MITREX™
BUILDING-INTEGRATED SOLAR TECHNOLOGY

ANGLED SOLAR NOISE BARRIER (PVNB)

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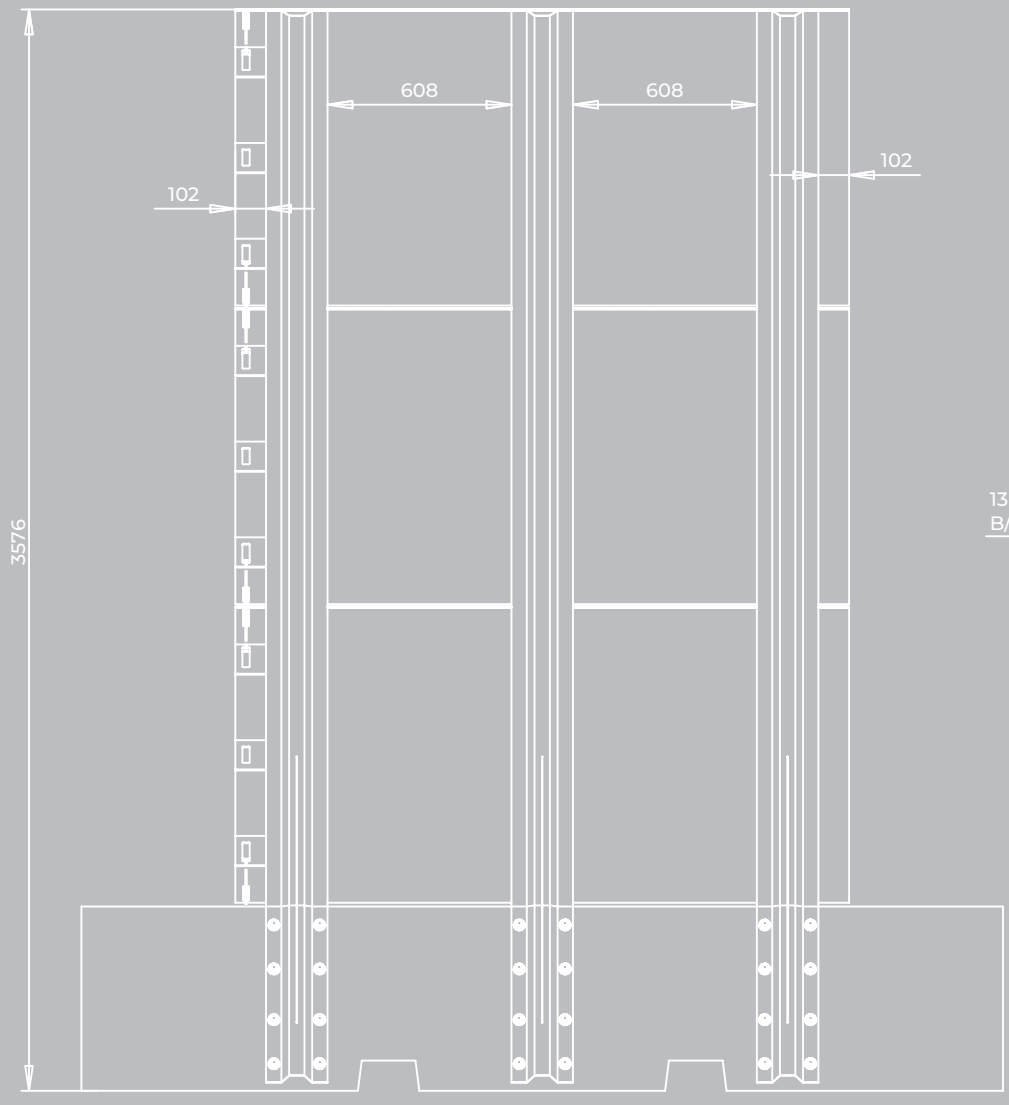
An **energy-efficient** solution.

World's First Sound Absorptive Solar Noise Barriers.

