



Top Brand & Maker for Solar Mounting System



APS Automotive Enterprise Co., LTD

厦门艾尔普斯汽车零配件有限责任公司

Product Catalogue



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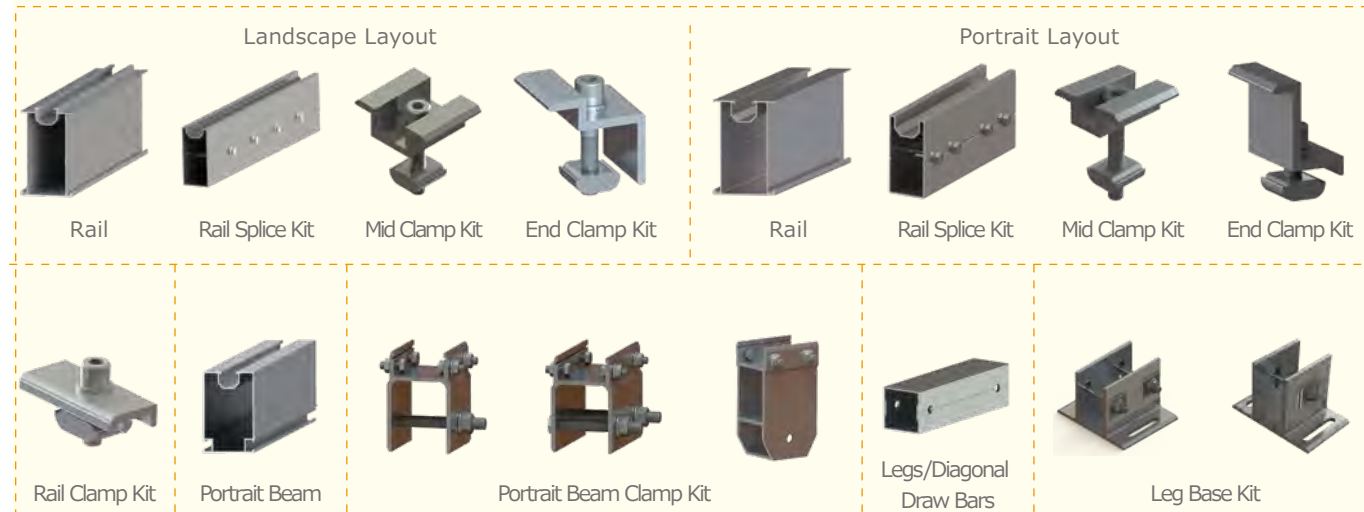
Addr.: UNIT A, 2/F, NO.143~3 YUEHUA ROAD, HULI DISTRICT, XIAMEN, P. R. CHINA

Mounting System for Flat Ground

PRODUCT INFORMATION



Components Details



Connection Details

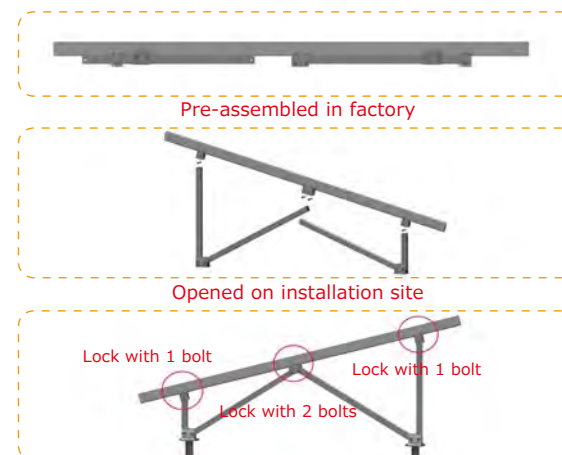


Structure Type	 W type  N type  A type  2N type
Material	AL60005-T5
Surface Treatment	Anodized 10~12μm
Design Standard	JISC 8955:2017
Layout	Landscape/Portrait
Foundation	Ground Screw/Concrete Base
Optional items	Grounding Clip, Rail End Cap, Inverter Fixing Members, Fence, Weedproof Mat

✓ Advantage 1: Easy for Installation

① Portrait Beam, Portrait Beam Clamp kit, Front/Rear Legs, Diagonal Draw Bars, Leg Base Kit etc, are all pre-assembled in factory, workers only need to open and fix the pre-assembled parts on site.

② The weight is 1/3 less than steel, and most of the parts are pre-assembled in factory, to greatly improve the efficiency of installation on site.



✓ Advantage 2: Slide Slot Fixing Design (Take maintenance into consideration)

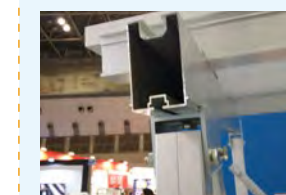


NEWSUNPOWER Design

Advantage :

The bottom of the portrait beam is fixed with the leg on both sides with Portrait Beam Clamp Kit, so the contact surface between them becomes larger, it is stable even when pulled out by an earthquake or strong wind.

Disadvantage : Higher Cost



Others Design

Advantage : Cheaper

Disadvantage :

- ① As shown in the picture, the groove under the portrait beam is easily broken when a force is applied from the bottom to the top if Typhoon comes.
- ② If the bolts are loosened after installation, the maintenance of the bolts under the portrait beam will be very difficult.

✓ Advantage 3: Tested and Verified as High Strength

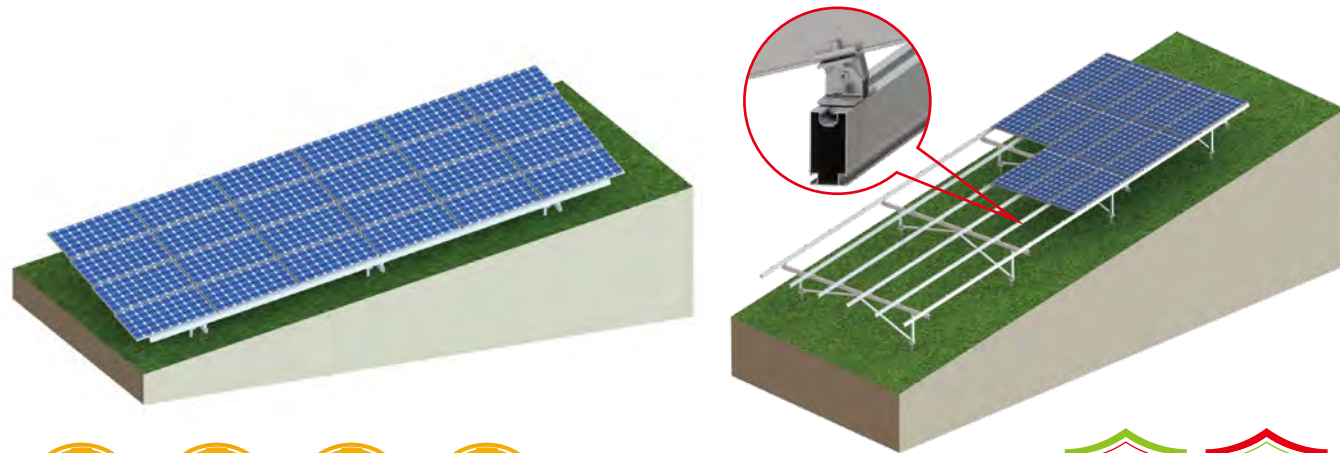
Appropriate load tests are performed on Clamp Kit, Rail and other fixing components.

The strengths are all within the allowable range for various design loads and within allowable physical strengths after testing and verification.



Mounting System for Slopes

PRODUCT INFORMATION



Components Details



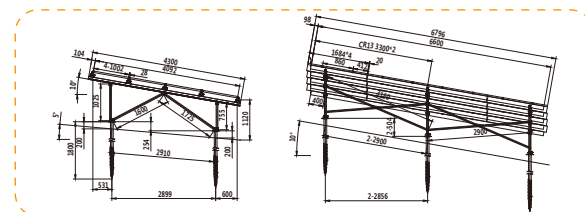
Connection Details



✓ Advantage 1:

Easy to handle with the slopes

Drawings show slopes with East-West & North-South orientations



✓ Advantage 3:

North-south direction adjustable

Adjustable Ground Screw allows height differences to be adjusted for slopes without land leveling.

✓ Advantage 2:

Adjustable ground screw test verified

A strength test performed on the joint to confirm the design load within the allowable stress range.



✓ Advantage 4:

East-west direction adjustable

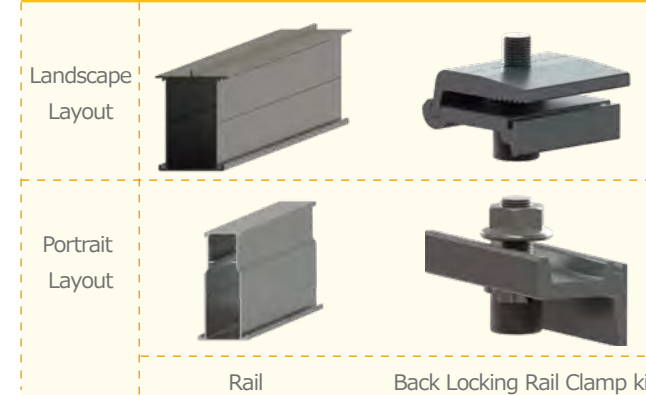
0-30 degrees adjustable from East to West is allowed for slopes without land leveling.

