

FR | Lisez cette notice d'installation avant de commencer le montage !  
Le montage est réservé à des personnes qualifiées et compétentes !



## FR | Utilisation

Système de montage pour l'installation de modules PV avec un cadre d'une épaisseur comprise entre 30 et 50 mm sur des toits inclinés, qui présentent les caractéristiques suivantes :

- Inclinaison du toit 5° - 60° (fixations de panneau photovoltaïque) ou 20°-60° (crochets de toit).
- En cas d'inclinaison du toit inférieure à 20°, il faut se référer à l'inclinaison autorisée de la tuile utilisée.
- Différents toits en tuiles (tuiles de Francfort, tuiles du Harz, tuiles plates, tuiles à emboîtement mécanique, tuiles plates écailles, etc.) sur une ossature porteuse en bois
- Le montage des PV en portrait ou paysage est possible.

Un certificat de stabilité du toit tenant compte des charges supplémentaires liées à l'installation photovoltaïque est requis avant le montage.

### Directives pour l'installation

Afin de compenser la dilatation linéaire thermique des modules et du système de montage, il faut prévoir une interruption tous les 12m.

Respectez les spécifications du fabricant des modules, du fabricant de la couverture ainsi que les dispositions locales relatives aux travaux de menuiserie. Ne montez pas sur les raccordements de toit.

Lors de l'installation, il faut respecter les exigences en matière de protection contre la foudre et la surtension des installations photovoltaïques ainsi que les exigences en matière de protection contre les incendies.

En cas d'installation à une distance de 10 km des côtes, nous déconseillons l'utilisation d'éléments de construction galvanisés.

Pour plus d'informations, contactez le représentant local ou le département technique de Renusol.

### Indications pour l'installation

Veuillez lire attentivement la version actuelle des instructions de montage avant de commencer le montage. Familiarisez-vous ensuite avec les différents éléments du système. Avant le montage, contrôlez l'état de la charpente. Il faut vérifier, par exemple, la qualité et l'épaisseur des chevrons,



Il faut vérifier la capacité portante structurelle du système PV avant l'installation. Le bâtiment doit être en mesure de résister au poids supplémentaire

des pannes et de l'étanchéité du toit. Le bâtiment doit pouvoir soutenir les charges supplémentaires liées à l'installation photovoltaïque de manière sûre et durable. Lors du montage, notamment lors de travaux sur la toiture, veillez à respecter les dispositions applicables en matière de sécurité au travail et observez les règlements en vigueur.

Les figures et les textes contenus dans la notice d'installation répondent à l'état technique actuel au moment de l'impression. Sous réserve de fautes d'impression et de modifications techniques. Les différentes instructions pour l'installation sont essentiellement des recommandations basées sur l'état actuel de la technique et sur l'expérience des méthodes que l'on peut utiliser pour installer les systèmes de Renusol. En présence de particularités spécifiques à la toiture ou à la construction, si nécessaire demandez l'avis d'experts tels que des couvreurs ou des staticiens.

Contrôlez également sur le site [www.renusol.com](http://www.renusol.com) que vous disposez bien de la dernière version de la notice d'installation. Vous y trouverez, le cas échéant, les notices dans d'autres langues.

### Contrôles/certifications :

- TÜV
- MCS012 (IK0197)

### Documents afférents

"Notices générales d'installation, entretien et montage"

"Consignes de sécurité relatives à la notice d'installation"

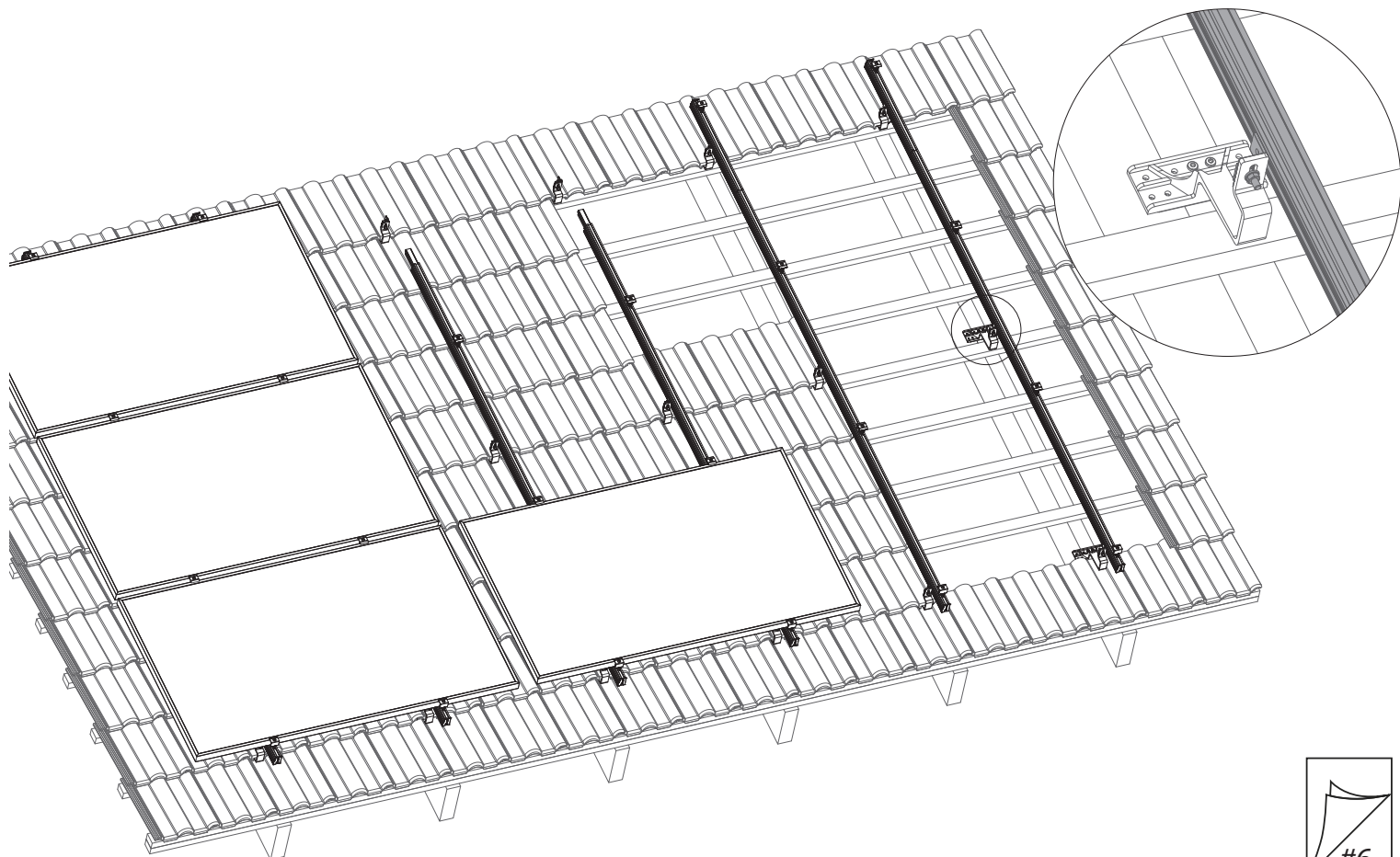
"Conditions de garantie et clause de non-responsabilité"

Ces documents sont disponibles sur : [www.renusol.com](http://www.renusol.com)

