



SOLAR SYSTEM BROCHURE

1st Edition





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KIMSEN INDUSTRIAL CORPORATION

- Established in 2013, KIMSEN INDUSTRIAL CORPORATION is a professional company active in the field of manufacturing extruded aluminum, die cast aluminum, machined components & assemblies in Vietnam by international standards.

Factory area: 35,000 m²

Business category: Manufacturing extruded aluminum, die cast aluminum, machined components & assemblies

Capacity: 10,000 tons of aluminum & 30,000,000 components per year

Technical standards: JIS H4100:2015, EN 755-9:2016, ASTM B221-B221M-14

Management systems: Quality Management System ISO 9001:2015, Environmental Management System ISO 14001:2015, 5S - Kaizen Method

MANUFACTURING CAPABILITY

■ KIMSEN has gained customers' trust with our strong production capacity:

- ▶ **9 years** of experience in aluminum extrusion
- ▶ **Extrusion workshop:** 3 extrusion lines (800 tons/month)
- ▶ **Surface Treatment:** Anodizing workshop (450 tons/month) & Powder coating workshop (450 tons/month)
- ▶ Maximum stroke length: **7.2 meters**
- ▶ Annual output: **10,000 tons & 30,000,000 components**
- ▶ Supplying for domestic market and export to 9 countries



Extrusion Workshop

Aluminum alloy: 6005, 6063

Heat treatment: T5, T6

Maximum dimension of the section: 200 mm





Anodizing Workshop

Color range: White, grey, black, etc.

Type: Natural, sand blasting, ED coating

Product Standard: JIS H8601 & JIS H8602, AAMA611





Powder coating Workshop

Product Standard: AAMA 2603, 2604, 2605-13, QUALICOAT

Powder paint of reputable paint manufacturers





CNC Workshop

Services: Milling, cutting, drilling, tapping, etc.

Machine brands: Makino, Fanuc, JIH, Emmegi, etc.

Accuracy: $\pm 0.01 - 0.02$ mm



Stamping Workshop

Services: Cutting, punching, laser engraving, screen-printing, etc.

Accuracy: $\pm 0.01 - 0.02$ mm



Aluminum extrusion can be used to create a comprehensive framework for solar panels in a variety of situations, including frames, supports and connectors. Products made aluminum offer numerous benefits over other metal choices.

KIMSEN Solar System is made of high quality aluminum alloy, which brings a high aesthetic to the product.

- ▶ Solar Mounting & Racking Systems
- ▶ Solar Panel Frame

SOLAR MOUNTING & RACKING SYSTEMS

WE PROVIDE OEM SERVICE, CUSTOM COLOR AND STYLE



ROOF MOUNTING & RACKING SYSTEM

Roof Mounting System designs with great flexibility both for commercial and residential roof solar system.

- ▶ Tin Roof Mounting System
- ▶ Tile Roof Mounting System



SOLAR MOUNTING & RACKING SYSTEMS



GROUND MOUNTED SYSTEM

KIMSEN Power Mounting System is designed using aluminum alloy, giving it an aesthetic and elegant appearance; lightweight materials and a slot keel design make it easy to install, and lead to significant savings in terms of onsite installations costs.



SOLAR MOUNTING & RACKING SYSTEMS

FLOATING PV MOUNTING SYSTEM

KIMSEN Floating PV Mounting System is applied to solar PV power plant installation on the water. Aluminum mounting system helps to increase the efficiency of solar power generation, easy installation and cost savings.



CARPORT MOUNT SYSTEM

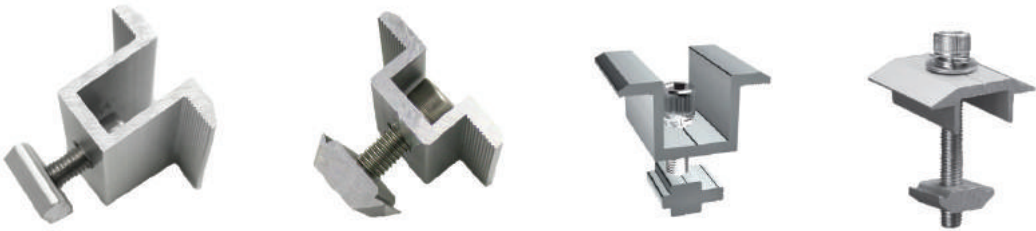
KIMSEN Solar Carport Mount is a classic freestanding design, which can be customized to meet the requirements of each project. The panels will make up the roof itself by mounting directly on the rails, instead upon the metal sheets or other canopies. It's an effective solution that is suitable for most houses and parking areas.

SOLAR MOUNTING & RACKING SYSTEMS

PROFESSIONAL OEM SERVICE, CUSTOM COLOR AND STYLE

With its lightweight strength and unmatched corrosion-resistance and durability, aluminum is widely used to build renewable energy platforms like solar panels. Aluminum components with anodized coating help the solar panels for strong weather adaptability, easy operation and maintenance.