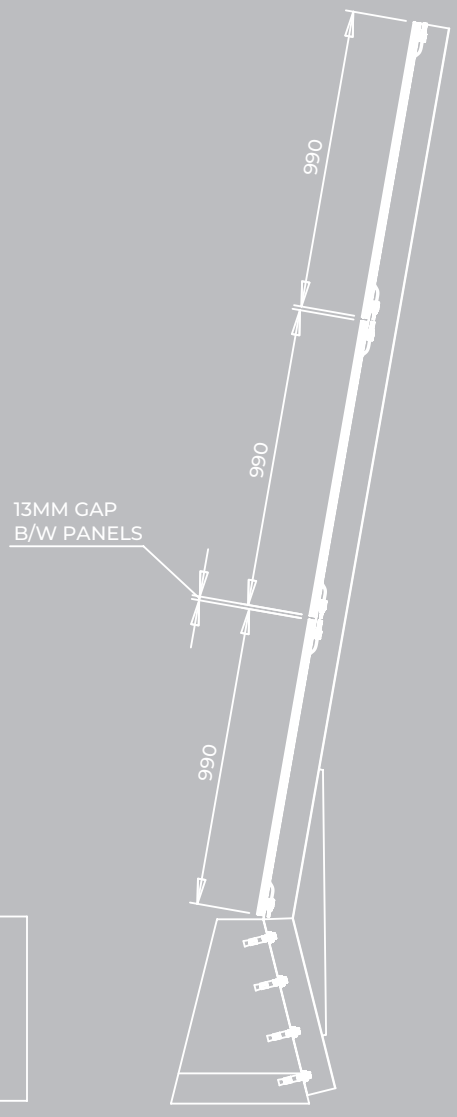
Customizable PVNB Options.

TECHNICAL DRAWINGS

REAR VIEW



SIDE VIEW



** Concrete base will be provided by an external supplier and may vary in size.

MECHANICAL DATA

Mitrex Photovoltaic Noise Barrier (PVNB) is an ideal alternative to traditional noise barrier walls as they generate power while maintaining the original function—minimizing sound to surrounding areas with reflective or absorptive barriers.

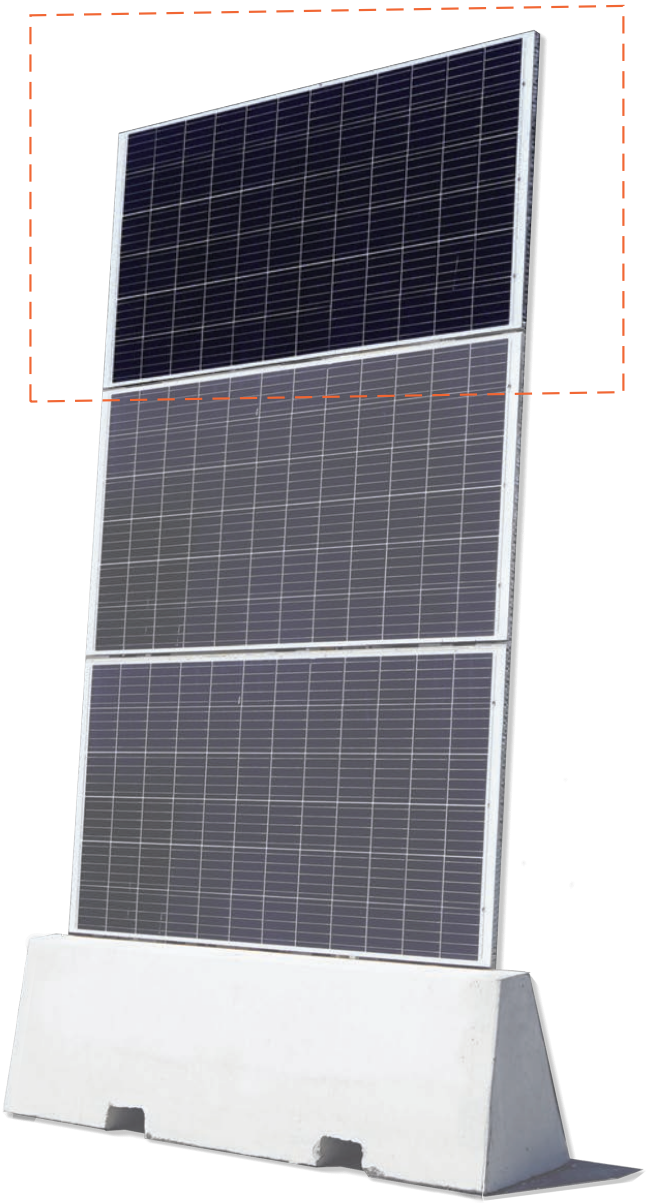
Depending on requirements, Mitrex reflective PVNBs can be customized and designed up to STC 40. For a noise barrier to be considered absorptive, the Sound Absorption Average (SAA) or Noise Reduction Coefficient (NRC) must be greater than 0.70. Mitrex Absorptive PVNBs feature an SAA or NRC of 0.80+. Not only is the function maximized, but there are added benefits of energy and design.

