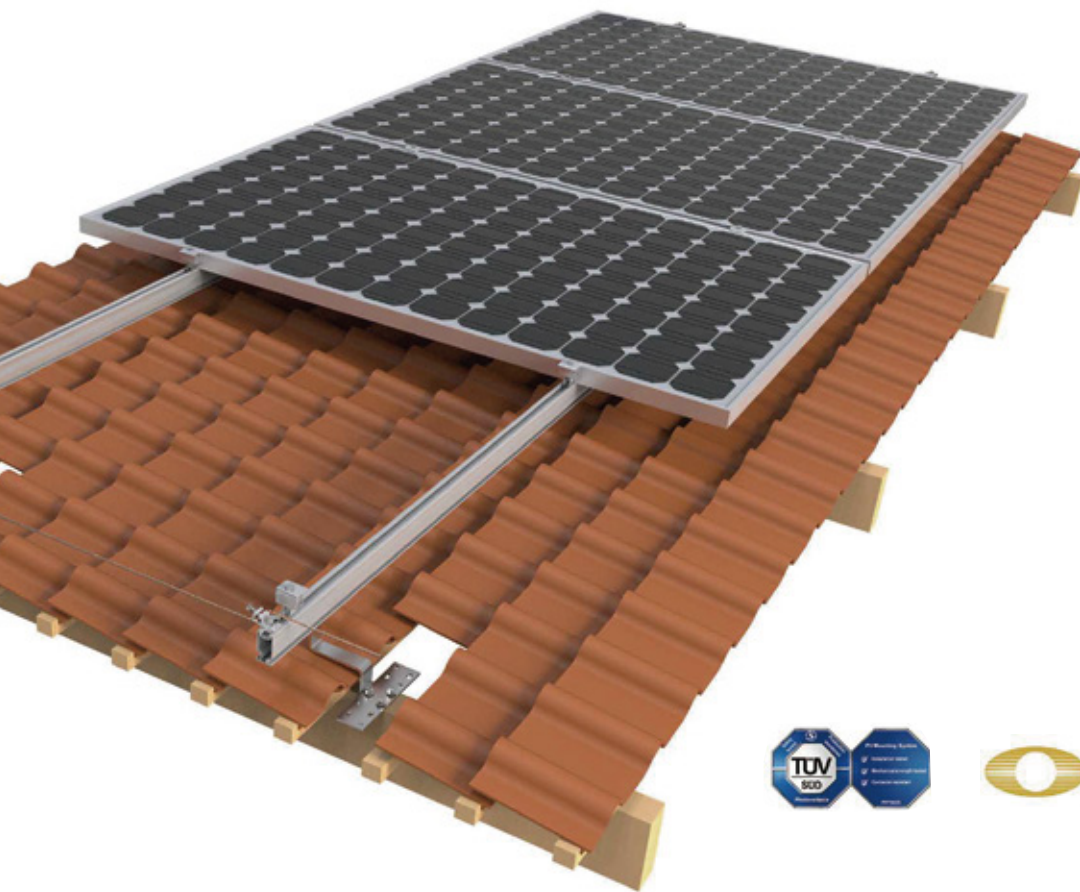


# PRODUCT BROCHUES

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## Disclaimer :

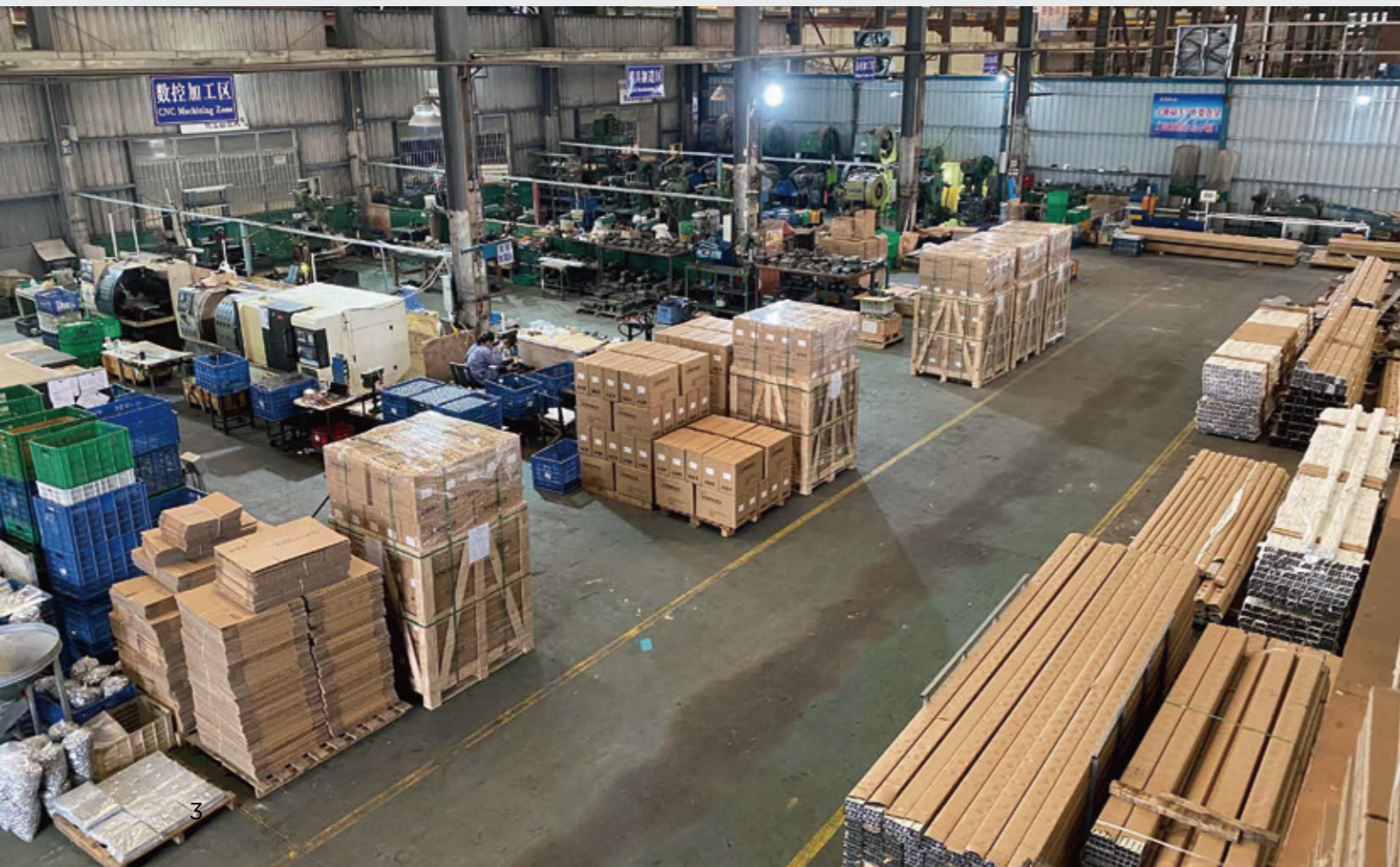
We make every effort to ensure that all the information contained within our catalogue is complete and accurate. Due to continuous product optimization we reserve the right to make any changes or corrections to our products and this catalogue as well as individual product information at any time without prior notice. All previous catalogues and individual product information become invalid upon the release of the later publications.

# ABOUT SAIL SOLAR

Specialize in research, design, development, production, and service of solar PV Mounting systems. We are committed to providing customers with stable, reliable and cost-effective solutions of roof mounting system, ground mounting system, and construction of various photovoltaic power stations for civil and commercial use, government departments, power stations projects etc.

Sail owns a solar mounting factory, more than 80 skilled workers, have over 10 years solar products production experience. With a complete R& D processing and high manufacturing capacity, strictly following ISO9001 quality control system. Our products design strictly in accordance with Australia AS/NZS1170.2, JIS C 8955, MCS012, TUV, UL2703, European building codes and other standards. Ensure that every code and regulation is fully complied with all applicable local or national building codes.

Sail offering innovative design and integrative settlement solution to our customers based on years of experiences on design, production and sale. We achieved good trust from customers because of our stable and excellent products. We will try our best to become a world leading level of solar photovoltaic systems integration solutions supplier.



