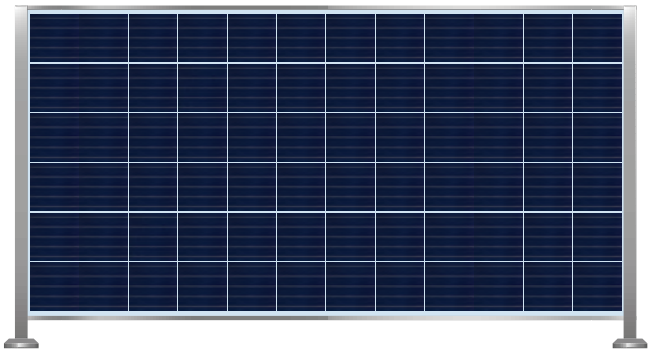


Cell type: G1 158.75 X 158.75mm (6.25”).
Number of cells: 72 Cells
Gap between cell: 2mm (0.07”).
Transparency: ~0%.
Power: **390W**

CERTIFIED IEC 61730 · CERTIFIED IEC 61215 · UL 61730 · UL 61215 · SF 61730 · SF 61215 · ANSI Z97.1 · ASTM C1048 · ASTM E2353 · ASTM E935

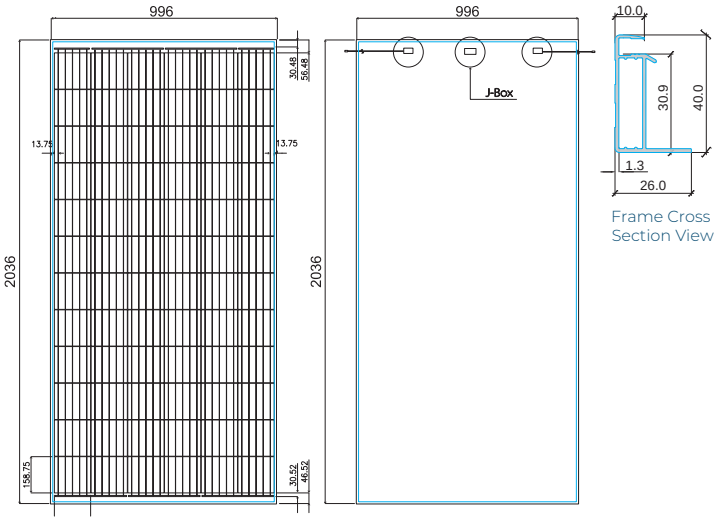
SolaRail[1] Datasheet

Opaque - Monocrystalline Solar Cell



SOLARAIL
Opaque
High Efficiency Mono Module
390 W
1000V

ENGINEERING DRAWING (mm)



Frame Cross Section View

ELECTRICAL DATA | STC*

SPECIFICATIONS	SOLARAIL[1] OPAQUE
Nominal Max. Power (Pmax)	390W
MPP Operating Voltage (Vmp)	41.9V
MPP Operating Current (Imp)	9.31A
Open Circuit Voltage (Voc)	48.2V
Short Circuit Current (Isc)	9.77A
Cell Efficiency	22% - 22.5%
Operating Temperature	-40°C ~ +85°C
Max. System Voltage	1000V (IEC/UL)
Max. Series Fuse Rating	20A
Application Classification	Class A

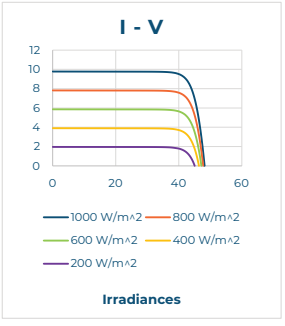
* Under Standard Test Conditions (STC) of irradiance of 1000 W/m2, spectrum AM 1.5 and cell temperature of 25°C.

