



# Moisolar<sup>®</sup>

## NORDIC FLAT

MOUNTING SYSTEM FOR FLAT ROOFS

### 35-YEAR MATERIAL WARRANTY

High-Quality Materials and Custom Design  
for Maximum Durability

### BUILT FOR NORDIC CONDITIONS

Engineered for Harsh Nordic Conditions.  
Innovative Accessories Protect the Roof and  
Reinforce the Structure.

### FAST AND EFFICIENT INSTALLATION

Developed in Collaboration with  
Professional Installers

### SUPERIOR QUALITY DESIGN

Tailored, High-Quality Design Based on  
Local Conditions.  
Wind Tunnel Tested – Lightweight and  
Efficient



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# Nordic Flat

## Durable and Reliable Solar Panel Mounting System for Flat Roofs

Moisolar Nordic Flat is a high-quality and durable solar panel mounting system designed for flat roofs. Engineered to ensure long-lasting performance, safety, and easy installation, it provides a secure foundation for solar panels while protecting the roof structure. Optimized aerodynamics reduce wind loads, and site-specific calculations guarantee the best possible solution for all roof types.



### Key Features:

- **Exceptional Durability & Longevity** – Engineered to withstand extreme weather conditions, backed by precise wind and snow load calculations.
- **Fast & Efficient Installation** – Optimized mounting methods ensure a quick, seamless, and high-quality installation process.
- **Aerodynamic Design** – Wind tunnel-tested structure reduces the need for additional ballast while minimizing roof load.
- **Proven Safety & Stability** – The wind deflector decreases wind stress on solar panels by up to 50%, enhancing system durability.
- **Site-Specific Engineering** – Each system is tailored to meet local building regulations and environmental conditions.
- **Optimized Water Drainage** – Smartly designed components ensure unobstructed water flow, balanced roof pressure, and sufficient panel support.

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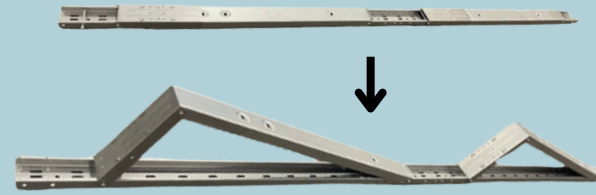
## FAST ASSEMBLY

### PRE-ASSEMBLED FOR QUICK INSTALLATION

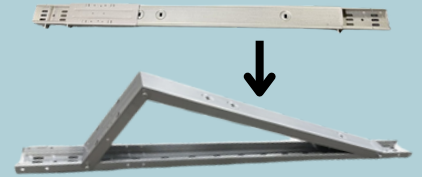
The mounting frames are delivered pre-assembled, ensuring a fast and hassle-free installation. On the roof, the upper sections are lifted into a triangular position and secured with the included bolt and nut set.

Each frame features a standard 15° tilt angle and predefined mounting points for solar panel brackets.

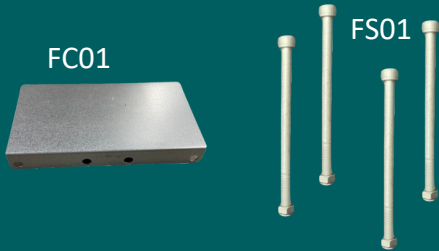
The base of the frame is equipped with a butyl or rubber mat (8–15mm) to protect the roof surface and allow proper water drainage.



TS02 - 3200mm



TS01 - 1600mm



### EXPANDABLE & SECURE CONNECTIONS

Mounting frames can be linked together using the FC01 extension kit and secured with 4 bolt-nut sets (FS01) for a stable and reliable installation.