Manufacturing facilities for both aluminum and steel products



Global service



Direct racking supply



Experienced team since 2010



Design standard: TUV, AS 1170.2:2011, JIS C 8955:2011, UL 1703/2703



15 Years warranty

# Rail & Accessories

**1** Item No. SAS-R52  
Description 52mm Rail



**2** Item No. SAS-R52L  
Description 52mm L Rail



Item No. SAS-R29  
Description 29mm Rail



**9** Item No. SAS-R26  
Description 26mm Rail



**3** Item No. SAS-R62  
Description 62mm Rail



**4** Item No. SAS-R62C  
Description 62mm C Rail



Item No. SAS-SFR-01  
Description Splice for Rail Kit 01



**11** Item No. SAS-SFR-02  
Description Splice for Rail Kit 02



**5** Item No. SAS-R60  
Description 60mm Rail



**6** Item No. SAS-R46  
Description 46mm Rail



Item No. SAS-AEC  
Description Universal Adjustable (30-40mm) End Clamp Kit



**13** Item No. SAS-AIC  
Description Universal Adjustable (30-40mm) Inner Clamp Kit



**7** Item No. SAS-R42  
Description 42mm Rail



**8** Item No. SAS-R41  
Description 41mm Rail (T-Bolt)



Item No. SAS-EIC  
Description Universal Adjustable (30-40mm) Inner Clamp Kit (Include Spring & Earthing Clip)



**15** Item No. SAS-FEC  
Description General End Clamp Kit



# Rail & Accessories

**17** Item No. SAS-RCN  
Description Standard Rail Clamp with ERK Nuts



**18** Item No. SAS-RCB  
Description Standard Rail Clamp with T-Bolt Kit



Item No. SAS-REL-A  
Description Standard Rail Earthing Plate Type A



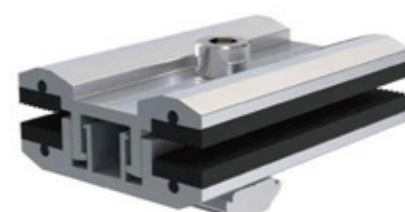
**25** Item No. SAS-REL-B  
Description Standard Rail Earthing Plate Type B



**19** Item No. SAS-TEC  
Description Thin Film Double-glazed Module End Clamp Kit



**20** Item No. SAS-TIC  
Description Thin Film Double-glazed Module Inner Clamp Kit



Item No. SAS-CCP-01  
Description Cable Clip for PV Panels for Holding 3 Cables



**27** Item No. SAS-CCP-02  
Description Cable Clip for PV Panels for Holding 2 Cables



**21** Item No. SAS-ELG  
Description Earthing Lug Kit



**22** Item No. SAS-NUT  
Description SAS Nuts



Item No. SAS-CCP-03  
Description Cable Clip for PV Panels for Holding 3 Cables



**29** Item No. SAS-CCP-04  
Description Cable Clip for PV Panels for Holding 2 Cables



**23** Item No. SAS-NBW  
Description SAS Nuts Assembly with Bolt and Washer Kit



**24** Item No. SAS-TBK  
Description T-Bolt Kit



Item No. SAS-CCP-06  
Description Cable Clip for PV Panels for Holding 3 Cables



**31** Item No. SAS-CCP-05  
Description Cable Clip for PV Panels for Holding 4 Cables



# Metal Roof Attachment

Tin roof systems divided into two fixing methods:

1. Drilling solutions, like bracket L-feet, hanger bolt, T type hook etc.
2. Standing seam clamp, direct mounting, no damage to the roof.

A design that includes major specifications saves you inventory cost, quick and easy to install. Innovative design of rail connect base-support can effectively increase the product strength, ensure the safety of the product use. Sail have a large variety of tin roof brackets provide customers options. Customized allowed according to customer needs to meet special installation requirements.

### Technical features:

Product name	Metal roof mounting system
Application	Metal roof
Inclination	Parallel to the roof
Material	AL 6005-T5, SUS 304, EPDM
Finish	AL 6005-T5 Anodized, SUS 304 Shot blasting
Module orientation	Landscape or Portrait



Item No. SAS-TRB-D01  
Description L Feet for Corrugated or Trapezoidal Sheet Metal



Item No. SAS-TRB-D03  
Description Hanger Bolt L Feet for Corrugated Fibre Cement, Corrugated or Trapezoidal Sheet Metal



Item No. SAS-TRB-D05  
Description Hanger Bolt for Corrugated Fibre Cement, Corrugated or Trapezoidal Sheet Metal



Item No. SAS-TRB-D09  
Description Asphalt Shingles Interface



Item No. SAS-TRB-D07  
Description 7# Tin Roof Hook for Trapezoidal Sheet Metal



Item No. SAS-TRB-D08  
Description 8# Tin Roof Hook for Trapezoidal Sheet Metal



Item No. SAS-TRB-D18  
Description 18# Tin Roof Hook for Trapezoidal Sheet Metal



Item No. SAS-TRB-D06  
Description 6# Tin Roof Hook for Trapezoidal Sheet Metal



# Metal Roof Attachment

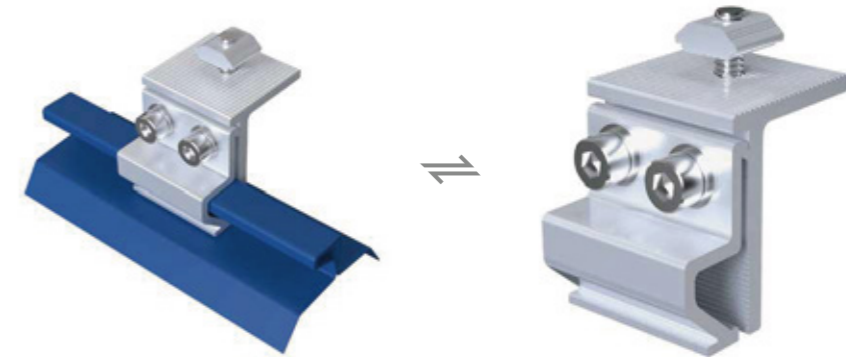
**9**  
Item No. | SAS-TRB-D13  
Description | 60mm Mini Rail for Corrugated or Trapezoidal Sheet Metal



**10**  
Item No. | SAS-TRB-D10  
Description | 26mm Mini Rail for Corrugated or Trapezoidal Sheet Metal



Item No. | SAS-TRB-C04  
Description | Standing Seam Clamp



**15**

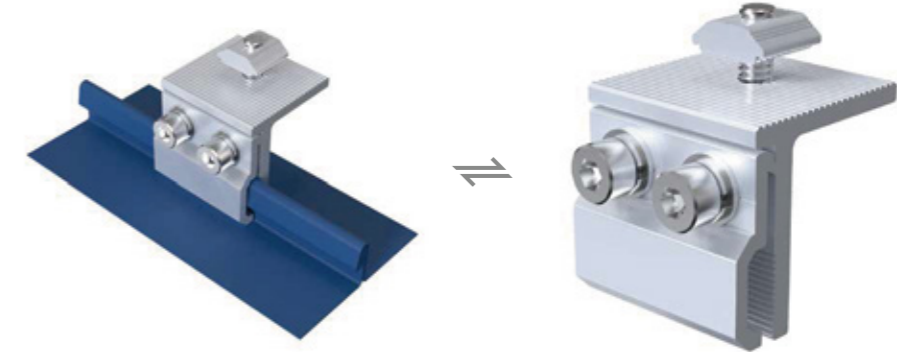
**11**  
Item No. | SAS-TRB-D11  
Description | 29mm U Type Rail for Corrugated or Trapezoidal Sheet Metal



