Moisolar

Designed for Nordic Conditions

NORDIC FLAT

South 15 Landscape

Quick & Easy to Install | 35 Years of Material Warranty | Durable

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NORDIC FLAT S15L

Mounting System for Flat Roofs

Durable and Reliable Solar Panel Mounting System for Flat Roofs

Moisolar Nordic Flat S15L 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.

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 Assembling

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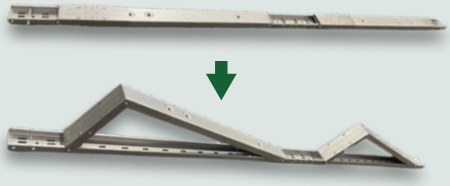
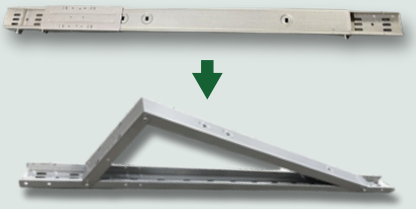


TS12-3200 mm



TS11-1600 mm

Pre-Assembled For Quick Installation

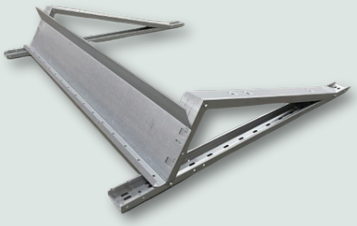
- The mounting frames are delivered pre-assembled, ensuring a fast and hassle-free installation. On the roof, the upper sections are lifted into a triangular position and secured with the included bolt and nut set.
- Each frame features a standard 15° tilt angle and predefined mounting points for solar panel brackets.
- The base of the frame is equipped with a butyl or rubber mat (8–15 mm) to protect the roof surface and allow proper water drainage.

FC01

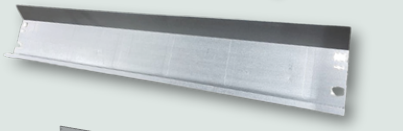
FS01

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.



SS03



FB1910

Windshields for Various Panel Sizes

- Windshields are available for different panel dimensions:
  - *FW01 – With ballast tray (for 1720–1755 mm panels)*
  - *FW1734 – Without ballast tray (for 1720–1755 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.

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Versatile Mounting Options

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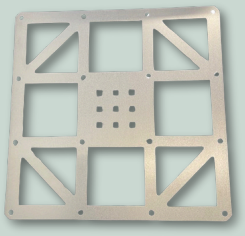
Moisolar Nordic Flat S15L can be mounted on flat roofs using different methods, chosen based on site-specific requirements. Wind and weight calculations, along with the characteristics of the roofing material, determine the optimal solution. Often, the most reliable and long-lasting option is a combination of bitumen welding and ballast weights, ensuring both durability and safety.

FM01

FS02



FP01

Method 1 – Bitumen Welding for Flat Roofs

Materials:

- *FP01 – Base plate steel*
- *FS02 – Bolt-nut set*
- *FM01 – 700 × 700 mm feltmat*

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 50 mm thick, with a recommended side length of 200 mm (max 300 mm).
- 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 300×300×50 mm ballast weights for additional support.

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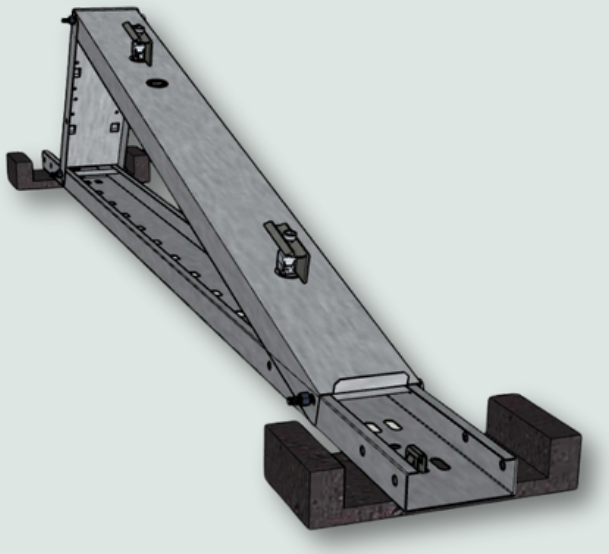
Method 3 – Cold Adhesion with Rubber Feet

