

Stehfalzklemmen

Standing seam

Joint debout

Lamiera graffata

Junta alzada

DE | Installationsanleitung

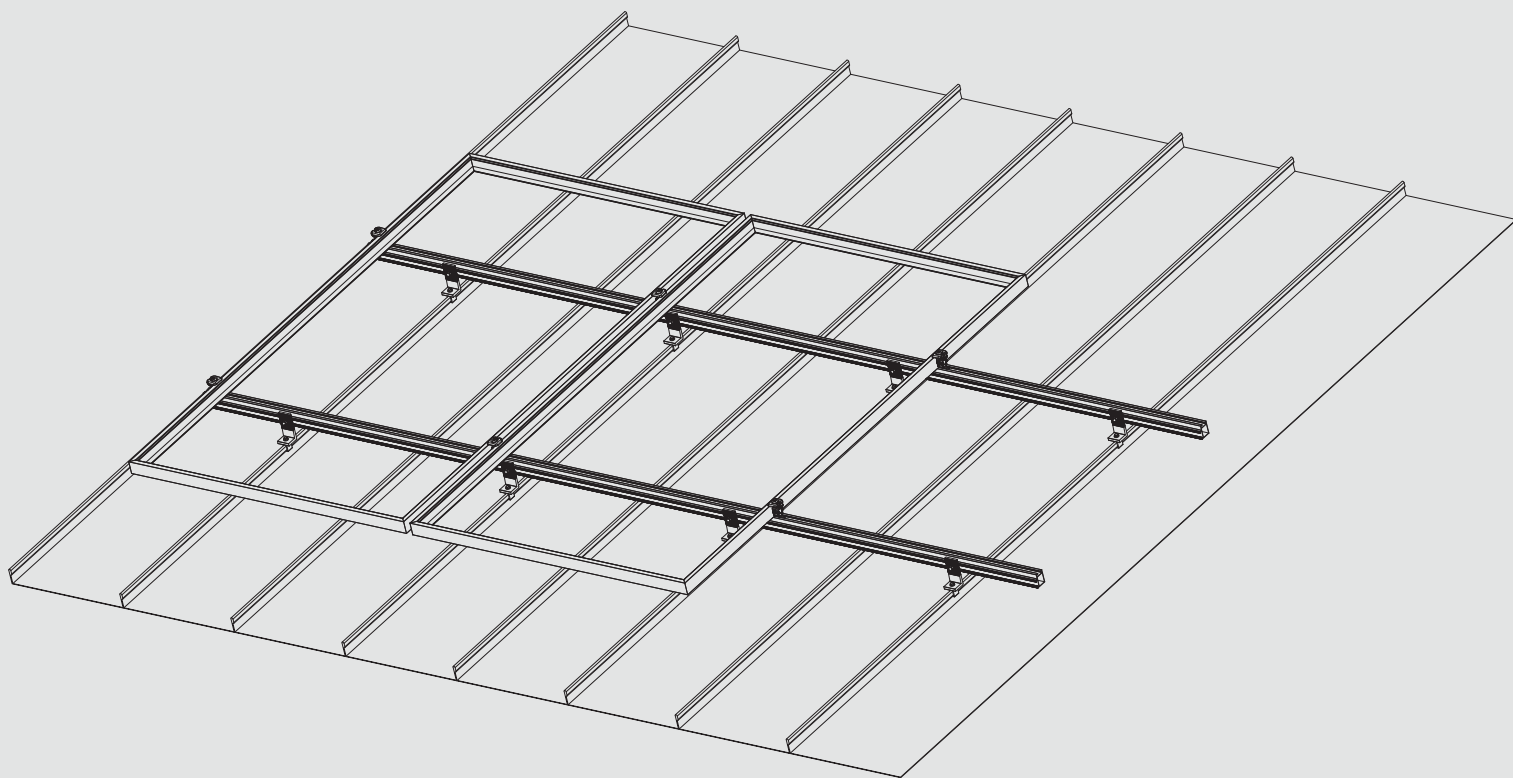
GB | Installation Instructions

FR | Notice d'installation

IT | Manuale di installazione

ES | Manual de instalación

NL | Installatiehandleiding



DE | Lesen Sie diese Installationsanleitung vor Montagebeginn!
Montage nur durch sachkundige, qualifizierte Personen!

GB | Read these instructions before installation!
Installation should only be carried out by skilled, qualified personnel!

