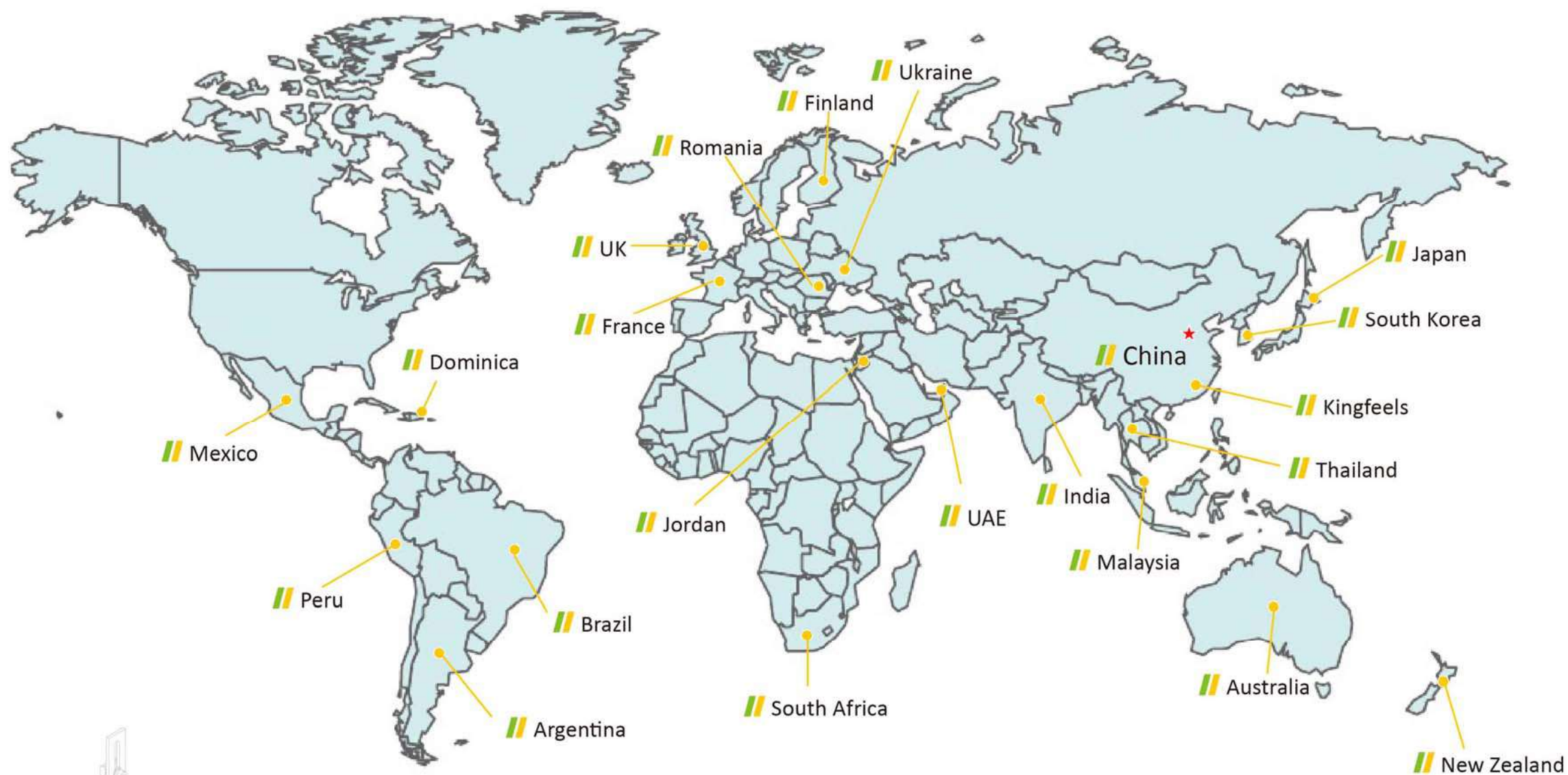


# **Xiamen Kingfeels Energy Technology Co.,Ltd**

Add: Unit A, 7th Floor, Rihua Building, No.8, Xinfeng 2nd Road, Huli District, Xiamen,  
Fujian, China

Factory Add: Hengkeng Village, Hengkou Town, Yongchun County, Quanzhou, China

Tel: 0086-592-2393103 Email: info@kingfeels.com



[www.kingfeels.com](http://www.kingfeels.com)

**12 Years Products Warranty**  
**25 Years Life Time**



Xiamen Kingfeels Energy Technology Co., Ltd  
(the main subsidiary of Fujian Shuangheng Group)  
Established time: Feb,1992.  
Employees: 1500  
Registered Capital: 30 Million USD  
Covering Area: 2,000,000 square meters

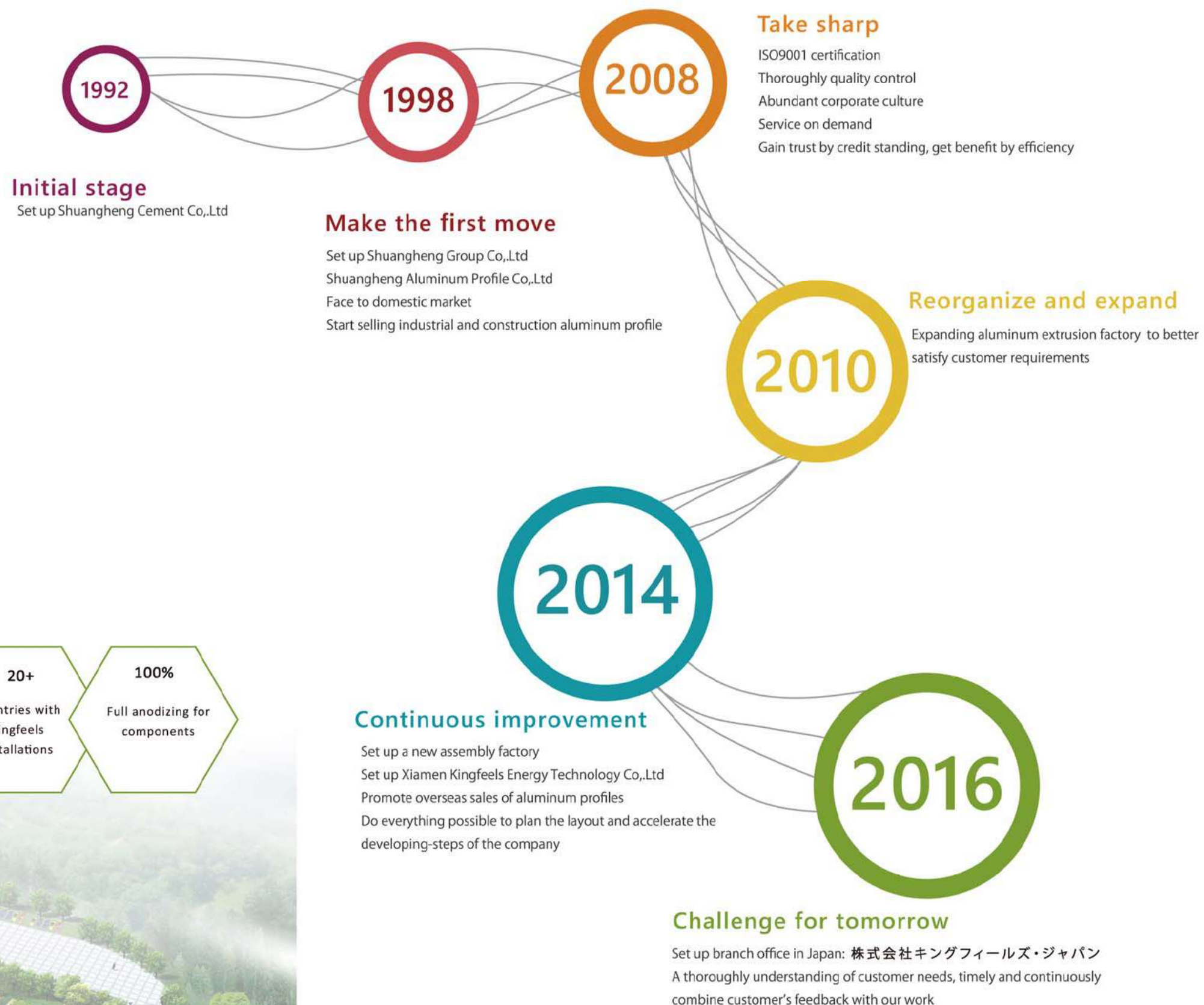
27 years history company, 9 years in PV mounting industry,  
4 years OEM service + 5 years experience for own brand  
-Kingfeels Energy.

**Product range:** Solar mounting structures, Industrial aluminum  
extrusion, Construction aluminum extrusion, New building  
materials and sanitary products.

**Headquarters:** Fujian Shuangheng Group Co., Ltd

**Branch office in Xiamen:** Xiamen Kingfeels Energy Technology  
Co., Ltd

**Branch office in Japan:** 株式会社キングフィールズ・ジャパン



*History of development*



## Sand Bag Test

The only company in China passed the Sand Bag Test of SHARP ENERGY

Background: Sharp Energy requested manufacturer to do the Sand Bag Test, which is putting 13 tons of sandbags (equals to 2400mm snow load) on the mounting structure. Outstanding design makes Kingfeels the only company in China that has passed the test.

Kingfeels not only has excellent design theories, but also has very convincing test results.



## CONTENTS

### A Projects & Produce Process

Project Case	1-14
Manufacturing Process	15-16

### B Roof Systems

Tile Roof System	17-18
Standing Seam Roof System	19-20
Tin Metal Roof System	21-25
Flat Roof System	26-28

### C Ground Systems

Aluminum Ground Mounting System	29~30
Aluminum Pile Ground Mounting System	31
Steel Mounting Systems	32
Solar Carport Systems	33
Solar Agriculture-farm System	34
Ground Screw	35~36
Components List	37~45
Warranty & Certificates	46

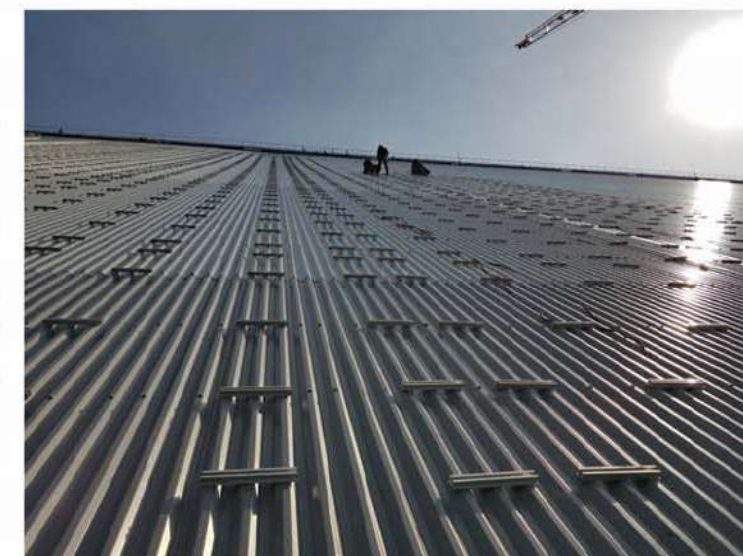


# Project Case

Site: Miyagi, Japan  
Capacity: 14.0MW  
Heavy Snow & Slope Hill  
Approached the Audit by the  
Tohoku Economic Ministry



