

ALUMINIUM SOLAR MODULE MOUNTING CLAMPS/CLIPS

Maruti Techno specializes in Aluminium Module Mounting Clips suitable for Solar Industries made from high grade Aluminium Alloy. These elegantly designed module clips offer optimal function, quick and easy installation, best quality and timely delivery. Maruti MMMC and MMEC Clips comply with the minimum technical and mechanical requirements for mounting systems approved by First Solar.

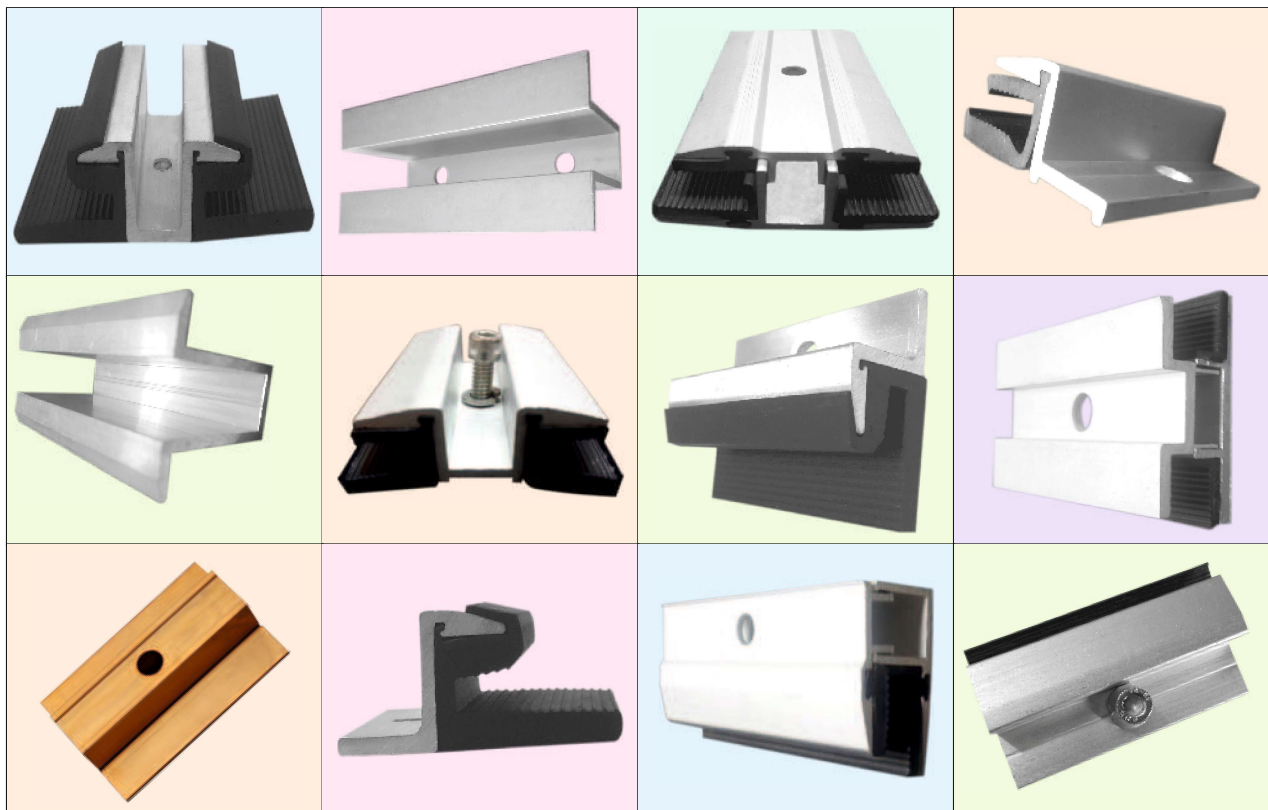
These clips are supplied with EPDM Rubber insulators made out of Virgin EPDM Rubber produced through top of the line Microwave Extrusion System and also manufacturing with Santoprene rubber. Maruti Techno has unique capability of providing end to end solutions right from Aluminum Mounting clips fitted with EPDM Rubber insulators, SS Socket Heads / Square headed HDG Bolts and SS Nuts & Plastic Retainer Washer under one roof.



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THE ADVANTAGES FOR MARUTI CLIPS

- Superior design clamping technologies and module clamp solutions.
- Professional machining.
- Complete production and packaging from single source.
- Individual solutions from planning to the finished product.
- On-schedule flexible delivery and logistic concepts.



MIDDLE CLIP AND END CLIP

- Material : Anodized Aluminium 6063 with Temper – T6 / T5 / T66
- Compatible for thickness upto 10 mm suitable for Thin Film Panel
- Colour & Length customized.

CHEMICAL COMPOSITION % ALLOY 6063

ELEMENTS	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Al
REF. VALUE	0.20-0.60	0.35	0.10	0.10	0.45-0.90	0.10	0.10	0.10	Balance

PHYSICAL PROPERTIES

REF. VALUE	UTS - Mps 135Mpa (Min.)	ELONGATION - % 7% (Min.)	YIELD STRENGTH 150 Mpa (Min.)	HARDNESS - W 7 - 13
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EPDM INSULATOR AND SANTOPRENE INSULATOR

Maruti Techno Rubber Produces all types of EPDM Solid Rubber and also manufacturing EPDM Flame resistance profiles to give flame resistance up to 30 to 40 seconds at continuous burning.

PROPERTIES OF EPDM RUBBER

It has very good properties in cold and hot region i.e. weather, ozone & water resistance at wide range of service temperature (-40°C to 150°C) with good resilience properties at low and high temperature, excellent heat ageing properties and acid resistance properties.