Back Locking Mounting System

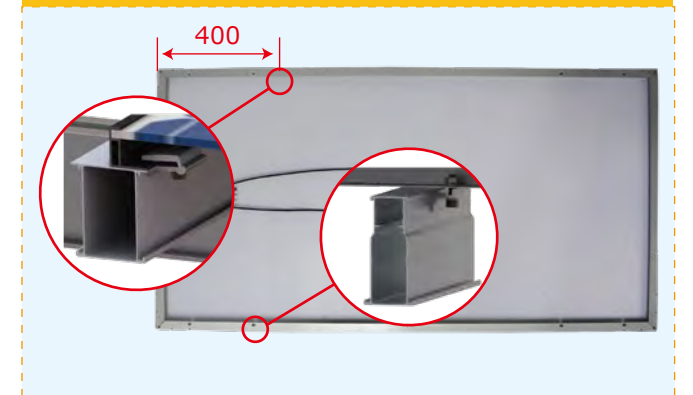
PRODUCT INFORMATION



Components Details



Connection Details



✓ Advantage 1:

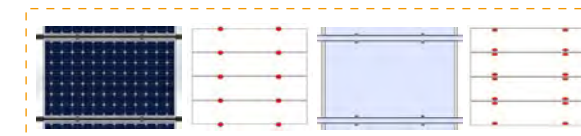
Convenient installation and safe operation

Suitable for projects in heavy snow districts, with high ground clearance and large tilt angle required. For such projects, the routine work of panels installation from the top is dangerous and requires a lot of time and effort. With back locking rail clamp kit, the installation is more convenient and safer from the back side.

✓ Advantage 3:

Panel more firmly fixed

For traditional fixing solution, 4 rows x 1 column are fixed at 10 points. For back locking method, 4 rows x 1 column are fixed at 16 points, so it can be fixed much more firmly.



✓ Advantage 2:

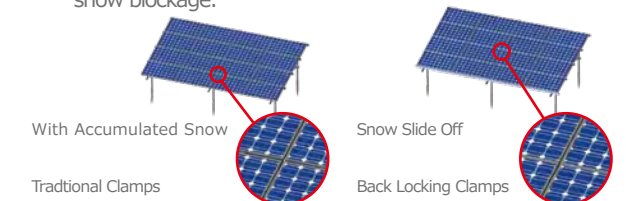
No limit on panels thickness

Suitable for any thickness solar panels. No need to keep stocks for various size of clamps, makes installation efficiency!

✓ Advantage 4:

Easy for snow slippery

Using traditional mid/end clamp kits to fasten panels on the top, snow is likely to hang on the clamp kits and rail channels, while using back locking rail clamp kits, the panels are aligned neatly and there are no gaps, which can solve the problem of snow blockage.

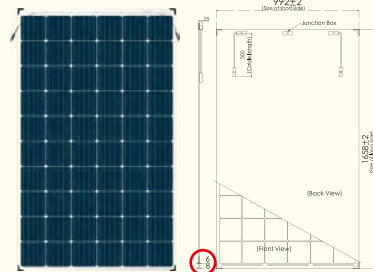
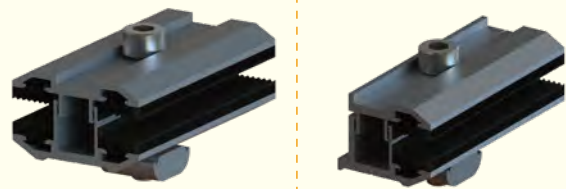


Mounting Solution for Frameless Panels

PRODUCT INFORMATION



Clamps Details



Applicable for 4~8 mm、6~10mm frameless panels

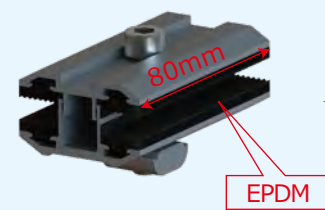
Connexion Details



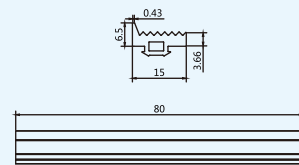
Panel & Mid Clamp Kit



Panel & End Clamp Kit



EPDM



✓ Advantage : Clamps for frameless solar panels

Contact Surface	Length : 80mm Width : 14.5mm
Durability	Excellent durability with the combination of Aluminum material and EPDM. Safely use for many years.
Safeguard	With rotective rubber made of EPDM material setted in the sides of the clamps, to avoid the clamps direct contacting with solar panels Serrated rubbers realize firmer and safer fixing
Quick Delivery	Easy Packaging, Short Delivery Time

Mounting System for Bifacial Panels

PRODUCT INFORMATION

- ① Maximize solar panel power generation rate.
Applicable for panels both in landscape and portrait orientation.
- ② Using with bifacial solar panels, electricity can be generated from both frontside and backside.
- ③ More and lengthened mid/end clamp kits adopted to protect and fix the panels better.
- ④ Installed with reflective weed-proof sheets will make better outcome further.

Project Show



Standard Farmland Solar Mounting System

PRODUCT INFORMATION

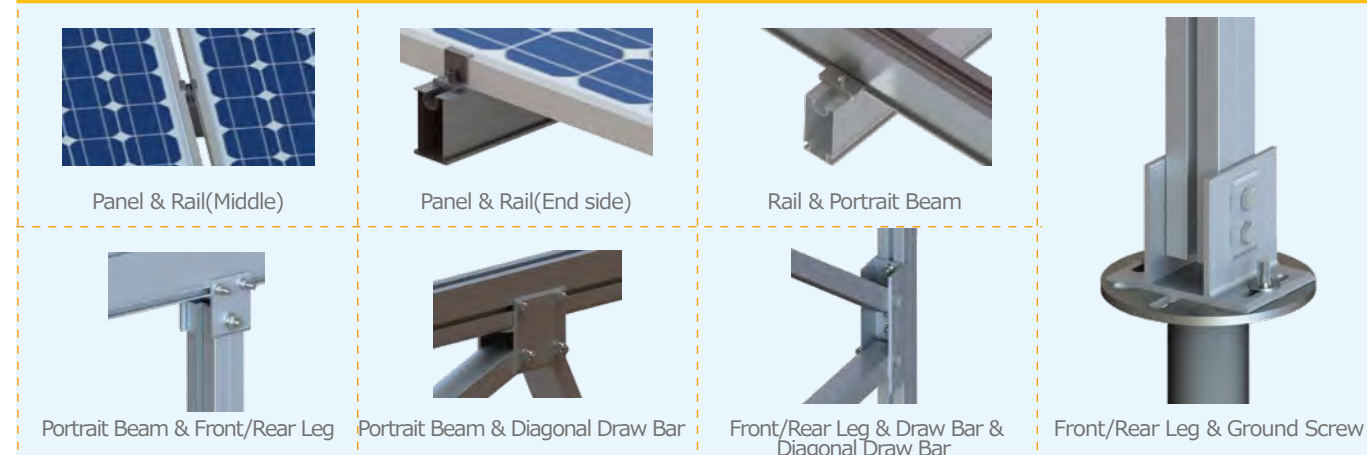
Nowadays, much more attentions are paid to a new way of increasing income, which is to generate electricity while agricultural production going on. NEWSUNPOWER Farmland Mounting System can perform well to meet this demand. With Farmland Mounting System installed, agricultural machinery like tractors can still work freely & sufficiently under the structures, to take full advantage of the space under the structures.



Components Details

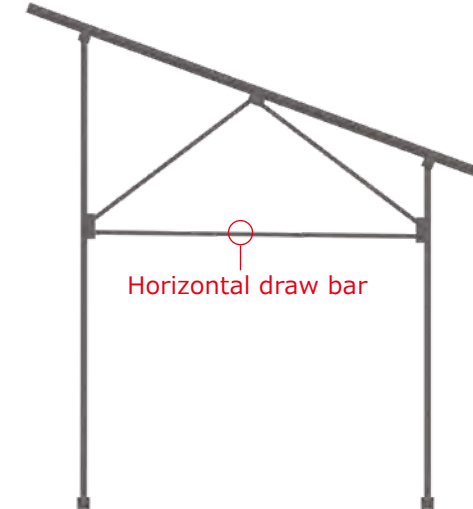


Connection Details



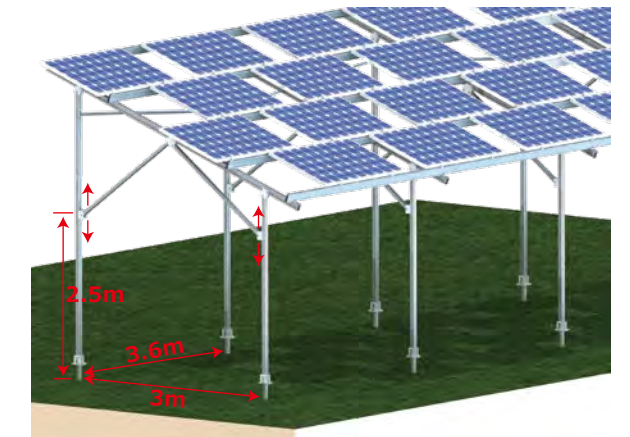
✓ Advantage 1: High strength

More sound triangle structures are created with setting a horizontal draw bar at north-south orientation between front leg and rear leg to improve the system stability.