Site: South Korea  
Capacity: 3000.0KW





# Project Case





# Project Case



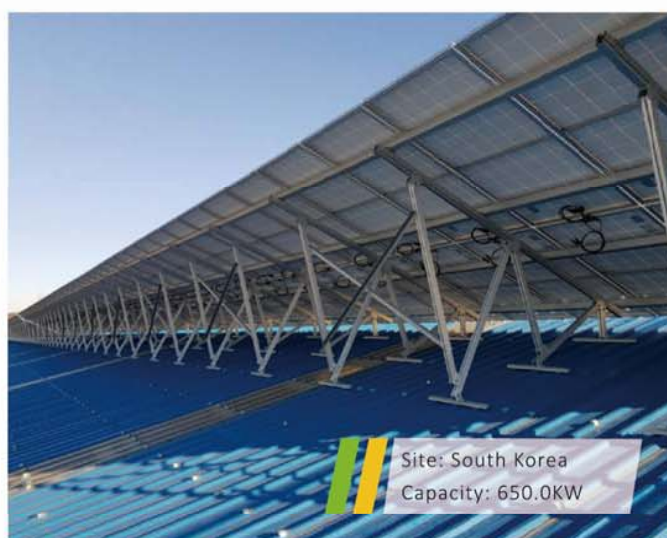


# Project Case





# Project Case





# Project Case

Site: South Korea  
Capacity: 10.0MW



12 Years Product Warranty / 25 Years Life Time

Site : Dubai, UAE  
Capacity: 1000.0KW



12 Years Product Warranty / 25 Years Life Time



# Project Case





## Company Information

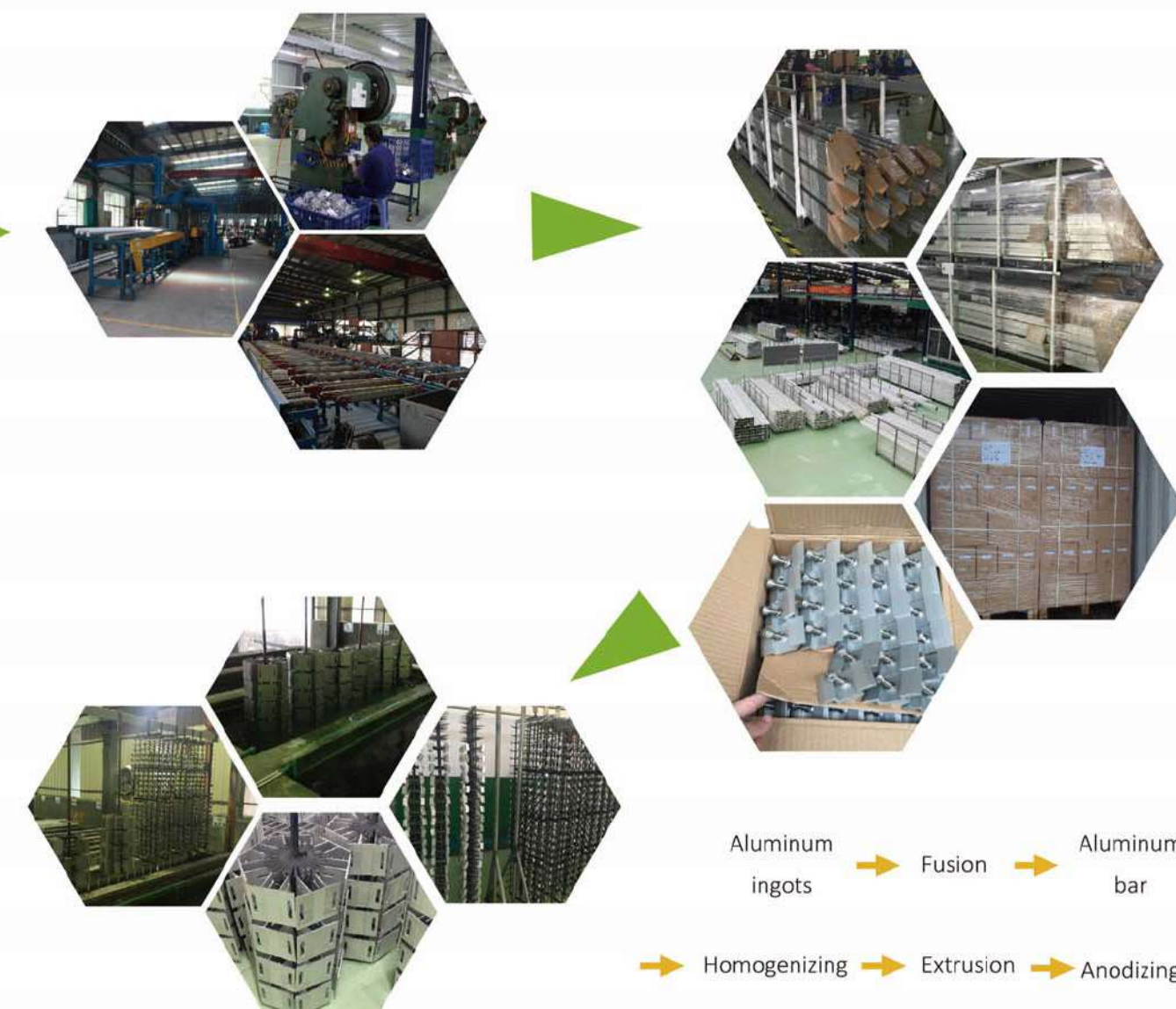
Xiamen Kingfeels Energy Technology is the main subsidiary of Fujian Shuangheng Group who has accumulated 27 years of experience in manufacturing aluminum products.

We have mold making center and develop all molds by ourselves. The whole processing procedures including extrusion, machining, anodizing, powder coating, inspection, and packing should pass our strict quality control management system and be completed in our own factory.

Therefore, we can guarantee "Higher quality & Shorter delivery" as promised.



## Manufacturing Process

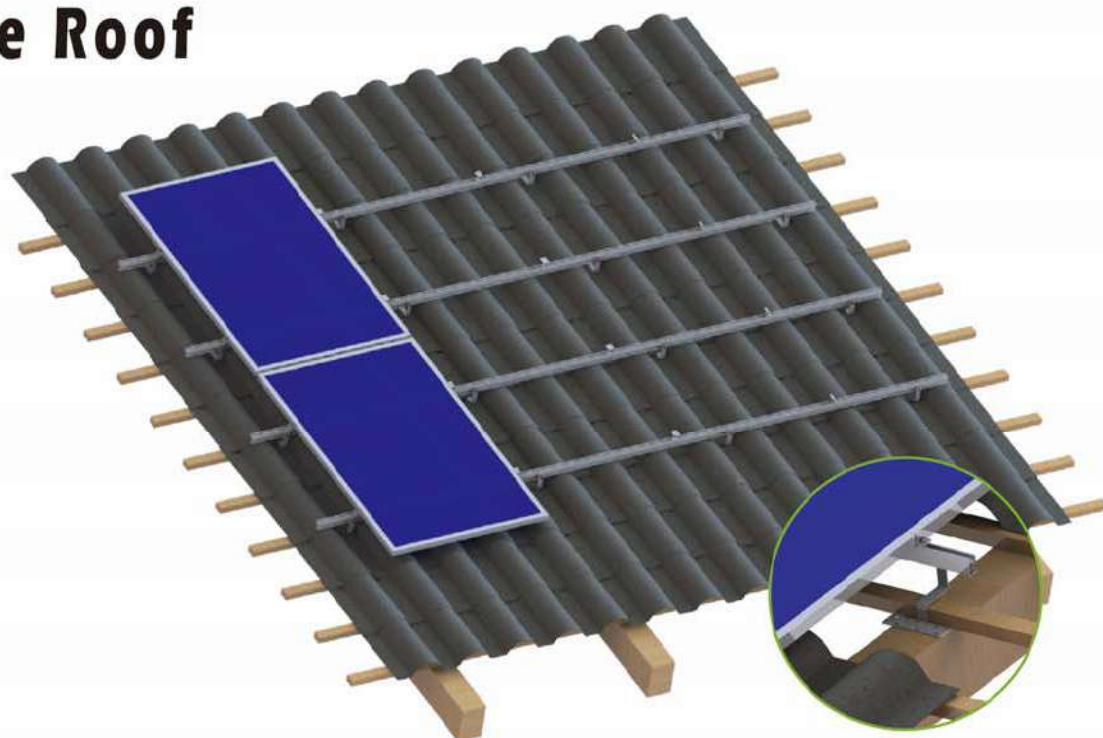


### Advantages of Aluminum Mounting structure compared with Steel Mounting structure:

- Affordable price:** With reasonable design, price of aluminum mounting system will not be very higher than Steel Mounting System (only about 25% price difference).
- Save installation time and labor cost:** Aluminum mounting structure has higher machining accuracy, much lighter weight, and part pre-assembly in factory (save 30% installation cost).
- Save maintenance cost:** With better anti-corrosion, aluminum mounting structure will have about 25 years duration lifetime, almost no need to maintenance cost. But Steel structure will have to be repainted and re-welded to keep its service life.
- High priced recycling:** Scrap aluminum can be sold in high price after using (about 40% purchase price of aluminum mounting), while Steel structure will be valueless for years severe corroded.