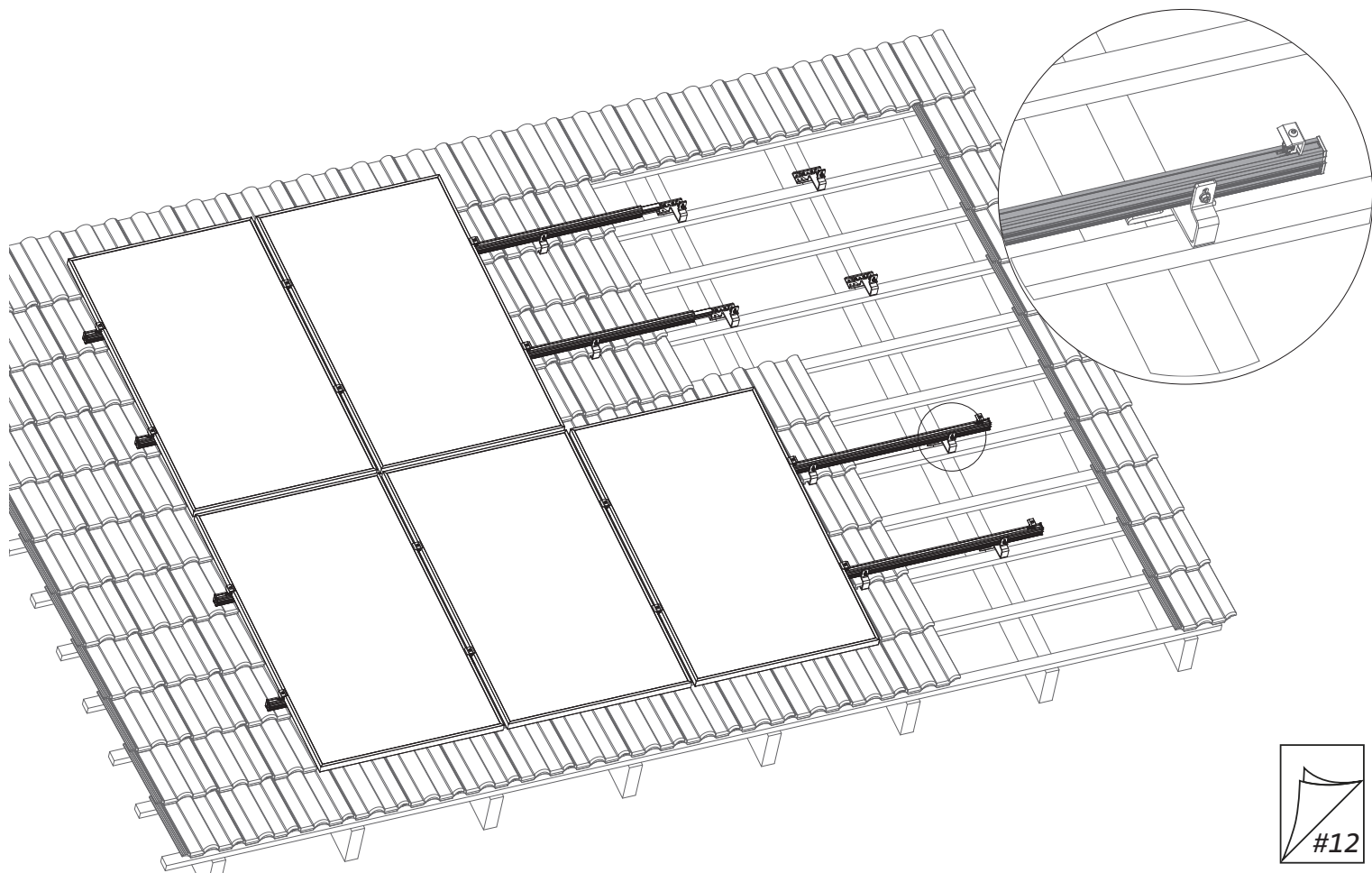
### Conditions de garantie

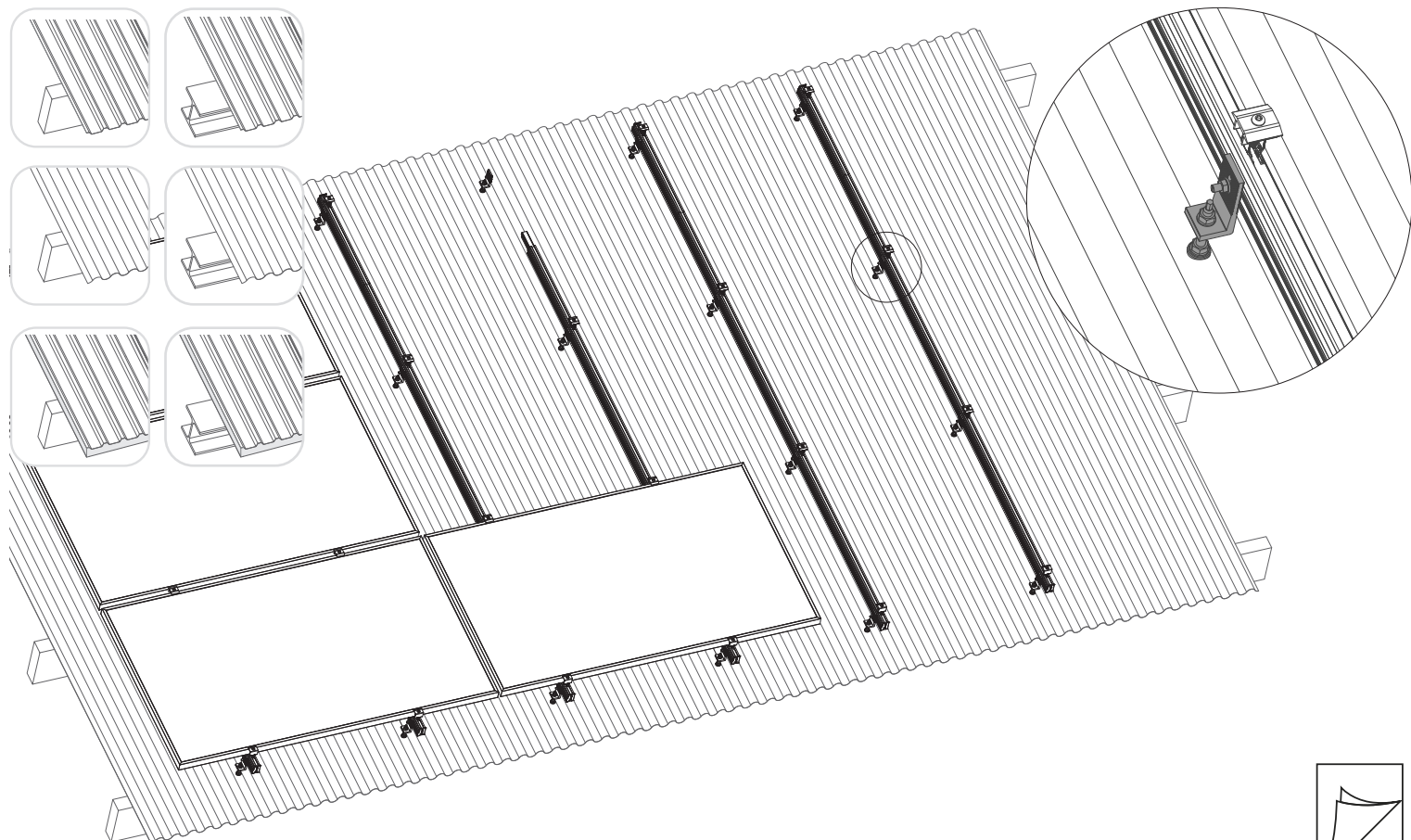
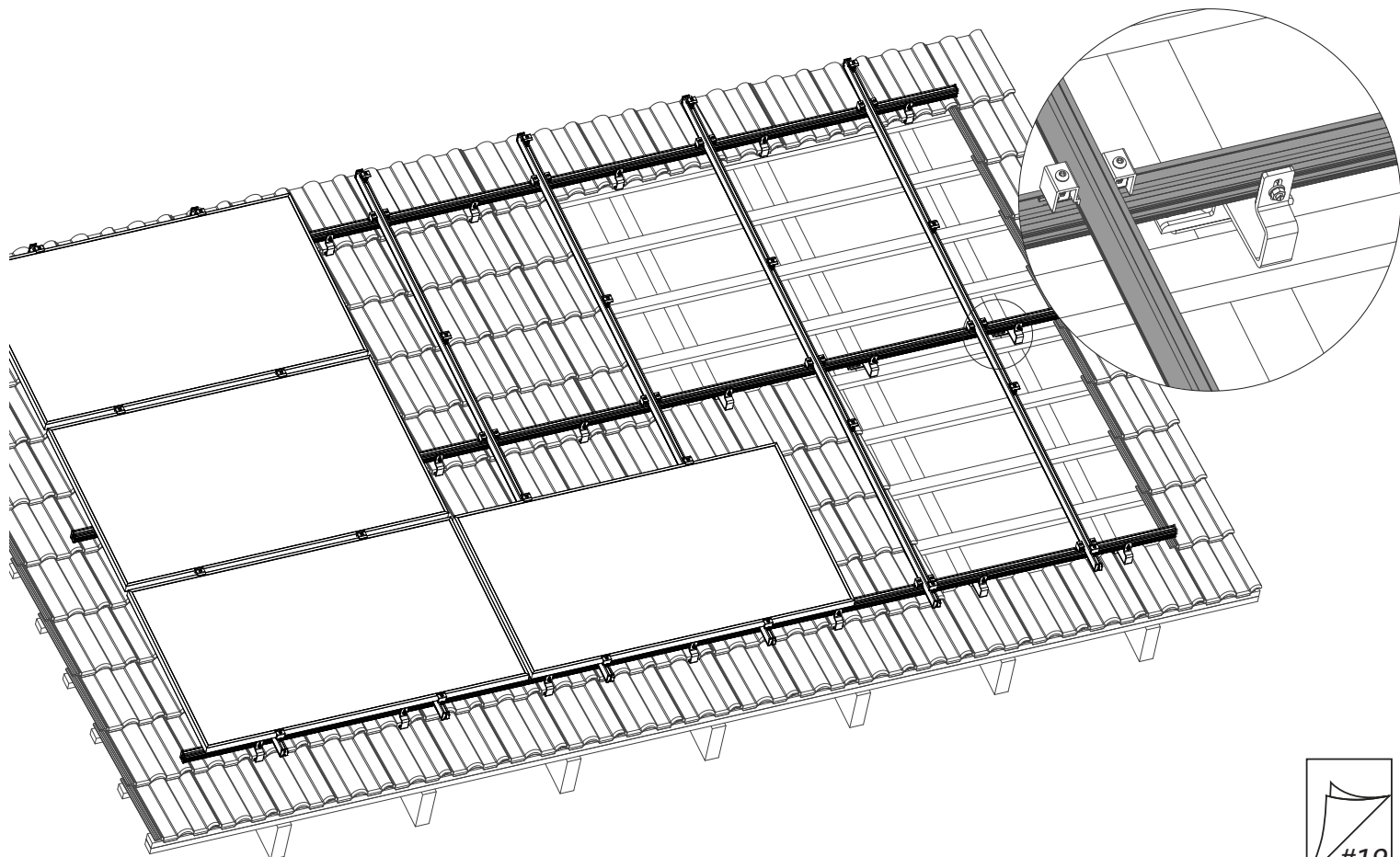
La garantie est valable seulement en cas d'utilisation du système complet Renusol d'origine conformément aux conditions de garantie. Pour la responsabilité des vices de fabrication/garantie de qualité, respectez les Conditions générales de vente de Renusol.