Mitrex PVNBs open energy generation to any surface by integrating solar technology into infrastructure. They generate solar energy and supply it to surrounding infrastructure, including traffic lights, local facilities, EV charging stations, and more.

Unparalleled sound insulation combined with power allows for the decentralization of energy from the high-carbon grid with renewable options. Maximize functionality and design without sacrificing on energy or sound protection with Mitrex.

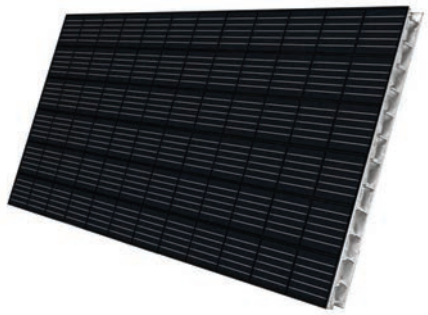
SPECIFICATIONS	ANGLED SOLAR NOISE BARRIER
Description	- A noise barrier system with an integrated solar solution designed for roads and highways. - Direct mounting onto existing concrete traffic barriers features quick installation with minimal equipment. - Angled installation of the solar noise barrier maximizes power generation.
Overall Panel Height	Up to 4m (Varies with size of concrete traffic barrier)
Overall Panel Width (Span)	2m per section
Overall System Weight	136 kg (300 lbs) excluding concrete base
Tilt Angle	66 Deg (Angle can vary between 45° to 90° depending on the concrete base)
STC Rating	Up to STC 40
Honeycomb Thickness	Up to 1” thick
Supporting Mounting Channel Thickness	1.59 mm (16 Ga)
Supporting Mounting Channel Material	Galvanized Steel
Supporting Mounting Channel Total Length	600mm + 3008mm
Supporting Mounting Channel Weight	16kg (35 lbs) per channel x 3

ELECTRICAL DATA (Single Solar Panel)

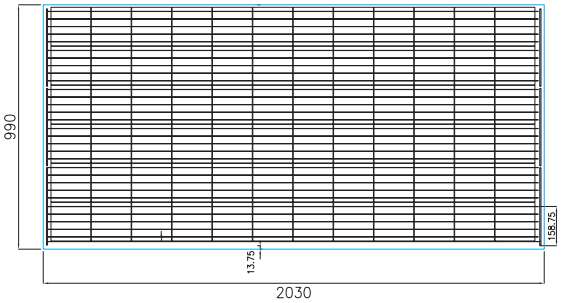


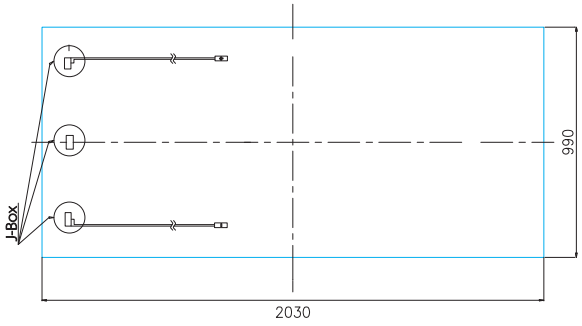
SPECIFICATIONS	SINGLE SOLAR PANEL
Cell Type	Mono-Crystalline
Cell Arrangement	12x6 (72 Cells)
Width (mm)	990 (38.9")
Length (mm)	2030 (79.9")
Thickness (mm)	25mm (With AHC)
Front Cover	3.2 mm tempered glass
Aluminum Honeycomb Thickness	3/4"
Weight (kg)	29kg + 3/4" Aluminum Honeycomb
J-Box Protection Class	≥ IP67
Connector Protection Class	IP68
Max. Power (PMAX)	390W +/- 5%
Open Circuit Voltage $_{(Voc)}$	48.2V +/- 5%
Short Circuit Current $_{(Isc)}$	9.77A +/- 5%
Max. Power Voltage $_{(VPM)}$	41.9V +/- 5%
Current at Max Power $_{(IPM)}$	9.31A +/- 5%
Max. Series Fuse Rating	20A
Max. System Voltage	1000V
Fire Protection Class	Class A - Flame Spread Class C - Burning Brand
Operating Temperature (°C)	-40° - +85° [-40°F - 185°F]

SOLAR PANEL BLACK (Datasheet)



ENGINEERING DRAWING (mm)





MECHANICAL DATA

SPECIFICATIONS	BLACK SOLAR PANEL WITH HONEYCOMB
Cell Type	Mono-Crystalline
Cell Arrangement	72 [(12X6)]
Dimensions	2030x990
Front Cover	3.2mm tempered glass
Frame	Aluminum Honeycomb
Weight	29kg
J-Box	IP68, 3 bypass diodes
Cable	4mm², 12 AWG (UL)
Cable Length (Including Connector)	500mm, 1000mm, 1200mm
Connector	MC4