**12**  
Item No. | SAS-TRB-D14  
Description | 46mm Mini Rail for Corrugated or Trapezoidal Sheet Metal

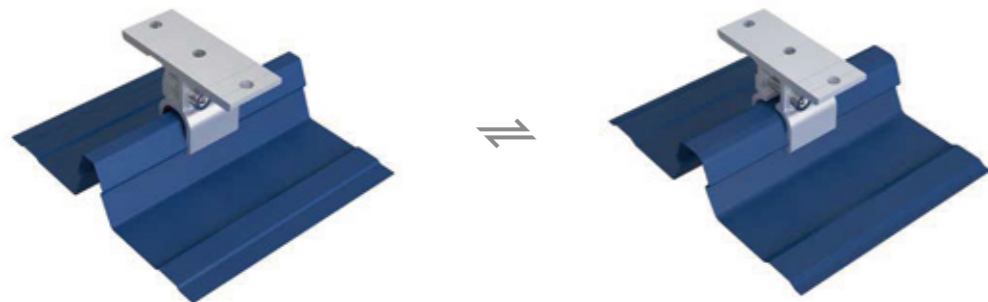


Item No. | SAS-TRB-C05  
Description | Standing Seam Clamp

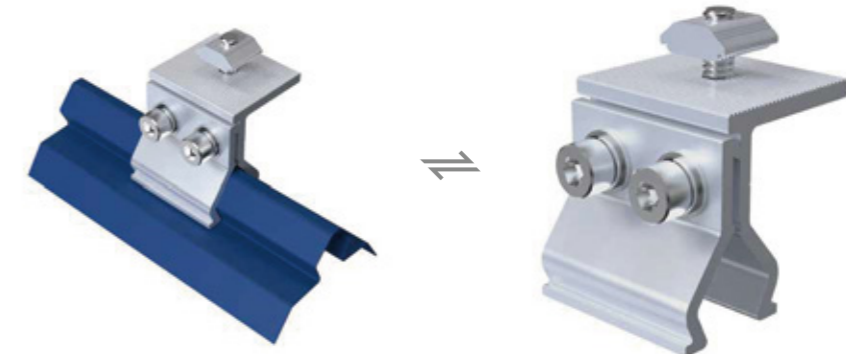


**16**

**13**  
Item No. | SAS-TRB-C01  
Description | Klip Lok 406 & 700 Interface

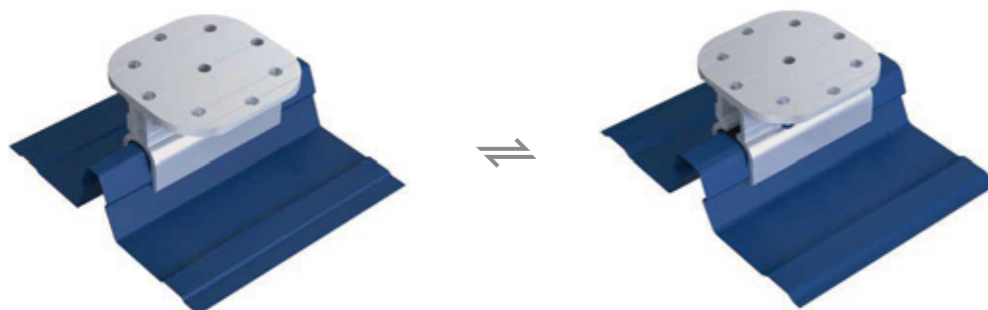


Item No. | SAS-TRB-C06  
Description | Standing Seam Clamp

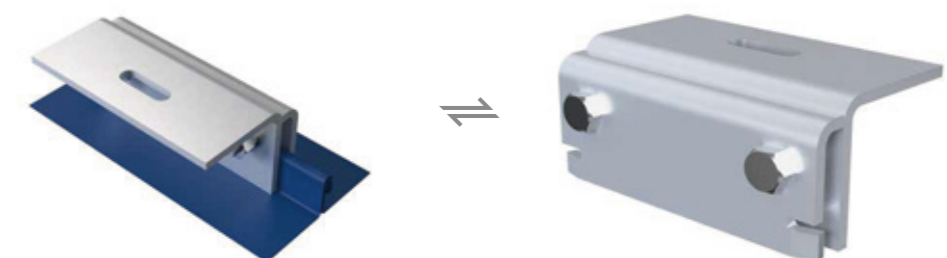


**17**

**14**  
Item No. | SAS-TRB-C02  
Description | Klip Lok 406 & 700 Interface



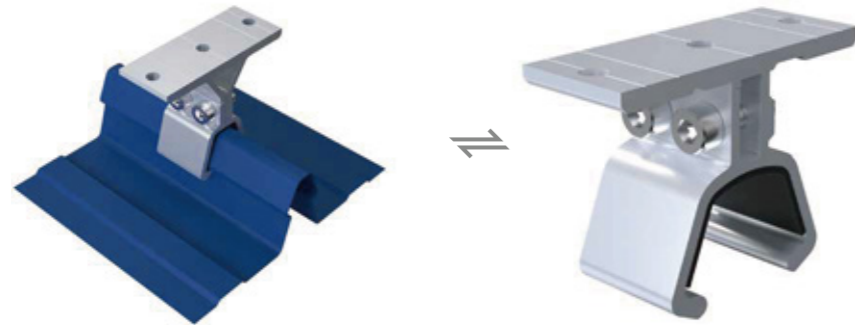
Item No. | SAS-TRB-C10  
Description | Stainless Steel Tin Interface Bracket



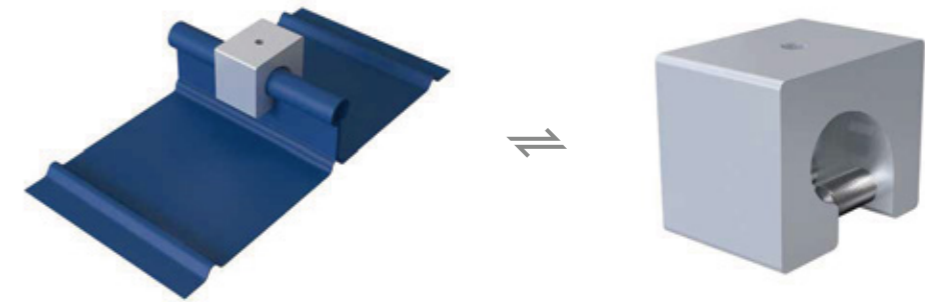
**18**

# Metal Roof Attachment

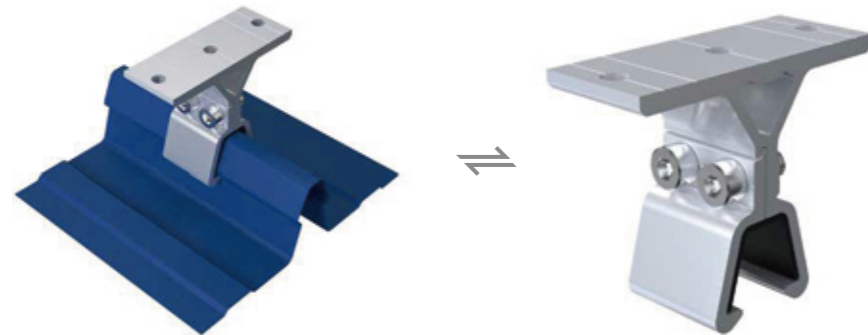
**19**  
 Item No. SAS-TRB-C14  
 Description Metdek 855 Dimondek 630 Interface



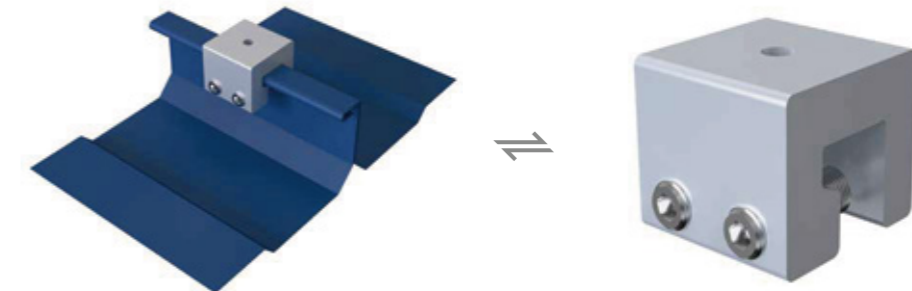
Item No. SAS-TRB-C21  
 Description Standing Seam Clamp