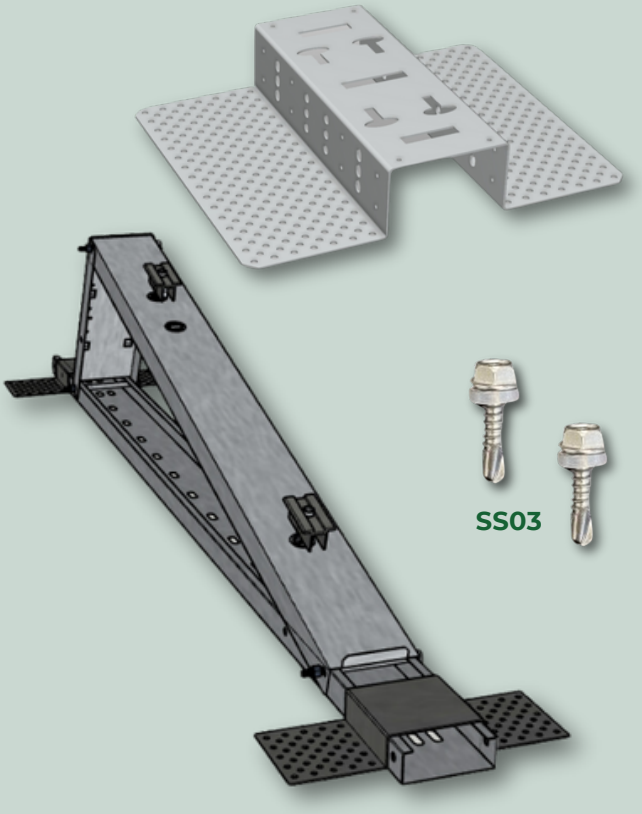
Materials:

- *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





Method 4 – Cold Adhesion with Adhesive Steel Plate

Materials:

- *Adhesive steel plate (72023)*
- *Special adhesive*
- *Bolt (BN01) or self-drilling RST screw (SS03)*

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 65 mm from the roof, positioning the panel’s lower edge 105 mm above the roof surface

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Mounting System for Flat Roofs

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.

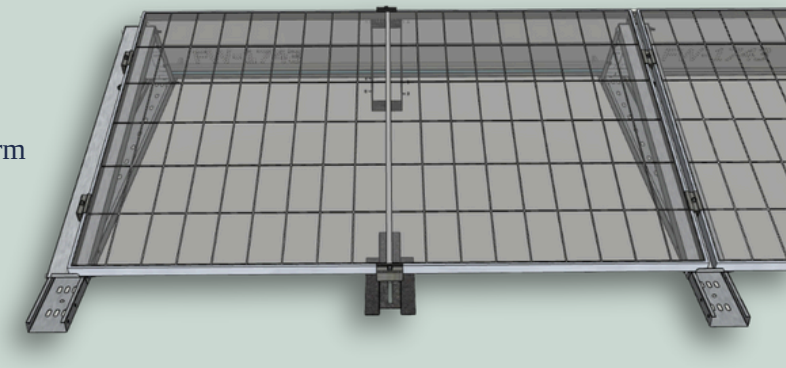
The universal, smart, and cost-effective snow support provides critical reinforcement, ensuring the panel withstands its intended lifespan.

✓ 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:

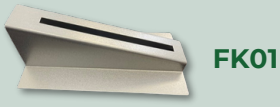
- Adjustable height (35 mm – 75 mm) for optimal fit
- Highly durable and stable construction
- Prevents micro-bending of the panel, ensuring long-term structural integrity



Materials:

- *CL02 – End clamp*
- *FK01 – Wedge*

CL02

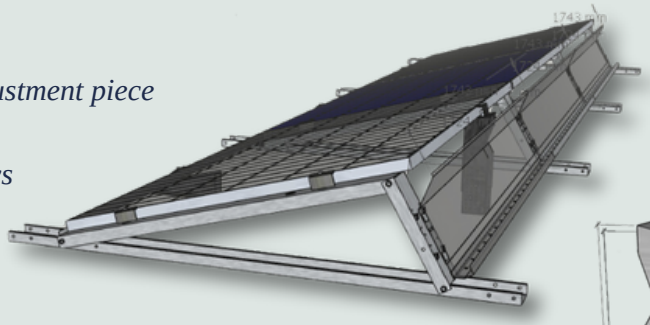


FK01

Upper Support

Materials:

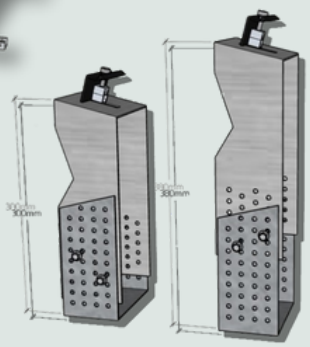
- *FK12 – Upper support adjustment piece*
- *FT11 – Base*
- *SS03 – 4 self-drilling screws*
- *CL02 – End clamp*



SS03

CL02

FK12



FT11

Key Features:

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

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Tilting Part - *Solution for Uneven Roof Surfaces*

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

The tilting part 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.