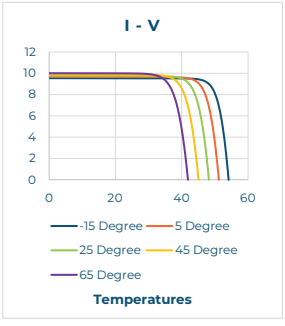
MECHANICAL DATA

SPECIFICATIONS	SOLARAIL[1] OPAQUE
Cell Type	Mono-crystalline
Cell Arrangement	72 [12x6)]
Overall Dimensions	2036x996x40mm
Front Cover	3.2 mm tempered glass
Frame	Anodized Aluminum Alloy
Weight	22kg
J-Box	IP68, 3 bypass diodes
Cable	4mm², 12 AWG (UL)
Cable Length (Including Connector)	1000mm, 1200mm
Connector	MC4

TEMPERATURE CHARACTERISTICS

SPECIFICATIONS	SOLARAIL[1] OPAQUE
Temperature Coefficient Pmax	-0.36% / °C
Temperature Coefficient Voc	-0.30% / °C
Temperature Coefficient Isc	0.046% / °C
Nominal Module Operating Temperature	42 ± 3°C

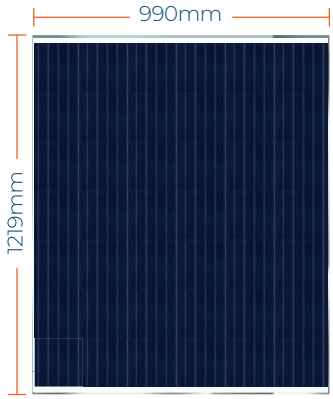




Mitrex Solar Railing Types

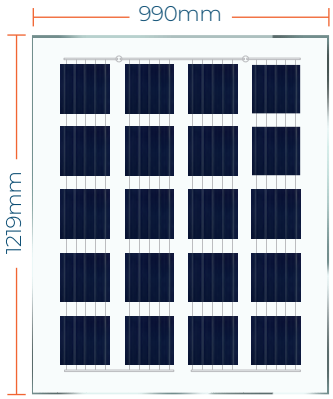
SolaRail²

Opaque - Monocrystalline Solar Cell



Cell type: G1 158.75 X 158.75mm (6.25”).
Number of cells: 42 Cells
Gap between cell: 2mm (0.07”).
Transparency: ~0%.
Power: **225W**

Semi-Opaque - Monocrystalline Solar Cell

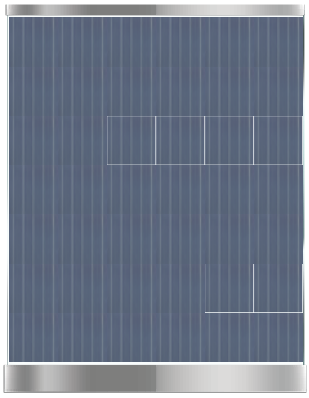


Cell type: G1 158.75 X 158.75mm (6.25”).
Number of cells: 20 cells
Gap between cell: 50mm (2”).
Transparency: ~60%.
Power: **105W**

CERTIFIED IEC 61730 · CERTIFIED IEC 61215 · UL 61730 · UL 61215 · SP 61730 · SP 61215 · ANSI Z97.1 · ASTM C1048 · ASTM E2353 · ASTM E935

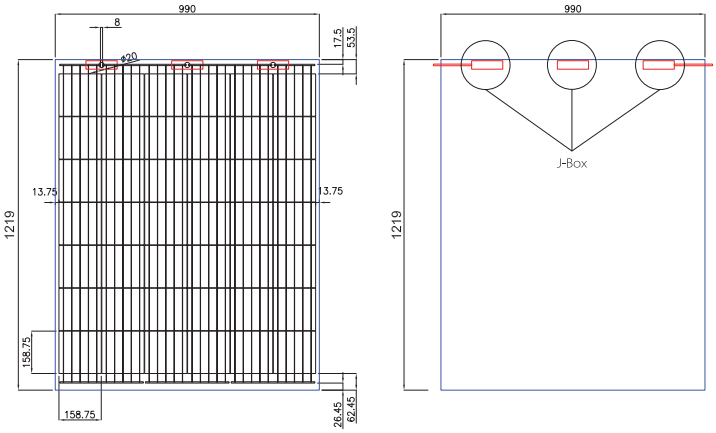
SolaRail² Datasheet

Opaque - Monocrystalline Solar Cell



SOLARAIL²
Bifacial Opaque
High Efficiency Mono Module
225 W
1000V

ENGINEERING DRAWING (mm)