## Tile Roof



CR 1# Rail KS-CR1-XXX



**Application:**

Pitched roof with tiles

**Fastening:**

Roof hooks onto rafters

**Roof Pitch:**

Up to 60°

**Module Type:**

Framed and frameless modules

**Module orientation:**

Landscape/portrait

**Layers of Rails:**

Single/double layer, cross rail installation

**Advantages:**

Low fitting costs

Every size of module array possible

For all common rafter distances

CR 1# Rail Splice Kit KS-CR1-SP



Tile Roof Hook 1# KS-HK-R01

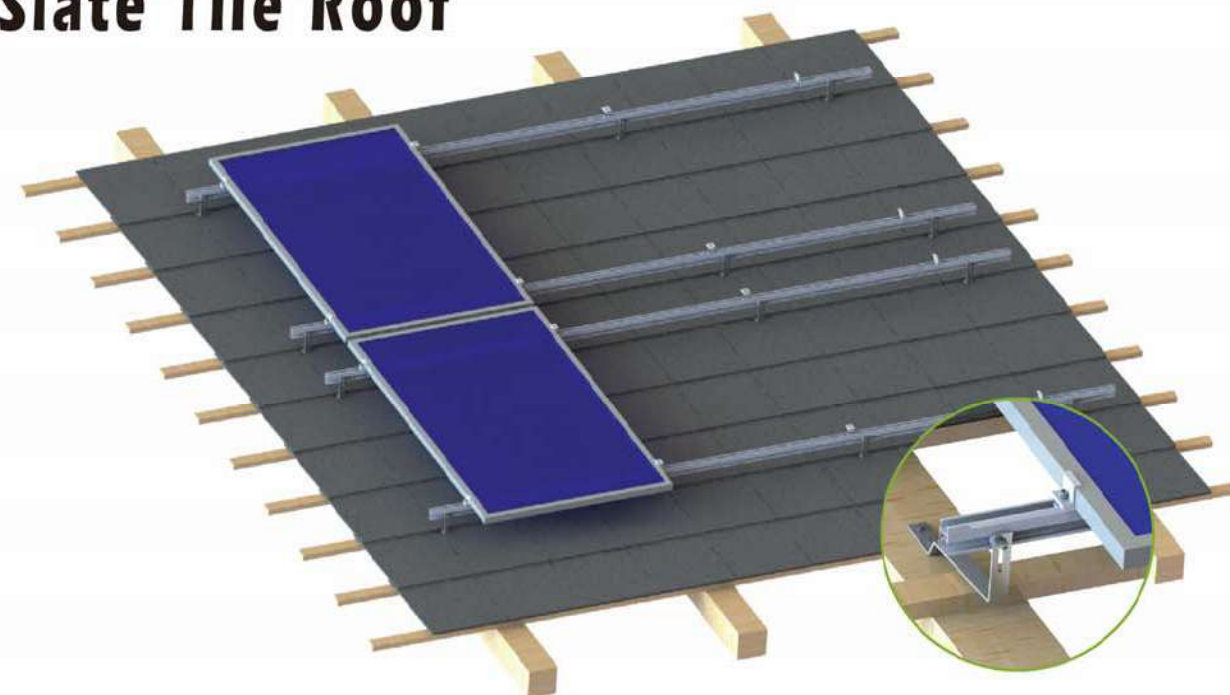


Middle Clamp KS-IC2-F40

End Clamp KS-EC2-F40



## Slate Tile Roof



CR3# Rail KS-CR3-XXX



**Application:**

Pitched roof with tiles

**Fastening:**

Roof hooks onto rafters

**Roof Pitch:**

Up to 60°

**Module Type:**

Framed and frameless modules

**Module orientation:**

Landscape/portrait

**Layers of Rails:**

Single/double layer, cross rail installation

**Advantages:**

Low fitting costs

Every size of module array possible

For all common rafter distances

CR 1# Rail Splice Kit KS-CR1-SP



Slate Tile Roof Hook 1# KS-HK-F01



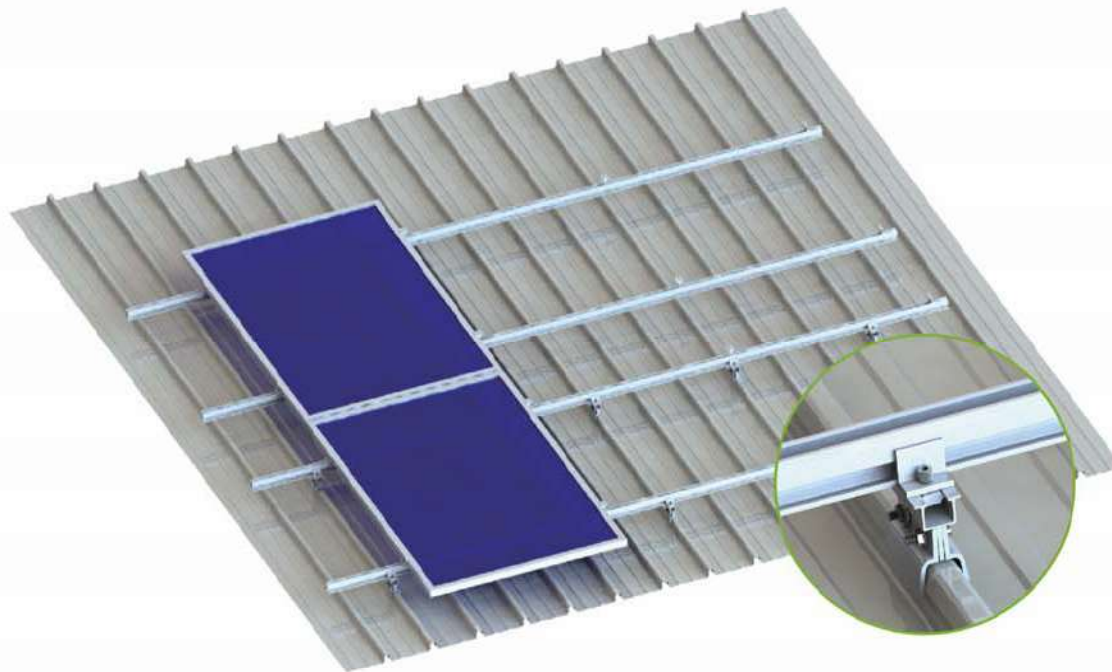
Middle Clamp KS-IC2-F40

End Clamp KS-EC2-F40





## Standing Seam Roof



CR3# Rail KS-CR3-XXX



CR Rail Clamp KS-CRC-2AN

Klip-lok Hook #9 KS-HK-S09



Middle Clamp KS-IC2-F40

End Clamp KS-EC2-F40



### Application:

Standing Seam Roof

### Fastening:

Roof hooks on Standing Seam Rib

### Module Type:

Framed and frameless modules

### Module orientation:

Landscape/portrait

### Layers of Rails:

Single/double layer, cross rail installation

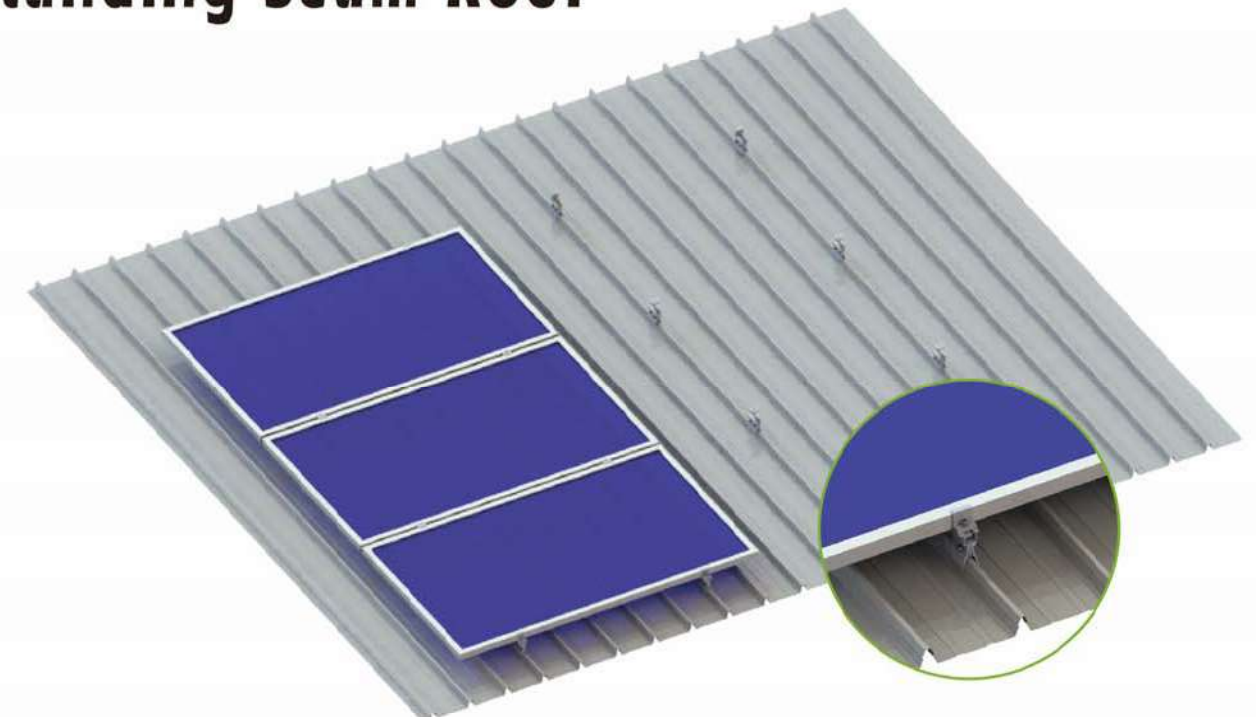
### Advantages:

Low fitting costs

Every size of module array possible

For all common rafter distances

## Standing Seam Roof



Standing Seam Hook #10 KS-HK-S10

Standing Seam Hook #4 KS-HK-S04



Middle Clamp KS-IC2-F40

End Clamp KS-EC2-F40



### Application:

Standing Seam Roof

### Fastening:

Roof hooks on Standing Seam Rib

### Module Type:

Framed and frameless modules

### Module orientation:

Landscape/portrait

### Layers of Rails:

Single layer

### Advantages:

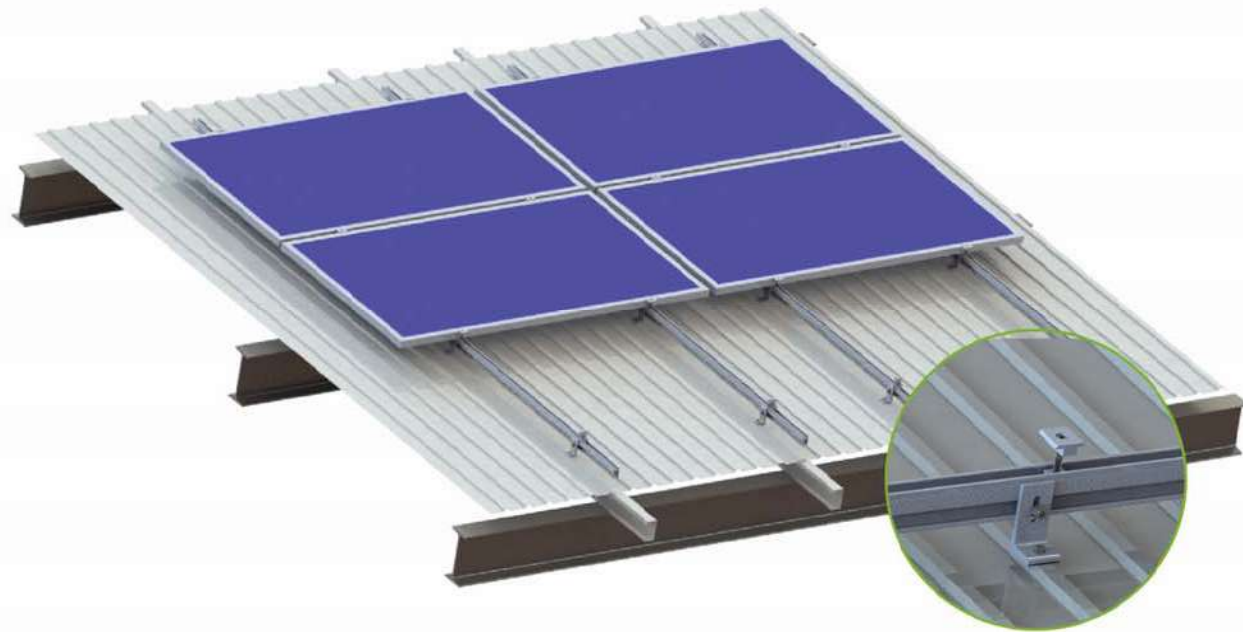
Low fitting costs

Every size of module array possible

For all common rafter distances



# Tin Metal Roof



CR 1# Rail KS-CR1-XXX



CR Rail Splice Kit KS-CR1-SP

Tin Interface Kit L feet 1# Type  
KS-HK-L01-ZS80



Middle Clamp KS-IC2-F40

End Clamp KS-EC2-F40



**Application:**  
Trapezoidal and corrugated sheet metal

**Fastening:**  
Riveted or screwed onto raised corrugations

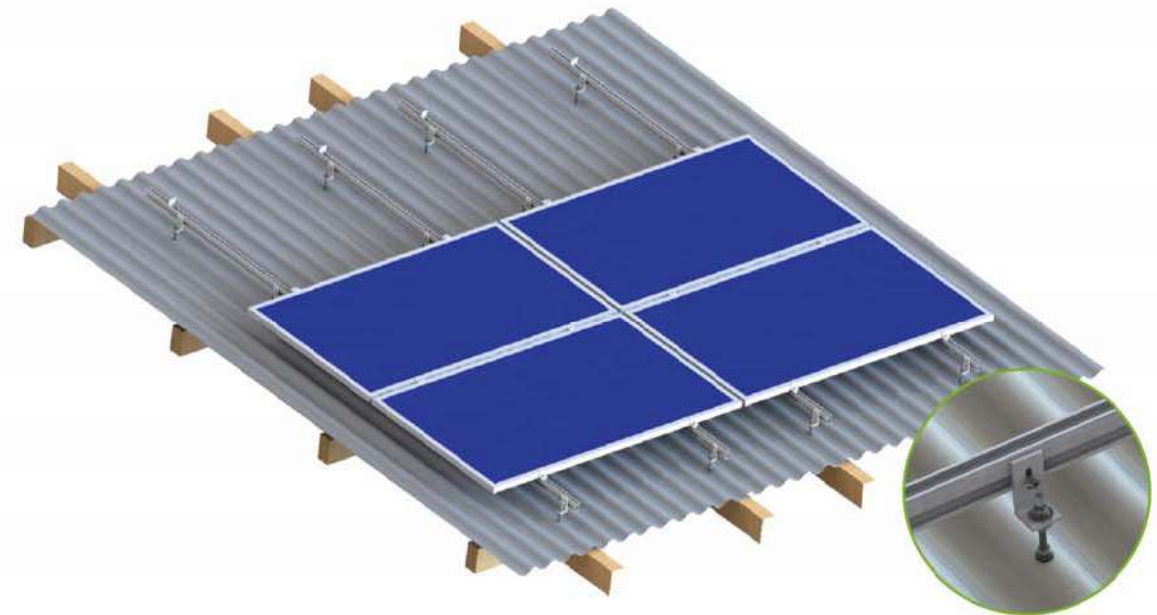
**Module Type:**  
Framed and frameless modules