### WINDSHIELDS FOR VARIOUS PANEL SIZES

Windshields are available for different panel dimensions:

- FW01 – With ballast tray (for 1720–1765 mm panels)
- FW1734 – Without ballast tray (for 1720–1765 mm panels)
- FW1800 – Without ballast tray (for 1720–1800 mm panels)
- FW1910 – Without ballast tray (for 1800–1910 mm panels)
- FB1910 – Retrofit ballast tray

Custom-sized windshields are available for longer panels upon request.

Easy & Secure Installation – Pre-cut mounting slots enable quick and hassle-free assembly, secured with SS03 screws for maximum stability.



FB1910

SS03

# NORDIC FLAT

## Versatile Mounting Options for Flat Roofs

Moisolar Nordic Flat can be mounted on flat roofs using different methods, chosen based on site-specific requirements. Wind and weight calculations, along with the characteristics of the roofing material, determine the optimal solution. Often, the most reliable and long-lasting option is a combination of bitumen welding and ballast weights, ensuring both durability and safety.

### Method 1 – Bitumen Welding for Flat Roofs

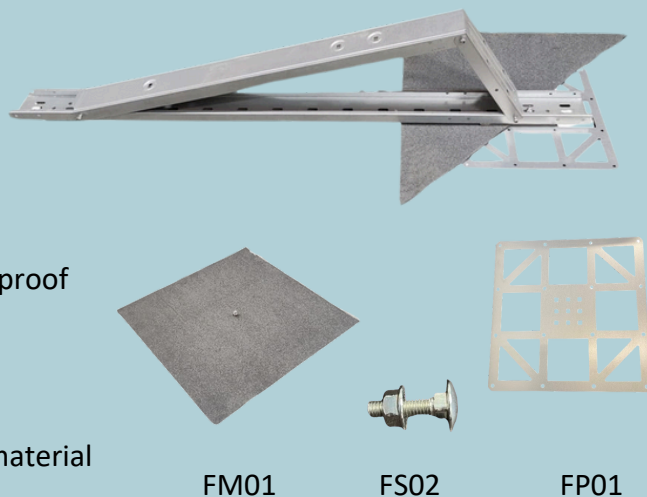
#### Materials:

- FP01 – Base plate steel
- FS02 – Bolt-nut set
- FM01 – 700 × 700 mm bitumen patch

#### Key Features:

- Secure roof attachment without compromising the waterproof membrane
- Strong and leak-proof connection
- Large contact area for even load distribution
- Compatible with PVC roofs when using appropriate PVC material

This method is ideal for installations where reducing ballast weight is necessary or more load sharing area against roof is needed. Excellent solution for locations with high wind loads, where ballast amount will increase too much.



### Method 2 – Ballast Weights

- The windshield tray accommodates ballast plates up to 50mm thick, with a recommended side length of 200mm (max 300mm).
- Bitumen welding and ballast weights can also be used together for enhanced stability.
- The ratio and amount of ballast and bitumen welding are determined case-by-case based on project requirements.
- The triangular frame can hold 4 pieces of 300 × 300 × 50mm ballast weights for additional support.

# NORDIC FLAT

## JOUSTAVAT KIINNITYSRATKAISUT

### Method 3 – Cold Adhesion with Rubber Feet

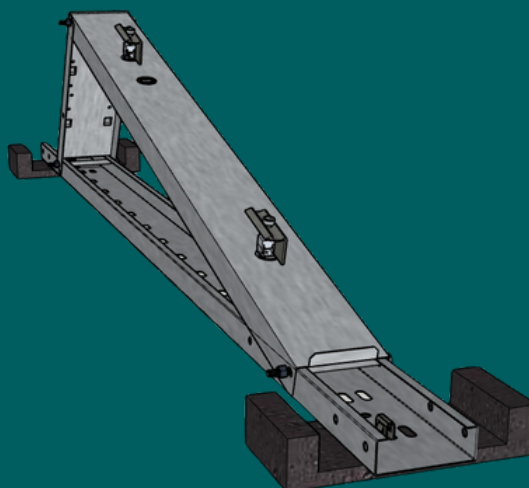
#### Materials:

- RS23 – Rubber feet
- Special adhesive

#### Key Features:

- Roof-friendly solution when used with ballast weights
- Allows free water drainage under the mounting system
- Reduces slippage risk while the flexible structure absorbs forces from wind and thermal expansion
- Special adhesive available for PVC roofs
- Can also be used without adhesive as a weight holder to increase support surface area on the roof

RS23



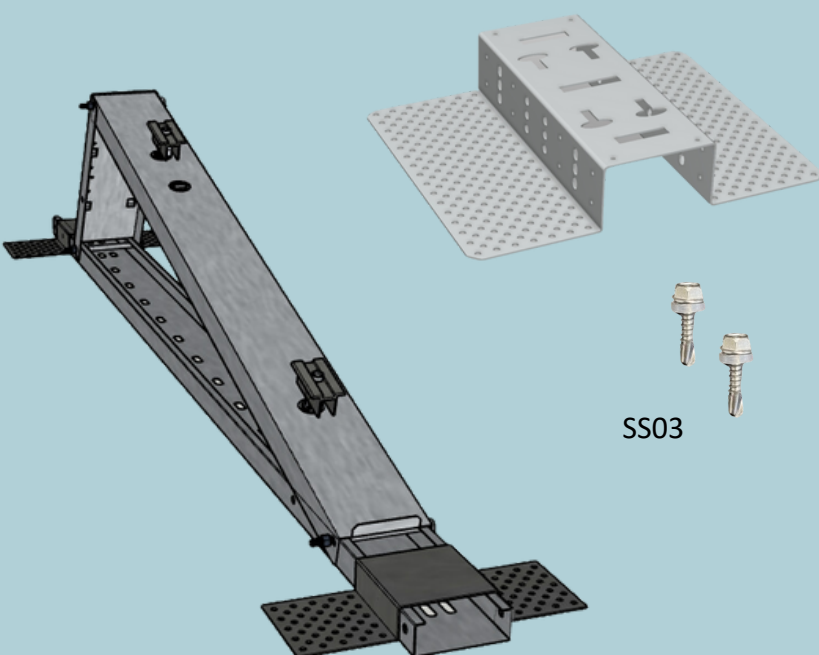
### Method 4 – Cold Adhesion with Adhesive Plate Steel

#### Materials:

- Adhesive plate steel
- Special adhesive
- Bolt or self-drilling EJOT screw

#### Key Features:

- Strong roof attachment without damaging the waterproof membrane
- Adhesion applied after installation, can be used as an extension kit replacement or inside the triangular frame
- No pre-measuring required for installation
- No hot work permits needed
- Can be used together with ballast weights for added stability
- Allows system elevation up to 65mm from the roof, positioning the panel's lower edge 105mm above the roof surface



SS03

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# NORDIC FLAT

## Snow Support – Essential for Long-Term Panel Durability

In snowy regions, a snow load assessment is essential to ensure the system supports the 25–30 year lifespan of the solar panels.

During its lifetime, the lower edge of the panel will experience thousands of freeze-thaw cycles, which can gradually weaken the bond between the glass and the lower frame. Once the frame detaches, the panel loses its structural integrity and becomes damaged.

The universal, smart, and cost-effective snow support provides critical reinforcement, ensuring the panel withstands its intended lifespan.