ELECTRICAL DATA | STC*

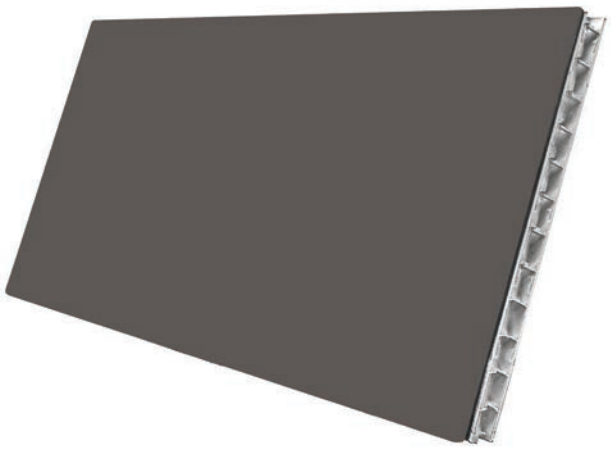
SPECIFICATIONS	BLACK SOLAR PANEL WITH HONEYCOMB
Nominal Max. Power (Pmax)	390W
MPP Operating Voltage (Vmp)	41.9V
MPP Operating Current (Imp)	9.31A
Open Circuit Voltage (Voc)	48.2V
Short Circuit Current (Isc)	9.97A
Module Efficiency	19.2%
Operating Temperature	-40°C ~ +85°C
Max. System Voltage	1000V (IEC/UL)
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.

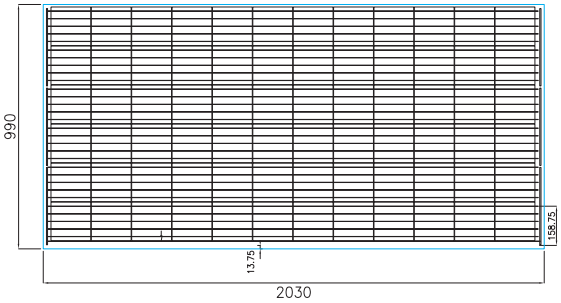
TEMPERATURE CHARACTERISTICS

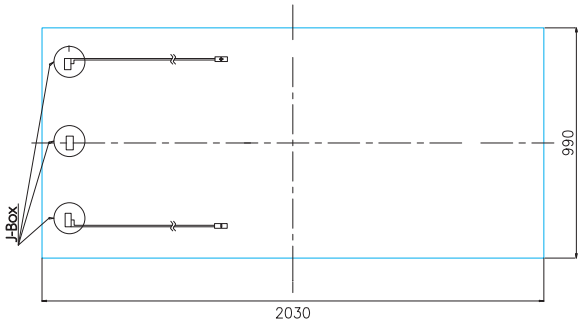
SPECIFICATIONS	BLACK HP M390-A1F
Temperature Coefficient Pmax	-0.36% / °C
Temperature Coefficient Voc	-0.30% / °C
Temperature Coefficient Isc	0.046% / °C
Nominal Module Operating Temperature	42 ± 3°C

SOLAR PANEL GREY (Datasheet)



ENGINEERING DRAWING (mm)





MECHANICAL DATA

SPECIFICATIONS	SOLAR PANEL GREY
Cell Type	Mono-Crystalline
Cell Arrangement	12x6 (72 Cells)
Dimensions	2030x990
Front Cover	3.2mm tempered glass
Frame	Aluminum Honeycomb
Weight	29kg
J-Box	IP68, 3 bypass diodes
Cable	4mm², 12 AWG (UL)
Cable Length (Including Connector)	500mm, 1000mm, 1200mm
Connector	MC4

ELECTRICAL DATA | STC*

SPECIFICATIONS	SOLAR PANEL GREY
Nominal Max. Power (Pmax)	350W
MPP Operating Voltage (Vmp)	40.6 V
MPP Operating Current (Imp)	8.62A
Open Circuit Voltage (Voc)	48.5V
Short Circuit Current (Isc)	9.09 A
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

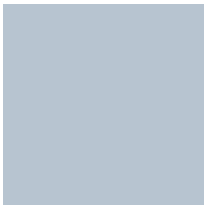
* Under Standard Test Conditions (STC) of irradiance of 1000 W/m² spectrum AM 1.5 and cell temperature of 25°C.