**Module orientation:**  
Landscape/portrait

**Layers of Rails:**  
Single/double layer, cross rail installation

**Advantages:**  
Low fitting costs  
Every size of module array possible  
Height adjustable via elongated hole in the sheet metal bracket

# Tin Metal Roof



CR3# Rail KS-CR3-XXX



CR 1# Rail Splice Kit KS-CR1-SP

Hanger Bolt Hook #2 KS-HK-L02



Middle Clamp KS-IC2-F40

End Clamp KS-EC2-F40



**Application:**  
Trapezoidal and corrugated sheet metal

**Fastening:**  
Hanger bolts onto rafters

**Module Type:**  
Framed and frameless modules

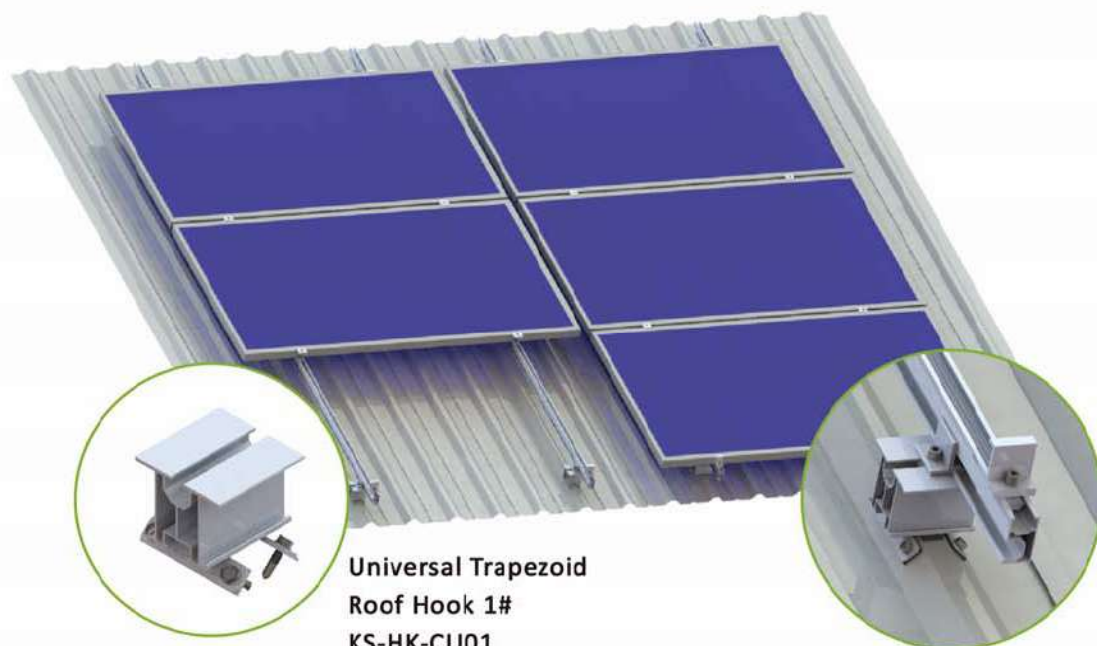
**Module orientation:**  
Landscape/portrait

**Layers of Rails:**  
Single/double layer, cross rail installation

**Advantages:**  
Low fitting costs  
Height adjustable  
Suitable for large distances between rafters



## Trapezoidal Metal Roof



CR 3# Rail KS-CR3-XXX



CR 1# Rail Splice Kit KS-CR1-SP



Middle Clamp KS-IC2-F40



CR 1# Rail Clamp KS-CRC-2AN



End Clamp KS-EC2-F40



**Application:**  
Trapezoidal and corrugated sheet metal

**Fastening:**  
Riveted or screwed onto raised corrugations

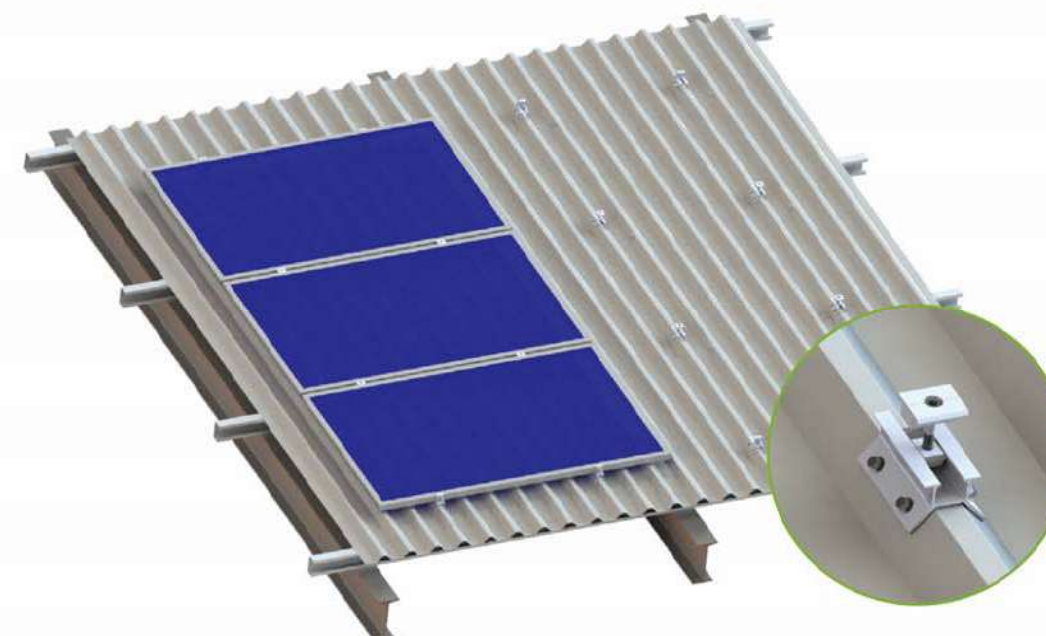
**Module Type:**  
Framed and frameless modules

**Module orientation:**  
Landscape/portrait

**Layers of Rails:**  
Single layer

**Advantages:**  
Low fitting costs  
Every size of module array possible  
With rail / railless solution  
Height adjustable via elongated hole in the sheet metal bracket

## Trapezoidal Metal Roof



Aluminum Trapezoid Roof Hook 7#  
KS-HK-T07N-01

Middle Clamp KS-IC2-F40



End Clamp KS-EC2-F40



**Application:**  
Trapezoidal and corrugated sheet metal

**Fastening:**  
Riveted or screwed onto raised corrugations

**Module Type:**  
Framed and frameless modules

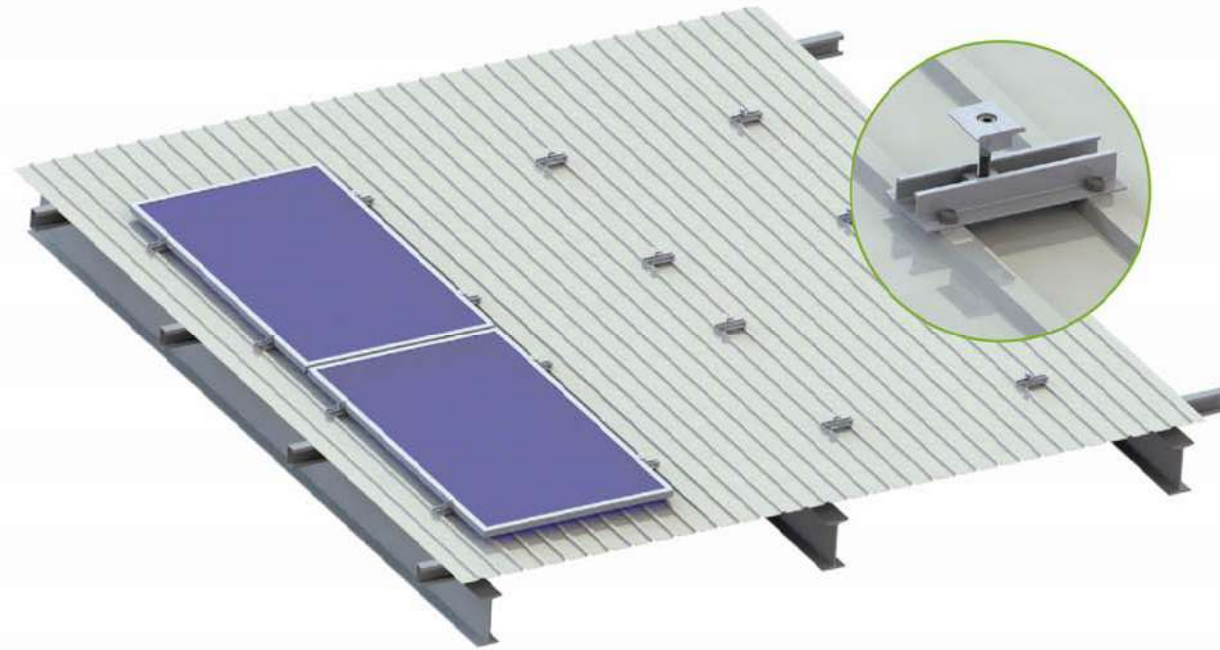
**Module orientation:**  
Landscape/portrait

**Layers of Rails:**  
Single layer

**Advantages:**  
Low material / Low fitting costs  
Every size of module array possible  
With rail / railless solution  
Quick mounting