FR | Prenez soin de lire le présent manuel d'installation avant le début du montage!
Montage seulement par des personnes compétentes et qualifiées!

IT | Leggere le presenti istruzioni di installazione prima di intraprendere i lavori di montaggio!
Il montaggio è consentito esclusivamente a personale esperto e qualificato!

ES | Lea estas instrucciones de instalación antes de comenzar el montaje!
El montaje solo debe realizarlo personal experto y cualificado.

NL | Lees deze installatiehandleiding alvorens met de montage te beginnen!
De montage mag uitsluitend plaatsvinden door deskundige, gekwalificeerde personen!



EN | Usage

The following guide schematically presents the setup of a specific 2x1 module configuration tested to MCS 012 Issue 3.0 standard with 6 fixations at a PV module surface of 5,4 m². Permissible wind uplift values for this configuration can be found in Annex A

Mounting system for the installation of framed PV modules on pitched roofs with the following characteristics:

- Roof pitch 5° - 60°
- Double standing seam and round seam profiles
- Compatible roof substructure: Min. 35x120 mm wood
- The clamping area must be between 22 mm and 1/4 of the module length, measured from the edge of the module, as shown in Figure 1
- Max. PV module dimensions 2333 mm x 1134 mm
- Frame thickness between 30 - 50 mm
- Max. horizontal spacing between fixations: 800 mm

A proof of stability of the roof considering the additional loads from the photovoltaic system must be on hand before the assembly.

Installation guideline

To compensate the linear expansion of modules and mounting system, an interruption should be planned every 6 m.

Please observe the specifications issued by the manufacturers of the modules, the manufacturers of the roofing, as well as the local regulations for woodwork. Do not use the installed roof fixations as stepping aid.

For installation, follow the requirements referring to lightning and overvoltage protection for photovoltaic systems, as well as the requirements on fire protection.

If the installation takes place in a distance of 10 km to the coasts, we advise against the use of galvanised components.

For further information, please contact your sales representative or the Technical Department of Renusol.



Check the structural loadability of the PV system before starting the installation. The building must be able to bear the additional weight

Installation instructions

Please, carefully read the last version of the installation instructions, before starting the installation. First, familiarise yourself with the system components. Check the condition of the roof construction before starting the installation. This includes quality and thickness of rafters, purlins and the roof sealing. The building structure must be able to safely and durably bear the additional loads of the photovoltaic system. During the installation, in particular while working on the roof, be sure to observe the relevant health and safety regulations and please follow the relevant professional rules.

The figures and texts in the installation instructions correspond to current technology at the time of printing. Printing errors are possible and we reserve the right to make technical changes. The individual installation instructions are merely recommendations in accordance with the current state of the art and are based on the experience of how systems by Renusol can be installed. If any special characteristics of the roof or object need to be considered, please consult specialists such as roofers or structural engineers, if necessary.

Check for the current version of our installation instructions on our website at www.renusol.com. Here, you can also find instructions in additional languages, if required.

Tests/certificates:

- TÜV Z-14-4-816
- For MCS012 certified products please see Annex A

Other applicable documents

“General installation, maintenance and assembly instructions”

“Terms of warranty and exclusion of liability”

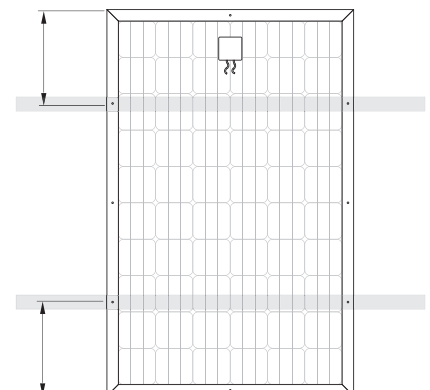
These documents are available in: www.renusol.com

Terms of warranty:

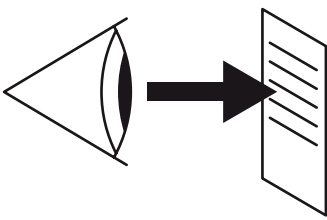
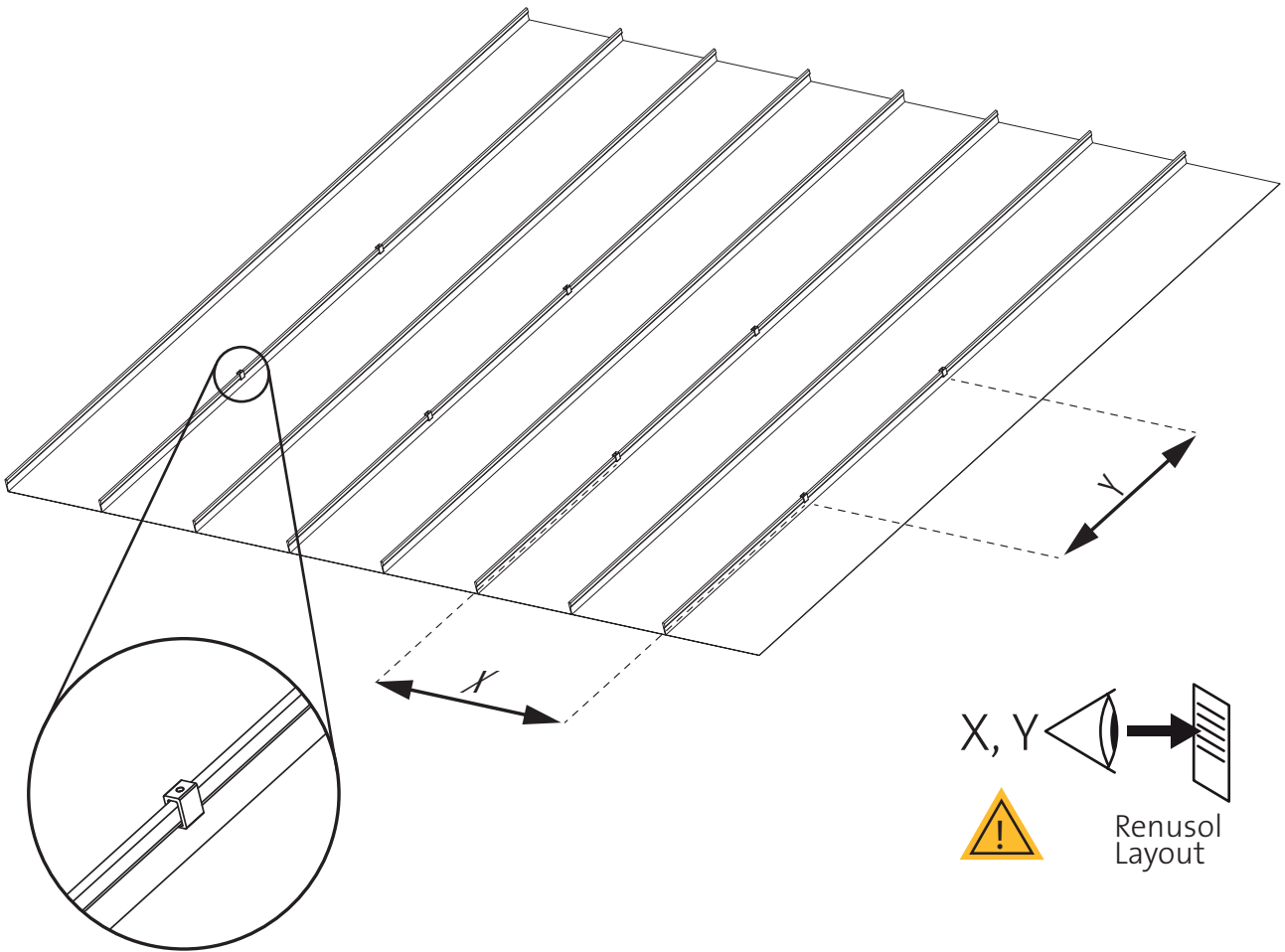
Renusol's warranty only applies if the original, complete Renusol system is used and the terms of warranty are met. For the legally provided liability for defects/warranty, please see the General Terms and Conditions issued by Renusol.

Figure 1

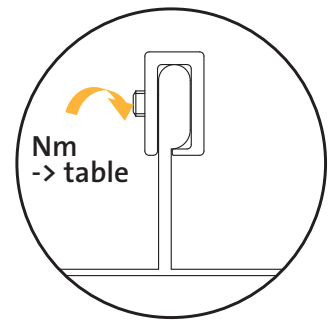
The clamping area must be between 22 mm and 1/4 of the module length, measured from the edge of the module. Cut the rail so that it exceeds the end clamp by at least 35 mm or the module edge by 62 mm.