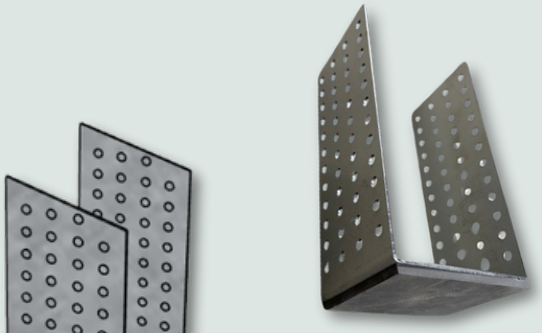
✓ Stabilizes uneven areas where the base rail lacks direct support
✓ Compatible with the universal wedge piece for precise vertical alignment in complex locations
✓ Can be used selectively to level and elevate the system as needed

Materials:

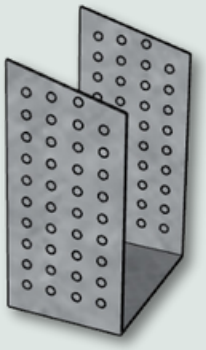
- *FT11 and/or FT12 – Tilting part*
- *SS03 – 4–8 self-drilling screws*
- *Compatible with adhesive and bitumen welding plates*

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

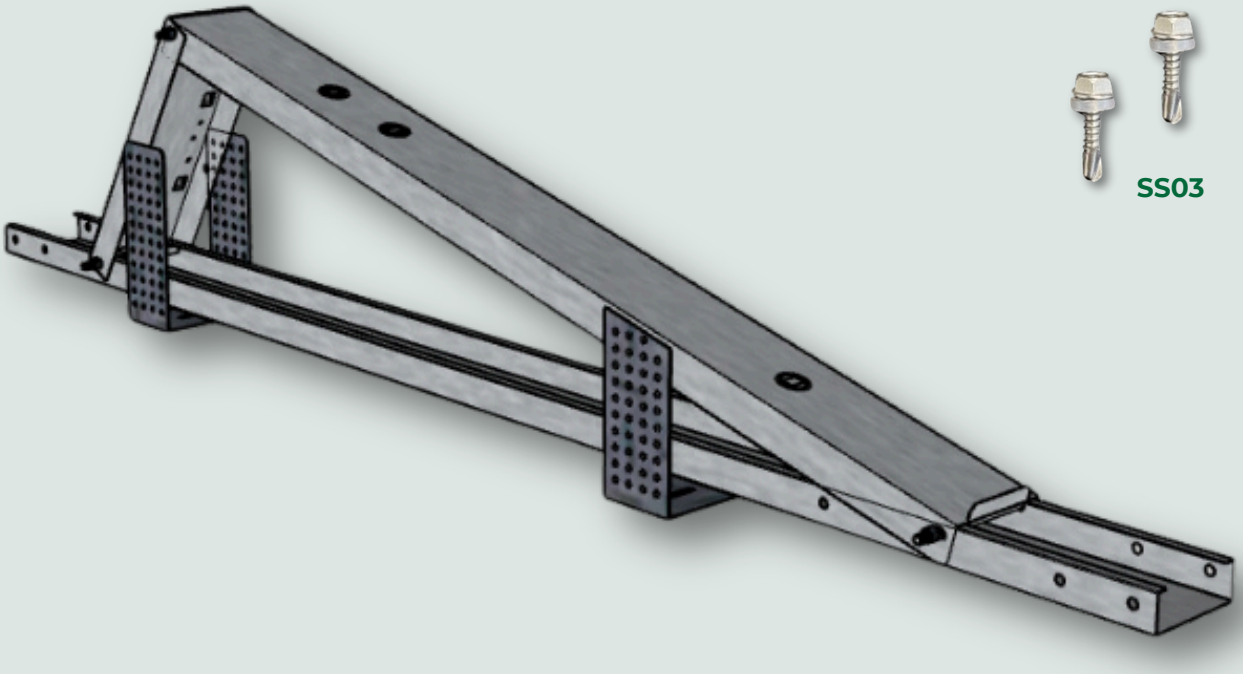


FT11



FT12

SS03



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Accessories

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- **FS01** – Bolt and Nut Set

- **SS03** – Self-Drilling Screw

- **SS04 -** High-density thread screw

- **CC01** – Cable Holder with Panel Mounting, Reinforced Frame

- **CC02** – Cable Tie with Panel Mounting, Adjustable Orientation

- **PV01** – PV Cable Set
  - 3×6 mm² cables in a flexible 25 mm protective conduit
  - 100 m reel for efficient installation
  - Custom configurations with pre-installed conduits available upon request

- **CL02** – End Clamp for Solar Panel

- **CL11** – Grounding Pins & Mid Clamp

- **FM01** – Felt Mat 700×700 mm

- **BM01** – Protective Mat 300×140 mm

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