## Tin Metal Roof—UR Solution



UR Rail KS-UR2-XXX



CR 1#Rail Splice Kit KS-CR1-SP

End Clamp KS-EC2-F40



Middle Clamp KS-IC2-F40

**Application:**  
Trapezoidal and corrugated sheet metal

**Fastening:**  
Riveted or screwed onto raised corrugations

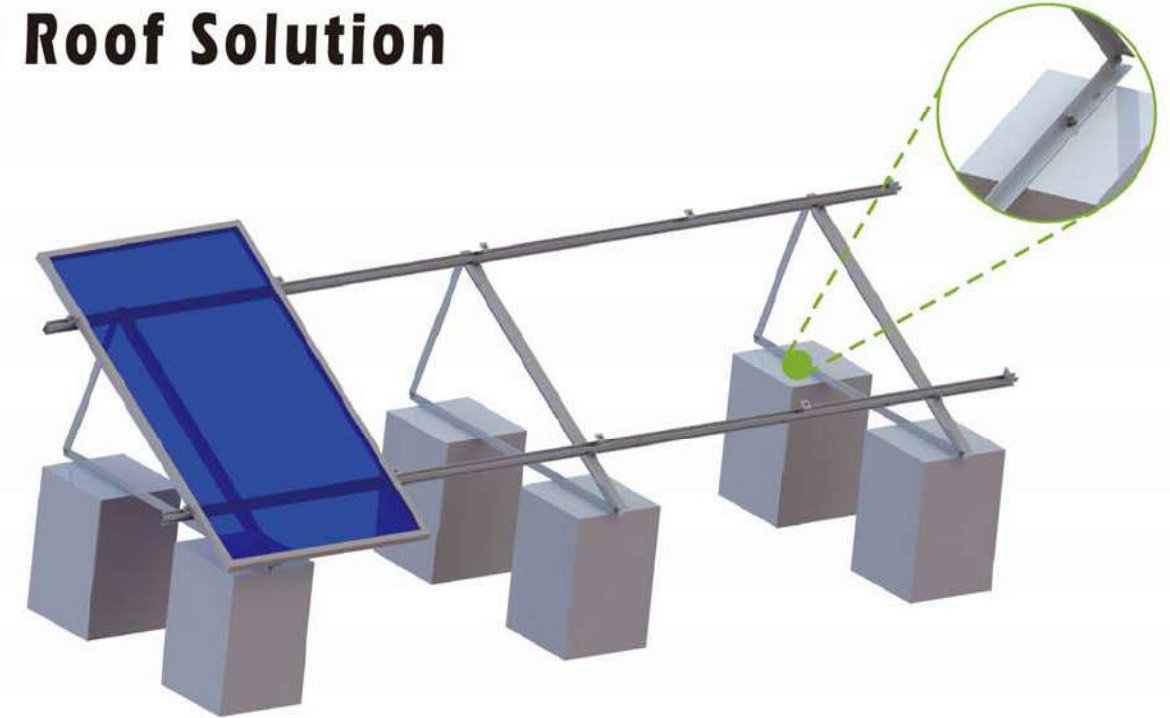
**Module Type:**  
Framed and frameless modules

**Module orientation:**  
Landscape/portrait

**Layers of Rails:**  
Single layer

**Advantages:**  
Low material / Low fitting costs  
Every size of module array possible  
No Rails necessary  
Quick mounting

## Flat Roof Solution



CR 1#Rail KS-CR1-XXX

CR 1#Rail Splice Kit KS-CR1-SP



Triangle Bracket 1# KS-TR10-XX

CR 1#Rail Clamp with flange nut  
KS-CRC-01



End Clamp KS-EC2-F40

Middle Clamp KS-IC2-F40



**Application:**  
Cements Roof / Metal Roof

**Fastening:**  
Riveted or screwed onto raised corrugations, or mounted onto the Concrete block

**Tilt angle:**  
Up to 60 degrees

**Module Type:**  
Framed and frameless modules

**Module orientation:**  
Landscape/portrait

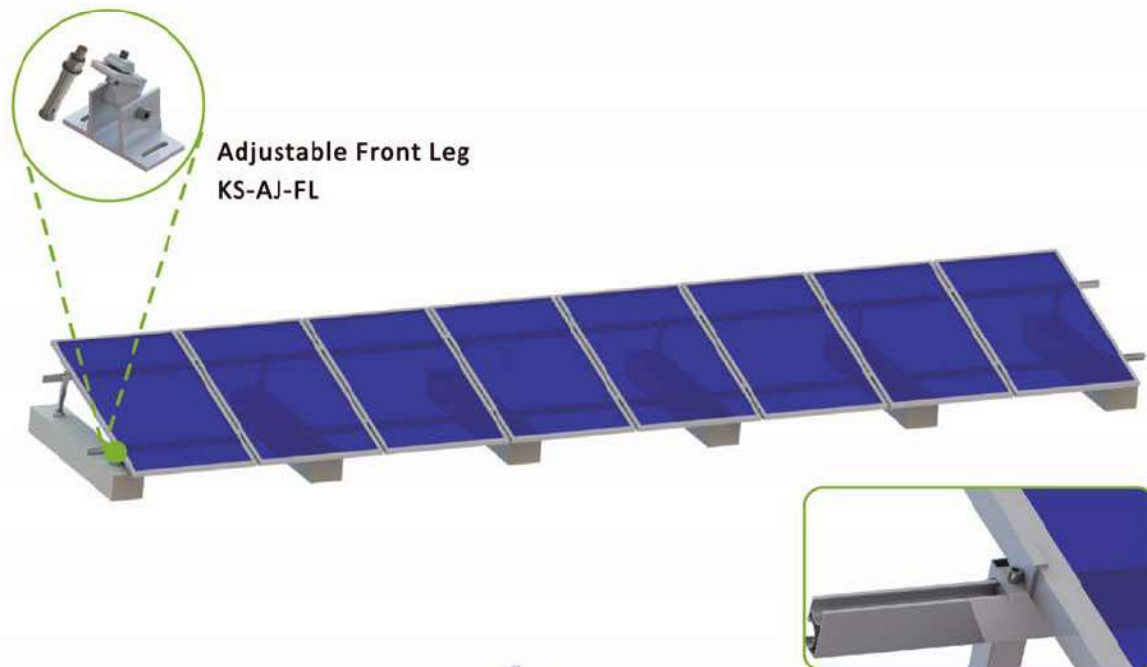
**Layers of Rails:**  
Single layer

**Advantages:**  
Highly pre-assembly, easy installation  
Perfect also for small systems of 1,2,4 or 8 modules  
Fixed angle, adjustable angle both available

**Note:**  
Load bearing reserve of the roof has to be checked prior to installation



## Adjustable Tilt Solution



CR3# Rail KS-CR3-XXXX



CR 1#Rail Splice Kit KS-CR1-SP

End Clamp KS-EC2-F40



Adjustable Rear Leg KS-AJ-RL XX

Middle Clamp KS-IC2-F40



### Application:

Cements Roof / Metal Roof

### Fastening:

Riveted or screwed onto raised corrugations, or mounted onto the Concrete block

### Tilt angle:

KS-AJ-RL01: Adjustable rear leg 10-15°  
KS-AJ-RL02: Adjustable rear leg 15-30°  
KS-AJ-RL03: Adjustable rear leg 30-60°

### Module Type:

Framed and frameless modules

### Module orientation:

Portrait

### Layers of Rails:

Single layer

### Advantages:

Flexible tilt angle choices  
Anti-slip and anti-out design  
Double side lock, better strength  
Cheapest solution for adjustable mounting

## Ballasted Tilt Solution



Middle Clamp KS-IC2-F40

CR Rail Clamp KS-CRC-2AN



Ballast Triangle Bracket  
KS-KTR15-XXXX

CR3# Rail KS-CR3-XXXX



CR 1#Rail Splice Kit KS-CR1-SP



### Application:

Flat Concrete Roof

### Tilt angle:

5°-20°

### Module Type:

Framed modules

### Module orientation:

Landscape

### Layers of Rails:

Single layer

### Building height:

20m max

### Edge clearance:

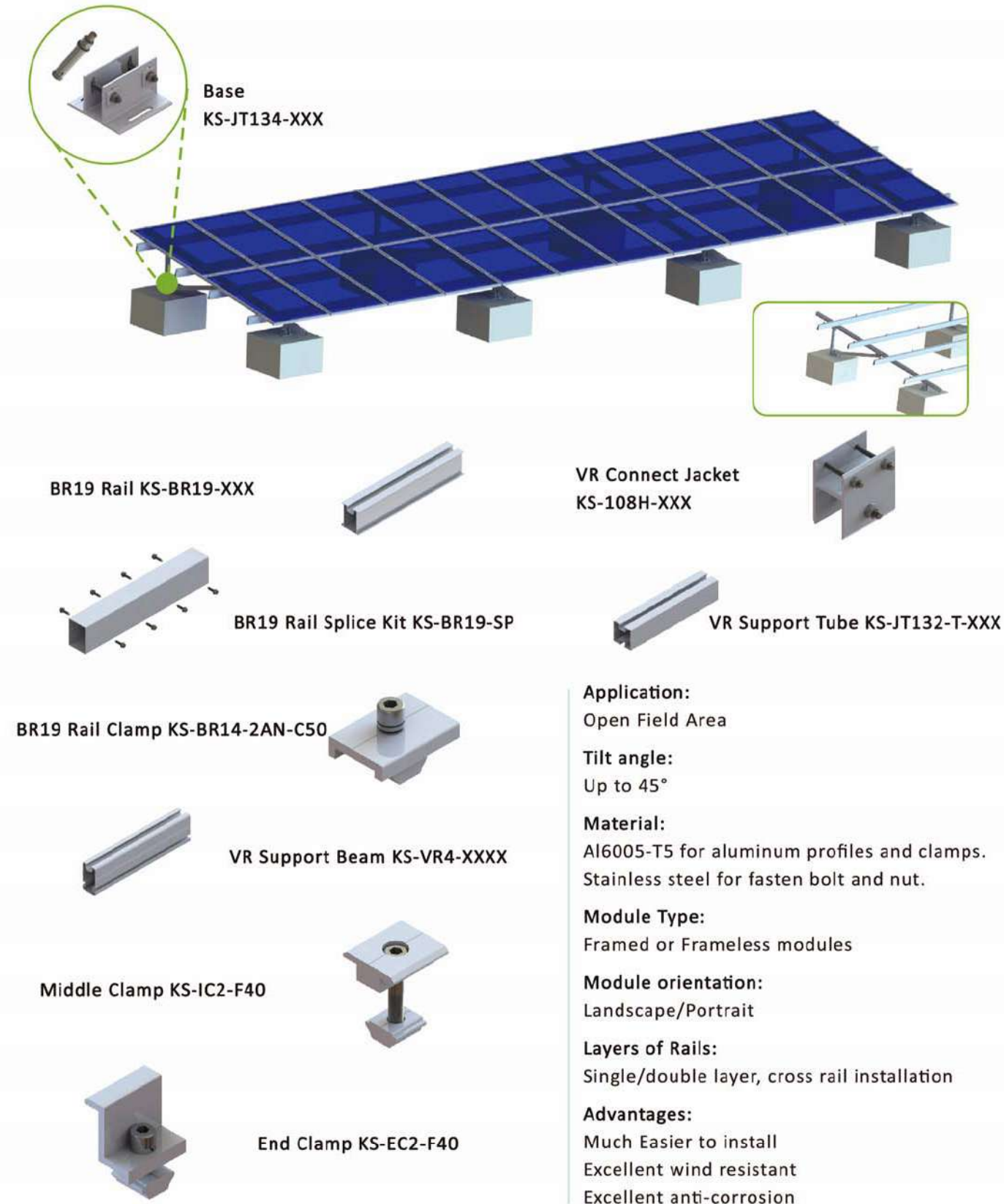
Fitting in the roof edge and corner regions possible