A



S-5!® installation manual
www.s-5.com
 Kalzip installation manual
www.kalzip.com
 Zambelli installation manual
www.zambelli.de



MCS012 compliance see Annex A

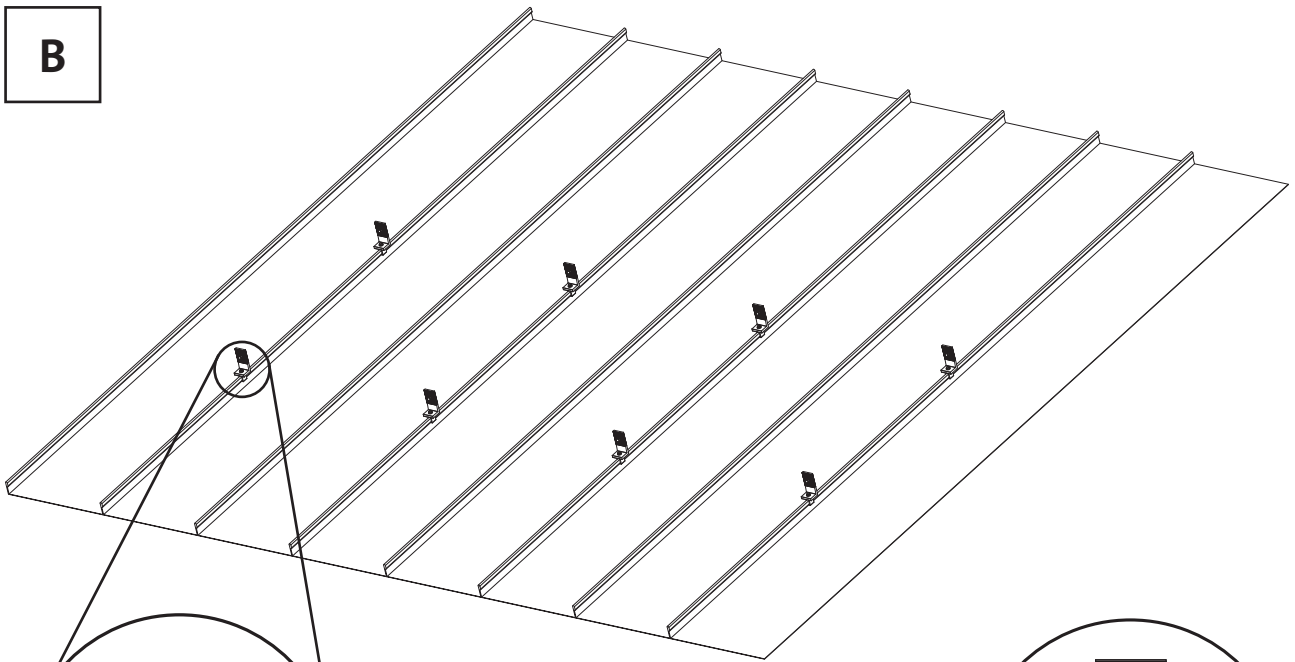
| Image | Item No. | Description | Nm |
|-------|----------|--------------|---------|
| | 420254 | S-5!® E-Mini | 15 - 20 |
| | 420255 | S-5!® Z-Mini | 15 - 20 |
| | 420259 | S-5!® S-Mini | 15 - 20 |
| | 400256 | Kalzip FS | 15 |
| | 400362 | Round seam | 15 |




| Image | Item No. | Description | Nm |
|-------|-----------------|-------------------------|---------|
| | 400289 | S-5!® A-Mini | 15 - 20 |
| | 420284 / 400288 | S-5!® K-Grip Mini GXM10 | 15 - 20 |
| | 420284 / 400285 | S-5!® K-Grip Mini GXM50 | 15 - 20 |
| | 420563 | S-5!® R-465 Mini | 15 - 20 |

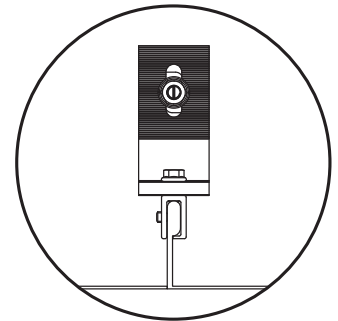
| Image | Item No. | Description | Nm |
|-------|----------|----------------|----|
| | 400257 | Rib-Roof R-465 | 20 |
| | 400258 | Rib-Roof R-500 | 20 |