TECHNICAL SPECIFICATION FOR EPDM RUBBER AND SANTOPRENE RUBBER:

S.No.	Technical Specification	EPDM Insulator	Santooprene Insulator
1.	Tensile Strength (Kg / cm ²) min.	55	55
2.	Elongation at Break (%) min.	250	340
3.	Hardness Shore A	50 - 70	50 - 70
4.	Ozone Resistance	50 pphm	50 pphm
5.	Colour & Type	Black, Non-Reinforced	Black, Non-Reinforced
6.	Tear Strength (Kg/cm) min.	30	20
7.	Resistance to Outdoor (UV) weathering	No Crack, No Crazing	No Crack, No Crazing
8.	Service Temperature	-40°C to ± 150°C	-40°C to ± 150°C
9.	Acid Resistance Property	Excellent	Excellent
10.	Service Life	25 years	25 years
11.	Brittleness Temp (°C)	- 40	- 40
12.	Resistance to water Absorption (After 7 days immersion @ 70°C change in mass max. (%))	0.5% max.	0.5% max.
13.	Electric Resistance	N.A.	Excellent

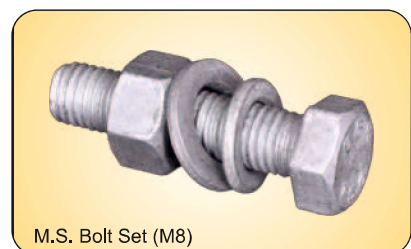
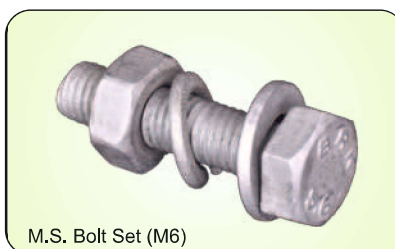
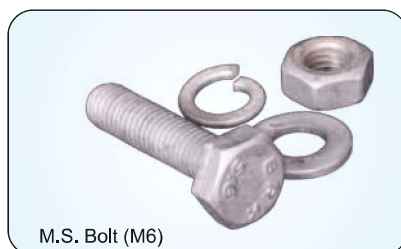
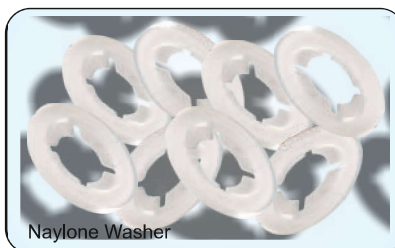
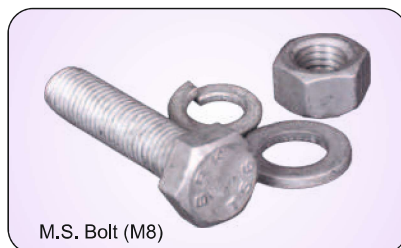
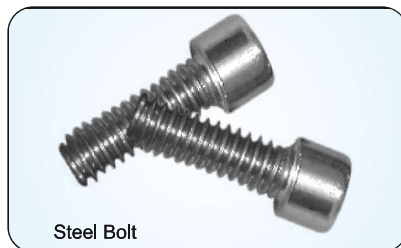
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FASTENERS

Maruti Techno also supplies variety of fasteners suitable for Solar Module Clips/Panels. Our fasteners range includes Stainless Steel Bolt, Hex Bolt, Eye Bolt, HDG Bolt, Square Headed Bolt, Stainless Steel Nuts, Flange Nut, Lock Nut, Spring Washers, Plain Washer and Screws. These fasteners are being produced in accordance with DIN, IFI, BSI, JIS and AS standards. We can also offer custom designed fasteners. Our wide range of quality fasteners with competitive pricing gives our customer an added advantage.

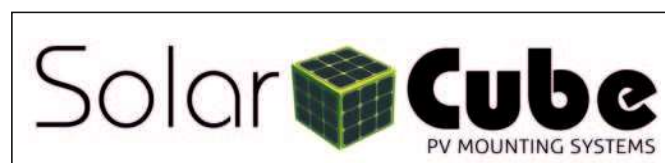
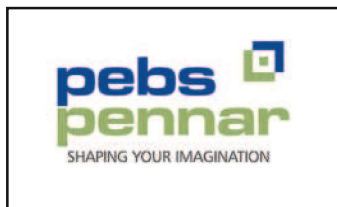
Main features of our Fasteners are :

1. High Tensile Strength
2. Corrosion resistance
3. Abrasion Resistance
4. Longer Durability



ALUMINIUM SOLAR MODULE MOUNTING CLAMPS/CLIPS

OUR CLIENTS



ALUMINIUM SOLAR MODULE MOUNTING CLAMPS/CLIPS

CERTIFICATE

First Solar FS Series Module Clip Compatibility

Compatibility of Maruti MMMC and MMEC Clips with FS Series Modules

Mounting clips used with First Solar FS Series module laminates must comply with the minimum technical and mechanical requirements for mounting systems required by First Solar (as described in First Solar document PD-5-320). In addition, the clip must satisfy the requirements of the First Solar mechanical load Test according to procedures defined in IEC61646 Ed. 1 10.15/16.

Release of Maruti MMMC and MMEC Clips

The Company clip name in conjunction with FS Series module laminates has successfully met the First Solar mechanical load test. The proposed mounting system design in conjunction with FS Series module laminates also meets the technical requirements concerning clip design that are specified in document PD-5-320 (see Figure 1 and Figure 2 below).

Therefore, the Maruti MMMC and MMEC Clips in conjunction with FS Series module laminates is approved for use as long as the mounting system complies with First Solar's technical and mechanical requirements for mounting systems, as described in document PD-5-320.

Clip Length: 70mm



Figure 1: Maruti MMMC



Figure 2: Maruti MMEC



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