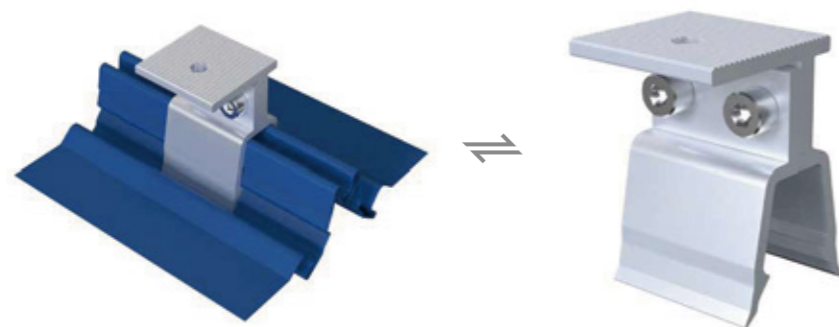
**20**  
 Item No. SAS-TRB-C15  
 Description Metdek 500 Interface



Item No. SAS-TRB-C22  
 Description Standing Seam Clamp



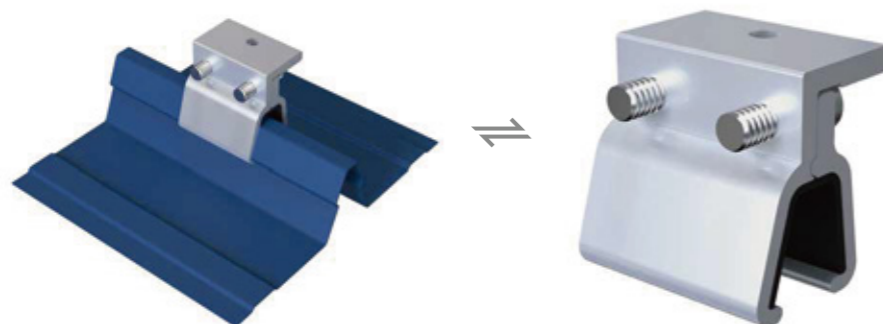
**21**  
 Item No. SAS-TRB-C16  
 Description RiverClack Roofing Profile



Item No. SAS-TRB-C23  
 Description Klip Lok 700 Interface



**22**  
 Item No. SAS-TRB-C20  
 Description Lysaght Klip-lok 406 Interface



Item No. SAS-TRB-C24  
 Description Standing Seam Clamp





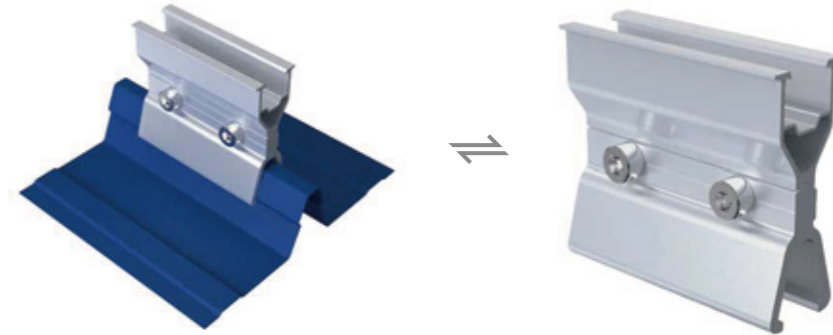
# Metal Roof Attachment

**27**  
Item No. SAS-TRB-C25  
Description Klip Lok 700 Interface

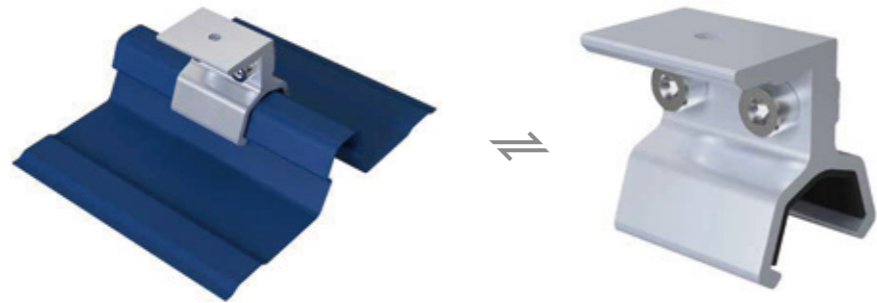


Item No. SAS-TRB-C13  
Description Lysaght Klip-lok Interface

**31**

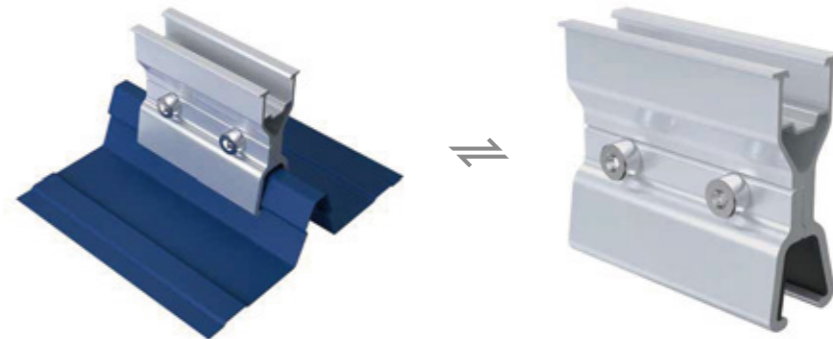


**28**  
Item No. SAS-TRB-C26  
Description WeatherClip II 700 Interface

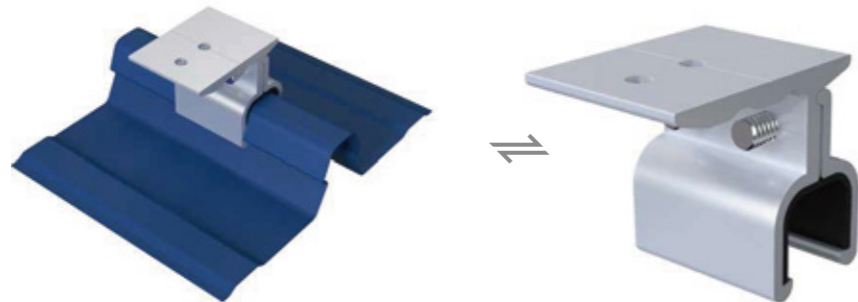


Item No. SAS-TRB-C29  
Description Lysaght Klip-lok 406 Interface

**32**

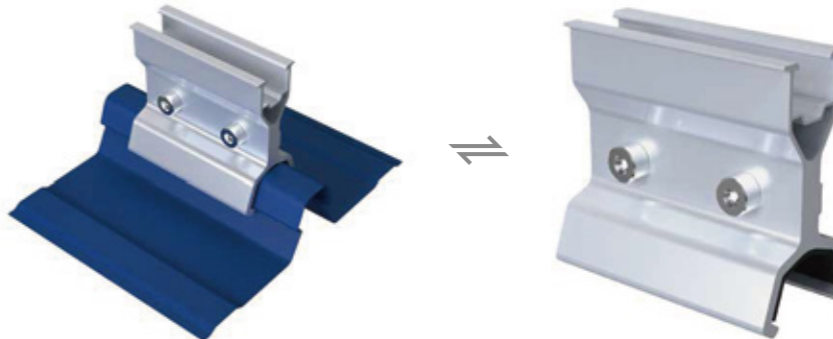


**29**  
Item No. SAS-TRB-C27  
Description Klip Lok 700 Interface

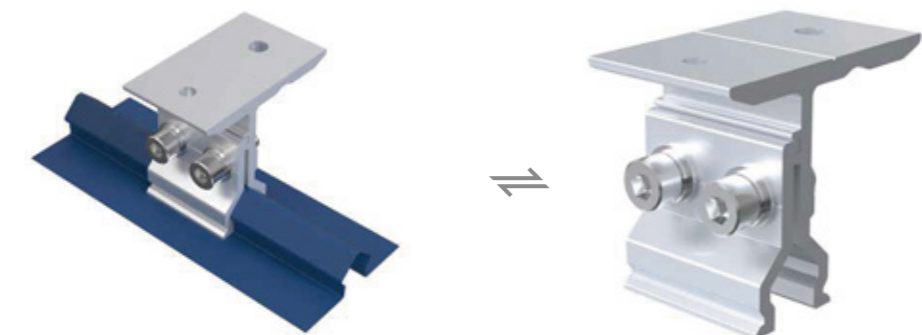


Item No. SAS-TRB-C30  
Description WeatherClip II 700 Interface

**33**



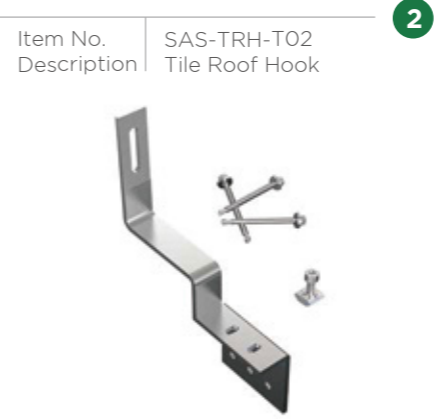
**30**  
Item No. SAS-TRB-C28  
Description Valio Metal Sheet Roof Interface