Stehfalzklemme / Standing seam

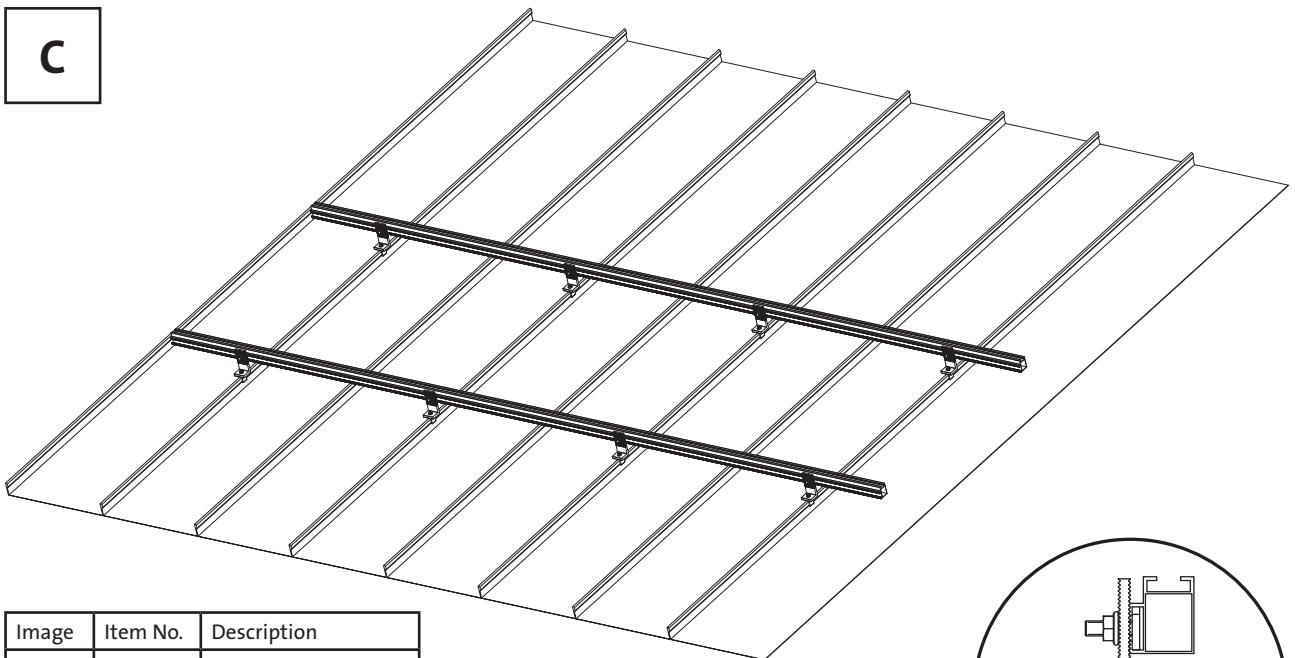
B





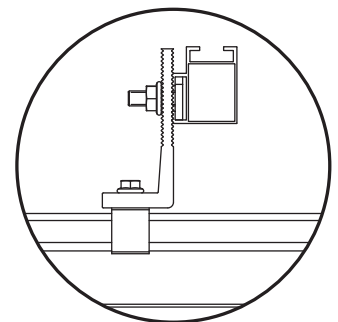
| Image | Item No. | Description |
|---|----------|-------------|
|  | 420024 | IFP Bracket |
|  | 900025 | M8 screw |
|  | 900001 | M8 nut |