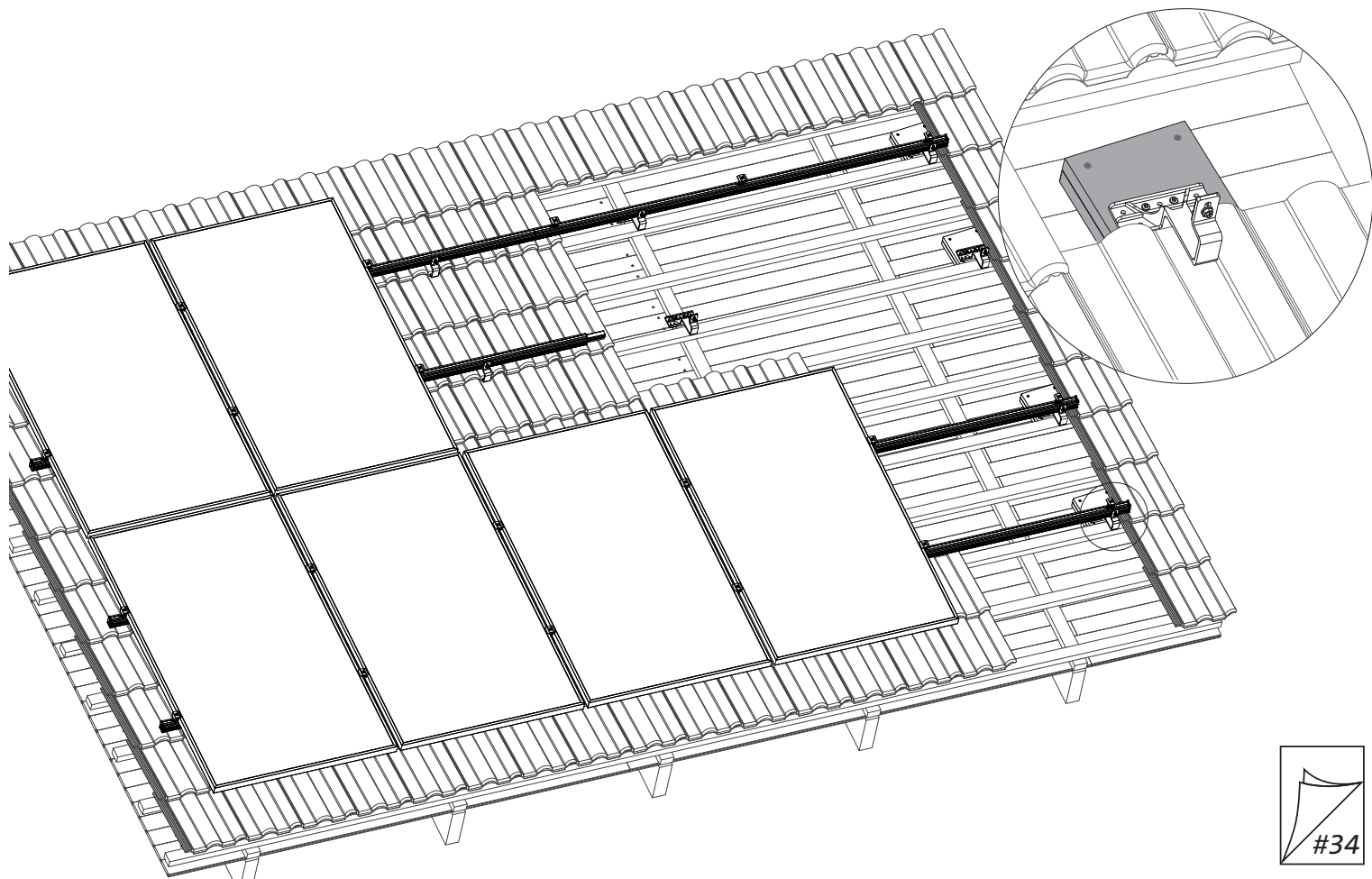
## Système de rails monocouche - Alignement horizontal des modules



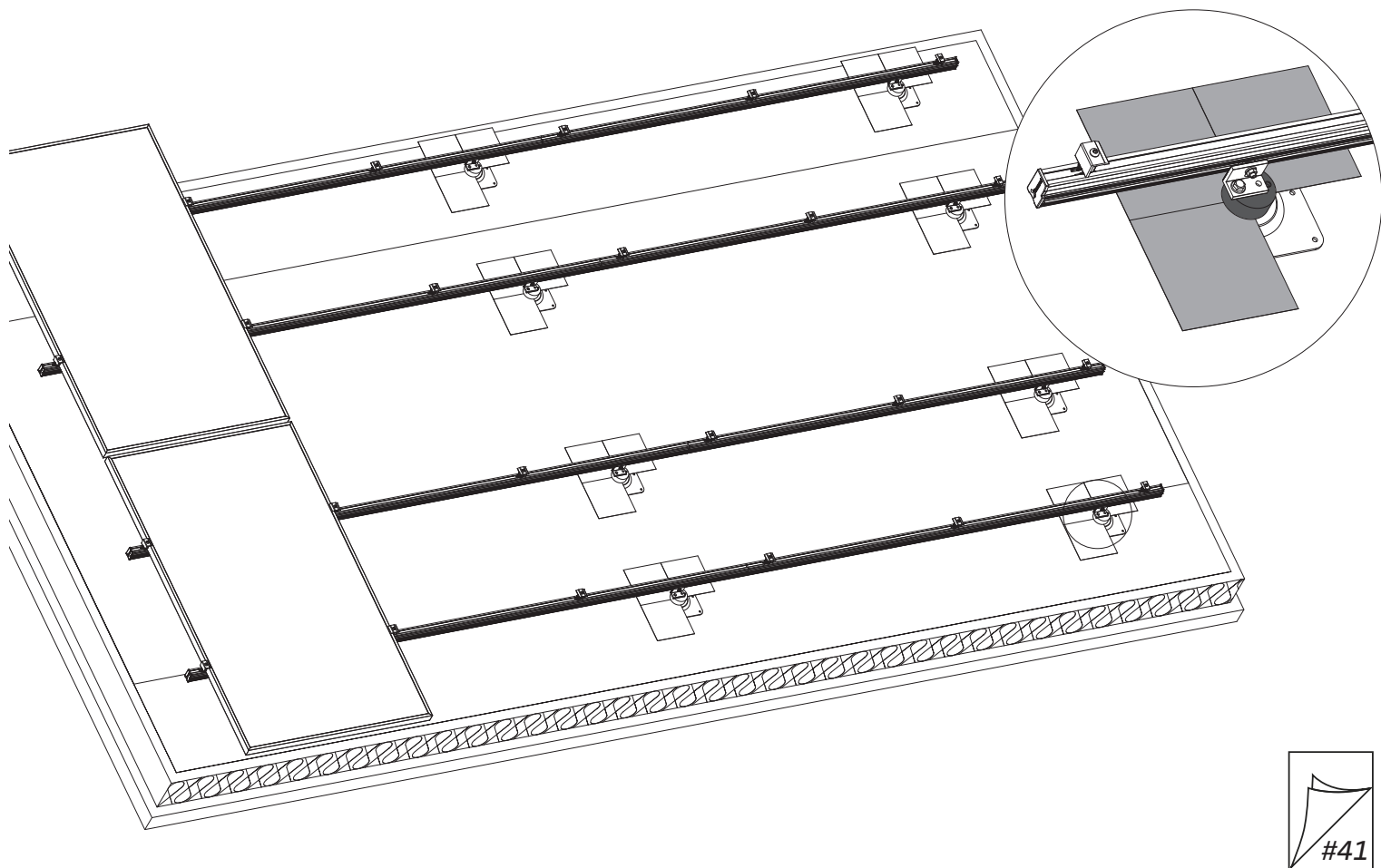
## Système de rails monocouche - Alignement vertical des modules

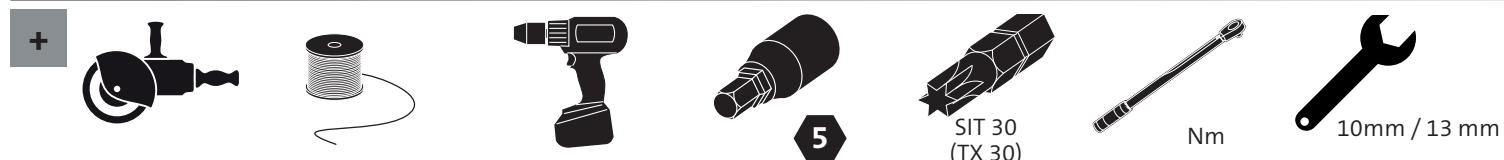
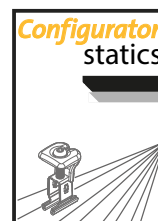
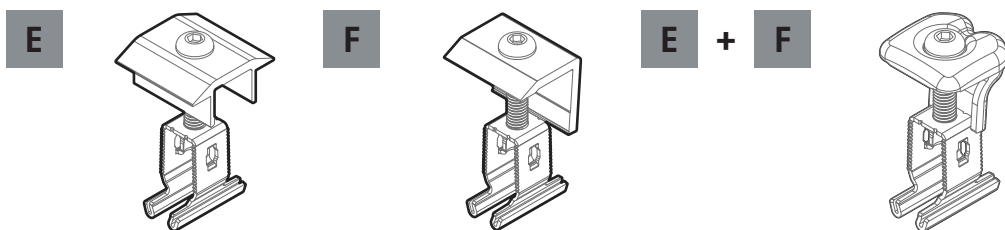
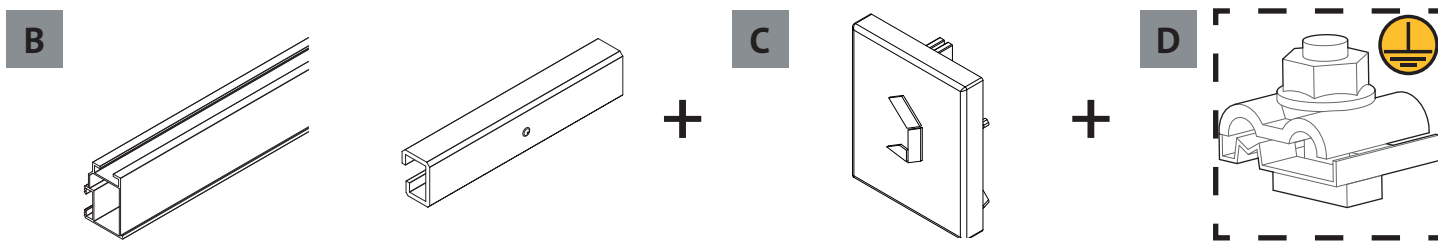
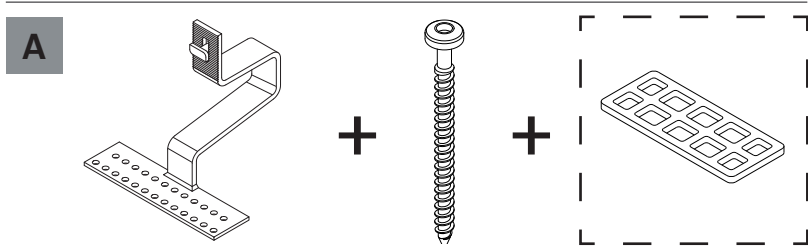
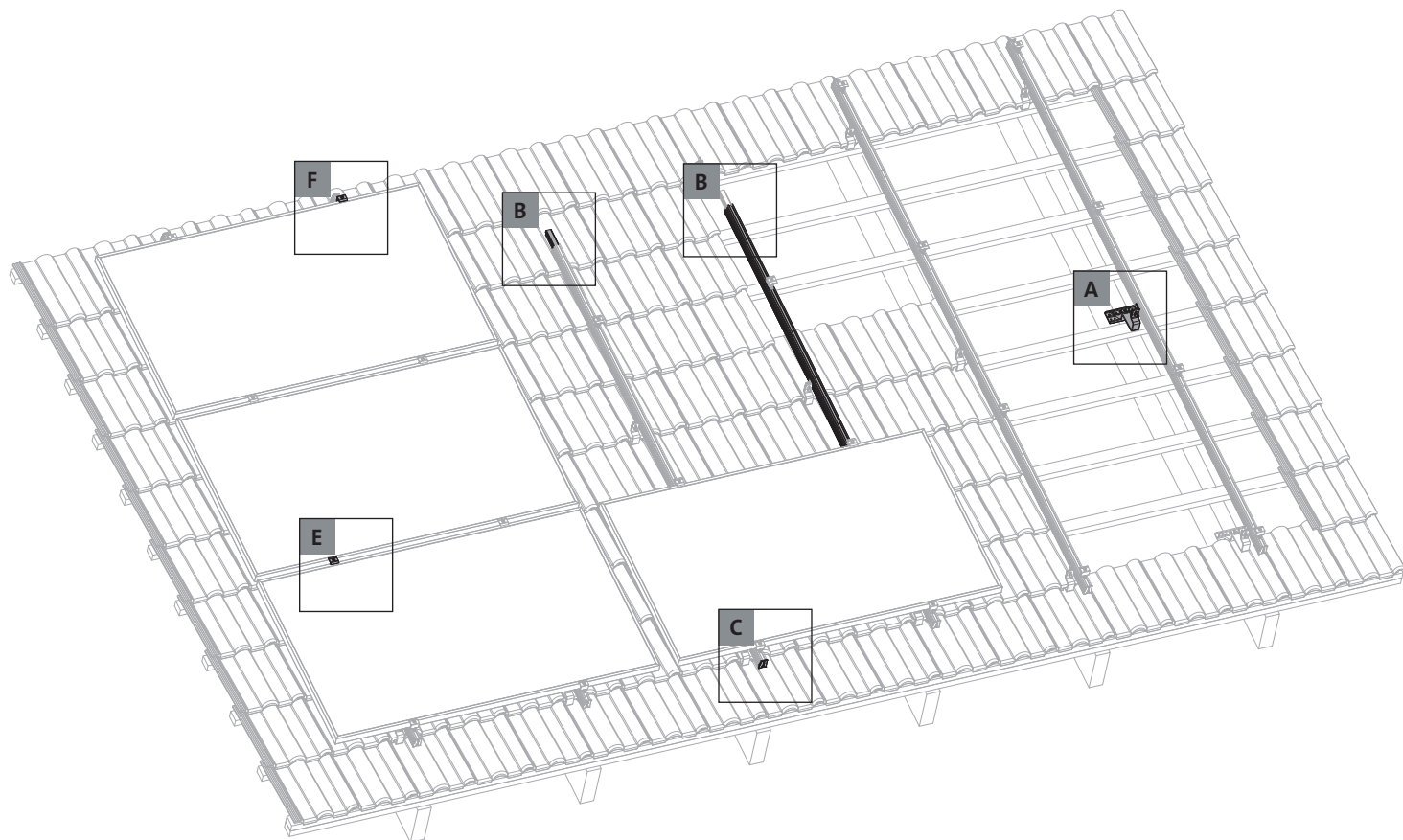