✓ Advantage 2: Friendly for farming

Draw Bars are placed at the upper parts of the legs by at least 2.5m above the ground. Spans between legs are above 3m. Tractors or animals can enter and exit freely from both east-west and north-south directions.



✓ Advantage 3: Easy for installation

The main parts are pre-assembled at the factory to largely save on-site installation cost and time. Legs & Draw Bars are connected with specially designed C-shape Clamp kits which allow appropriate adjustments by sliding them up and down.



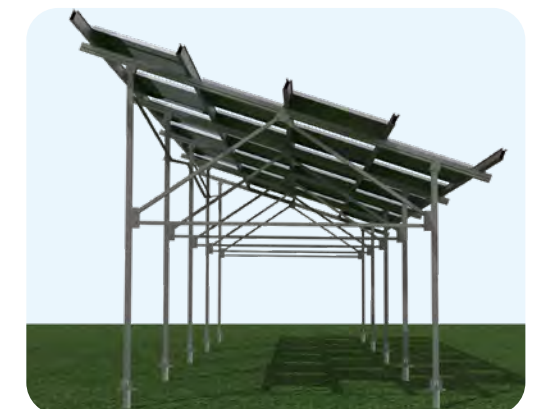
Portrait Beam & Portrait Beam Clamp Kits are pre-assembled



Side view

✓ Advantage 4: Improve farming efficiency in an appropriate shade

What crop to be recommended? Shade-loving crops! To design with customized daylighting rate is also possible.





Side view

AL U-pile Ground Solar Mounting System

PRODUCT INFORMATION

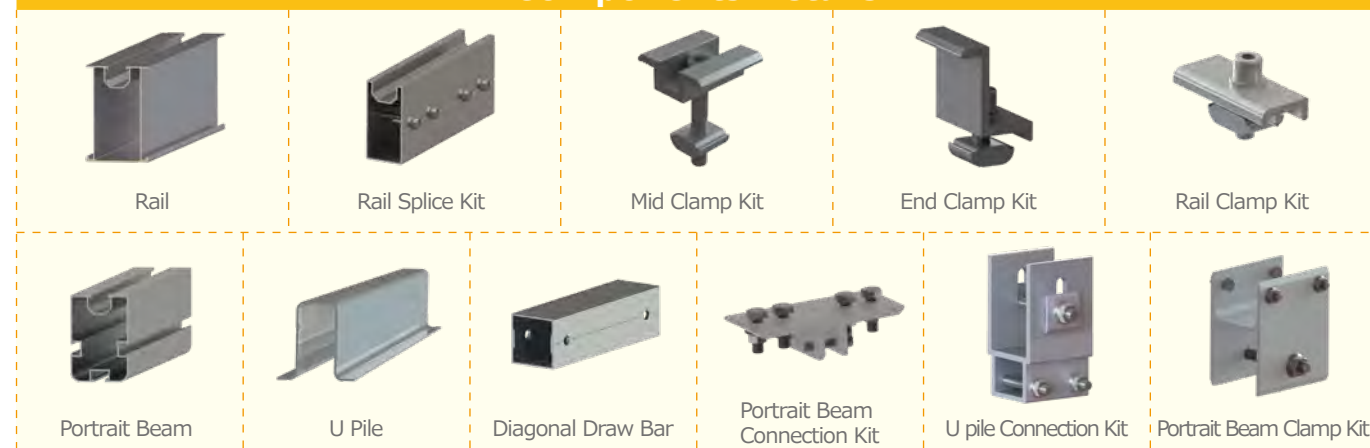
Newsunpower AL U-pile Ground Solar Mounting System is designed for large scale solar power plants. It can be flexible or adjustable, and can be adapted to flatlands, mountains (like golf courses), slopes, etc.



I Solution for Flat Lands



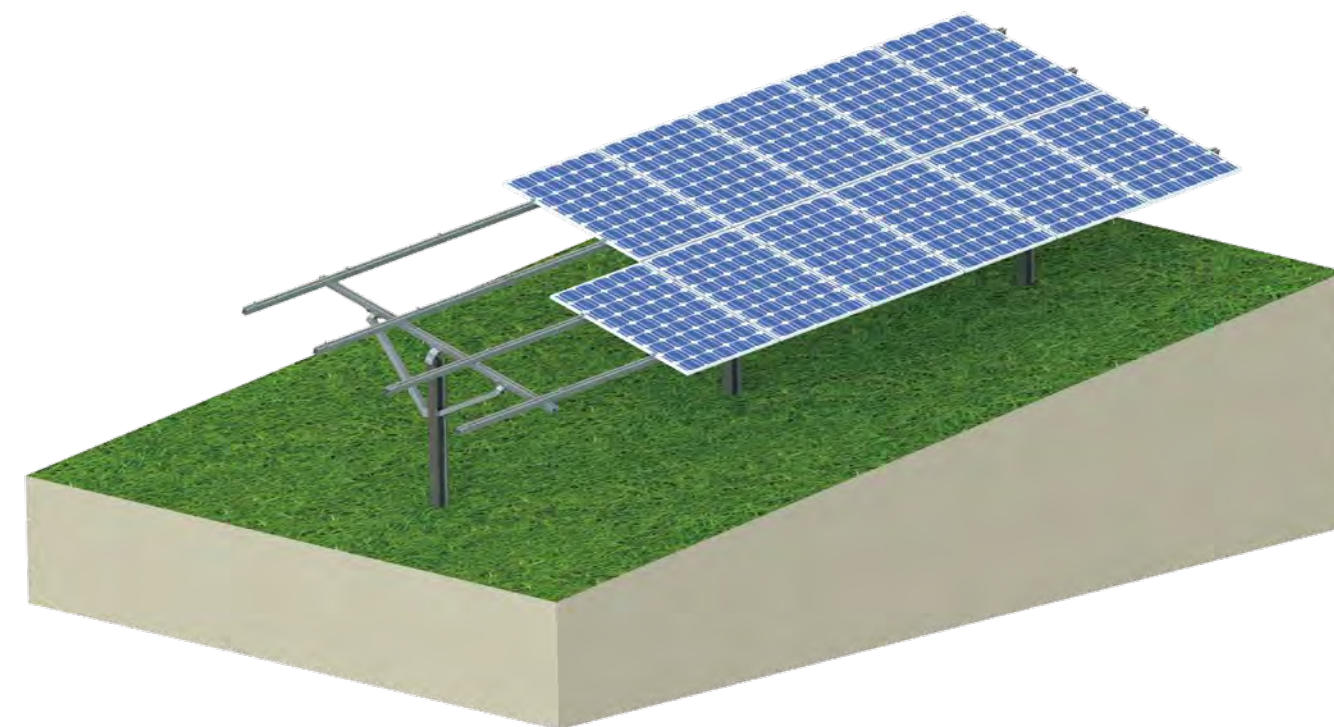
Components Details



Connection Details



II Solution for Slopes



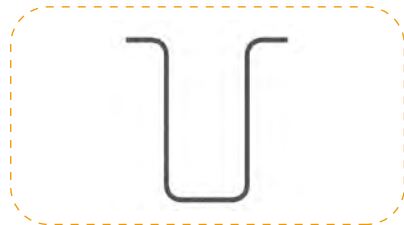
Components Details



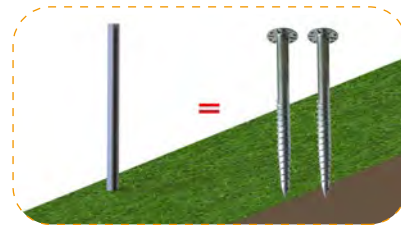
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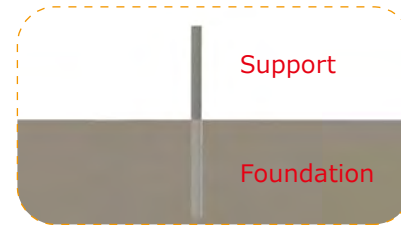
✓ Advantage 1: Strong Structure



U Pile in Q235 steel is adopted as the foundation & post for the system.



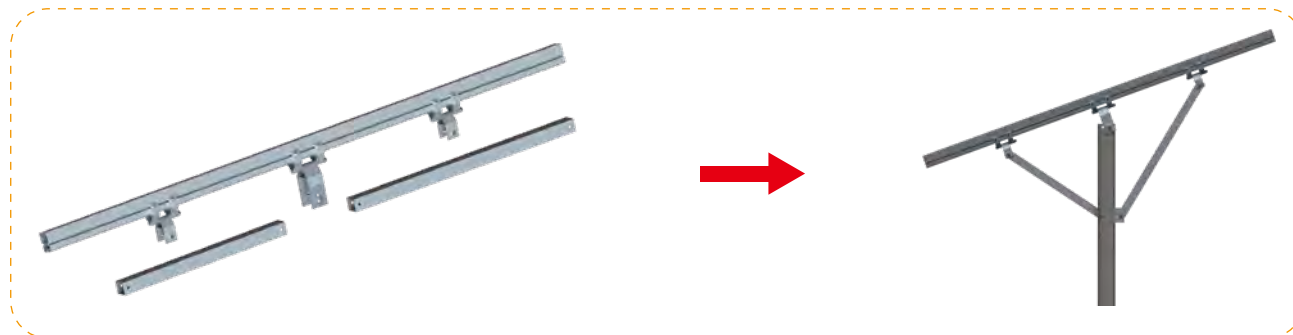
The strength of one U Pile is equivalent to two ground screws.