### Advantages:

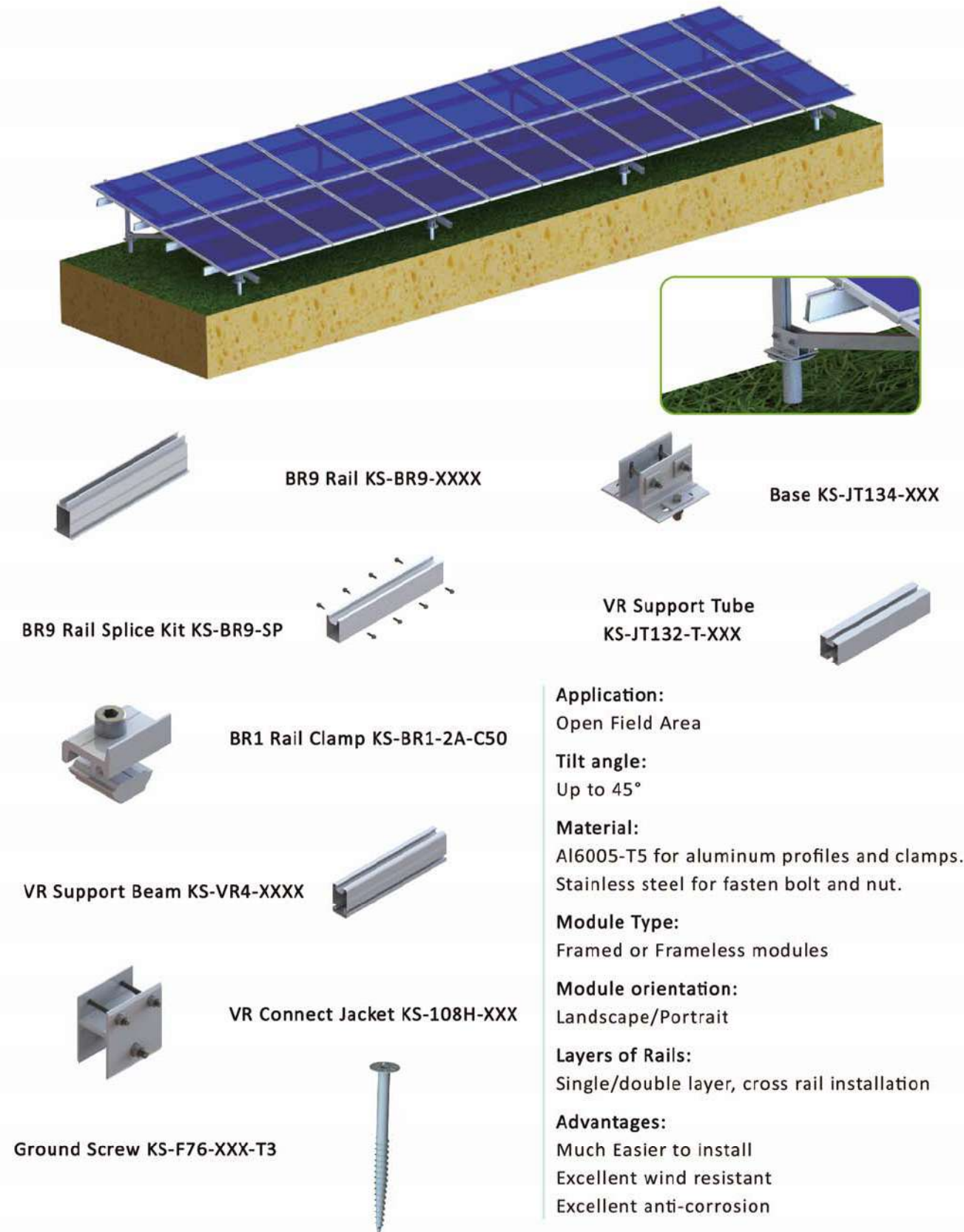
Simple structure with high strength  
No need rails, save material cost and installation time  
It's no penetration solution on concrete rooftop



