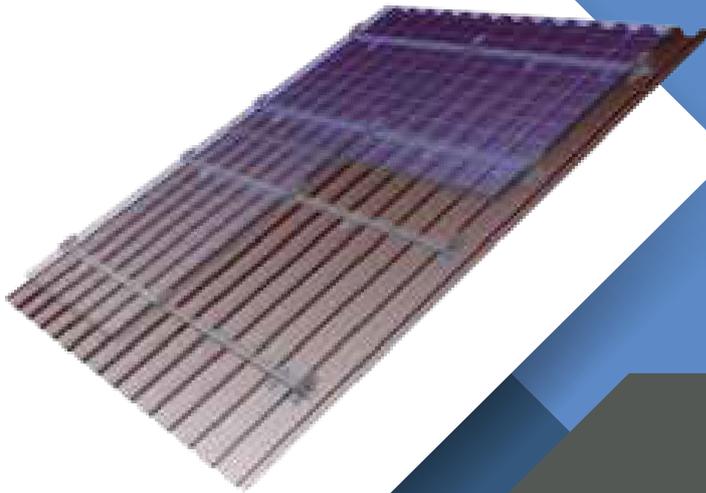




Yokohama Solar Solutions



SINGLEFIX VARIO

PRODUCT SHEET

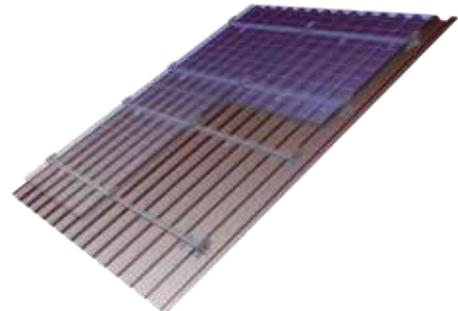
SINGLEFIX VARIO

THE FASTENING SYSTEM FOR SELF-SUPPORTING TRAPEZOIDAL SHEET ROOFS AND SANDWICH ELEMENTS - NOW EVEN SIMPLER AND FASTER!

Self-supporting trapezoidal sheet roofs do not always permit the connection to fastening systems to the substructure, but often offer adequate load-bearing strength for fast and simple direct fastening. In most cases, special sandwich elements offer adequate stability in the top cover and, on the other hand, do not permit penetration with fastening elements, as condensation spots can occur. Here, SingleFix Vario offers an unrivalled, simple and fast fastening option.

The SingleFix Vario system is a combination of Yokohama Solar Solutions standard rails with individual fastening elements SingleFix V and was designed for vertical and horizontal mounting of modules. Here, a fastener always consists of 2 small plates. These must always be applied symmetrically. Yokohama Solar Solutions SingleFix Vario is a complete system which uses self-drilling screws with tested capacities. In the product-specific system design, you will see immediately how the fastening elements are to be distributed and which loads are permitted!

- Fits on all current trapezoidal sheet roofs
- Structurally optimised thanks to lateral screws
- Fast mounting
- Structural approval of system
- Optimised storage
- 10-year guarantee



Recommended fastening options

For trapezoidal sheets



In pairs on one flute



In pairs on the adjacent flutes



Individually behind several flutes



For sandwich elements



In pairs on one flute

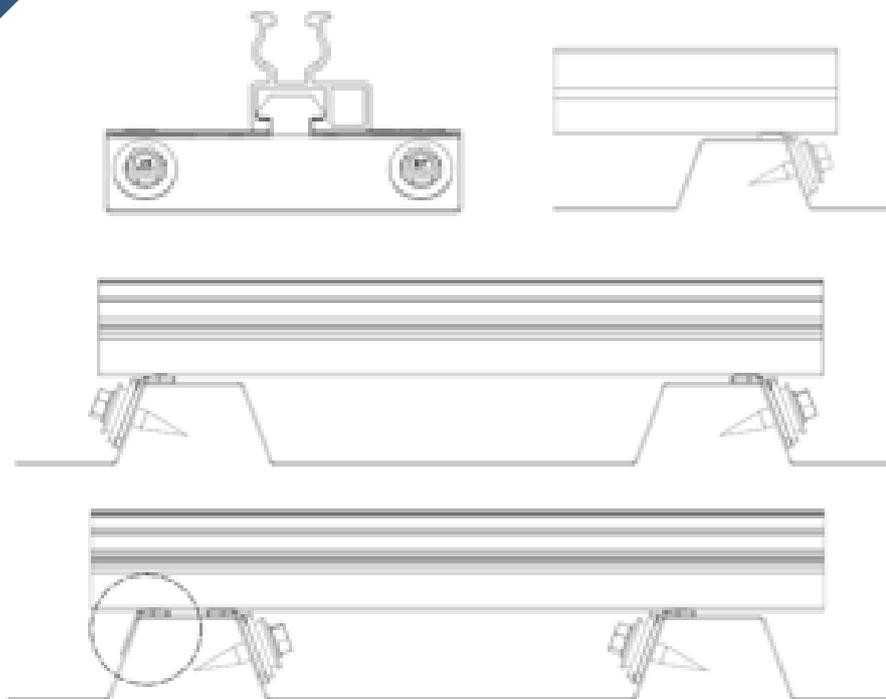
← NOT PERMITTED WITH A SINGLEFIX V SMALL PLATE ON THE SAME SIDE EDGE!