► MID CLAMP KIT



► END CLAMP KIT



► KLIP-LOK CLAMP KIT

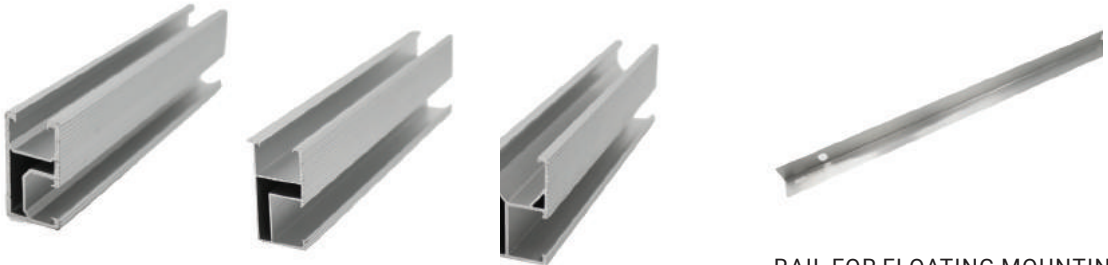


SOLAR MOUNTING & RACKING SYSTEMS

► L FOOT MOUNT



► RAIL



RAIL FOR FLOATING MOUNTING

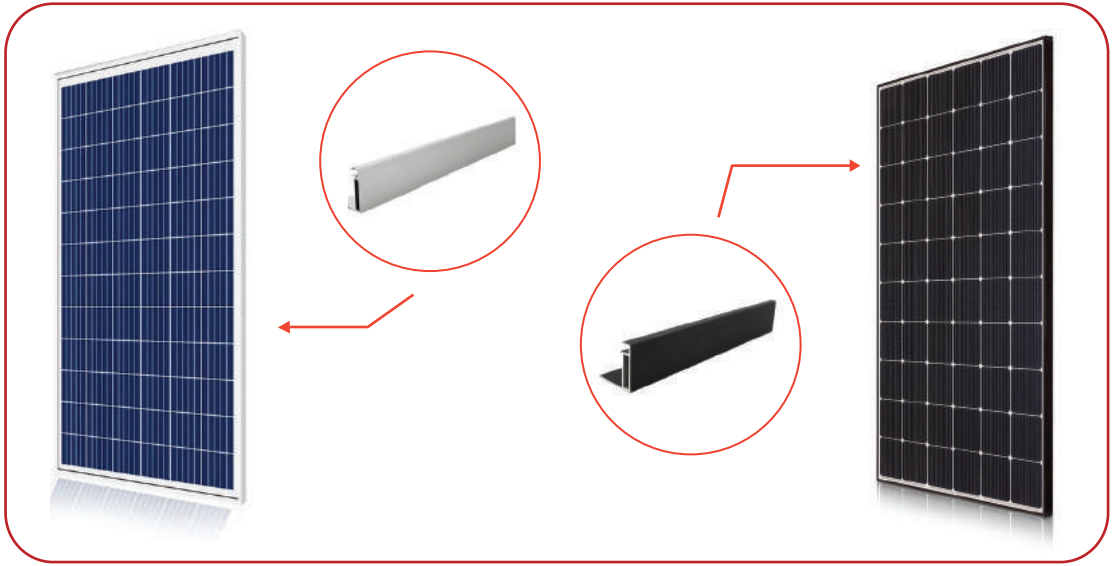
► RAIL SPICE & NUT



**ALL COMPONENTS
CAN BE CUSTOMIZED
TO CUSTOMER
REQUIREMENTS**

SOLAR PANEL FRAME

Aluminum frames increase the durability, longevity, and functionality of solar panel. They also offer excellent performance in terms of installation, corrosion resistance and protection. Optional sandblasting and anodizing process helps ensure a aesthetic and durable finish.



SOLAR PANEL FRAME

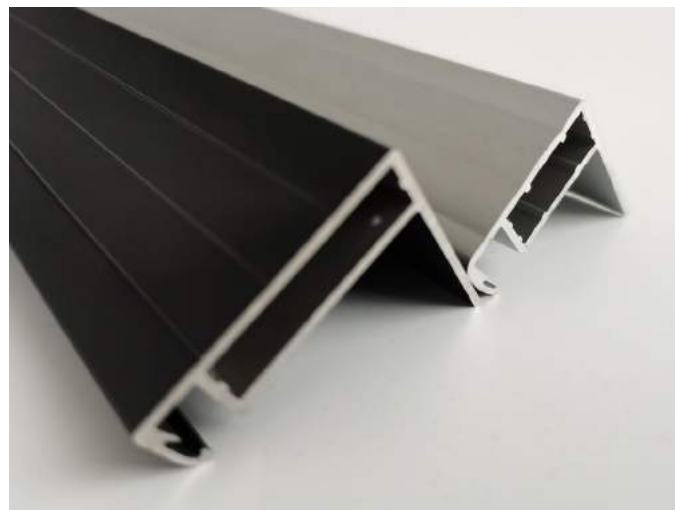
- ▶ The most common aluminum alloy that many manufacturers use is the **6063T5**.