## Aluminum ground mounting system—Concrete foundation

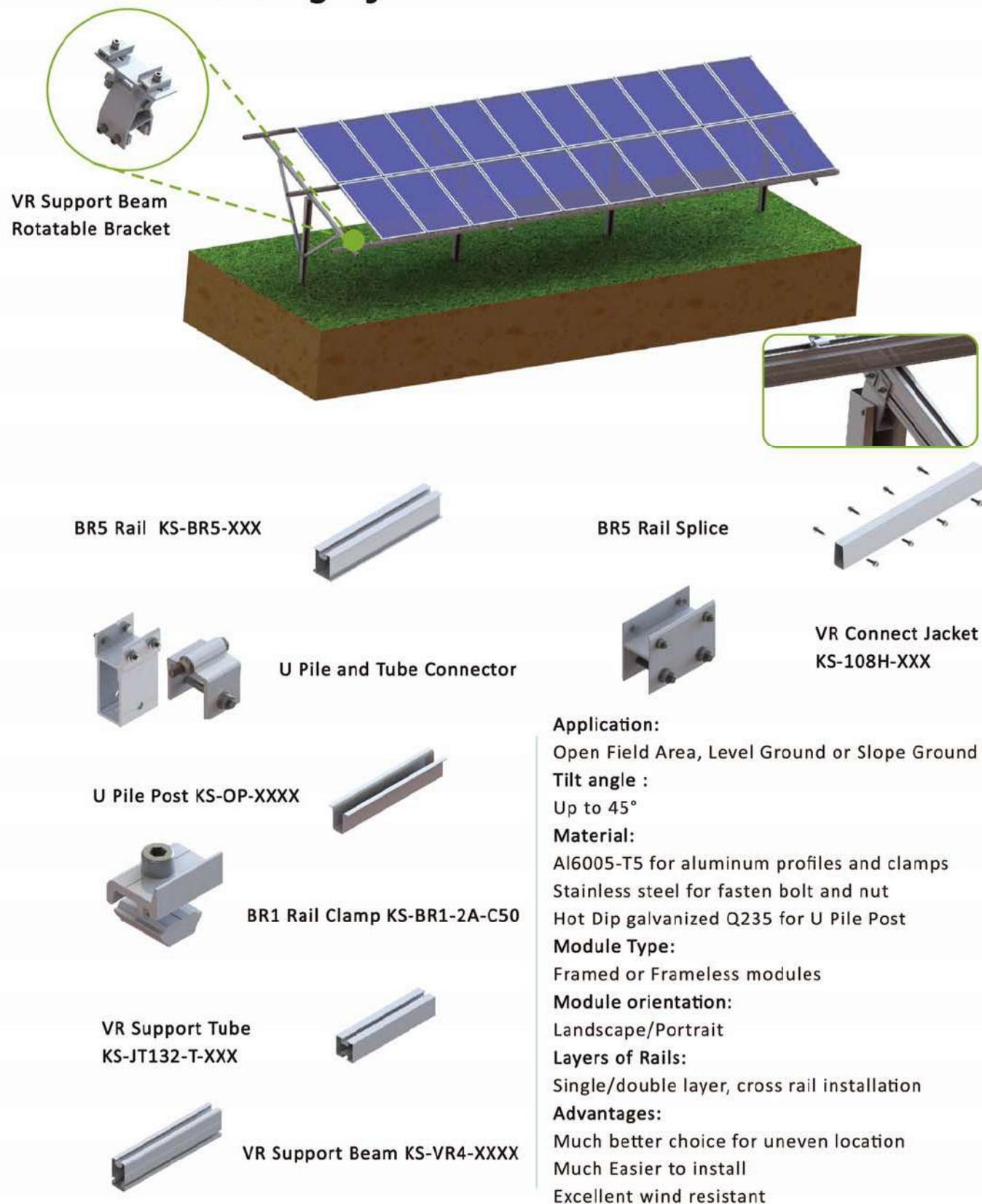


## Aluminum ground mounting system—ground screw foundation

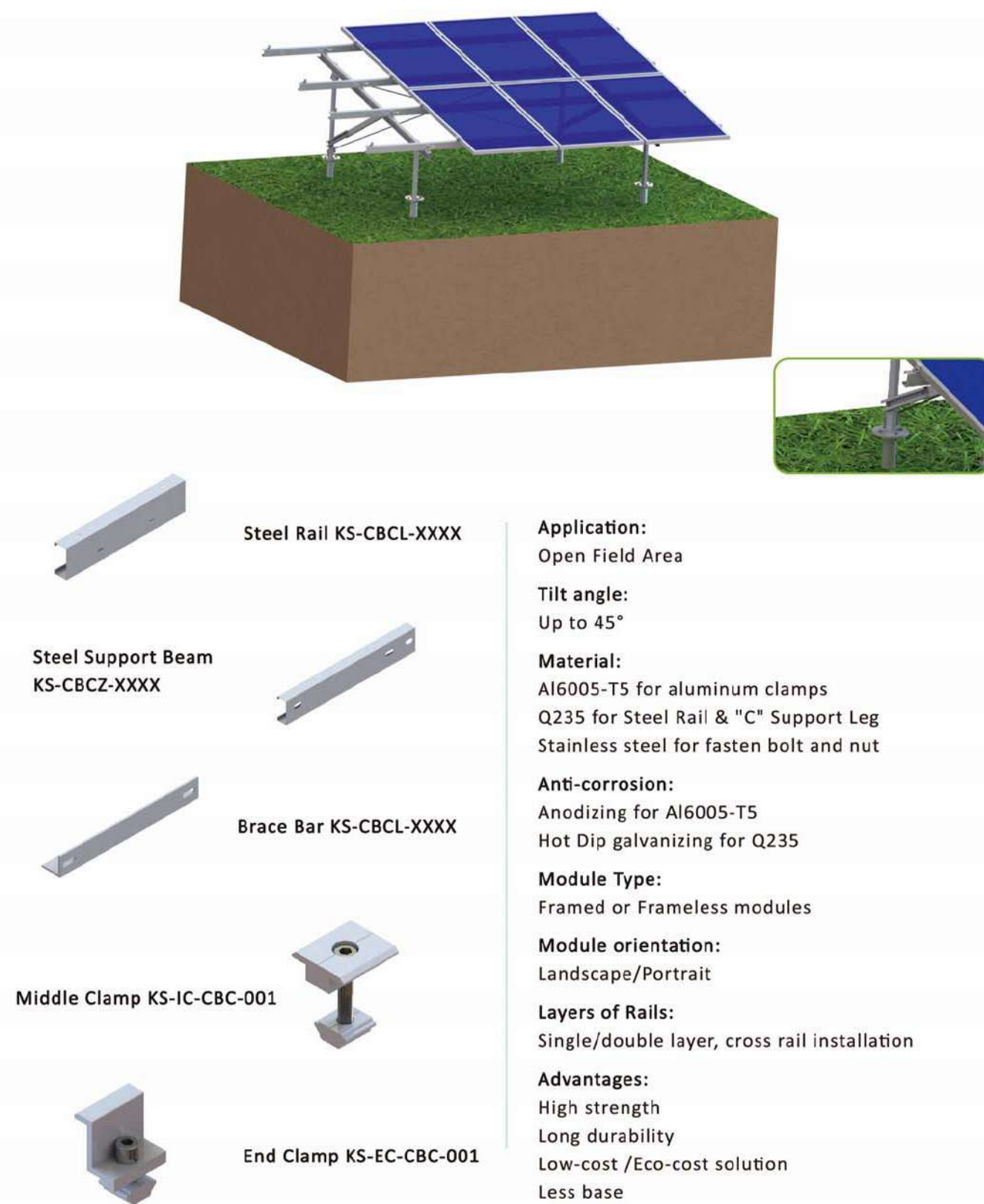




## Ground mounting system —Pile Mounting System



## Ground mounting system —Steel Mounting System





## Ground mounting system —Carport Solution



Carport Rail ---BR3 Rail KS-BR3-XXXX



Carport Rail Splice Kit KS-BR3-SP

Carport Rail Clamp KS-BR1-2AN-C35



Middle Clamp KS-CIC15-F40

End Clamp KS-CEC15-F40



Carport Support Beam KS-VR3-XXXX

**Application:**  
Open Field Area, or Super Mall Parking Area

**Tilt angle:**  
Up to 20° or Customized tilt angle

**Ground Clearance:**  
Over 2000mm

**Module Type:**  
Framed and frameless modules

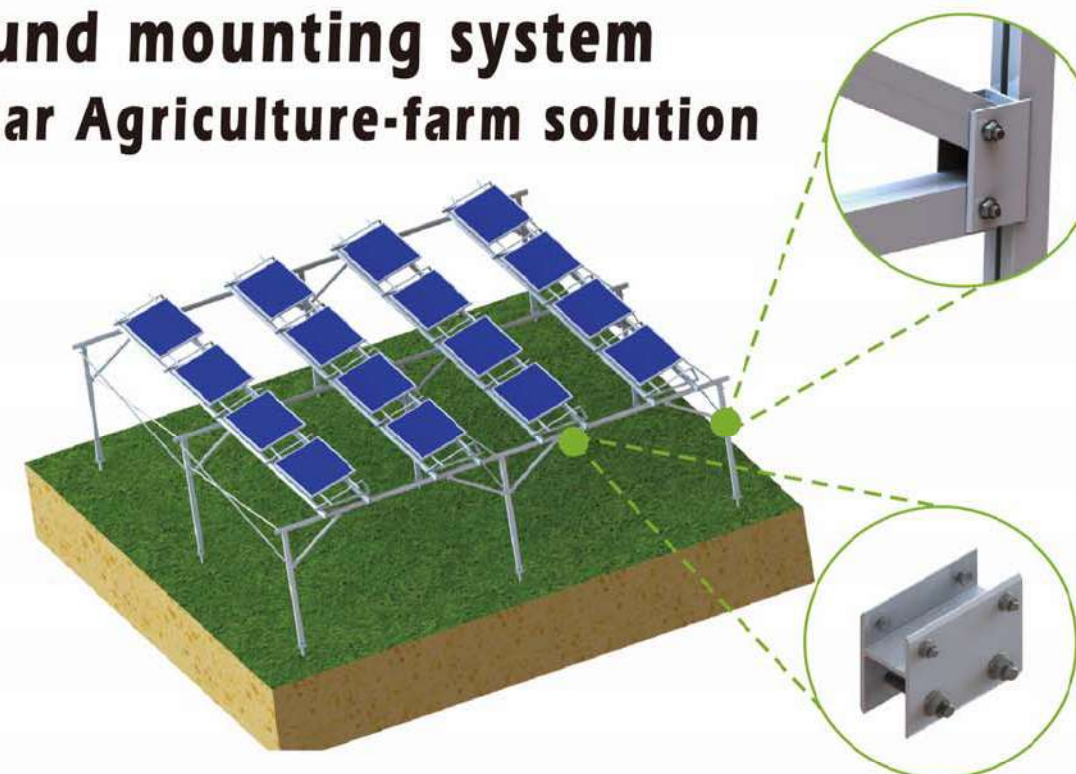
**Module orientation:**  
Landscape/portrait

**Layers of Rails:**  
Single/double layer, cross rail installation

**Economic layout:**  
3 rows of modules with vertical assembly  
6 rows of modules with horizontal assembly

**Advantages:**  
Simple structure with high strength  
Corrosion-resistant aluminum construction  
(anodized aluminum alloy)  
The customized solution makes good utilization  
of ground and sunshine resources.  
Save installation time and labor cost on site

## Ground mounting system —Solar Agriculture-farm solution



VR Connect Jacket  
KS-108H-XXX



VR Support Tube KS-JT132-T-XXXX

VR Support Beam KS-VR4-XXXX



Support Tube Connect Jacket  
KS-UL-80

Support Beam Connect Jacket  
KS-85H100-NP-AN



Middle Clamp KS-IC2-F40

End Clamp KS-EC2-F40



**Application:**  
Open Field Area, Above the planting land

**Tilt angle:**  
Up to 30° or Customized tilt angle

**Ground Clearance:**  
Over 1800mm

**Module Type:**  
Framed and frameless modules

**Module orientation:**  
Landscape/portrait

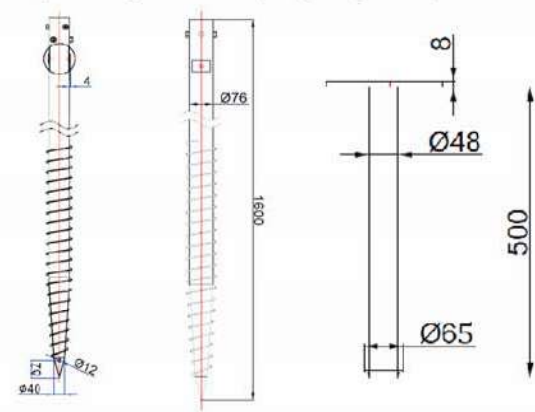
**Layers of Rails:**  
Single/double layer, cross rail installation

**Advantages:**  
Dual-use of land improve the economic benefit  
A solution with adjustable tilt angle, to increase  
the sunshine amount  
A solution with enough space, benefits to the  
machine work  
Pre-assembled components, to save the  
installation time and cost

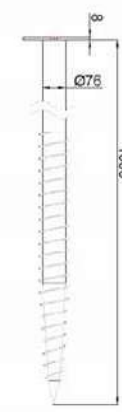


# Ground Screw

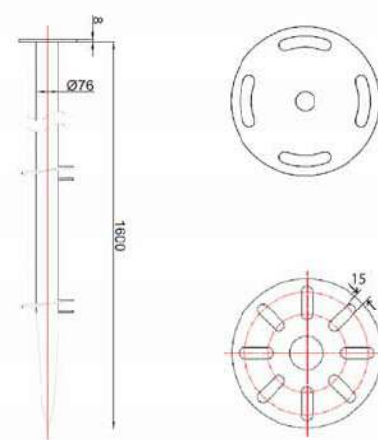
Adjustable ground screw(height adjustable)



Screw pile



Double blade



The most appropriate foundation for solar project installed on open ground .  
Featured with high anti-corrosion, high strength, short delivery time,  
very competitive prices.

Possibility of adjustable



Clay soil(screw pile)

Sandy soil(double blade)

Ground Screw Load Capability									
Item No.	Dia. of Tube (mm)	Dia. of Flange (mm)	Thickness of Tube (mm)	200mm above ground, Pulling force (KN)					
				Clay Soil N Value			Sandy Soil N Value		
				3	5	10	3	5	10
KS-F76-T3-1600	76	200	3	11.49	19.08	38.06	4.47	7.38	14.66
KS-F76-T3-1800	76	200	3	12.92	21.47	42.83	4.9	8.1	16.09
KS-F76-T3-2000	76	200	3	14.36	23.86	47.61	5.33	8.81	17.52
KS-22F76-T3-1600	76	220	3	11.49	19.08	38.06	4.47	7.38	14.66
KS-22F76-T3-1800	76	220	3	12.92	21.47	42.83	4.9	8.1	16.09
KS-22F76-T3-2000	76	220	3	14.36	23.86	47.61	5.33	8.81	17.52

## Notes:

- ★ The value of the ground screw is the experimental value.
- ★ While installation condition changes, the data of ground screw change.

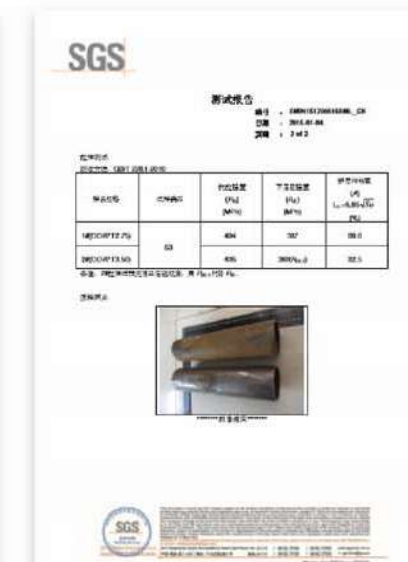


## Torque test for ground screw

SGS test of flange torsion



SGS test of tube



SGS test of torsion of adjustable ground screw








# Components List




Photo	Item No	Name	Description	Packing
Roof Part---Rail				
	KS-CR1-length	CR Rail	Spec: 28*50mm Customized Length Material: Al 6005-T5	8pcs/bundle 512pcs/pallet
	KS-CR3-length	CR3 Rail	Spec: 28*45mm Customized Length Material: Al 6005-T5	8pcs/bundle 512pcs/pallet
	KS-CR1-SP	CR Rail Splice Kit	Spec:150mm Connect two pieces CR Rail Material: Al6005-T5 & A2-70	50pcs/box 4boxes/CTN
	KS-CR1-SP-01	CR Rail Splice Kit with Ground Washer	Spec:150mm Connect two pieces CR Rail with Ground Washer	50pcs/box 4boxes/CTN
	KS-IC2-F_	Middle Clamp	Middle Clamp Spec: 31/35/40/46/50 Pre-assembly	120pcs/box 4boxes/CTN
	KS-EC2-F_	End Clamp	End Clamp Spec: 31/35/40/46/50 Pre-assembly	120pcs/box 4boxes/CTN
	KS-CIC15-F_	Inter Clamp	Inter Clamp Spec: 31/35/40/46/50 Pre-assembly	120pcs/box 4boxes/CTN
	KS-CEC15-F_	End Clamp	End Clamp Spec: 31/35/40/46/50 Pre-assembly	120pcs/box 4boxes/CTN
	KS-TIC-03A	Thin Film Middle Clamp Kits	Aluminum & Rubber Pad Socket Head Screw Pre-assembly	80pcs/box 4boxes/CTN
	KS-TEC-03A	Thin Film End Clamp Kits	Aluminum & Rubber Pad Socket Head Screw Pre-assembly	80pcs/box 4boxes/CTN
	KS-CRC-2AN	CR Rail Clamp	Rail Clamp with C nut Socket head screw Pre-assembly	120pcs/box 4boxes/CTN


	KS-CRC-01	CR Rail Clamp	Rail Clamp with Flange nut Socket head screw Pre-assembly	120pcs/box 4boxes/CTN
Standing Seam Hook				
	KS-HK-S03	Standing Seam Roof Hook 3#	Zambelli-Rib Roof Al6005-T5, A2-70 Pre-assembly	30pcs/box 4boxes/CTN
	KS-HK-S04	Standing Seam Roof Hook 4#	Bulter-Roof Al6005-T5, A2-70 Pre-assembly	30pcs/box 4boxes/CTN
	KS-HK-S07	Standing Seam Roof Hook 7#	Length: 50mm Al6005, A2-70 Pre-assembly	20pcs/box 4boxes/CTN
	KS-HK-S08	Standing Seam Roof Hook 8#	Klip-lok 406 Roof Al6005, A2-70 Pre-assembly	30pcs/box 4boxes/CTN
	KS-HK-S09	Standing Seam Roof Hook 9#	Klip-lok 700 Roof Al6005, A2-70 Pre-assembly	25pcs/box 4boxes/CTN
	KS-HK-S09-06	Standing Seam Roof Hook 9# A Type	Standing Seam Hook 9# with big flange	15pcs/box 4boxes/CTN
	KS-HK-S10	Standing Seam Roof Hook 10#	Length: 50mm Al6005, A2-70 Pre-assembly	20pcs/box 4boxes/CTN
	KS-HK-S12	Standing Seam Roof Hook 12#	Length: 80mm Pre-assembly	20pcs/box 4boxes/CTN
	KS-HK-S20	Standing Seam Roof Hook 20#	Bulter-Roof Al6005-T5, A2-70 Pre-assembly	20pcs/box 4boxes/CTN
	KS-HK-S21	Standing Seam Roof Hook 21#	Long Line Roof Stainless Steel, Length:110mm Pre-assembly	10pcs/box 4boxes/CTN