TEMPERATURE CHARACTERISTICS

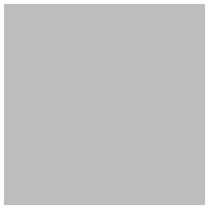
SPECIFICATIONS	SOLAR PANEL GREY
Temperature Coefficient Pmax	-0.36% / °C
Temperature Coefficient Voc	-0.30% / °C
Temperature Coefficient Isc	0.046% / °C
Nominal Module Operating Temperature	42 ± 3°C

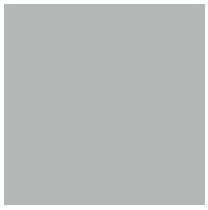
AVAILABLE COLOURS

SOLAR SOLID COLOURS


Light Steel Blue


Silver Sand


Grey


Ash Grey

Light Grey


Dim Grey


Charleston Green


Charcoal


Sand Grey


Dark Slate Grey


Oxford Blue


Bistre


Dark Sienna


Marron


Brunswick Green


Jadite

The power per panel for the solar ISP will change depending on the colour.

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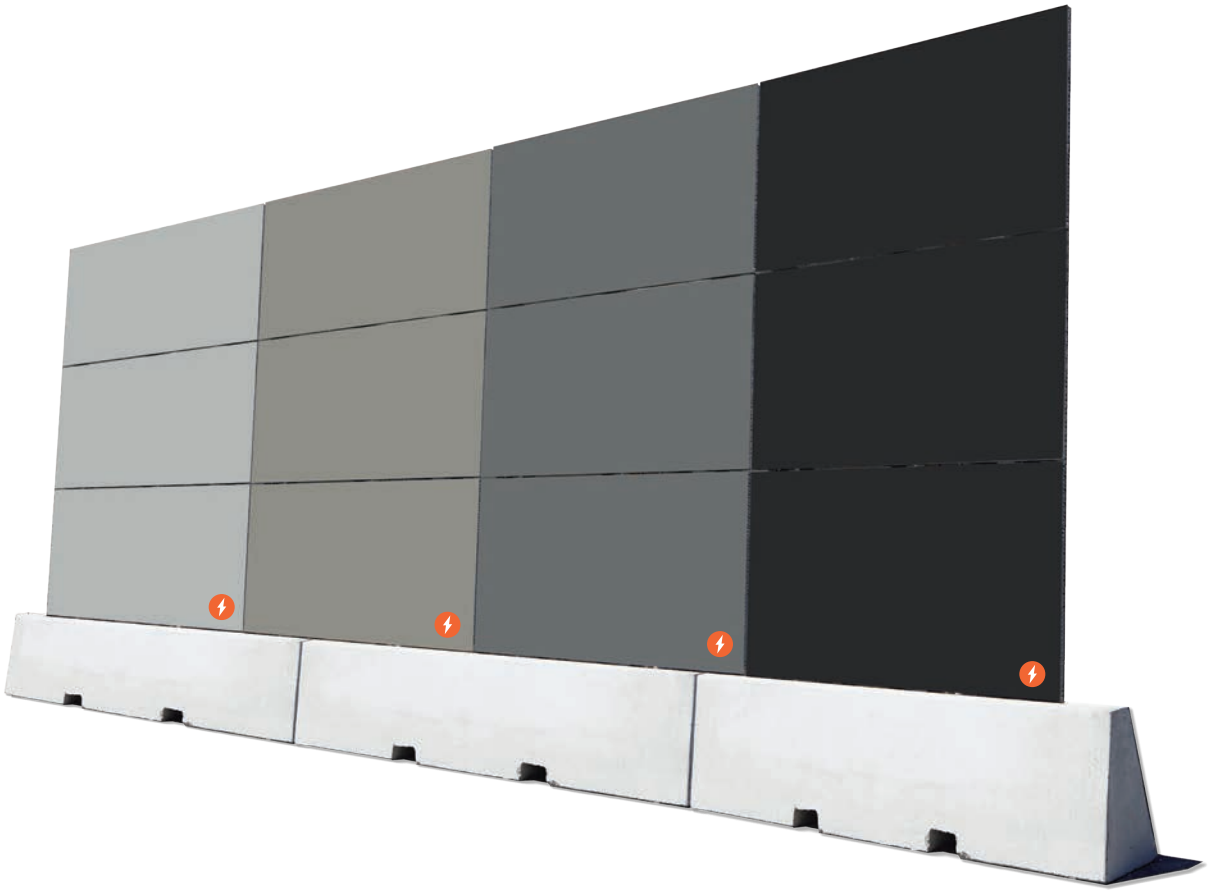

Mitrex Solar Noise Barriers can be made in any colour or pattern.

LEARN MORE:

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