6063T5 is the best choice because it has high tensile strength and is resistant to corrosion.

- ▶ Apart from that 6063T5 is light in weight, easy to machine, and saves you a lot on the extrusion process.

**Other material alloy available as per request.*

**KIMSEN PROVIDES CUSTOM
ALUMINUM SOLAR
PANEL FRAME AS PER
CUSTOMER'S DESIGN**



TYPICAL PROJECTS



Solar power plant project: Mỹ Sơn 1

Capacity: 62MWp

Location: Mỹ Sơn Commune, Ninh Sơn District, Ninh Thuận Province



Solar power plant project: Mỹ Sơn 2

Capacity: 50MWp

Location: Mỹ Sơn Commune, Ninh Sơn District, Ninh Thuận Province



Solar power plant project: Agri-Vina

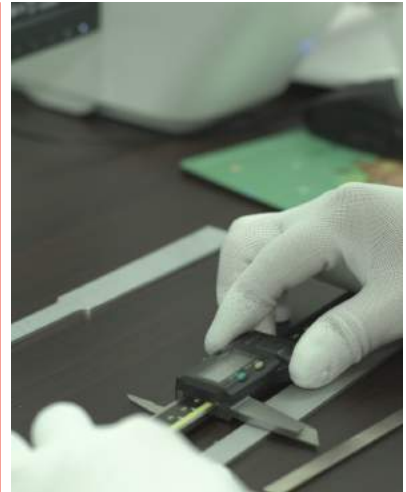
Capacity: 4x 1MWp

Location: Giao Thủy District, Nam Định Province



QUALITY MANAGEMENT

KIMSEN has been recognized as an ISO 9001 and ISO 14001 compliant system since 2016. Along with international standards for product quality, we apply Japanese 5S - Kaizen and Lean manufacturing methods to maintain stringent quality standards in manufacturing processes, ensuring rigorous quality checks at every stage of production.



PRODUCT STANDARDS & SPECIFICATIONS

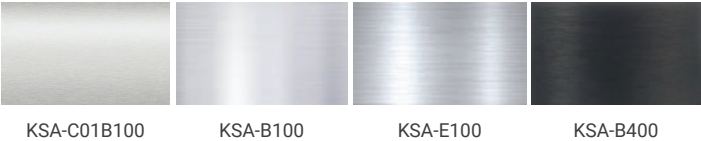
1 Product advantages

- ▶ Lightweight and durable
- ▶ High aesthetic
- ▶ Non-magnetic & non-toxic
- ▶ Easy to fabricate & elastic
- ▶ Multi forms & colors
- ▶ Recyclable

2 Surface treatment

Anode	8 - 12 μm
Anode ED	12 - 18 μm
Type	Natural, Sand blasting, ED coating, Powder coating

▶ **Typical Anodizing colors** (Actual anodizing colors may differ from the images)



3 Chemical composition (Alloy No.: 6005, 6063)

Chemical Composition % (mass fraction)											
Alloy No.	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Other		Al
									Each	Total	
6005	0.4 - 0.9	0.35 max	0.35 max	0.5 max	0.4 - 0.8	0.3 max	0.25 max	0.1 max	0.05 max	0.15 max	Remainder
6063	0.2 - 0.6	0.35 max	0.1 max	0.1 max	0.45 - 0.9	0.1 max	0.1 max	0.1 max	0.05 max	0.15 max	Remainder

4 Mechanical properties

Alloy No.	Temper Grade	Mechanical properties							
		Wall Thickness at specified measuring point (mm)	Tensile stress (N/mm ²)	Proof stress (N/mm ²)	Elongation %		Hardness test		
					A 50 (mm)	A	Wall Thickness at specified measuring point (mm)	HV5	Hw
6005	T5	6 max	245 min	205 min	8 min	-	-	-	13 min
		Over 6 up to and incl. 12	225 min	175 min	8 min	-	-	-	13 min
	T6	6 max	265 min	235 min	8 min	-	-	-	14 min
6063	T5	12 max	150 min	110 min	8 min	7 min			
		Over 12 up to and incl. 25	145 min	105 min	8 min	7 min	0.8 min	58 min	8 min
	T6	3 max	205 min	170 min	8 min	-	-	-	10 min
		Over 3 up to and incl. 25	205 min	170 min	10 min	-	-	-	10 min

PACKAGING

KIMSEN provides quality standard packaging services, which can be customized to customer's specific packaging requirements.



KIMSEN EXPORT COUNTRIES

Including aluminum extrusion parts and components for other industries.





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*Revised publication effective October 2022.
Specifications are subject to change without notice.