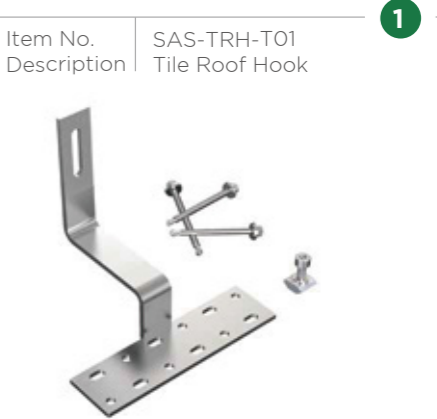
# Tile Roof Attachment

We have many types of tile roof hooks, suitable for most roof types of tile, Flat tile, slate tile, asphalt shingle tile. A design that includes major specifications saves you inventory cost, quick and easy to install. Innovative design of rail connect base-support can effectively increase the product strength, ensure the safety of the product use. We have a large variety of roof hooks provide customers options. Customized allowed according to customer needs to meet special installation requirements.

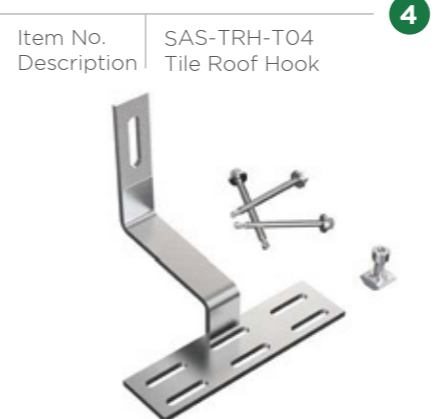
Technical features:	
Product name	Tile roof mounting system
Application	Tile roof, Flat tile roof, Slate roof
Inclination	Parallel to the roof
Material	AL 6005-T5, SUS 304
Finish	AL 6005-T5 Anodized, SUS 304 Shot blasting
Module orientation	Landscape or Portrait



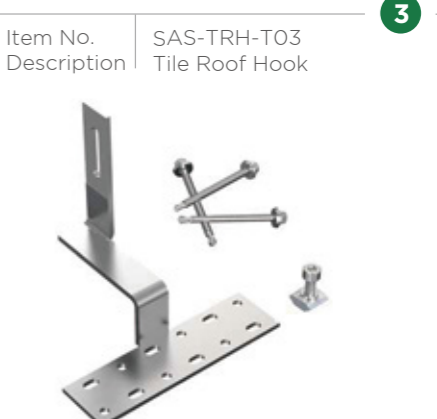
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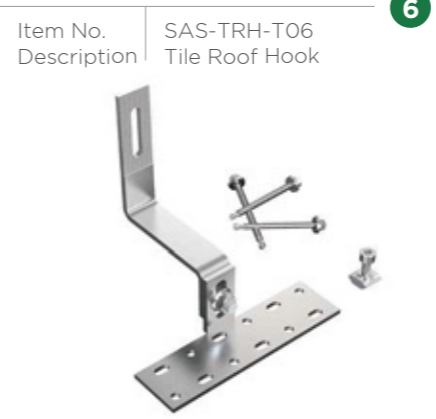
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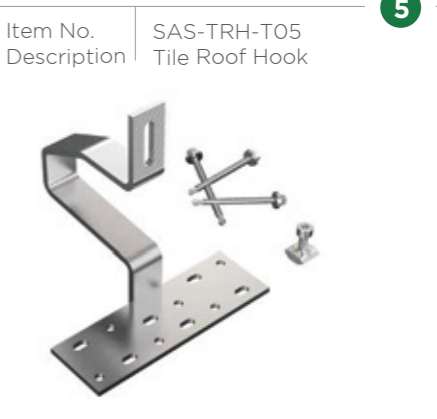
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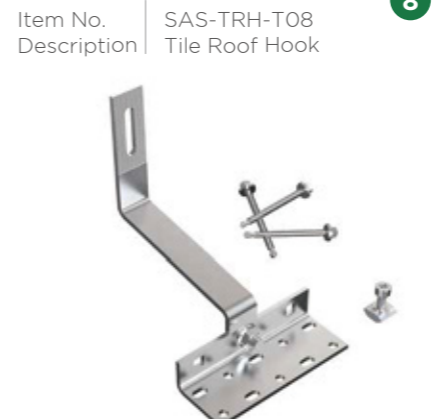
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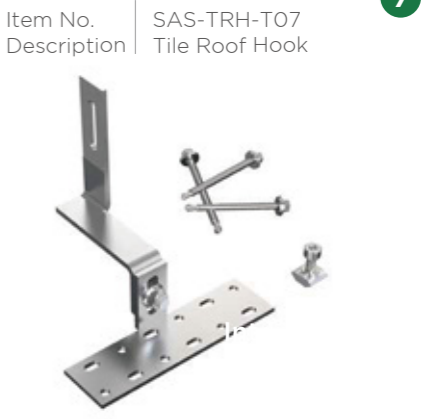
6



5



8




7

# Tile Roof Attachment


**9**

Item No.	SAS-TRH-T09
Description	Tile Roof Hook




**10**

Item No.	SAS-TRH-T10
Description	Tile Roof Hook




**17**

Item No.	SAS-TRH-F01
Description	Flat Tile Roof Hook




**18**

Item No.	SAS-TRH-F02
Description	Flat Tile Roof Hook




**11**

Item No.	SAS-TRH-T11
Description	Tile Roof Hook




**12**

Item No.	SAS-TRH-T12
Description	Tile Roof Hook




**19**

Item No.	SAS-TRH-F03
Description	Flat Tile Roof Hook




**20**

Item No.	SAS-TRH-F04
Description	Flat Tile Roof Hook




**13**

Item No.	SAS-TRH-T13
Description	Tile Roof Hook




**14**

Item No.	SAS-TRH-T14
Description	Tile Roof Hook



**21**

Item No.	SAS-TRH-S01
Description	Slate Roof Hook




**22**

Item No.	SAS-TRH-S02
Description	Slate Roof Hook




**15**

Item No.	SAS-TRH-T15
Description	Tile Roof Hook




**16**

Item No.	SAS-TRH-T16
Description	Tile Roof Hook




**23**

Item No.	SAS-TRH-S03
Description	Slate Roof Hook



**24**

Item No.	SAS-TRH-S04
Description	Slate Roof Hook



# Tilt Mounting



Sail adjustable tilt system is used for metal roof concrete roof, you can fixed or adjustable angle as 10-15deg, 15-30deg and 30-60deg options to maximize energy production. All Products pre-assembled before shipment, to make the installation easy and quickly. Unique design of inner and outer tube with adjustable Joint, made structure stronger, different from the same type products on the market today, and widely compatible with standing seam clamp.