Mounting information

The SingleFix V elements must be able to transfer all structural forces to ensure a safe overall system design. For this reason, the installer has to pay attention to the following items:

- The SingleFix V fastening element must pull full contact with the steel deck when fastened to be able to transfer compressive loads. Place self-drilling screws on the lower edge of the hole and install screw - pay attention to the tightness above the contact pressure of the seal (there must always be a slight curvature).
- Under no circumstances should the screws spin during installation (use the depth stop!).
- The screws must not be loosened again after installation and screwed into the same holes again.
- Due to the limitations of the screws, a minimum sheet thickness of 0.5 mm is required for steel sheets and aluminium trapezoidal sheets.
- To prevent the trapezoidal sheet coating from chafing through thermal linear expansion, we recommend placing single rubber bands under the intersections of the cross beams with the trapezoidal sheet ribs.
- The roof must be able to support the additional load of the PV system.
- The trapezoidal sheet metal and its connection to the substructure must be suitable for withstanding the wind uplift forces.
- For sandwich elements, adequate adhesion of the layers on top of each other must be ensured.
- For a better distribution of forces, the SingleFix V fastening elements should be distributed over multiple corrugations.
- When dividing the rails, ensure that the profile splices are not immediately above on the sheet metal ribs.
- Max. approx. 10 m continuous rail length recommended due to thermal linear expansion.
- Fastening SingleFix to the trapezoidal sheet joint is not recommended, in particular if the edge of the trapezoidal sheet is positioned directly in the area of the Single Fix screw fitting. If possible, a neighbouring flute (high corrugation) should be used.
- In any case, the trapezoidal sheets should always be screwed into the joint area on this flute (high corrugation) as well. Pay particular attention to the roof sealing.
- Ensure that the SingleFix lies flat on top.





Recommendation: Do not screw in the joint area of the trapezoidal sheet!

Information on sealing

- The supplied screws are fitted with sealing washers which prevent water penetration into the SingleFix through the fastening drill holes.
- To ensure sealing between the SingleFix V and sheet roof, the SingleFix V has EPDM rubber on the internal side.
- It should be considered that in extreme weather conditions (wet snow), water can also rise up into the drill holes from below.
- Rising water does not lead to corrosion problems in the drill holes if the sheets are galvanised (anodic protection of the edge zones).
- For sandwich elements, water penetrating into the drill holes does not lead to problems thanks to the foam layer sealing.

Structural analysis information

- Verification of the fastening forces of the SingleFix V in the trapezoidal sheet roof can be found in the general system structural design (pay attention to specific rules for roof edge areas!)
- With regard to the maximum snow load, it must be taken into account that the roof membrane must also bear the surface weight of the PV system (in certain circumstances, individual verification required.)
- With regard to the wind uplift forces, the installer must make sure that all structural are safely transferred from the SingleFix Vario into the trapezoidal sheet metal and further on into the roof substructure (in certain circumstances, individual verification required). Here, it may be helpful to arrange the overlying SingleFix V in a staggered manner.
- To distribute the loads adequately, we recommend placing fasteners on the first two flutes in the edge area.

Component overview

113009-103 SingleFix-V 20 set of two (2x SingleFix 20, 4 sheet screws)

Use, for example, in connection with mounting rail Solo



Technical data

Material Fastening elements: Stainless steel 1.4301, Screws: Stainless steel, Sealing strips: EPDM rubber

Planning aids Configuration and structural analysis via the AutoCalculator Easy

Structural analysis Structural analysis according to the current country-specific standards (in Germany EN 1991, EC1).
Structural analysis systems to size the number of fastening points required, based on the structural analysis.
In all circumstances, pay attention to the information on the structural analysis!
The structural analysis of the Yokohama Solar Solutions system does not include verification of the roof structure!

For more information, see www.ysolar.co.jp.



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