

90W FLEXIBLE CIGS THIN FILM SOLAR PANELS



Quick Details

Place of Origin: Shenzhen, China (Mainland)

Brand Name: Macsun Solar

Model Number: MS-FLEX-TSP90

Type: CIGS Thin Film Solar Module

Max. Power: 90W

Size: 2015*492*3.5mm

Working condition: Sunny, Cloudy, or even Rainy days

Special Feature: Good performance in diffuse light or low-lux condition

Designed specially for rooftops

Integrates with roofing surface

No mounting hardware

No roof penetrations

No wind load

Low profile

Flexible module

Fits many roof types

Durable, non-breakable

Light weight

3.6 kg/m² (0.74 lb/ft²) with adhesive

High performance

Performs in all light conditions

Shade tolerant

Shade protected, continues to charge when part of the cells are in a shadow

Covers entire roof area

Lays flat, no tilt required

Minimum module spacing required



APPLICATION

- Directly onto metal Standing-Seam roofs
- Roof membranes
- Roofs rated at less than 5-10kg/m² additional load
- Curved roof / architectural structures
- Mobile applications - RVs, Trucks
- Landfills
- Larger Mobile applications - Boats, Containers
- Tensioned-Fabric structures
- Corrugated roofs rated at 7-10kg/m²
- Elastomeric Coated Roofs
- Poles and Towers
- Architectural glass
- Larger Shingles

Electrical Specifications

Capacity rating	Pmax	90 W
Tolerance of Pmax	%	+10 / -7%
Module aperture area efficiency	%	11.4%
Rated voltage	Vmpp	16.5 V
Rated current	Impp	5.4 A
Open circuit voltage	Voc	22.0 V
Short circuit current	Isc	6.3 A

◇ Mechanical Specifications

Dimensions	2017 x 494 x <3 mm (79.3 x 19.4 x <0.12 in)
Weight	3.0 kg without adhesive (3.0 kg/m ²) 3.5 kg with adhesive (3.5 kg/m ²)
Junction Box - Top Mounted	TE Connectivity SOLARLOK™ Micro Junction Box
Cables	4 mm ² dual rated with SOLARLOK™ connectors
Junction Box - Bottom Mounted	MC-JM/FM (MC4 Connectors)
Front Sheet	Non-stick ETFE
Solar Cells	36 CIGS cells (210 x 100 mm)
Adhesive	ADCO HelioBond™ PVA 600BT butyl mastic
Hot Spot Protection	Bypass diodes at each cell; 1 at junction box
Materials	Lead free and exempt from RoHS requirements
Maximum Series Fuse Rating	10 Amp
Color Options	Black (B) or White (W) backsheets behind cells

◇ Operating Conditions

Temperature Range	-40°C to + 85°C
Maximum System Voltage	1000VDC IEC, 600VDC UL

◇ **Warranty**

Materials and workmanship - 25years

Power output - 25 years (90% @ 10 yrs; 80% @ 25 yrs) Limited Warranty

Packaging & Delivery

Packaging Details: Bags & Cartons according to your requirements

Delivery Detail: Shipped in 15 days after payment

Applications:



充分利用车顶面积 (Fully utilize the roof area)