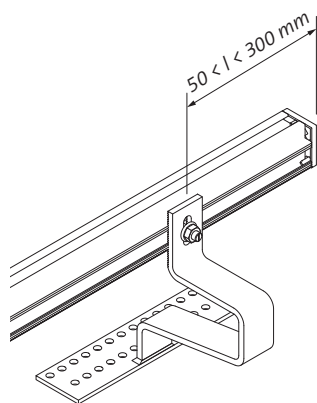
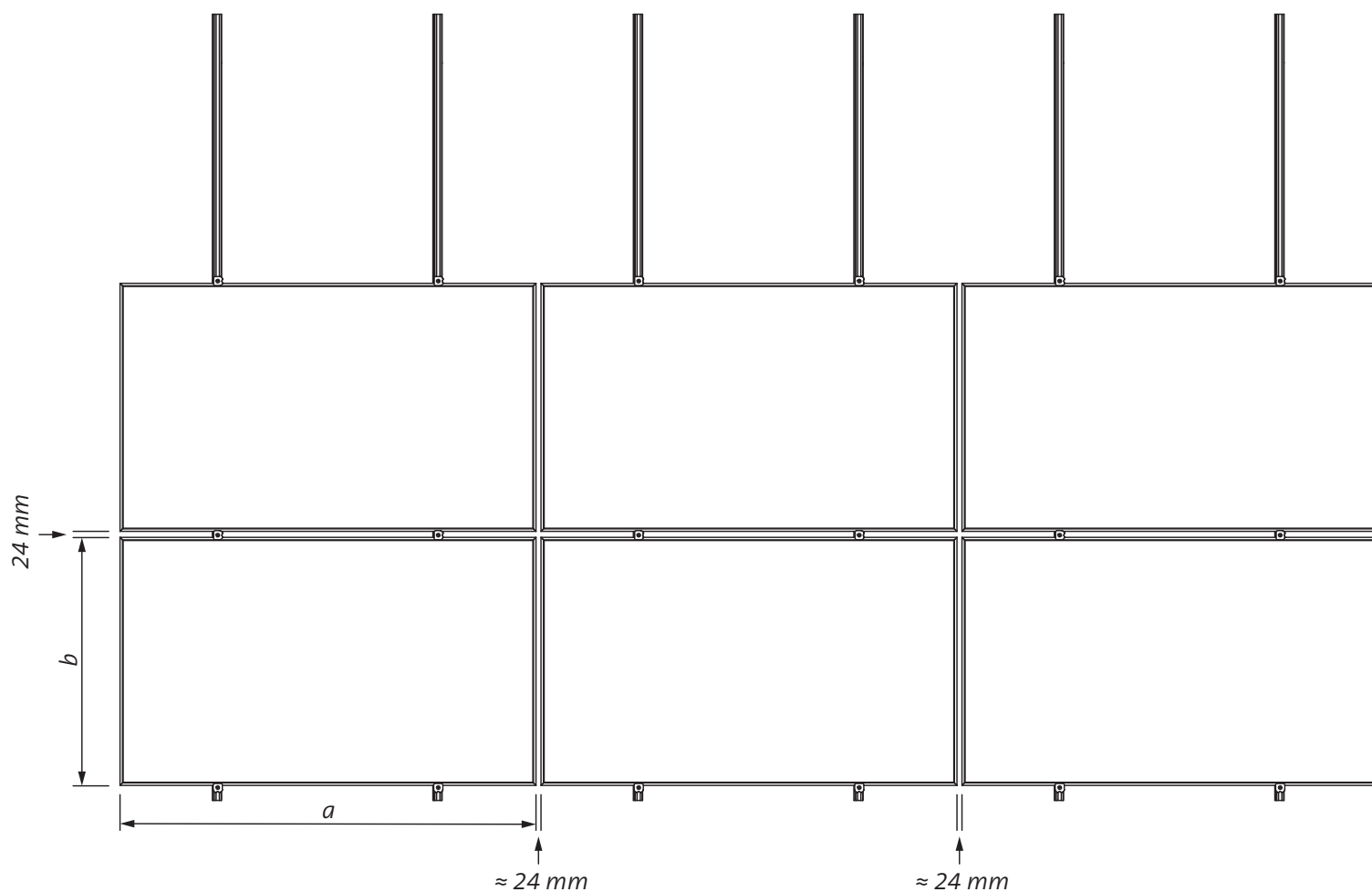




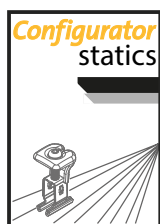
Raccordement sur une fixation alternative