ELECTRICAL DATA | STC*

SOLARAIL² - BIFACIAL - OPAQUE				
		BIFACIAL GAIN		
SPECIFICATIONS	FRONT ONLY	10%	20%	30%
Nominal Max. Power (Pmax)	225W	247W	270W	292W
MPP Operating Voltage (Vmp)	24.3V	24.3V	24.3V	24.3V
MPP Operating Current (Imp)	9.26A	10.19A	11.11A	12.04A
Open Circuit Voltage (Voc)	28.6V	28.6V	28.6V	28.6V
Short Circuit Current (Isc)	9.91A	10.90A	11.89A	12.88A
Cell Efficiency	22% - 22.5%			
Operating Temperature	-40°C ~ +85°C			
Max. System Voltage	1000V (IEC/UL)			
Max. Series Fuse Rating	20A			
Application Classification	Class A			

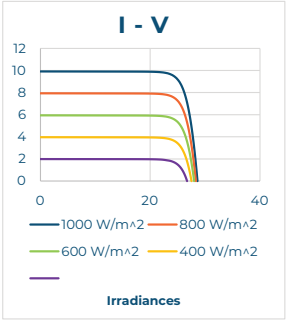
* Under Standard Test Conditions (STC) of irradiance of 1000 W/m2, spectrum AM 1.5 and cell temperature of 25°C.

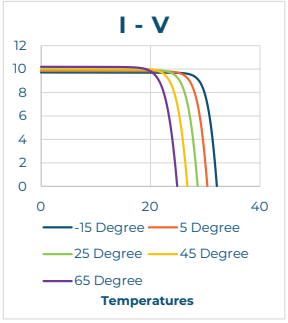
MECHANICAL DATA

SPECIFICATIONS	SOLARAIL² - BIFACIAL - OPAQUE
Cell Type	Mono-crystalline
Cell Arrangement	42 (7x6)
Glass Dimensions	1219 X 990 mm
Front Cover	3.2 mm tempered glass
Back Cover	3.2 mm glass + 6 mm glass
Weight	38kg
J-Box	IP68, 3 bypass diodes
Cable	4mm² , 12 AWG (UL)
Cable Length (Including Connector)	500 mm, 1000mm, 1200mm
Connector	MC4

TEMPERATURE CHARACTERISTICS

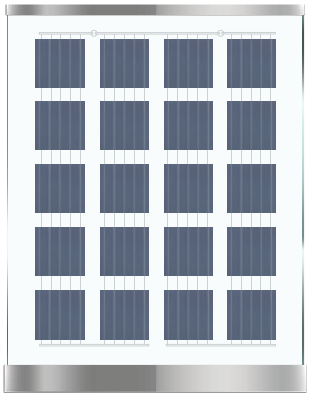
SPECIFICATIONS	SOLARAIL² - BIFACIAL - OPAQUE
Temperature Coefficient Pmax	-0.36% / °C
Temperature Coefficient Voc	-0.30% / °C
Temperature Coefficient Isc	0.046% / °C
Nominal Module Operating Temperature	42 ± 3°C