- ✓ Protective seal on the base prevents roof damage
- ✓ Retrofit-friendly – Compatible with most 15-degree systems
- ✓ Prevents frame detachment, enhancing panel durability in harsh winter conditions

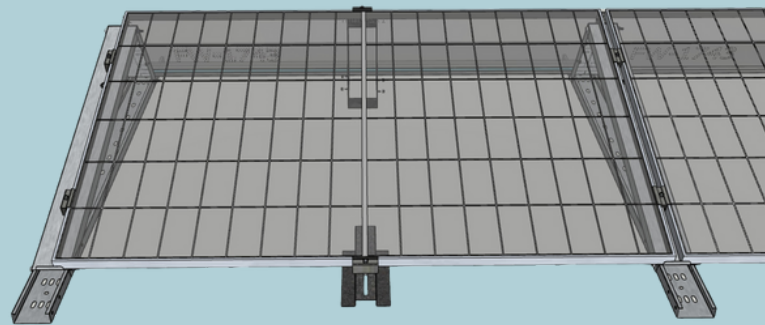
### Lower Support

#### Key Features:

- Adjustable height (35mm – 75mm) for optimal fit
- Highly durable and stable construction
- Prevents micro-bending of the panel, ensuring long-term structural integrity

#### Materials:

- CL02 – End clamp
- FK01 – Wedge



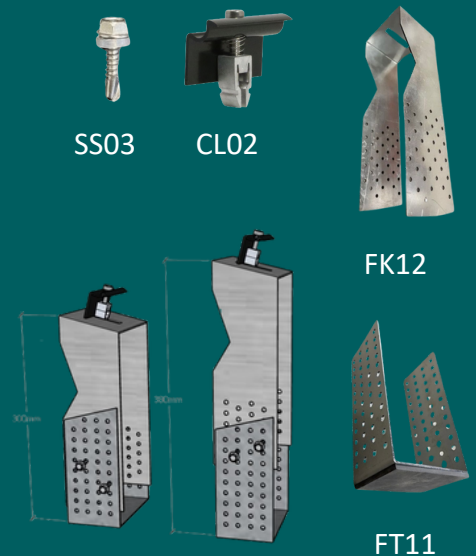
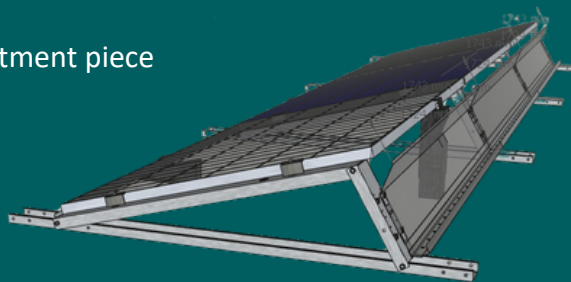
### Upper Support

#### Materials:

- FK12 – Upper support adjustment piece
- FT11 – Base
- SS03 – 4 self-drilling screws
- CL02 – End clamp

#### Key Features:

- Adjustable height (300mm – 400mm) for precise positioning
- Strong and stable structure
- Provides central reinforcement for the upper edge of the panel, enhancing durability



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## Adjustable Leg – Solution for Uneven Roof Surfaces

Flat roofs often have slopes, drains, edge areas, or other local height variations that can pose significant challenges for system installation.

The adjustable leg ensures that the base rail is properly supported in areas where it would otherwise be suspended, reducing the risk of structural strain on the mounting system and preventing potential damage to the roof.

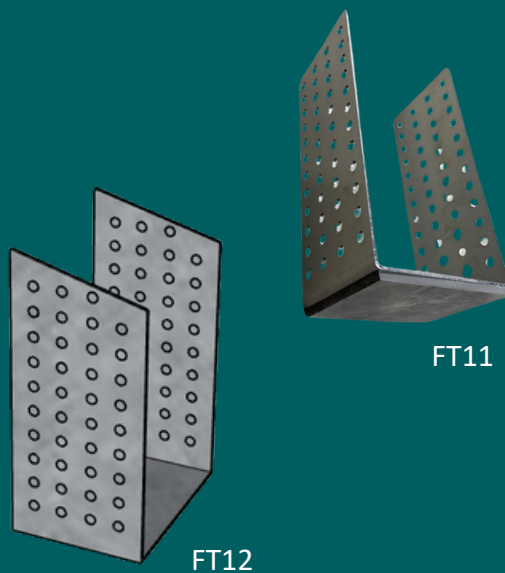
- ✓ Stabilizes uneven areas where the base rail lacks direct support
- ✓ Compatible with the universal wedge piece for precise vertical alignment in complex locations
- ✓ Can be used selectively to level and elevate the system as needed