### Technical features:

Product name	Adjustable tilt mounting system
Application	Flat concrete roof, metal roof
Inclination	10-15°, 15-30°, 30-60° or customized
Material	AL 6005-T5, SUS 304, EPDM
Finish	AL 6005-T5 Anodized
Module orientation	Landscape or Portrait

## 1 Assembly

Item No. | SAS-AFL  
Description | Adjustable Front Leg



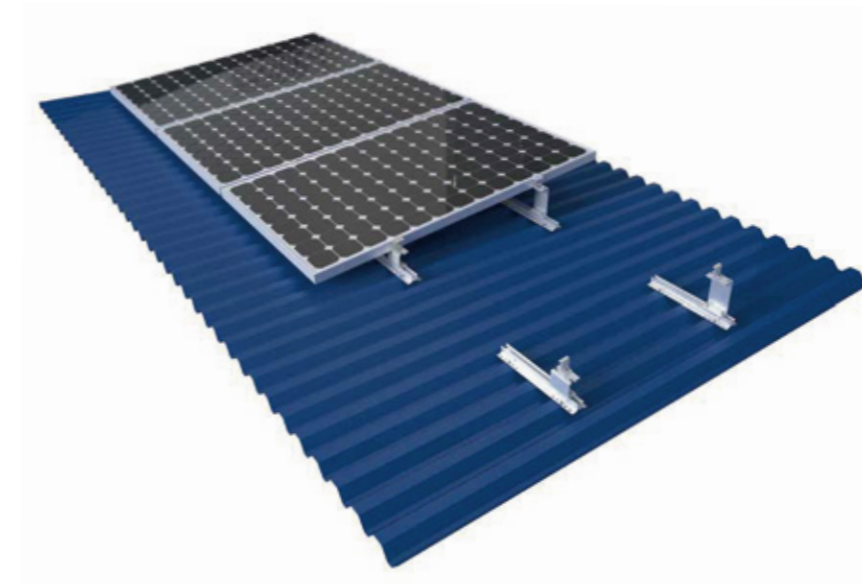
Item No. | SAS-FEC  
Description | General End Clamp Kit



Item No. | SAS-EIC  
Description | Universal Adjustable (30-40mm) Inner Clamp Kit (Include Spring & Earthing Clip)



Item No. | SAS-ARL-1015  
SAS-ARL-1530  
SAS-ARL-1530  
Description | 10-15° Adjustable Rear Leg  
15-30° Adjustable Rear Leg  
30-60° Adjustable Rear Leg



Mini Rail with 5 degree support base, lift up the height of the solar panel to achieve cooling conditions, thus maximizing power generation. Simple design, easy to install, with good price.

### Technical features:

Product name	Mini Rail 5° Support mounting system
Application	Metal roof
Inclination	5°
Material	AL 6005-T5, SUS 304
Finish	AL 6005-T5 Anodized
Module orientation	Portrait

## 1 Assembly

Item No. | SAS-FEC-BS  
Description | General End Clamp Kit



Item No. | SAS-AIC-BS  
Description | Universal Adjustable (30-40mm) Inner Clamp Kit



Item No. | SAS-TRB-D10  
Description | 26mm Mini Rail for Corrugated or Trapezoidal Sheet Metal



Item No. | SAS-MRS-5  
Description | Mini Rail 5° Support Rear Leg



Item No. | SAS-MFS-5  
Description | Mini Rail 5° Support Front Leg



# Tilt Mounting



Sail Tripod system is used for metal roof concrete roof, you can adjustable angle as 10-15deg, 15-30deg and 30-60-deg options to maximize energy production. All Products pre-assembled before shipment, to make the installation easy and quick for saving your labor cost and time. Customized angle allowed according to customer needs to meet special installation requirements.

### Technical features:

Product name	Tripod mounting system
Application	Flat concrete roof, metal roof, open terrain
Inclination	Customized
Material	AL 6005-T5, SUS 304
Finish	AL 6005-T5 Anodized
Module orientation	Landscape or Portrait



## 1 Assembly

Item No. | SAS-FTP  
Description | The Fixing Angle Tripod



Item No. | SAS-ATP  
Description | The Adjustable Angle Tripod



Item No. | SAS-R52  
Description | Enerack 52mm Rail



Item No. | SAS-EIC  
Description | Universal Adjustable (30-40mm) Inner Clamp Kit (Include Spring & Earthing Clip)



Item No. | SAS-FEC  
Description | General End Clamp Kit



Sunpal Tripod systems have fixed angle and adjustable angle design for options.



1.Fixed Angle Tripod system(SAS-FTP-X): According to customer need,we customize different sizes and angles to make a fast, easy and lower cost installation, this is Suitable for installation at known building angle.



2.Adjustable Angel Tripod (SAS-ATP-X): According to the site need to adjust the tripod angle for installation demand. It is suitable for multi-angle installation projects.

## 2 Assembly

Beam



U Base



32-32 AL Tube



## 3 Assembly

Beam



U Base



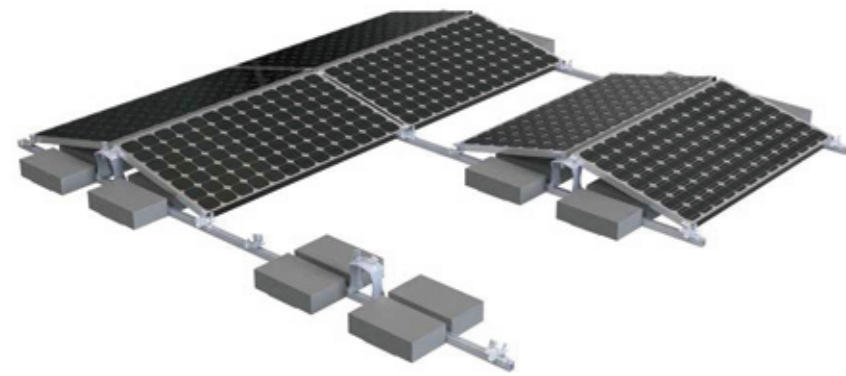
32-32 AL Tube



27-27 AL Tube



# East & West Ballasted Mounting



East & West ballasted mounting system

Technical features:	
Product name	East & West ballasted mounting system
Application	Flat concrete roof, metal roof, open terrain
Inclination	10° , 15° or customized
Material	AL 6005-T5, AL5052-H32, SUS 304
Finish	AL 6005-T5 & AL5052-H32 Anodized
Module orientation	Landscape



## 1 Assembly

Item No. | SAS-BSF-10  
Description | Ballasted 10° Front leg



Item No. | SAS-BSR-10  
Description | Ballasted 10° Rear leg



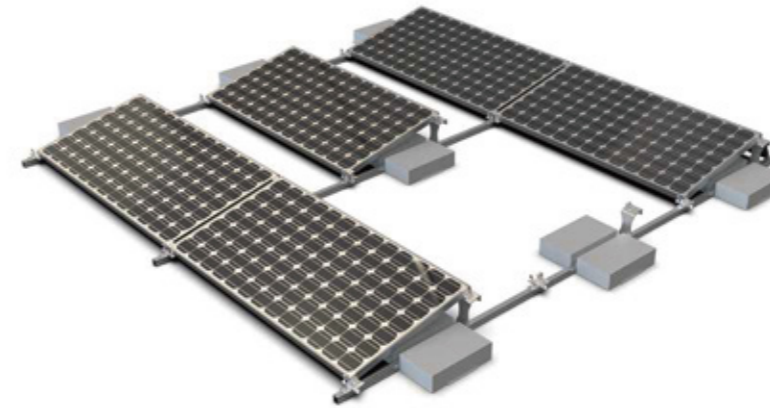
Item No. | SAS-BSR-15  
Description | Ballasted 15° Rear leg



Item No. | SAS-BST  
Description | Ballast Tray



Item No. | SAS-BSW  
Description | Ballast Wind Shield

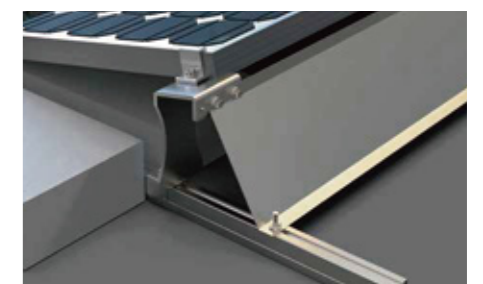
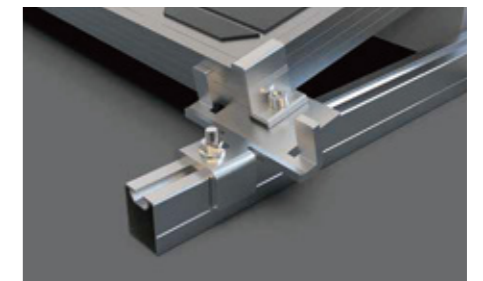
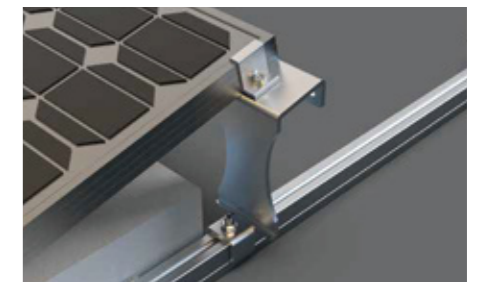
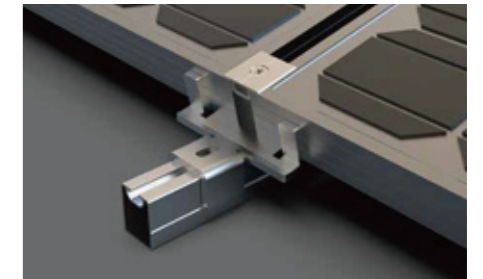