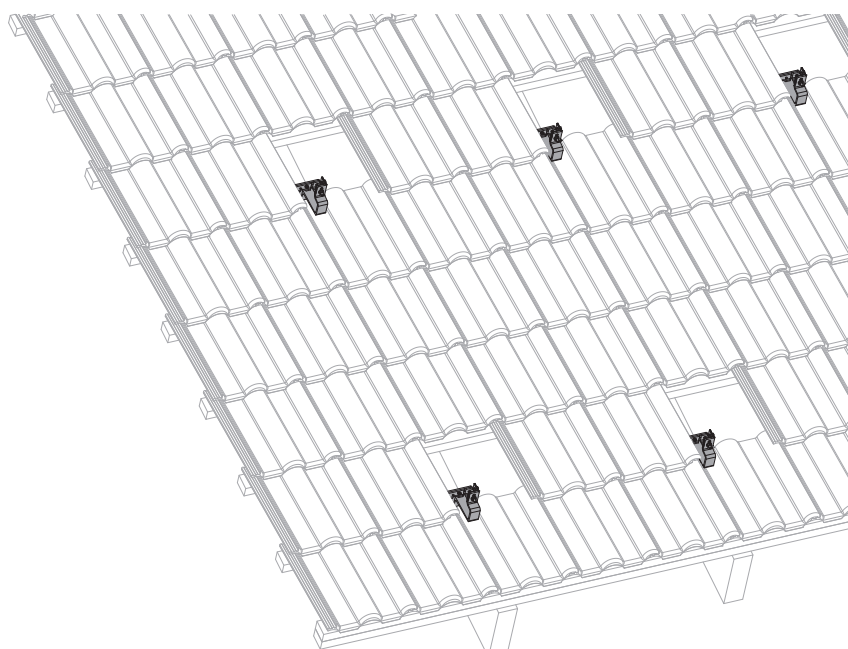
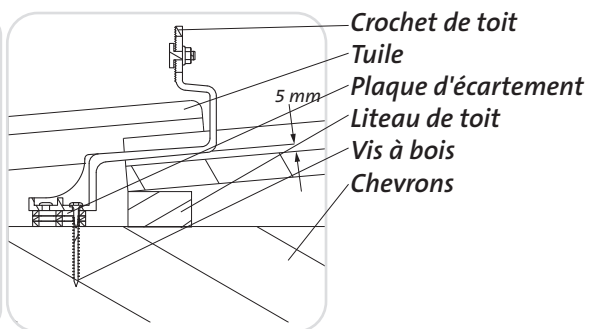
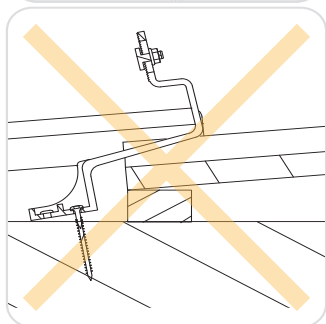
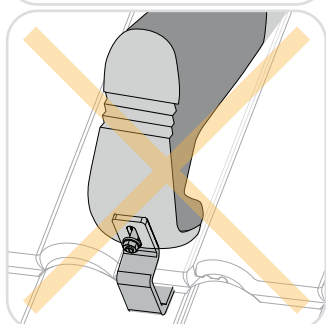
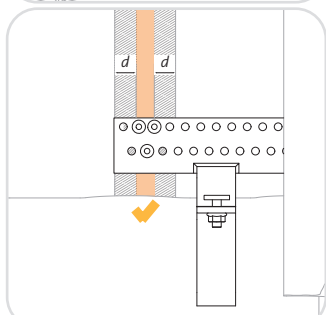
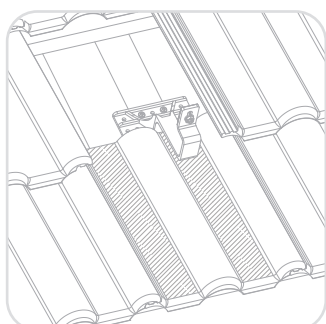
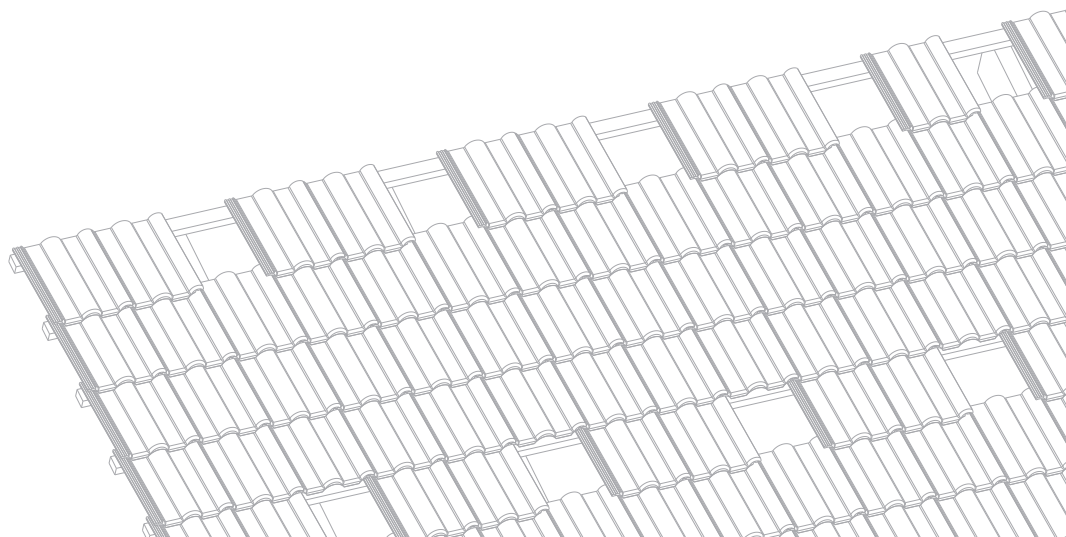




Sans calcul statique réalisé à l'aide du configurateur Renusol, la longueur de la console ne doit pas être supérieure à 300 mm.



- Indications générales
- Calculs statiques
- Vue d'ensemble technique du projet  
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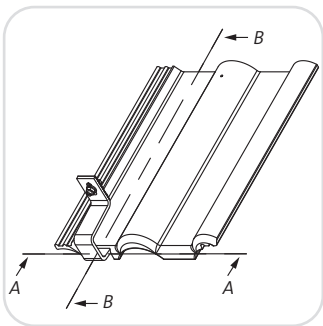
**Attention !**

Utilisez la perforation du crochet de toit pour placer le crochet de toit dans la dépression de la tuile. Vissez le crochet de toit seulement dans la zone autorisée. Respectez une distance de  $3 \times \varnothing$  de la vis à bois du bord extérieur du chevron de toit. Ne montez pas sur le crochet de toit.

La flèche du crochet de toit monté doit se trouver à une distance d'env. 5mm de la tuile.

Pour le nombre de vis, voir page 51-54.

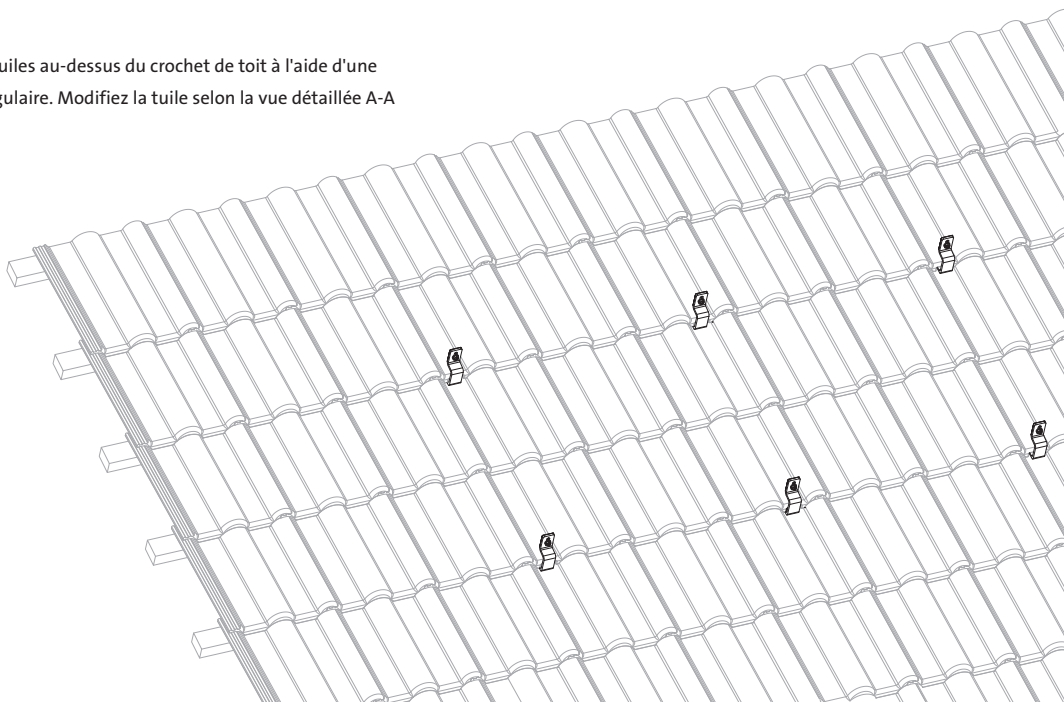
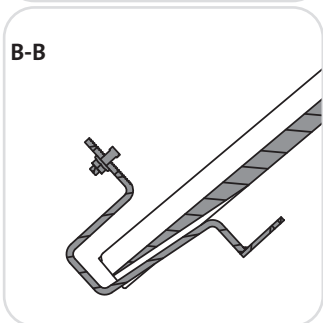
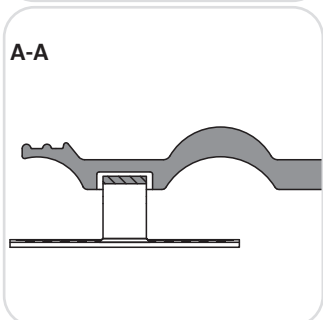
## Système de rails monocouche - Alignement horizontal des modules



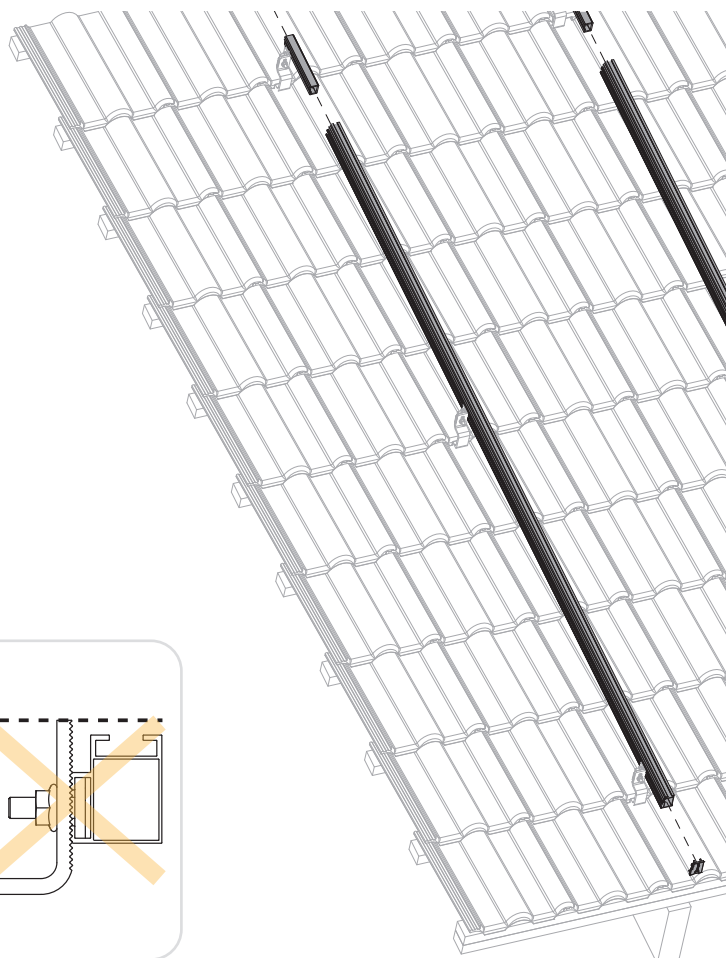
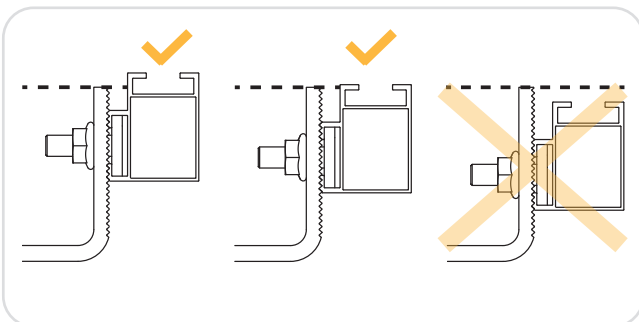
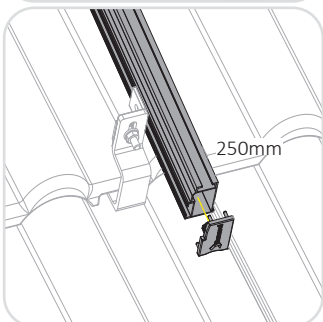
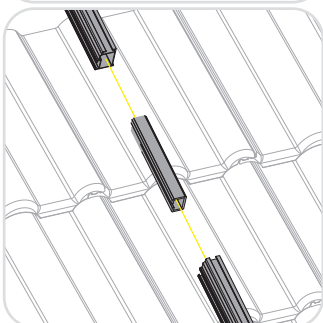
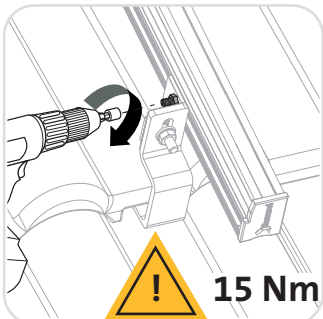
### Attention !