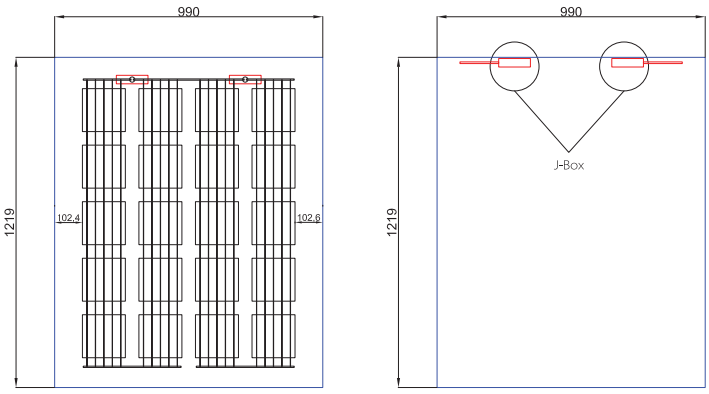
SolaRail² Datasheet

Semi-Opaque - Monocrystalline Solar Cell



SOLARAIL²
Bifacial Semi-Opaque
High Efficiency Mono Module
105 W
1000V

ENGINEERING DRAWING (mm)



ELECTRICAL DATA | STC*

SOLARAIL² - BIFACIAL - SEMI-OPAQUE				
		BIFACIAL GAIN		
SPECIFICATIONS	FRONT ONLY	10%	20%	30%
Nominal Max. Power (Pmax)	105W	115W	120W	136W
MPP Operating Voltage (Vmp)	11.3V	11.3V	11.3V	11.3V
MPP Operating Current (Imp)	9.29A	10.22A	11.15A	12.08A
Open Circuit Voltage (Voc)	13.6V	13.6V	13.6V	13.6V
Short Circuit Current (Isc)	9.92A	10.91A	11.90A	12.90A
Cell Efficiency	22% - 22.5%			
Operating Temperature	-40°C ~ +85°C			
Max. System Voltage	1000V (IEC/UL)			
Max. Series Fuse Rating	20A			
Application Classification	Class A			

* Under Standard Test Conditions (STC) of irradiance of 1000 W/m2, spectrum AM 1.5 and cell temperature of 25°C.

MECHANICAL DATA

SPECIFICATIONS	SOLARAIL² - BIFACIAL - SEMI-OPAQUE
Cell Type	Mono-crystalline
Cell Arrangement	20 (5x4)
Glass Dimensions	1219 X 990 mm
Front Cover	3.2 mm tempered glass
Back Cover	3.2 mm glass + 6 mm glass
Weight	38kg
J-Box	IP68, 2 bypass diodes
Cable	4mm² , 12 AWG (UL)
Cable Length (Including Connector)	500 mm, 1000mm, 1200mm
Connector	MC4

TEMPERATURE CHARACTERISTICS

SPECIFICATIONS	SOLARAIL² - BIFACIAL - SEMI-OPAQUE
Temperature Coefficient Pmax	-0.36% / °C
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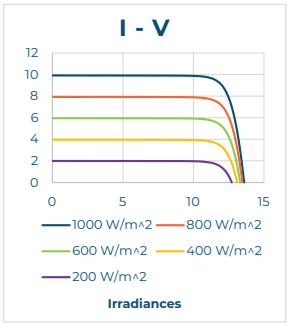
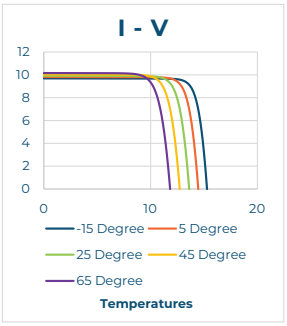
Nominal Module Operating Temperature	42 ± 3°C





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Learn More:

mitrex.com

info@mitrex.com

+1 (855) 254 0214 (Toll Free)

Headquarters:

41 Racine Rd., Toronto,
ON M9W 2Z4, Canada

+1 (416) 497 7120

West USA Location:

10880 Wilshire Blvd Suite 1101,
Los Angeles, CA 90024, USA

+1 (323) 301 7978

East USA Location:

1 Rockefeller Plaza Fl 11,
New York, NY 10020, USA

+1 (646) 583 4486