South or North ballasted mounting system

Technical features:	
Product name	East & West ballasted mounting system
Application	Flat concrete roof, metal roof, open terrain
Inclination	10° , 15° or customized
Material	AL 6005-T5, AL5052-H32, SUS 304
Finish	AL 6005-T5 & AL5052-H32 Anodized
Module orientation	Landscape



## 2 Assembly



# Ground Mounting



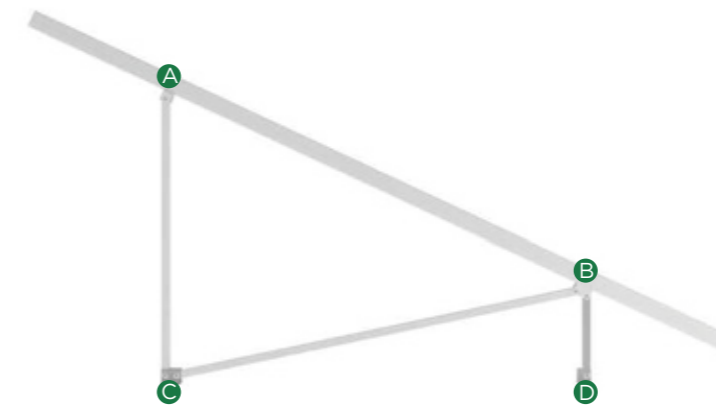
## Standard Ground Mounting System

Aluminum ground mount, optimized for lightweight, quick and efficient installation with flexible on engineering upon site conditions. Optional on foundation by ground screw or concrete. Maximize pre-assembled before shipment.

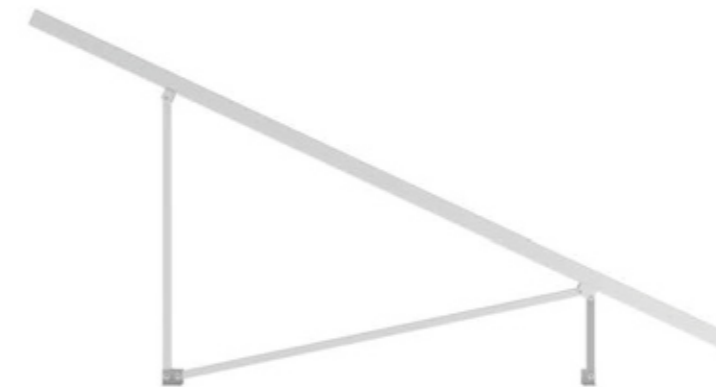
### Technical features:

Product name	Standard ground mounting system
Application	Flat concrete roof, open terrain
Inclination	Customized
Material	AL 6005-T5, SUS 304, Q235
Finish	AL 6005-T5 Anodized, Q235 Hot-dip galvanizing
Module orientation	Landscape or Portrait

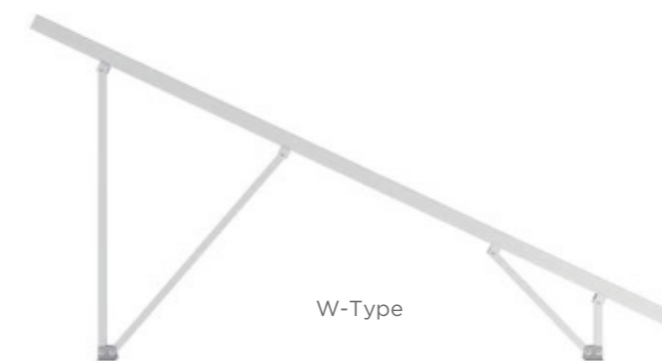
## 1 Assembly



Ground mounting system has been maximize pre-assembly before shipment, which make it install more convenient.



N-Type



W-Type

## 2 Assembly



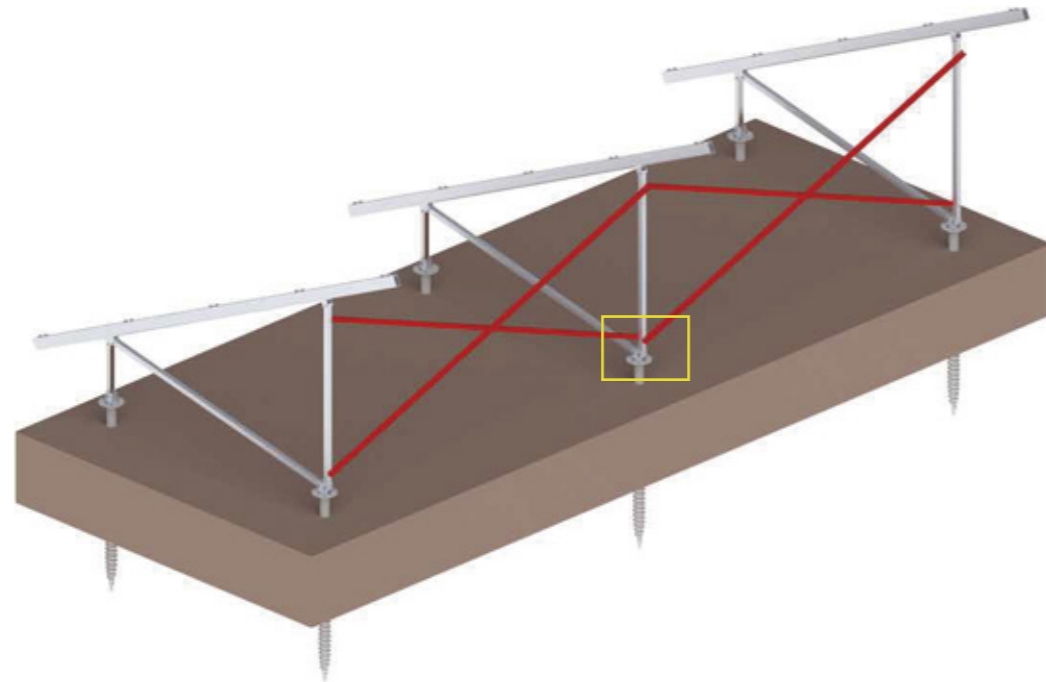
Depending on the different design conditions, pre-assembly support are generally designed into the following two shapes:

The N-Type pre-assembly support is mainly used for the small wind & snow load condition projects.(2-4 columns)

The W-type pre-assembly Support is mainly for the 4-5 columns wind & snow load condition projects. We will add cross support to make the structure stronger if the ground height is higher or wind & snow load is larger.