C

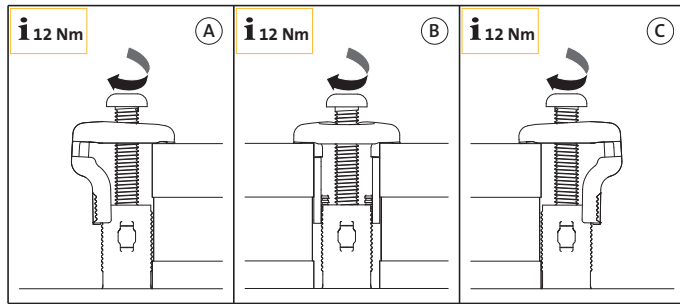
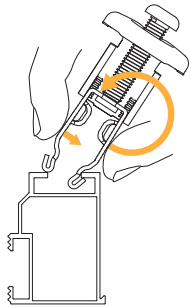
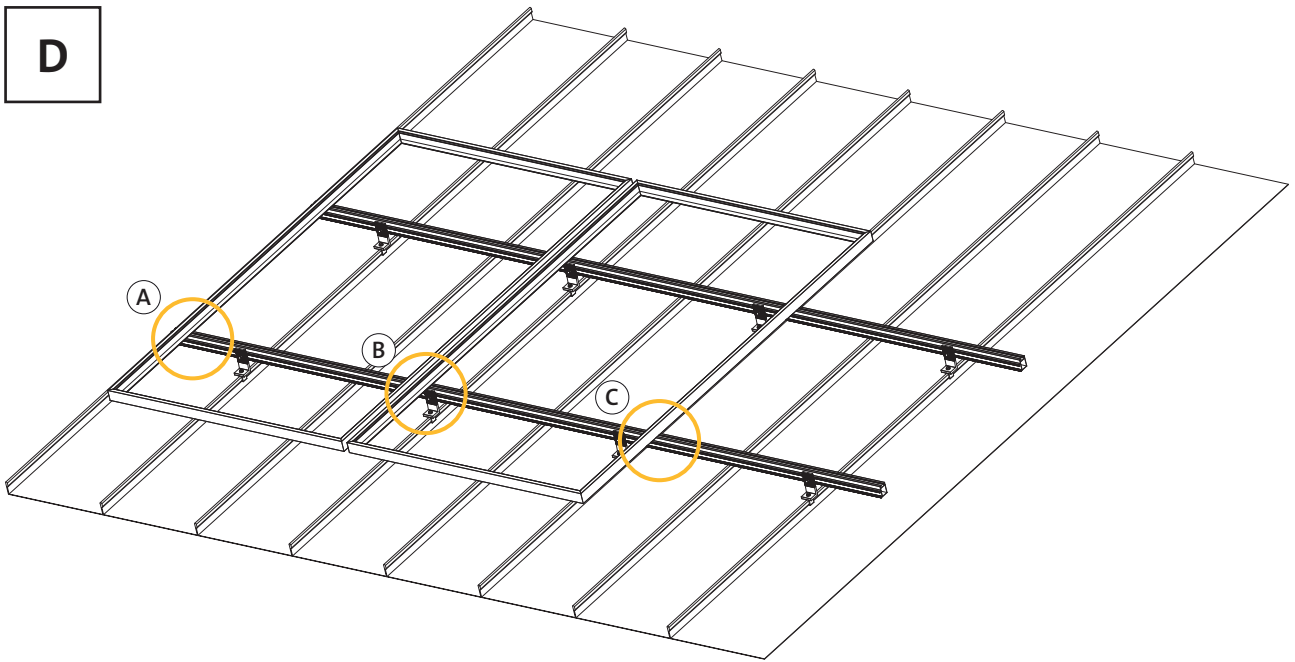


| Image | Item No. | Description |
|---|----------|-------------|
|  | 400XXX | 41x35xL |
|  | 400XXX | 50x37,5xL |