The lower part of the U pile is driven into the soil, and the upper part is installed with the Portrait Beam as support. No need to install the Front/Rear Legs like other ground mounts.

✓ Advantage 2: Easy for Installation

The main parts are pre-assembled at the factory to largely save on-site installation cost and time.



✓ Advantage 3: Wide Application

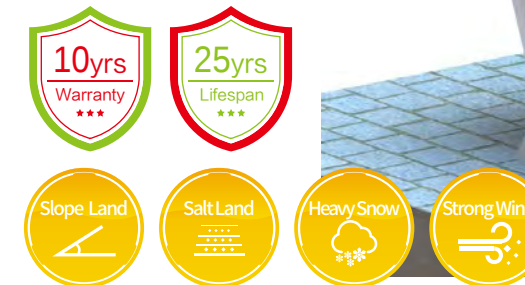
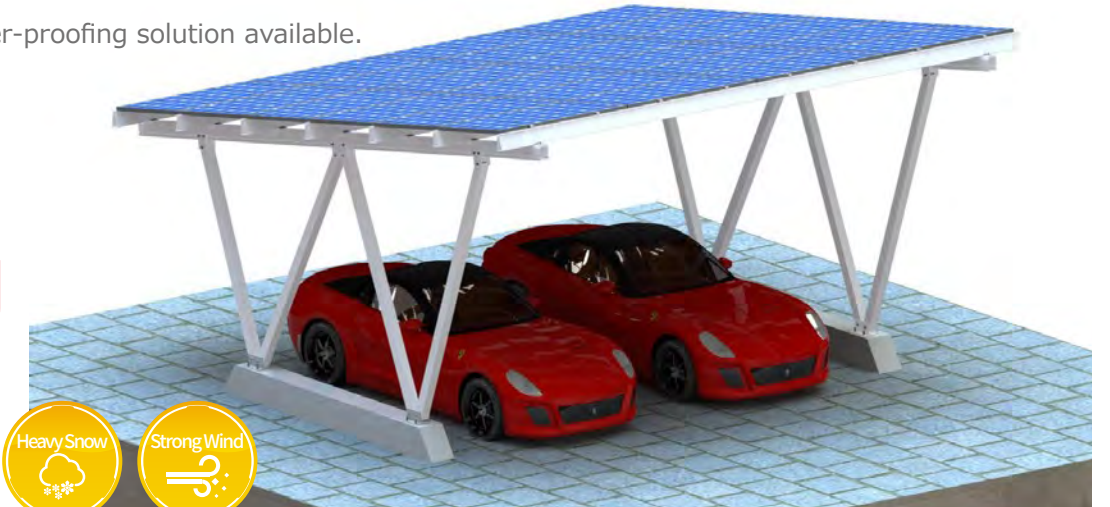
Applicable to flat lands, mountains (like golf courses), slopes, etc. Flexible or Adjustable.



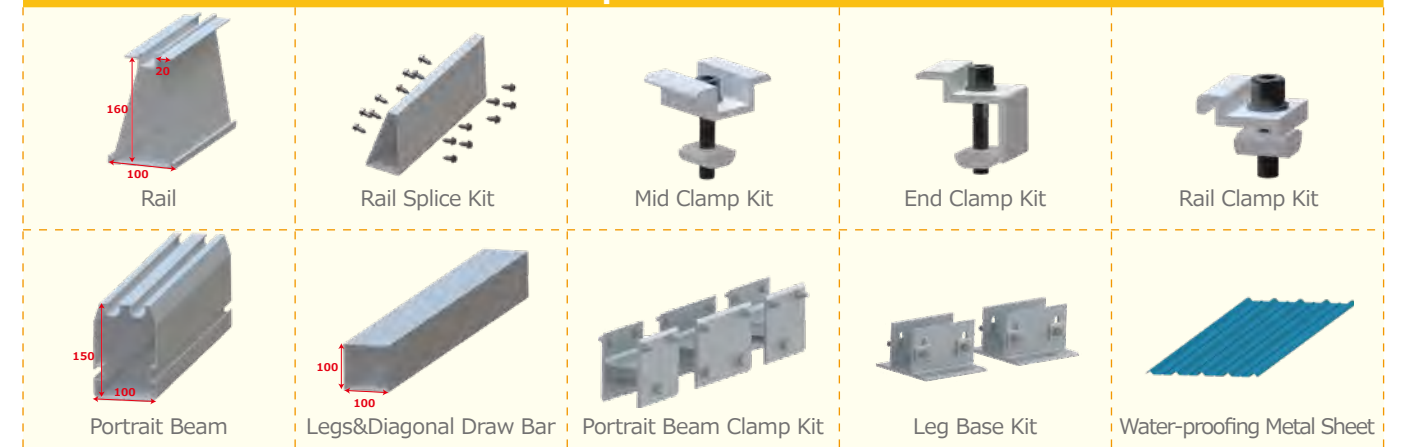
Aluminum Carport Solar Mounting System

PRODUCT INFORMATION

- ✓ **Feature 1:** Perfect for both car parking and electricity generating, utilize the land smartly.
- ✓ **Feature 2:** High safety & High strength & High durability.
- ✓ **Feature 3:** Pre-assembled in factory , easy for transporation and installation.
- ✓ **Feature 4:** Water-proofing solution available.

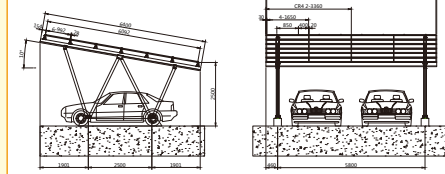


Components Details



Connection Details



Structure	
Material	Aluminum AL6005-T5
Surface Treatment	Average 10~12um anodized
Design Standard	JISC8955:2017
Panel Layout	Portrait / Landscape
Foundation	Ground Screw/Concrete Base
Optional items	Grounding Clip, Inverter Fixing Members

Ground Screw

PRODUCT INFORMATION



NEWSUNPOWER ground screws are all made of steel Q235 and hot-dip galvanized thickness over 80um. Excellent in corrosion resistance. Exported over 10 million pcs.

- ✓ **Material** : Q235 steel
- ✓ **Surface** : Hot-dip Galvanized Thickness≥80um
- ✓ **Flange**: Various options / OEM available
- ✓ **Production Lead Time** : 10-15days
- ✓ **Production Capacity** : 100,000-150,000 pcs/Month
- ✓ **Packaging** : Steel pallet + Wrapping film
- ✓ **OEM Available**: OEM processing is provided to many large companies for many years. Customized is welcomed.

Thorough Surface Treatment



Hot-Dip Galvanized for the iron pipe from the inside to the outside thoroughly to reach high corrosion resistance



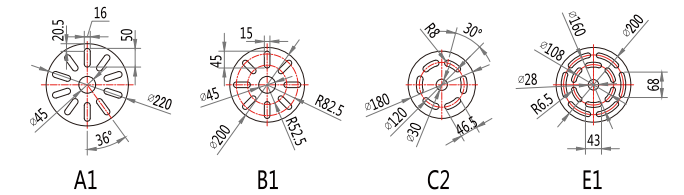
Flange Clamp Tool



Suitable for Flanges both in Φ200mm and Φ220mm

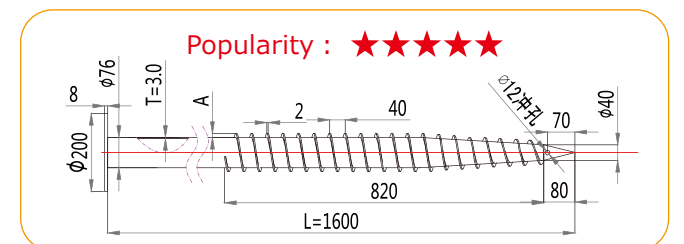
Ground Screw

PRODUCT INFORMATION

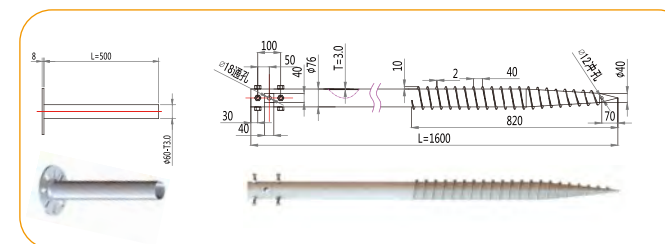


Various Flange Choices

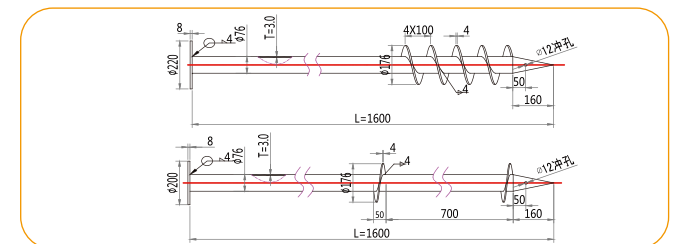
- ✓ **Pipe** : Φ76mm/Φ89mm/Φ116mm
- ✓ **Pipe Thickness** : T3.0mm/T3.5mm/T4.0mm
- ✓ **Length** : 1200mm/1600mm/1800mm/2000mm/2500mm(1200mm~4000mm etc.)