La modification suivante concerne les tuiles à emboîtement mécanique uniquement. En cas de tuiles plates, voir la page 46-48.

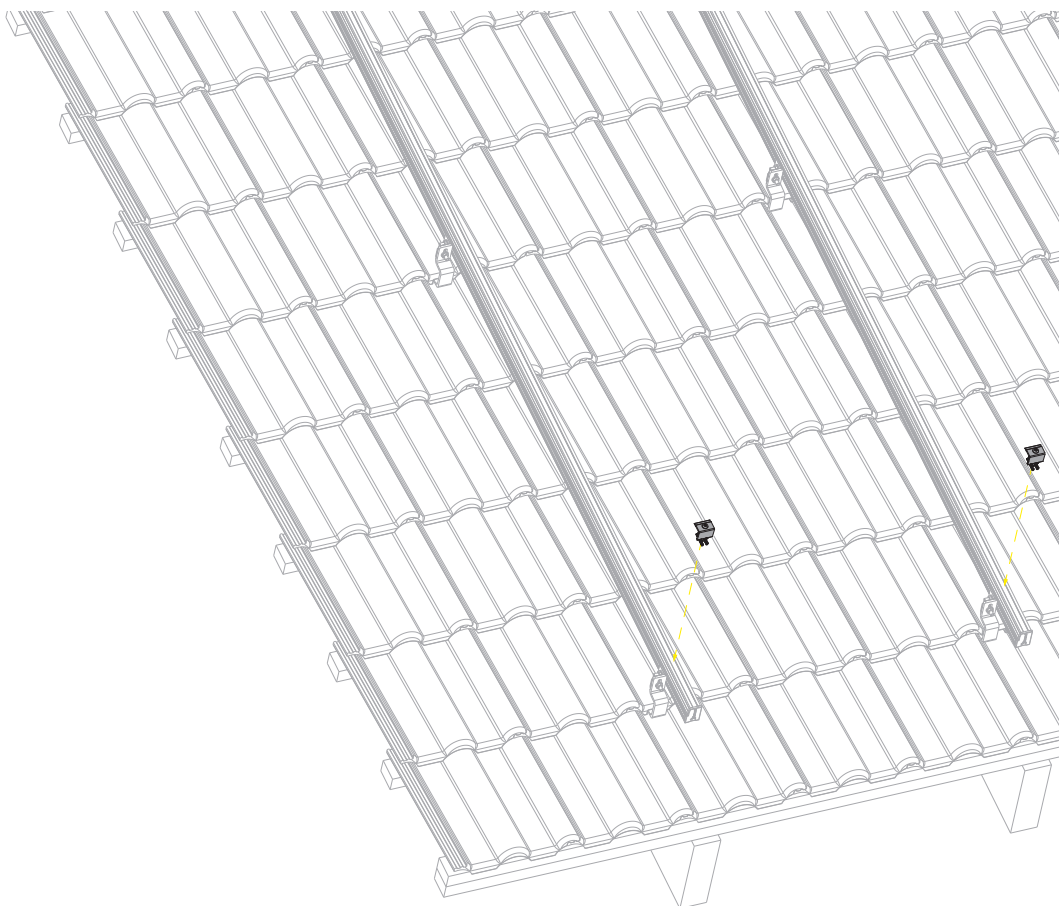
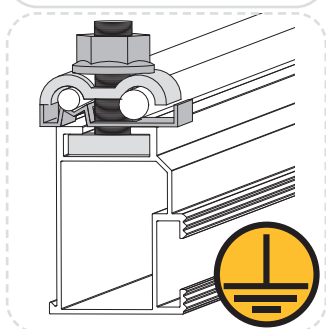
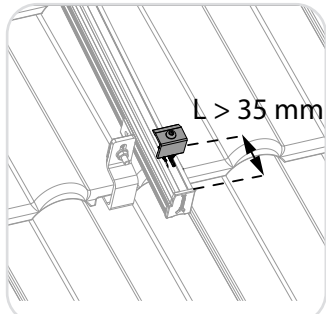
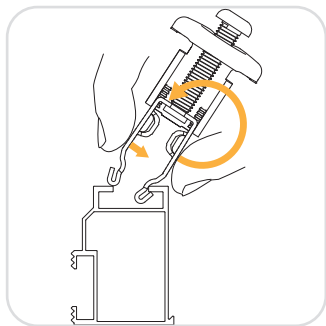
Modifiez les tuiles au-dessus du crochet de toit à l'aide d'une meuleuse angulaire. Modifiez la tuile selon la vue détaillée A-A et B-B.



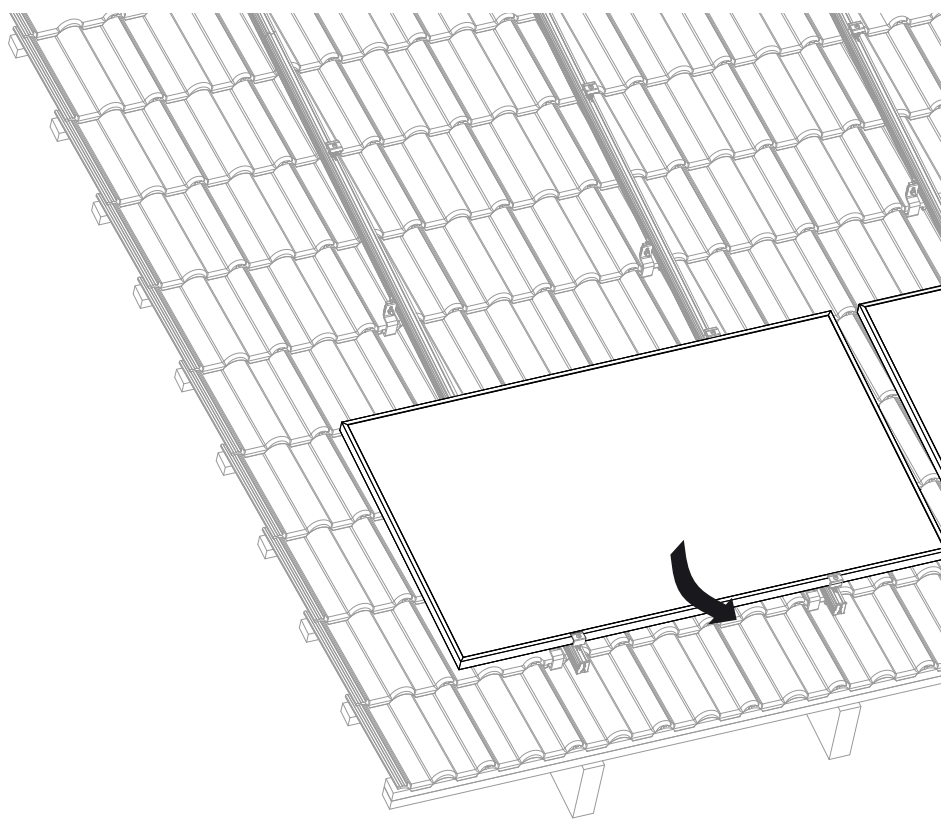
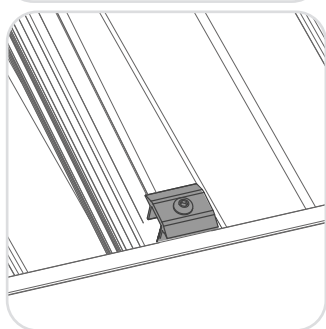
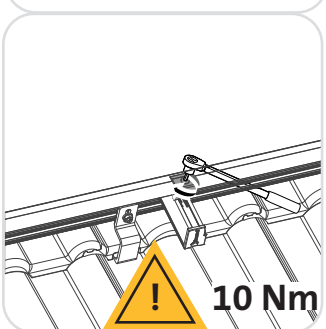
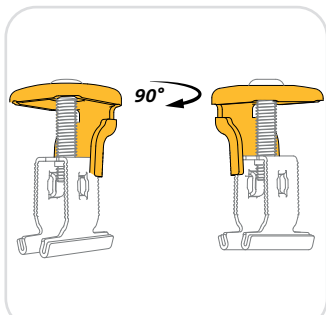
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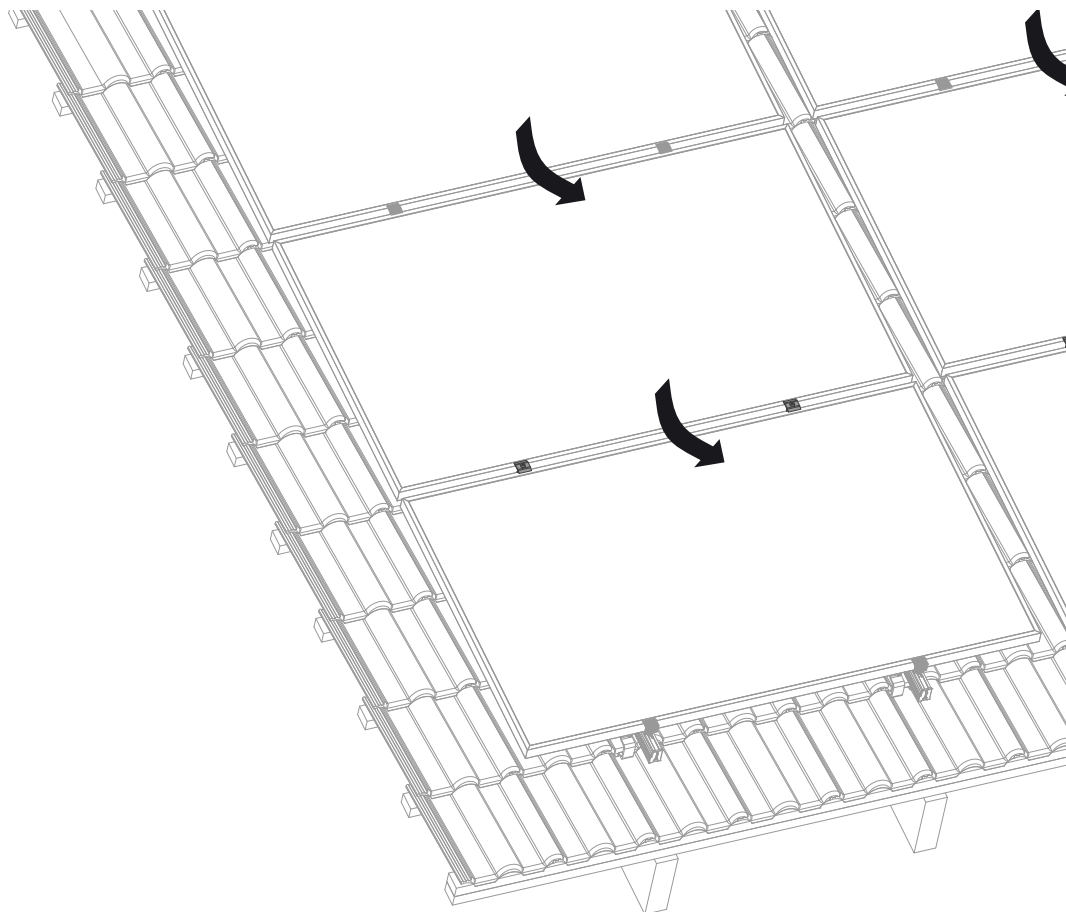


