M- SOLAR ROOF
HIDDEN MOUNTING SYSTEM (BIPV) WITH R13 (U VALUE 0.44) INSULATION

M-SIPs
GREEN AND FIREPROOF CONSTRUCTION
ELIMINATES 2-4 LAYERS OF LABOR MOUNTING COST

M-Solar Roof is a specially designed Non Structural roof panel for PV (Photovoltaic) module mounting as BIPV (Building Integrated PhotoVoltaic) without additional visible rails structure on the Rooftop.

CONCEPT

M-Solar Roof panel. PV panels and two layers of specially profiled metal sheet, pre-painted galvanized steel and injected with Class A (B1-s1,d0) fire rated Polyiso (PIR) foam.

405 Wp Bifacial PERC Monocrystalline Module

- High Performance 405 Wp Bifacial PERC Monocrystalline Module (Alternative 375 Wp Mono – 72 cell)
- Global. Tier 1 bankable brand – 30 years Linear Power Warranty with only 0.5% degradation /year.

- 20.6% Maximum Efficiency – 144 Cell – Maximum System Voltage 1500 VDC-
- Dimensions 2034 x 1000 x 30 mm
- The Bifacial cell result in additional 10%-30% yield gain from rear side
- Low current density technology to decrease the internal power consumption effectively
- MBB and HC technology to reduce the negative affection to yield caused by Micro crack and shadow

PROPERTIES:

• Non-roof penetrating PV mounting solution (optimized for 405WP Bifacial PERC or 375 Wp 72 cells modules)
• Nice design - hidden fixing bolt design
• Fast and easy installation
• Leakage proof (25 years Warranty)
• Eliminates thermal bridging - R13 (U Value 0.44) insulation
• High structural performance for wind loads

APPLICATIONS:

M-Solar Roof can be applied directly as a new roof or as new roof on any old structural roof construction and can further be used for:

• Apply directly Green Grass roof solution on top
• Apply directly Asphalt (Triangle concept) or Tile roof solution on top
• Use as finished Flat Roof solution – slope > 1%
DRAWING:

ROOFTOP CONCEPT:
FLAT ROOF CONCEPT:

ROOFTOP 3 D VIEW
MOUNTING ACCESSORIES
ROOFTOP

T-Bolt

Mld clamp

screw/Square washer

Mounting clip

End clamp

ADDITIONAL ACCESSORIES FOR FLAT ROOF INSTALLATION (12 TO 15 DEGREES TILT)

Flat Roof Back

Flat Roof front

Windbreaker

M-SIPs is one of the market leaders of sustainable BIPV construction technologies for Renewable Energy which keeps the aesthetics and functionality of the building without any damage from installing PV modules on roof top. We are devoted to provides new smart concepts for Zero Energy Housing done clever.
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**TECHNICAL SPECIFICATIONS:**
**M-SOLAR ROOF**

<table>
<thead>
<tr>
<th>Dimensions</th>
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<tbody>
<tr>
<td>Length standard</td>
<td>feet</td>
<td>8 - 39' (2440 – 12000 mm)</td>
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<tr>
<td>Width standard</td>
<td>feet</td>
<td>39” (1.000mm)</td>
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<tr>
<td>Thickness standard</td>
<td>inches</td>
<td>2” (50mm)</td>
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<tr>
<td>Tolerance Thickness</td>
<td>ASTM C 1185</td>
<td>+/- 1-2 %</td>
</tr>
<tr>
<td>Tolerance Length</td>
<td>ASTM C 1185</td>
<td>+/- 1-2 %</td>
</tr>
<tr>
<td>Tolerance Width</td>
<td>ASTM C 1185</td>
<td>+/- 1-2 %</td>
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<tr>
<td>Weight</td>
<td>Sqft/m2</td>
<td>3.9lbs/sqft/18 kg/m2</td>
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<table>
<thead>
<tr>
<th>Insulation</th>
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<tbody>
<tr>
<td>Polyiso (PIR)</td>
<td>ASTM C 1185</td>
<td>40 – 50 kg/m3</td>
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<tr>
<td>Fire class material</td>
<td>ASTM E 84 - Flame/Smoke</td>
<td>25/200</td>
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<td></td>
<td>EN 13501:2</td>
<td>B1-s1,d0</td>
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<tr>
<td>Mold Resistance</td>
<td>ASTM D 3273 (scale 1–10 and 10 best)</td>
<td>10</td>
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<tr>
<td>Insulation Value</td>
<td>ASTM C518</td>
<td>R13 (U value 0.44)</td>
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<tr>
<th>Surface material</th>
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<tbody>
<tr>
<td>Steel Plate</td>
<td>Pre-painted galvanized steel</td>
<td>Gauge 24 (0.5mm)</td>
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<tr>
<td>Warranty</td>
<td>Leakage proof &gt;1 % (no roof joint)</td>
<td>25 years</td>
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