Standard Ground Screw



Adjustable Ground Screw



Ground Screws with Big Spiral Blades

Packaging & Loading



Product Image

PRODUCT INFORMATION



Product Image

PRODUCT INFORMATION

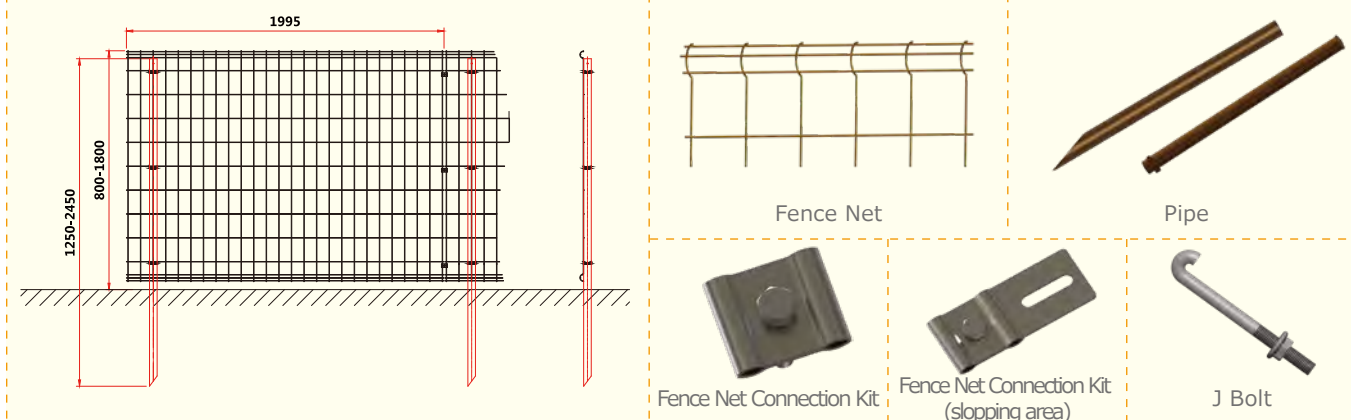


Fence

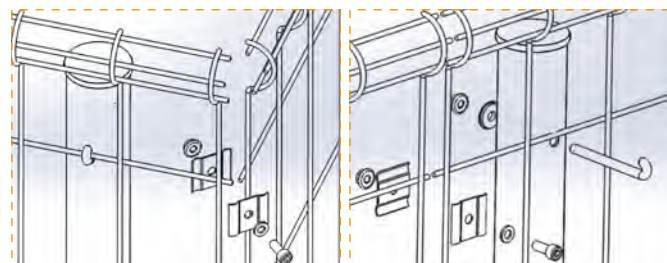
PRODUCT INFORMATION



Components Details

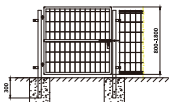
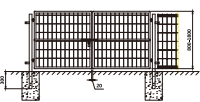


Connection Details

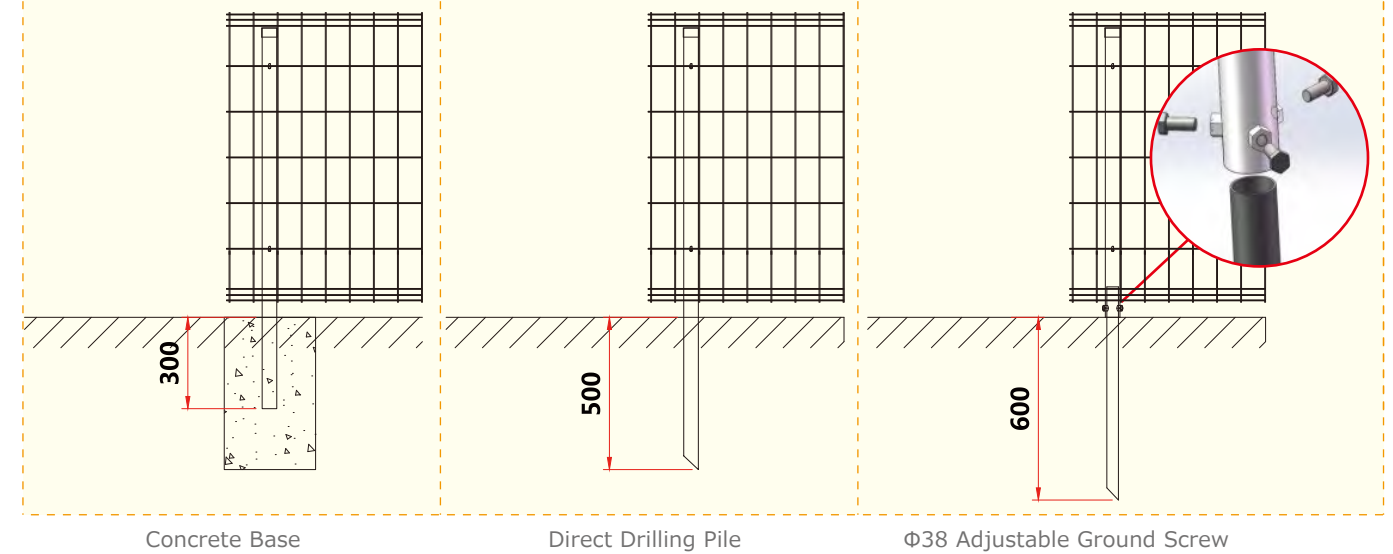


Corner connecting

Non corner connecting of
Pipe and Net

Types of Door		
	Single Door	Double Door
Fence	Width 2.0m, Height 0.8m, 1m, 1.2m, 1.5m, 1.8m, etc.	
Fence Net	Thickness 3.2-3.6 mm	
Pipe	Diameter 48mm	
Surface Treatment	Hot-Dip Galvanized /Hot-Dip Galvanized + Coating	
Color	White/Brown/Silver	
Door Type	Single Door (Width 1.0m/1.5m/2.0m) Double Door (Width 2.0m/3.0m/4.0m)	
Foundation	Concrete Base /Direct Drilling Pile/ Φ38 Adjustable Ground Screw	
Feature	Pipe can be fixed to Fence Net at any point with J Bolt	

Types of Foundation



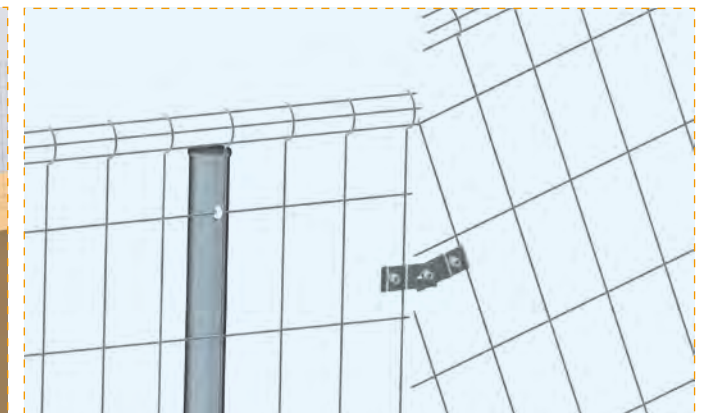
Concrete Base

Direct Drilling Pile

Φ38 Adjustable Ground Screw



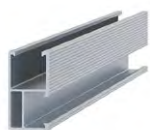
Slope Installation Show



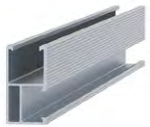
Fence Net Connection Kit (sloping area)

Project Show





R09 Rail		
* To support solar module on solar rooftop		
NSP-R09-2100	R09 Rail 2100mm	
NSP-R09-3200	R09 Rail 3200mm	
NSP-R09-4200	R09 Rail 4200mm	
NSP-R09-4400	R09 Rail 4400mm	



R04 Rail		
* To support solar module on solar rooftop		
NSP-R04-2100	R04 Rail 2100mm	
NSP-R04-3200	R04 Rail 3200mm	
NSP-R04-4200	R04 Rail 4200mm	
NSP-R04-4400	R04 Rail 4400mm	



R10 Rail		
* To support solar module on solar rooftop		
NSP-R10-2100	R10 Rail 2100mm	
NSP-R10-3200	R10 Rail 3200mm	
NSP-R10-4200	R10 Rail 4200mm	
NSP-R10-4400	R10 Rail 4400mm	



Rail Splice Kit		
* To connect two pcs of rails together		
NSP-R04-SP02	For both R04 Rail and R10 Rail connection	



Rail Splice Kit		
* To connect two pcs of rails together		
NSP-R04-SP03	For both R04 Rail and R10 Rail connection	



Mid Clamp Kit		
* To fix solar modules on rails		
NSP-IC-F6-30A	For 30mm, 35mm, 40mm, 45mm, 50mm or other specification solar modules	
NSP-IC-F6-35A		
NSP-IC-F6-40A		



Mid Clamp Kit		
* To fix solar modules on rails		
NSP-IC-F30A	For 30mm, 35mm, 40mm, 45mm, 50mm or other specification solar modules	
NSP-IC-F35A		
NSP-IC-F40A		