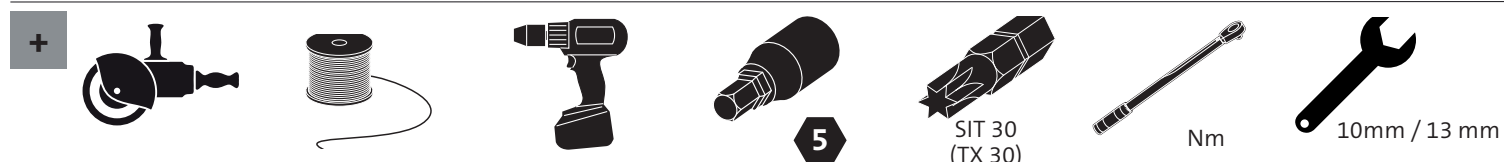
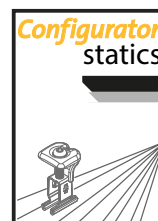
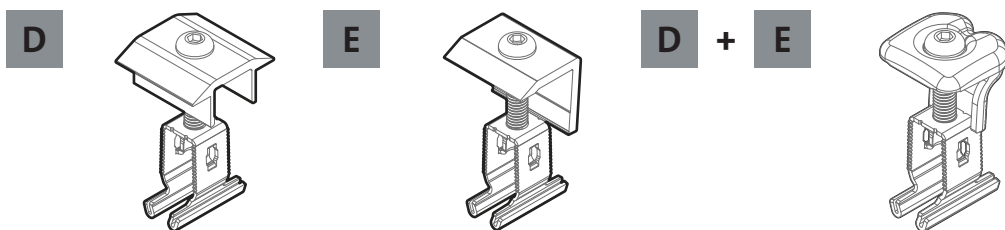
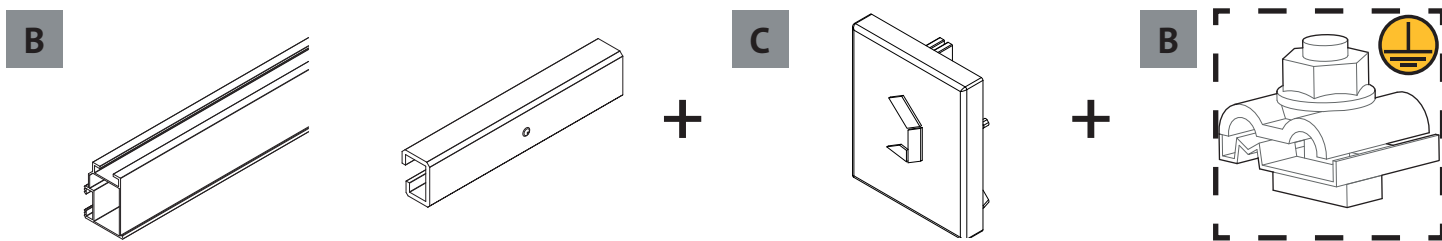
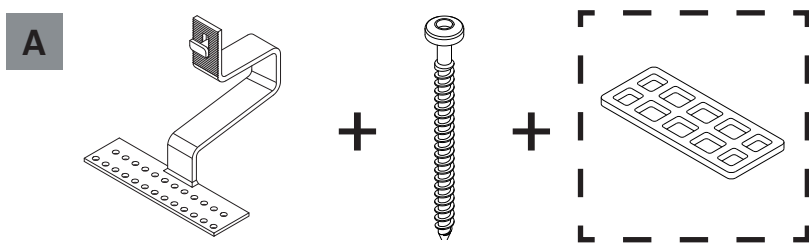
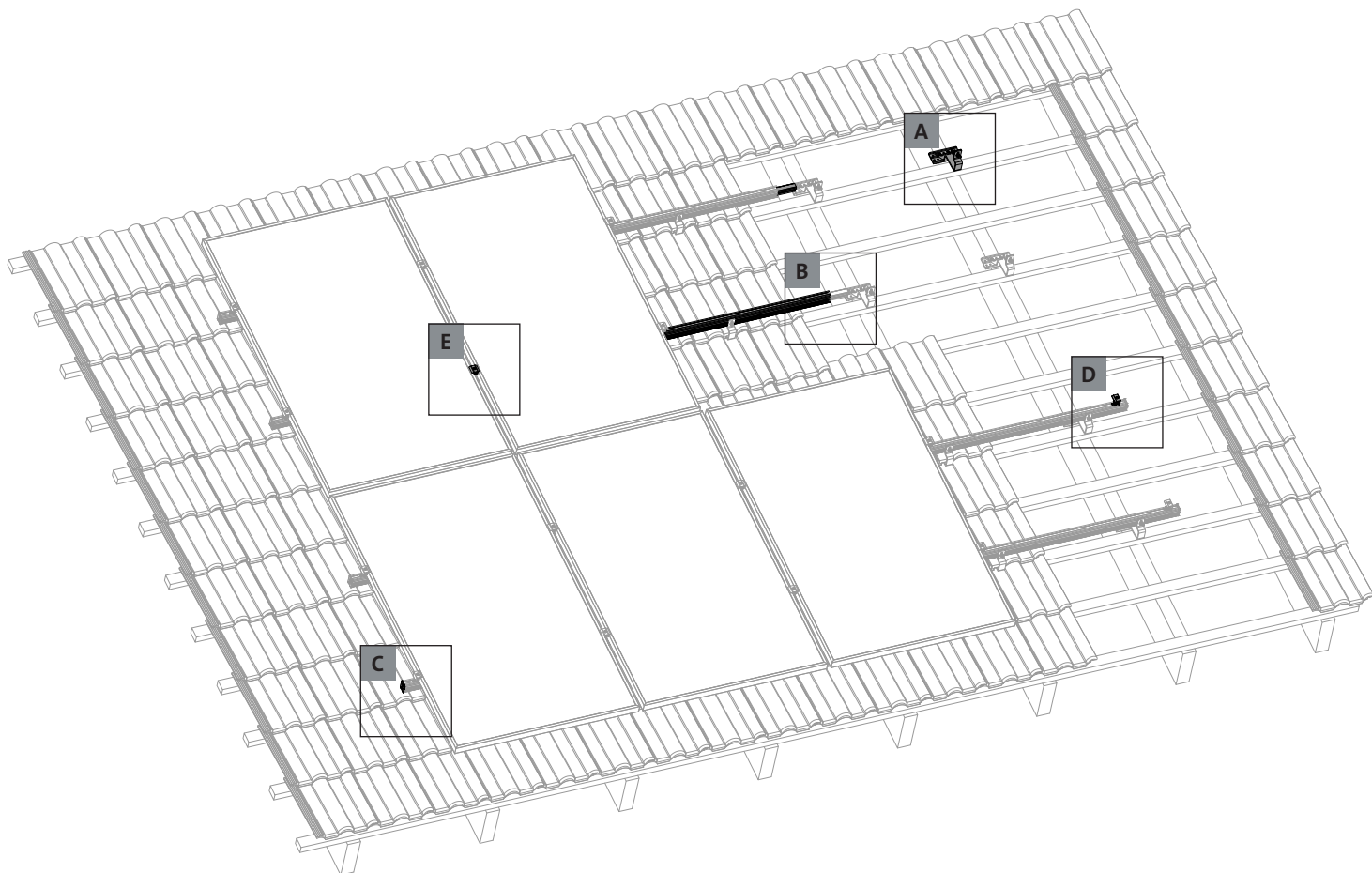
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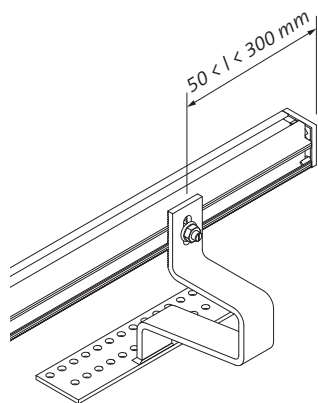
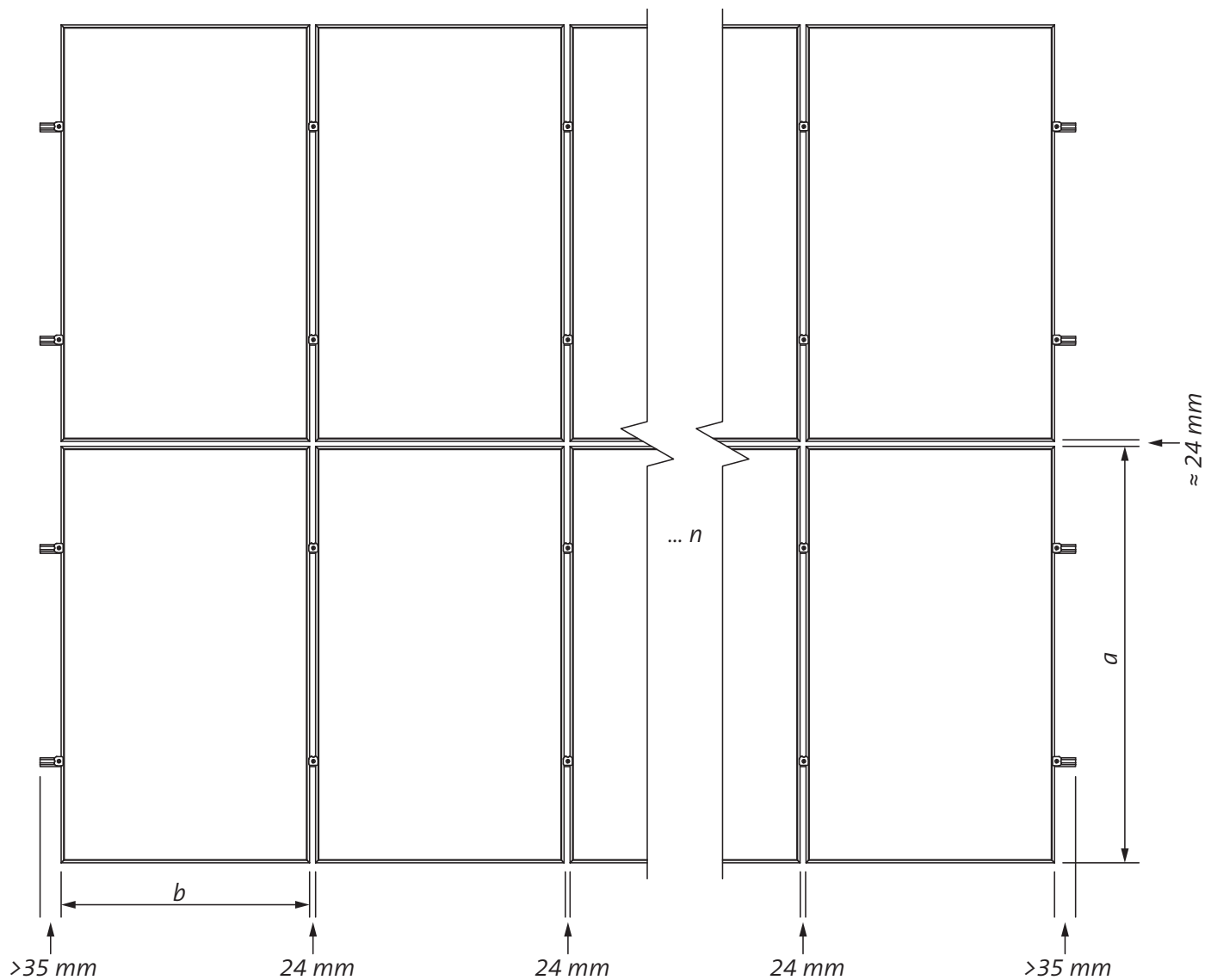