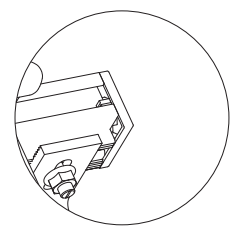
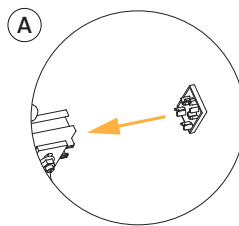
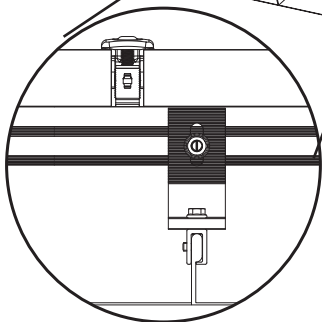
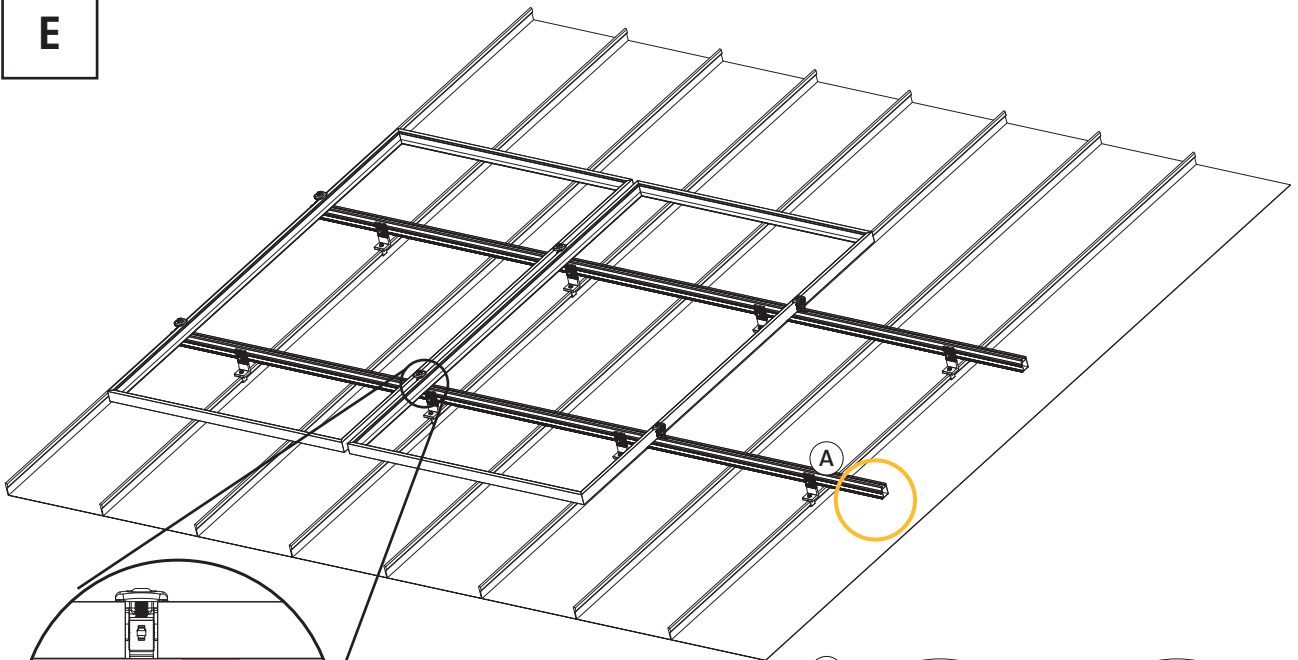


Stehfalzklemme / Standing seam

D



E



Appendix MCS012 Certification Product overview

A

| Product name | Product Model name | Maximum Design Wind Uplift Resistance (kPa for full system) | Partial (safety) factor(s) |
|---------------------------------------|--------------------|---|----------------------------|
| VarioSole+ / VS+ (Round seam clamps) | REN_VS+_04 | 0,96 | 1,00 |
| VarioSole+ / VS+ (Double seam clamps) | REN_VS+_05 | 0,87 | 1,00 |

| Product name certificated | |
|---|--------------------|
| VarioSole+ / VS+ (Round seam clamps) | |
| Product Model name certificated | |
| REN_VS+_04 | |
| | |
| System component | Part number |
| End clamp+ (black) | R420081-BE |
| Middle clamp+ (black) | R420082-BE |
| End clamp+ | R420081 |
| Middle clamp+ | R420082 |
| RS1 | R420080 |
| RS1 (black) | R420080-BE |
| RS Pro (black) | R420025-B |
| RS Pro | R420025 |
| End clamp+ 50mm (black) | R420028-BE |
| Middle clamp+ 50mm (black) | R420029-BE |
| End clamp+ 50mm | R420028 |
| Middle clamp+ 50mm | R420029 |
| VS+ Mounting rail 41 x 35 | R400534 |
| VS+ Mounting rail 41 x 35 | R400572 |
| VS+ Mounting rail 41 x 35 | R400525 |
| VS+ Mounting rail 50 x 37 | R400549 |
| VS+ Mounting rail 50 x 37 | R400570 |
| VS+ Mounting rail 50 x 37 | R400571 |
| VS+ Mounting rail 50 x 37 | R400549-B |
| VS+ Mounting rail 50 x 37 | R400570-B |
| VS+ Mounting rail 50 x 37 | R400571-B |
| VS Mounting rail 60 x 38 | R400636 |
| VS+ Rail connector 41 x 35 | R400531 |
| VS+ Rail connector 50 x 37 | R400532 |
| VS+ Rail connector 60 x 38 | R400533 |
| Bracket M10 | R420014 |
| Bracket M12 | R420012 |
| Bracket M10 (offset connection) | R420131 |
| Bracket M12 (offset connection) | R420130 |
| Bracket IFP M8/M10 | R420024 |
| M8 screw | R900025 |
| M8 nut | R900001 |
| S5!® Stehfalzklemme Z-mini | R420255 |
| Round seam clamp for Kalzip and similar | R400362 |
| Kalzip clamp for standing seam Typ FS | R400256 |