End Clamp Kit		
* To fix solar modules on rails		
NSP-EC-F3-30A	For 30mm,33mm, 35mm, 40mm, 45mm, 50mm or other specification solar modules	
NSP-EC-F3-33A		
NSP-EC-F3-35A		
NSP-EC-F3-40A		



End Clamp Kit 35/40mm adjustable		
* To fix solar modules on rails		
NSP-AU-EC-A01	35/40mm solar modules adjustable	



Adjustable End Clamp Kit		
* To fix solar modules on rails		
NSP-AEC35-50A	For solar module thickness at 35mm, 40mm, 45mm, 50mm	



Thin Film Module Mid Clamp Kit		
* To fix thin film solar modules		
NSP-IC-L80A	For thin film solar module 6~10mm	
NSP-IC-L80-2A	For thin film solar module 4~8mm	



Thin Film Module End Clamp Kit		
* To fix thin film solar modules		
NSP-EC-L80A	For thin film solar module 6~10mm	
NSP-EC-L80-2A	For thin film solar module 4~8mm	



Grounding Lug		
NSP-G-GL-3	* To neaten wires on the end of each row of rails	



Grounding Clip		
NSP-G-GC-5	* To fix on Mid/End Clamp Kit , for better electricity conduction	



Cable Clip #1		
NSP-CC-01	* To fix on solar modules to hold and neaten cables	



Cable Clip #2		
NSP-CC-02	* To fix on solar modules to hold and neaten cables	

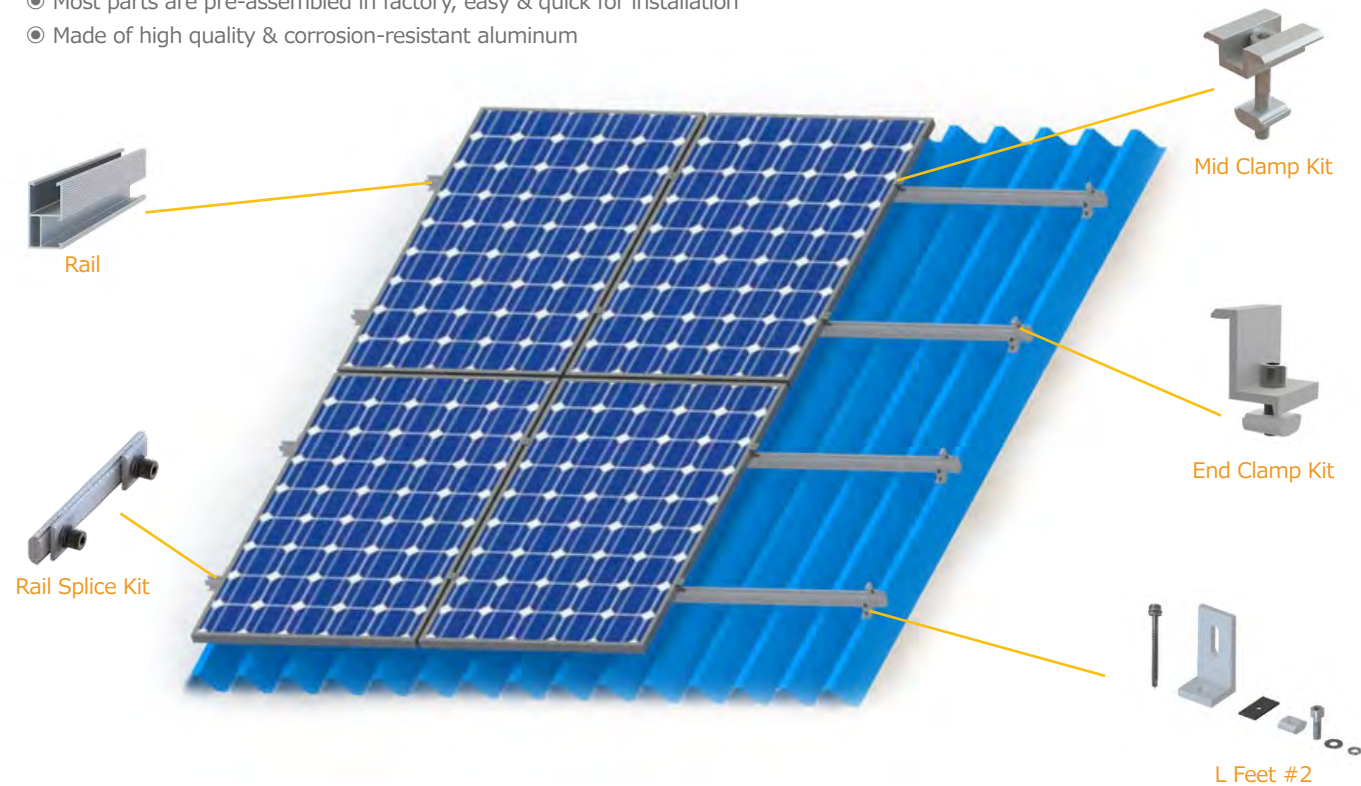


Cable Clip #3		
NSP-CC-03	* To fix on solar modules to hold and neaten cables	

Standard Metal Roof Solar Mounting System

PRODUCT INFORMATION

- Widely used for roofs with corrugated sheet, trapezoid sheet & many other types of metal roofs
- Complied to Australian & other International standards on wind speed & snow load
- Most parts are pre-assembled in factory, easy & quick for installation
- Made of high quality & corrosion-resistant aluminum



Feet Choices



L Feet #1
NSP-AU-ALH-A01A
(with wood screw)



L Feet #2
NSP-AU-ALH-A01B
(with self-tapping screw)



Hanger Bolt L Feet
NSP-ALH-01C
(with Hanger Bolt)



T Feet #1
NSP-ALH-02A
(with wood screw)



T Feet #2
NSP-ALH-02B
(with self-tapping screw)

Quick Installation



Drill a hole on the roof, then fasten the Feet to the hole by screw



Insert the nut into the rail channel, then fasten the bolt and nut

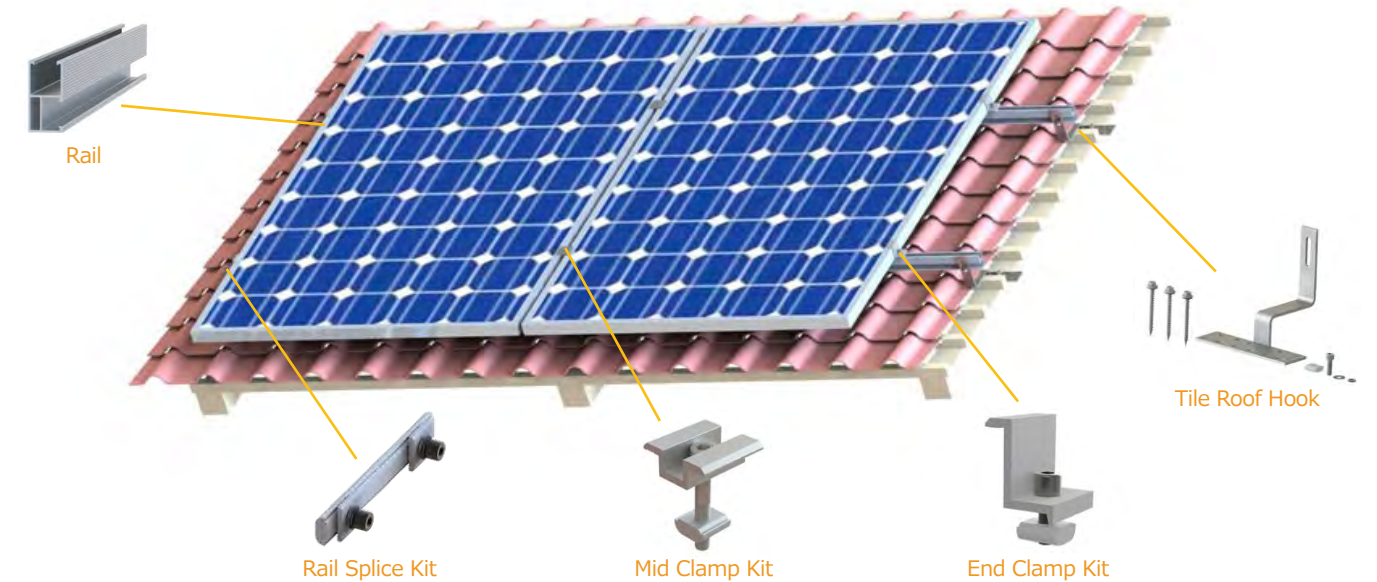


Fix the solar panel on the rail by clamps with bolt and nut

Tile Roof Solar Mounting System

PRODUCT INFORMATION

- Various roof hooks to suit for different tile roofs installation
- Complied to Australian & other International standards on wind speed & snow load
- Made from corrosion-resistant stainless steel/aluminum
- Accessories pre-assembled for minimum installation time