Tin Roof Hook				
	KS-HK-T01	88 T Metal Roof Hook	88 T Metal Roof hook Self-tapping Bolt st6.3*80	10pcs/box 4boxes/CTN
	KS-HK-CU01	Universal trapezoid Metal Roof Hook 1#	Aluminum Parts & Stainless Steel Self-tapping bolt st6.3*25 & Rubber Pad, Pre-assembly	20pcs/box 4boxes/CTN
	KS-HK-T07N-01	Trapezoid Metal Roof Hook 7#	Aluminum Roof Hook & Self-tapping bolt st6.3*25 & Rubber Pad Tin Roof	180pcs/CTN
	KS-HK-C01	Trapezoid metal roof hook 1#	Spec: 100mm Material: Stainless Steel 4*st6.3*25 Self-tapping screw & Rubber pad	25pcs/box 4boxes/CTN
	KS-HK-C02	Trapezoid metal roof hook 1#	Spec: 100mm Material: Stainless Steel 4*st6.3*25 Self-tapping screw & Rubber pad	25pcs/box 4boxes/CTN
	KS-HK-L01	Tin Interface Kit 1#Type	L feet & Rubber Pad Wood Bolt st6.3*80 Pre-assembly	60pcs/box 4boxes/CTN
	KS-HK-L02	Tin Interface Kit 2#	L feet & Rubber Pad Hanger Bolt Hook 2#, M10*200 Tin Roof Pre-assembly	20pcs/box 4boxes/CTN
	KS-HK-L06	Tin Interface Kit 6#	L feet & Rubber Pad Hanger Bolt Hook 6#, M10*300 Tin Roof Pre-assembly	20pcs/box 4boxes/CTN
	KS-UR2-120	U Type Rail	Aluminum U Type Rail 2x Wood Bolt st6.3*80 Slate Tile & Tin Roof	50pcs/box 4boxes/CTN

Tile Roof Hook				
	KS-HK-R01	Tile Roof Hook 1#	Roman Tile Roof Stainless Steel Hook 3x Wood Bolt st6.3*80	10pcs/box 4boxes/CTN
	KS-HK-R02	Tile Roof Hook 2#		10pcs/box 4boxes/CTN
	KS-HK-R03	Adjustable tile roof hook 3#		10pcs/box 4boxes/CTN





	KS-HK-R04	Tile roof hook 4#	Roman Tile Roof Stainless Steel Hook 3x Wood Bolt st6.3*80	10pcs/box 4boxes/CTN
	KS-HK-F01	Slate roof hook 1#	Slate Roof Stainelss Steel Hook 3x wood Bolt st6.3*80	20pcs/box 4boxes/CTN
	KS-HK-F04	Slate roof hook 4#		20pcs/box 4boxes/CTN

Tilt Bracket				
	KS-AJ-FL	Adjustable front leg	Anodized Al6005-T5 2x Wood Bolt st6.3*80 Pre-assembly	20pcs/box 4boxes/CTN
	KS-AJ-RL01	Adjustable rear leg 10/15Deg	Anodized Al6005-T5 2x Wood Bolt st6.3*80 Adjusted solution can adjust the angle anti-slip & anti-out design	24pcs/CTN
	KS-AJ-RL02	Adjustable rear leg 15/30Deg		16pcs/CTN
	KS-AJ-RL03	Adjustable rear leg 30/60Deg		Package on request
	KS-TR10-01	Fix Triangle Bracket 10Deg	Anodized Al6005-T5 Pre-assembly	380pcs/pallet
	KS-TR30-01	Fix Triangle Bracket 30DegType	Anodized Al6005-T5 Pre-assembly	380pcs/pallet
	KS-TR45-01	Fix Triangle Bracket 45Deg	Anodized Al6005-T5 Pre-assembly	380pcs/pallet
	KS-TR-AJ-01	Adjustable triangle bracket 1#	Anodized Al6005-T5 2x Wood Bolt st6.3*80 Adjusted solution can adjust the angle 10-15 deg Pre-assembly	380pcs/pallet
	KS-TR-AJ-02	Adjustable triangle bracket 2#	Anodized Al6005-T5 2x Wood Bolt st6.3*80 Adjusted solution can adjust the angle 20-30 deg Pre-assembly	380pcs/pallet










	KS-KTR15-1800	Fix Triangle Bracket For Horizontal placement	No need more rail Eco-solution Pre-assembly	100pcs/pallet
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#### Grounding Accessories





	KS-BR1-GC	Grounding Clip 1#	Stainless Steel Plate	1000pcs/box 4boxes/CTN
	KS-BR2-GC	Grounding Clip 2#	Stainless Steel Plate	1000pcs/box 4boxes/CTN
	KS-BR-GL	Grounding Lug	Stainless Steel Plate Aluminum Lay-in Lug Fasten Pre-assembly	200pcs/box 4boxes/CTN
	KS-BJ-03	Bonding Jumper	Braider Copper Wire Stainless Steel Plate & Socket Head Screw Pre-assembly	200pcs/box 4boxes/CTN

#### Accessories

	KS-CC-01	Cable Clip	SUS 304 For 2pcs OD3~5mm Cable line	500pcs/box 4boxes/ CTN
	KS-SC-01	Cable Tie	SUS 304 Black Plastic appearance	100pcs/bag
	KS-2AN-01	C Nut	Aluminum 6005-T5 Clean Anodized M8 Threaded Hole	1000pcs/box 4boxes/CTN
	KS-F-SW8	Spring Washer	Spring Washer, M8 Stainless Steel A2-70	Package on request
	KS-F-13DW8	Lock washer	Lock washer OD13 Stainless Steel A2-70	
	KS-F-8DW8	Lock washer	Lock washer OD8 Stainless Steel A2-70	
	KS-FA-WSD -M10200	Hanger Bolt	Stainless Steel Hanger Bolt M10*200	

	KS-FA-WSD -M10300	Hanger Bolt Assembly	Stainless Steel Hanger Bolt & 3 flange nuts M10*300	Package on request
	KS-FA-S245	Hex Screw	Stainless Steel A2-70	
	KS-FA-S290	Hex Screw		
	KS-FA-S2140	Hex Screw		
	KS-F-S825	Socket head Screw	Stainless Steel A2-70	
	KS-F-S845	Socket head Screw		
	KS-F-S850	Socket head Screw		
	KS-F -ZST6025-A2	Self-tapping bolt	Stainless Steel st6.3*25	
	KS-F -ZST6350-A1-01	Self-tapping bolt	Stainless Steel St6.3*50	
	KS-F -ZST6375-01	Self-tapping bolt	Stainless Steel St6.3*75	
	KS-F -ZST6380-A1	Self-tapping bolt	Stainless Steel St6.3*80	
	KS-F-ST6380	Wood Bolt	Stainless Steel St6.3*80	

#### Ground Part--Rail

	KS-BR1-length	BR1 Support Rail	Customized Length Aluminum 6005-T5 W50*H115	168pcs/pallet
	KS-BR3-length	BR3 Carport Support Rail	Customized Length Aluminum 6005-T5 W80*H180	70pcs/pallet
	KS-BR5-length	BR5 Support Rail	Customized Length Aluminum 6005-T5 W50*H80	192pcs/pallet
	KS-BR7-length	BR7 Support Rail	Customized Length Aluminum 6005-T5 W50*H115	168pcs/pallet



	KS-BR13-length	BR13 Support Rail	Customized Length Aluminum 6005-T5 W56*H95	120pcs/pallet
	KS-BR14-length	BR14 Support Rail	Customized Length Aluminum 6005-T5 W75*H90	150pcs/pallet
	KS-BR19-length	BR19 Support Rail	Customized Length Aluminum 6005-T5 W67*H76	165pcs/pallet
	KS-BR1-SP	BR1 Support Rail Splice Kit	Spec:400mm Connect two pieces BR1 Rail Material: Al6005-T5 & A2-70	20pcs/CTN
	KS-BR3-SP	Carport Support Rail Splice Kit	Spec: 500mm Connect two pieces BR3 Rail Material: Al6005-T5 & A2-70	8pcs/CTN
	KS-BR5-SP	BR5 Support Rail Splice Kit	Spec:400mm Connect two pieces BR5 Rail Material: Al6005-T5 & A2-70	20pcs/CTN
	KS-BR7-SP	BR7 Support Rail Splice Kit	Spec:400mm Connect two pieces BR7 Rail Material: Al6005-T5 & A2-70	20pcs/CTN
	KS-BR9-SP	BR9 Support Rail Splice Kit	Spec:400mm Connect two pieces BR9 Rail Material: Al6005-T5 & A2-70	12pcs/CTN
	KS-BR13-SP	BR13 Support Rail Splice Kit	Spec:400mm Connect two pieces BR13 Rail Material: Al6005-T5 & A2-70	20pcs/CTN
	KS-BR14-SP	BR14 Support Rail Splice Kit	Spec:400mm Connect two pieces BR14 Rail Material: Al6005-T5 & A2-70	15pcs/CTN
	KS-BR19-SP	BR19 Support Rail Splice Kit	Spec:400mm Connect two pieces BR19 Rail Material: Al6005-T5 & A2-70	15pcs/CTN
<b>Support Beam</b>				
	KS-VR1-length	VR Support Beam	Customized Length Aluminum 6005-T5 W50*H95	Package on request

	KS-VR3-length	Carport Support Beam	Customized Length Aluminum 6005-T5 W80*H160	Package on request
	KS-VR4-length	VR4 Support Beam	Customized Length Aluminum 6005-T5 W50*H90	
	KS-VR6-length	VR6 Support Beam	Customized Length Aluminum 6005-T5 W50*75	
Support Tube				
	KS-AG-T-length	AG Support Tube	Customized Length Aluminum 6005-T5 W50*H60	Package on request
	KS-CT-length	Carport Support Tube	Customized Length Aluminum 6005-T5 W80*H90	
	KS-AG6-T-length	AG6 Support Tube	Customized Length Aluminum 6005-T5 W50*H60	
	KS-JT132-T	Support Tube 1 #	Customized Length Aluminum 6005-T5 W50*H50	
	KS-JT133-T	Support Tube 2 #	Customized Length Aluminum 6005-T5 50*60	
Support Accessories				
	KS-BR1-2AN-C50	BR Rail Clamp Splice	BR Rail Clamp with C nut Socket head screw Pre-assembly	120pcs/box 4boxes/CTN
	KS-BR14-2AN-C50	BR14 Rail Clamp Splice	BR14 Rail Clamp with C nut Socket head screw Pre-assembly	120pcs/box 4boxes/CTN
	KS-108H-100	H type connector	Connected Support beam on support Tube Aluminum 6005-T5	Package on request
	KS-108H-140	H type connector	Connected Support beam on support Tube Aluminum 6005-T5	



	KS-JT134-110B	VR Bottom Base 110	VR Bottom Base 110 W160*H100*L110 Aluminum 6005-T5, A2-70	Package on request
	KS-JT134-140B	VR Bottom Base 140	VR Bottom Base 140 W160*H100*L140 Aluminum 6005-T5, A2-70	
	KS-CB200-01	Carport Bottom Base 200	Carport Bottom Base 200 Aluminum 6005-T5, A2-70	
	KS-CB300-01	Carport Bottom Base 300	Carport Bottom Base 200 Aluminum 6005-T5, A2-70	
	KS-AG4-NFL	Front Support Leg	Front Support Leg Spec: H75 Aluminum 6005-T5, A2-70	Package on request
	KS-AS-Length	Aluminum Brace Bar	Customized Length Clean Anodized Al 6005-T5	
	KS-AK-01	Rotary Bracket	Rotary Bracket Adjust the north-south or east-west orientation Al 6005-T5 Slope Hill	
	KS-OP-HC	Open Post Connector	Connected Support beam on Pile Post Clean Anodized Al 6005-T5, A2-70	
	KS-OP-SZ	Diagonal Tie Rod Pivot Assembly	Connected Brace Tube from Pile Post to Support beam	Package on request
	KS-OP- Length	Pile	Open post Hot-Dip Galvanized Q235	
	Steel Rail	Steel "C" Type Rail	Steel "C" Type Rail Customized Length Hot-Dip Galvanized Q235	
	Steel Support Leg	Steel "C" Type Rail Support Leg	Steel "C" Type Rail Support Leg Customized Length Hot-Dip Galvanized Q235	
	KS-F76-XXX-T3	Ground Screw	Hot-Dip Galvanized Q235 Ground Screw	80pcs/pallet

# Warranty & Certificate