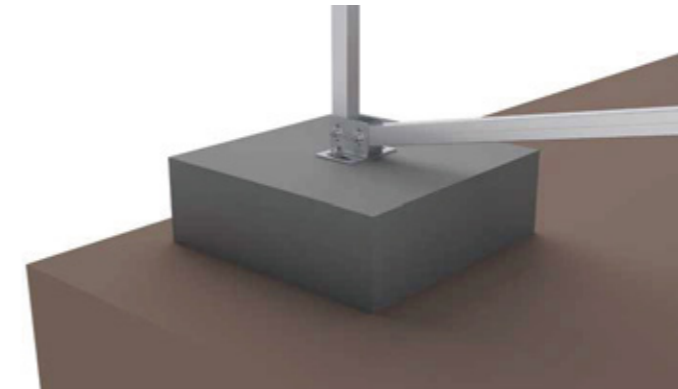
# Ground Mounting

## 3 Cross

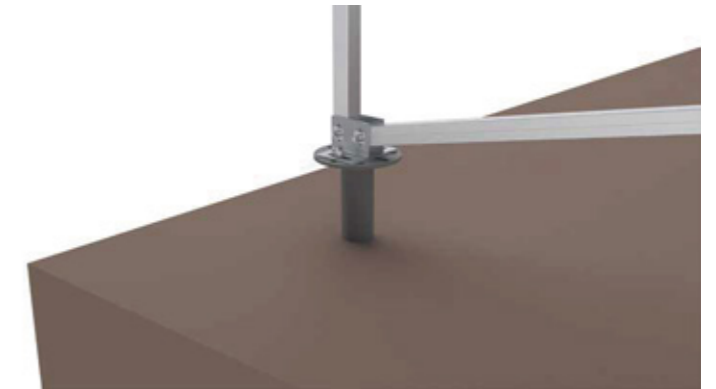


## 4 Foundation

Ground mounting system are commonly used for Concrete Foundation and Screw Foundation.



Concrete Foundation



Screw Foundation



Item	Concrete Foundation	Screw Foundation
Applicable terrain	Flat, Even Tilt, Ladder	
Applicable geology (reference)	Random	SWS $3 \leq N \leq 10$ SWS Test, cohesive soil $3 \leq N \leq 10$
Difficult or Easy Degree	Complicated	Easy
Cost	Higher	Lower
Adjustment range	Not convenient to adjust the height of base	Larger
Corrosion resistance	Anti-Corrosion	Hot-dip galvanizing on the surface of the screw foundation, which has met the anti-corrosion requirements of the service life

Conventional pile compression and tensile strength reference values(KN)								
Ground Screw Length	N=3		N=5		N=7		N=10	
	Resistance	compression Resistance	Resistance	compression Resistance	Resistance	compression Resistance	Resistance	compression Resistance
1600	8.7	9.1	14.6	15.2	20.4	21.4	29.2	30.6
1800	9.9	10.2	16.5	17.1	23.1	24	33	34.4
2000	11	11.4	18.4	19	25.8	26.7	36.8	38.2
2200	12.2	12.5	20.3	21	28.4	29.4	40.6	42
2500	13.9	14.2	23.2	23.8	32.4	33.4	46.4	47.8

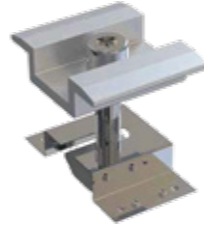
Remarks: The N value of the soil in this table are based on the Swedish penetration test (SWS).



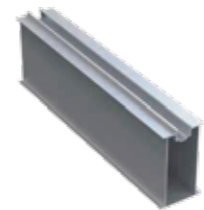
# Ground Mounting

## 1 Assembly

Mid clamp



Rail



End clamp



Rail fixing clamp

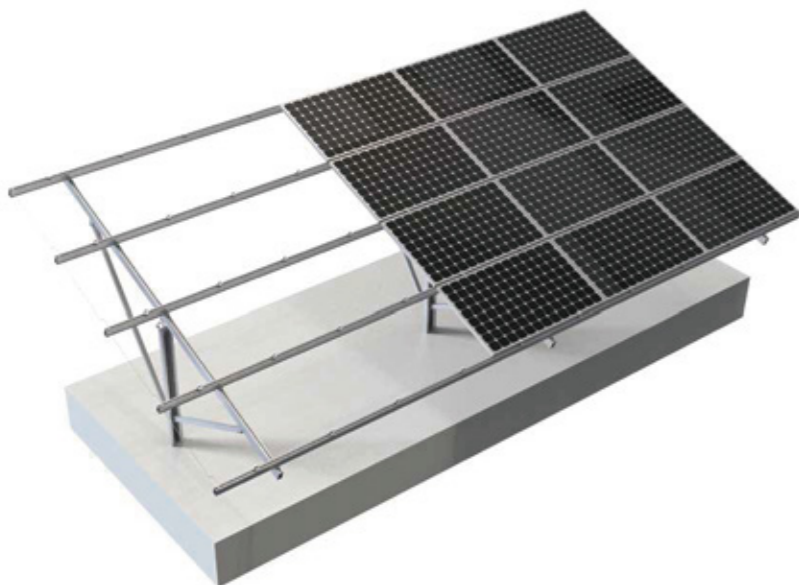


Main structure



## U Pile Ground Mounting System

Sail U Pile Ground Mounting Systems suitable for large scale power station installation, Pile to the ground made install faster and lower cost than others. Each components are Maximize pre-assembled, widely save your labor cost and install time. Customized allowed according to project wind & snow load, provide economic & effective solutions.



## 2 Main structure & components

U Pile



Beam



Square tube



Holder



H Support



The U type Pile Ground Mounting System has been folded into a rectangular shape before shipment. Easy to transport.

### Technical features:

Product name	U Pile ground mounting system
Application	Open terrain
Inclination	Customized
Material	AL 6005-T5, SUS 304, Q235
Finish	AL 6005-T5 Anodized, Q235 Hot-dip galvanizing
Module orientation	Landscape or Portrait

Penetration depth	Conventional U pile compression and tensile strength reference values (KN)							
	N=3		N=5		N=7		N=10	
	Resistance	Compression Resistance	Resistance	Compression Resistance	Resistance	Compression Resistance	Resistance	Compression Resistance
1500	9.5	11.5	15.7	19.3	21.9	27	31.1	38.6
1600	10.1	12.3	16.7	20.6	23.3	28.8	33.2	41.2
1700	10.8	13.1	17.8	21.8	24.8	30.6	35.3	43.7
1800	11.4	13.9	18.8	23.1	26.2	32.4	37.3	46.3
2000	12.6	15.4	20.8	25.7	29.1	36	41.4	51.5
2200	13.8	17	22.9	28.3	32	39.6	45.6	56.6
2500	15.7	19.3	26	32.1	36.3	45	51.7	64.3

Remarks: The N value of the soil in this table are based on the Swedish penetration test (SWS).

# Carport Mounting

## 1 Structure & components



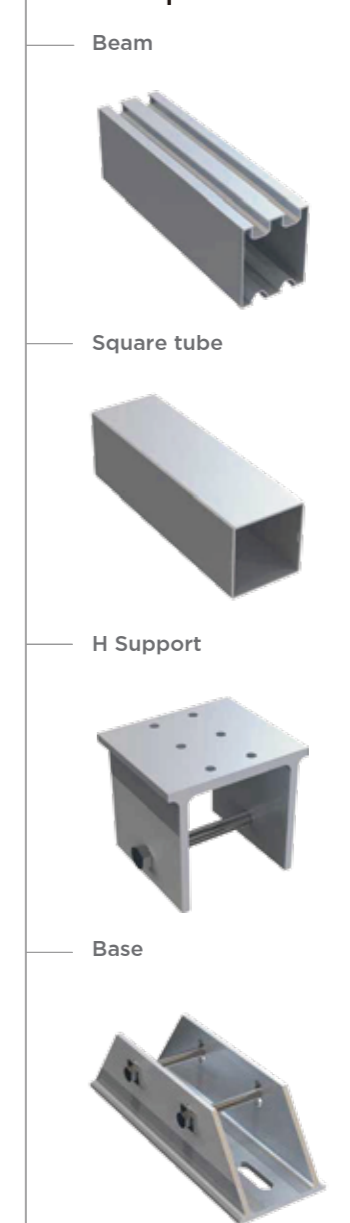
Carport Mounting System



## 2 Main structure & components



Highly pre-assembled main structure for solar modules landscape or portrait 5° / 8° /10° inclination or custom customized and engineered to project maximal span up to 5.4m cover up to 2 parking spaces per span.



Technical features:	
Product name	Carport mounting system
Application	Solar parking structure
Inclination	5° , 8° ,10° or customized
Material	AL 6005-T5, SUS 304
Finish	AL 6005-T5 Anodized
Module orientation	Landscape



**SAIL SOLAR ENERGY CO., LTD**

TEL:0551-6381 3803

Http: [www.sailsolarpv.com](http://www.sailsolarpv.com)

Add:Room 401,Building 7,Cross Border E-Commerce  
Supervision Zone,Yulei Road,Hefei,Anhui,China