Hook Choices



Tile Roof Hook #1
NSP-SSH-01



Tile Roof Hook #2
NSP-SSH-02



Tile Roof Hook #4
NSP-SSH-04



Tile Roof Hook #5
NSP-SSH-05



Tile Roof Hook #9
NSP-SSH-09



Tile Roof Hook #1
NSP-SSH-13



Tile Roof Hook #5
NSP-SSH-14



Tile Roof Hook #16
NSP-SSH-16-B

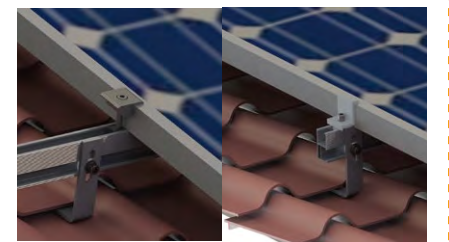
Quick Installation



Drill a hole on the roof, then fasten the Hook to the hole by screw



Insert the nut into the rail channel, then fasten the bolt and nut

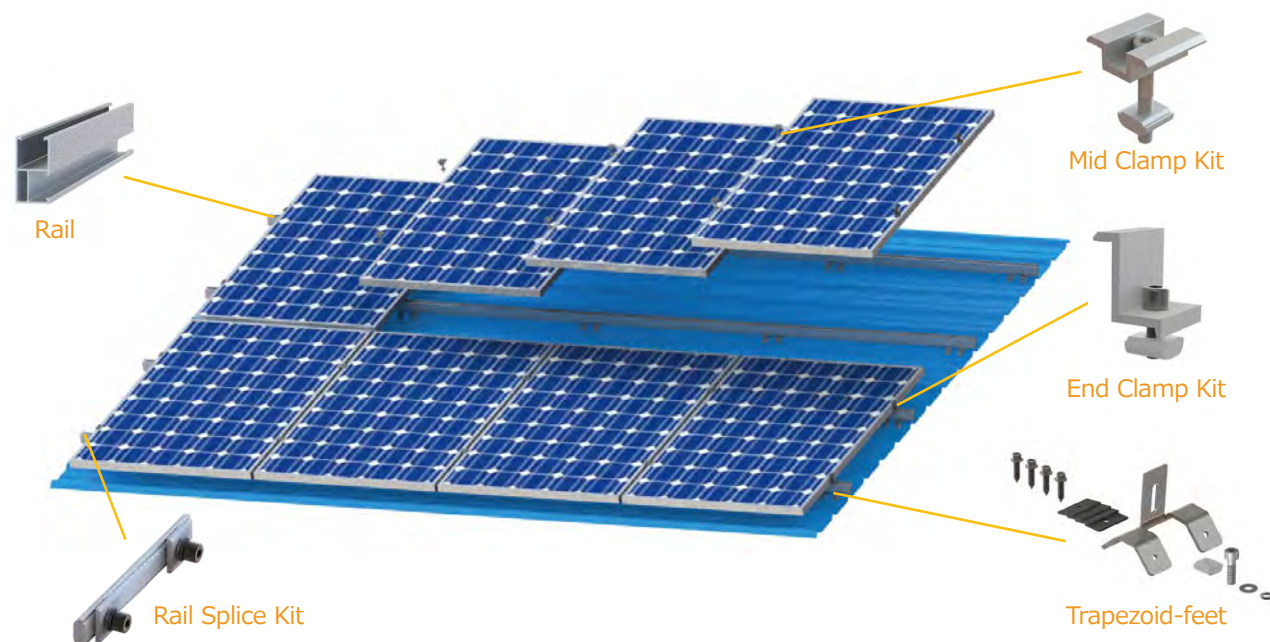


Fix the solar panel on the rail by clamps with bolt and nut

Trapezoid Metal Roof Solar Mounting System

PRODUCT INFORMATION

- Widely used for roofs with trapezoid shape roof sheet
- Complied to Australian & other International standards on wind speed & snow load
- Most parts are pre-assembled in factory, easy & quick for installation
- Made from high quality & corrosion-resistant aluminum



Feet Choices



Trapezoid-feet #1
NSP-SSH-10



Trapezoid-feet #2
NSP-SSH-11

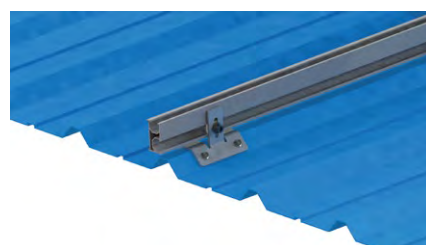


Trapezoid-feet #3
NSP-SSH-12

Quick Installation



Drill a hole on the roof, then fasten the feet to the hole by screw



Insert the nut into the rail channel, then fasten the bolt and nut



Fix the solar panel on the rail by clamps with bolt and nut

Standing Seam Roof Non-penetrating Solar Mounting System

PRODUCT INFORMATION

- Used on various Standing Seam Rooftops, Non-penetrating solution
- Roof sheet won't be damaged, with firmly secured and highly water-proof, Railless
- Accessories pre-assembled in factory, easy and quick for installation



Clip Lock Choices & Installation



Clip Lock #1
NSP-ALH-03A



Clip Lock #2
NSP-ALH-03B



Clip Lock #3
NSP-ALH-04A



Clip Lock #4
NSP-ALH-04B



Clip Lock #7
NSP-ALH-04C



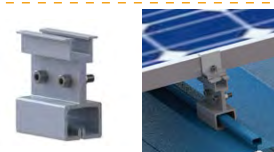
Clip Lock #8
NSP-ALH-04D



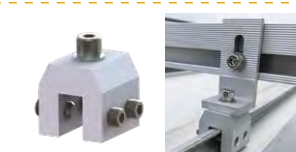
Clip Lock #9A
NSP-ALH-04E



Clip Lock #9B
NSP-ALH-04F



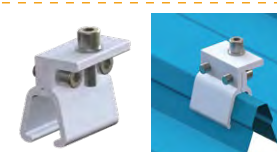
Clip Lock #6
NSP-ALH-06



Clip Lock #10
NSP-ALH-07



Clip Lock #11
NSP-ALH-08



Clip Lock #12
NSP-ALH-09



Clip Lock #13
NSP-ALH-11



Clip Lock #14
NSP-ALH-88-01



Clip Lock #15
NSP02-ALH-03-D01

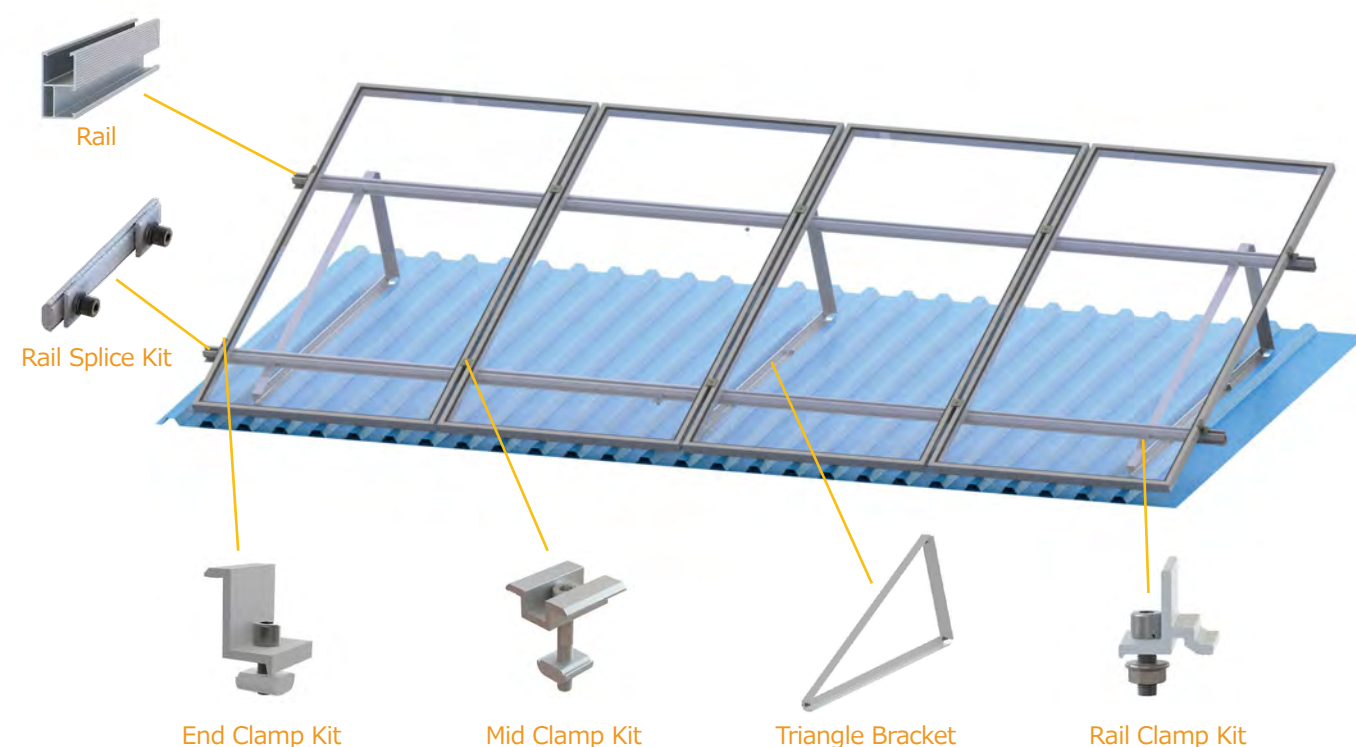


Tin Roof L-feet (fit for clip lock)
NSP-AU-ALH-A01

Fixed Triangle Roof Solar Mounting System

PRODUCT INFORMATION

- To mount solar panels on various roofs at required fixed angles from 0-60°
- Customized angle allowed
- Preassembled components to ensure quick installation time
- High-quality aluminum materials for long service life