### Materials:

- FT11 and/or FT12 – Adjustable leg
- SS03 – 4–8 self-drilling screws
- Compatible with adhesive and bitumen welding plates

### Key Features:

- Fully adjustable to accommodate varying roof heights
- Highly durable and stable for long-term support
- Compensates for roof slopes, ensuring a level and secure installation

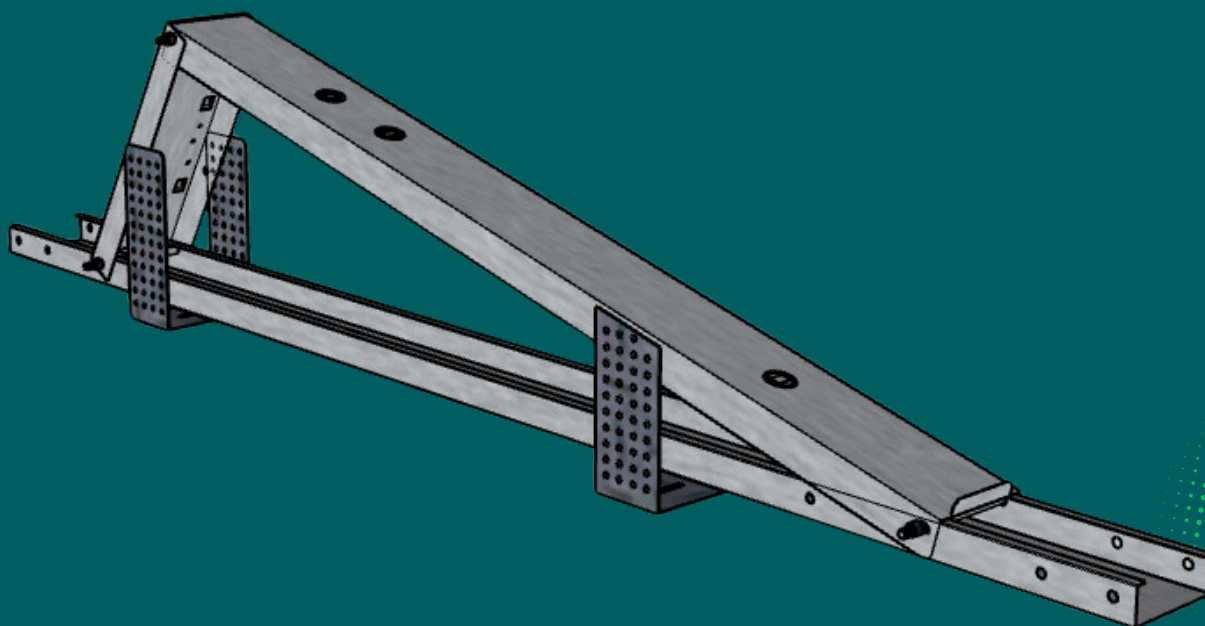


FT11

FT12



SS03



# NORDIC FLAT

## ACCESSORIES



- FS01 – Bolt and Nut Set



- SS03 – Self-Drilling Screw



- CC01 – Cable Holder with Panel Mounting, Reinforced Frame



- CC02 – Cable Tie with Panel Mounting, Adjustable Orientation



- PV01 – PV Cable Set
  - 3×6mm<sup>2</sup> cables in a flexible 25mm protective conduit
  - 100m reel for efficient installation
  - Custom configurations with pre-installed conduits available upon request



- CL02 – End Clamp for Solar Panel



- CL11 – Grounding Pins & Mid Clamp for Solar Panel



- BM01 – Bitumen Membrane 700×700mm