A

| | |
|--|--------------------|
| Product name certificated | |
| VarioSole+ / VS+ (Double seam clamps) | |
| Product Model name certificated | |
| REN_VS+_05 | |
| | |
| System component | Part number |
| End clamp+ (black) | R420081-BE |
| Middle clamp+ (black) | R420082-BE |
| End clamp+ | R420081 |
| Middle clamp+ | R420082 |
| RS1 | R420080 |
| RS1 (black) | R420080-BE |
| RS Pro (black) | R420025-B |
| RS Pro | R420025 |
| End clamp+ 50mm (black) | R420028-BE |
| Middle clamp+ 50mm (black) | R420029-BE |
| End clamp+ 50mm | R420028 |
| Middle clamp+ 50mm | R420029 |
| VS+ Mounting rail 41 x 35 | R400534 |
| VS+ Mounting rail 41 x 35 | R400572 |
| VS+ Mounting rail 41 x 35 | R400525 |
| VS+ Mounting rail 50 x 37 | R400549 |
| VS+ Mounting rail 50 x 37 | R400570 |
| VS+ Mounting rail 50 x 37 | R400571 |
| VS+ Mounting rail 50 x 37 | R400549-B |
| VS+ Mounting rail 50 x 37 | R400570-B |
| VS+ Mounting rail 50 x 37 | R400571-B |
| VS Mounting rail 60 x 38 | R400636 |
| VS+ Rail connector 41 x 35 | R400531 |
| VS+ Rail connector 50 x 37 | R400532 |
| VS+ Rail connector 60 x 38 | R400533 |
| Bracket M10 | R420014 |
| Bracket M12 | R420012 |
| Bracket M10 (offset connection) | R420131 |
| Bracket M12 (offset connection) | R420130 |
| Bracket IFP M8/M10 | R420024 |
| M8 screw | R900025 |
| M8 nut | R900001 |
| S5!® Stehfalzklemme S-mini | R420259 |
| S5! Stehfalzklemme E-mini | R420254 |

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DE | Abbildungen und Texte entsprechen dem aktuellen technischen Stand bei Drucklegung, Änderungen vorbehalten.

GB | The images and texts in these instructions relate to the latest technology at the time of printing, subject to modifications.

FR | Les illustrations et textes sont conformes à l'état de la technique au moment de mise sous presse. Sous toutes réserves de modifications.

IT | Figure e testi corrispondono allo stato più attuale della tecnica al momento dell'ordine di stampa. Con riserva di modifiche.

ES | Las imágenes y los textos se corresponden al estado actual de la técnica en el momento de la impresión, reservado el derecho a las modificaciones.

NL | Afbeeldingen en teksten voldoen aan de actuele stand van de techniek op het moment van ter perse gaan. Wijzigingen voorbehouden.

DK | Afbildninger og tekster overholder den tekniske stand ved trykningen, der tages forbehold for ændringer.

SE | Bilder och texter motsvarar den nuvarande tekniska tillstånd vid tidpunkten för tryckning, med förbehåll för ändringar.

CZ | Vyobrazení a texty odpovídají aktuálnímu technickému stavu při odevzdání do tisku. Změny vyhrazeny.

PL | Ilustracje i teksty odpowiadają stanowi techniki aktualnemu w chwili oddania instrukcji do druku. Zastrzega się prawo do zmian.

LT | Spausdinami paveikslėliai ir tekstas atitinka naujausią technikos lygį. Pasilieka me teisę į pakeitimus.

HU | Az ábrák és a szövegek a nyomtatás időpontjában rendelkezésünkre álló legfrissebb műszaki ismereteknek felelnek meg; a módosítások jogát fenntartjuk.