Triangle Choices

	Aluminum Triangle Bracket #1 (Triangle Size : 1410x1350mm)	NSP-FT10-01 NSP-FT20-01 NSP-FT30-01	Triangle Bracket #1 10degree Triangle Bracket #1 20degree Triangle Bracket #1 30degree
	Aluminum Triangle Bracket #2 (Triangle Size : 850x800mm)	NSP-FT10-02 NSP-FT20-02 NSP-FT30-02	Triangle Bracket #2 10degree Triangle Bracket #2 20degree Triangle Bracket #2 30degree
	Aluminum Triangle Bracket #3 (Triangle Size : 1620x1550mm)	NSP-FT10-03 NSP-FT20-03 NSP-FT30-03	Triangle Bracket #3 10degree Triangle Bracket #3 20degree Triangle Bracket #3 30degree

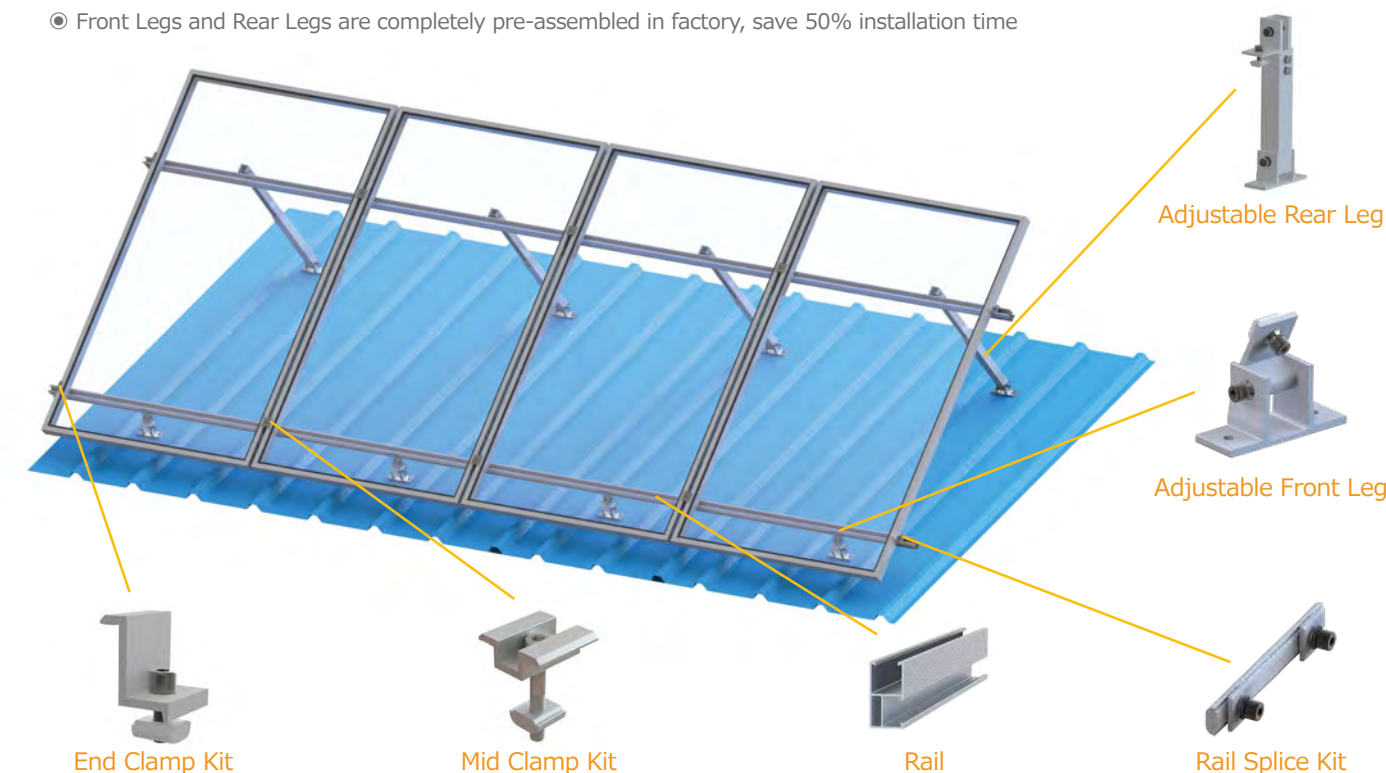
Quick Installation



Adjustable Tilt Roof Solar Mounting System

PRODUCT INFORMATION

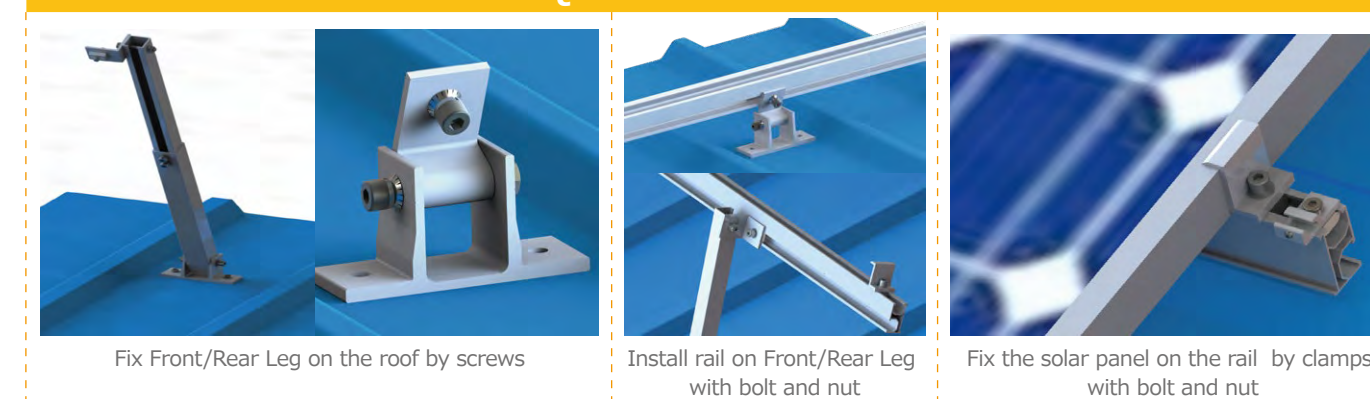
- To mount solar panels on various roofs at required adjustable angles, 10-15°, 15-30°, 30-60° adjustable solutions available
- Each assembly kit performs strong locking force
- Strong base and tilt kit to enhance the stability of whole system
- High Quality and Corrosion resistant aluminum components
- Front Legs and Rear Legs are completely pre-assembled in factory, save 50% installation time



Tilt Leg Choices

	Adjustable Front Leg	NSP-AD-FL	For metal roof with wood purlin For metal roof with metal purlin For flat concrete roof
	Adjustable Rear Leg 10-15 degree Adjustable Rear Leg 15-30 degree Adjustable Rear Leg 30-60 degree	NSP-AD-RL10/15 NSP-AD-RL15/30 NSP-AD-RL30/60	

Quick Installation



Project Cases



Panama 100KW Metal Roof



2MW Malaysia Kawa Roof



Malaysia Tile Roof 500KW



Malaysia Trapezoid Metal Roof 500KW



800KW Optima Roof Malaysia



Trapezoid Metal Roof 200KW



50.16KW Chile Triangle Bracket



200KW Metal Roof Malaysia



Malaysia 520KW

Project Cases



South Korea 2MW Clip Lock



250KW Roof South Korea



253.8KW South Korea



400KW Triangle Bracket



300KW Triangle Bracket, L Feet South Korea



100KW Triangle Bracket South Korea



170KW South Korea



500KW South Korea

New Minirail & Microrail Solar Roof Mounting System

PRODUCT INFORMATION

- Fit for Tin/Metal roof solar installation in both Landscape and Portrait directions
- Complied to International standards on wind speed & snow load
- Made from aluminum alloy materials
- Clamp solar panels directly with inner and end clamp kits, Railless installation & Cost-effience
- Heightened MiniRail to getter better ventilation



Mini Rail Kit-250mm



Micro Rail Kit-100mm



Middle Clamp Kit



End Clamp Kit

No.	Product No.	Product Name	Applications
1-1	NSP-ALH-MINI-02A	Mini Rail Kit-250mm	Fit for Tin/Metal roof *Rail-less portrait directly with Middle and End clamps. *Heightened MiniRail to get better ventilation.
1-2	NSP-ALH-MINI-03A	Micro Rail Kit-100mm	Specially Cost-effective for Tin/Metal roof with solar panels installed in Landscape.
2	NSP-EC-F3-35A	Middle Clamp Kit	30mm, 35mm, 38mm, 40mm, 45mm, 50mm are all available
3	NSP-IC-F6-35A	End Clamp Kit	30mm, 35mm, 38mm, 40mm, 45mm, 50mm are all available



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