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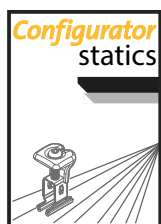




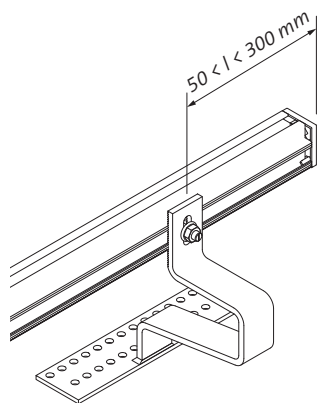
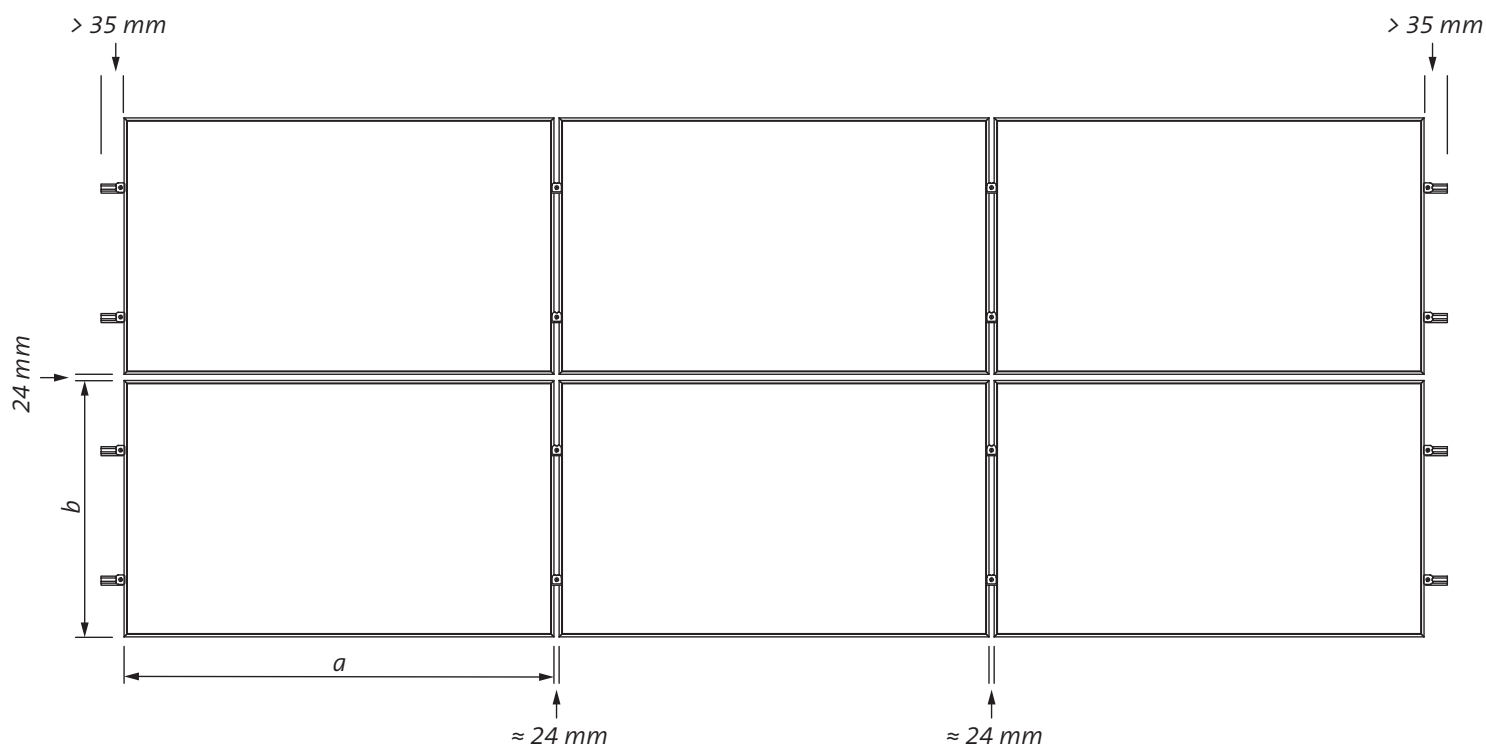




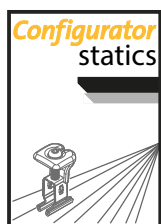
Sans calcul statique réalisé à l'aide du configurateur Renusol, la longueur de la console ne doit pas être supérieure à 300 mm.



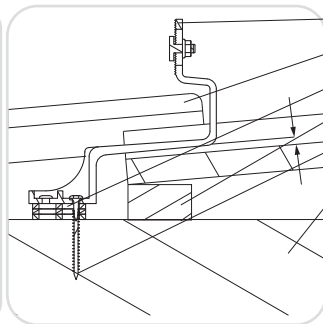
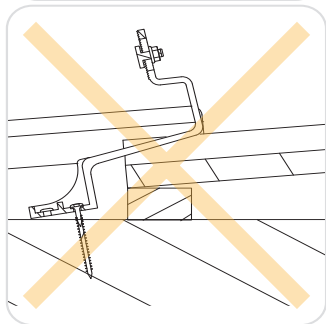
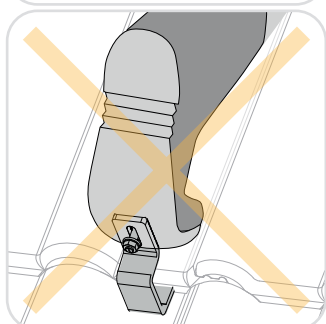
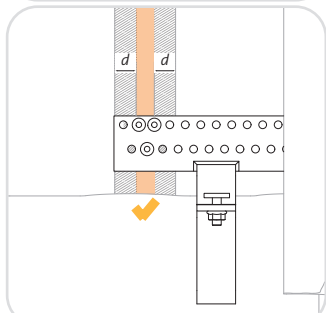
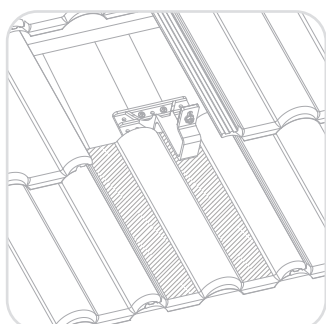
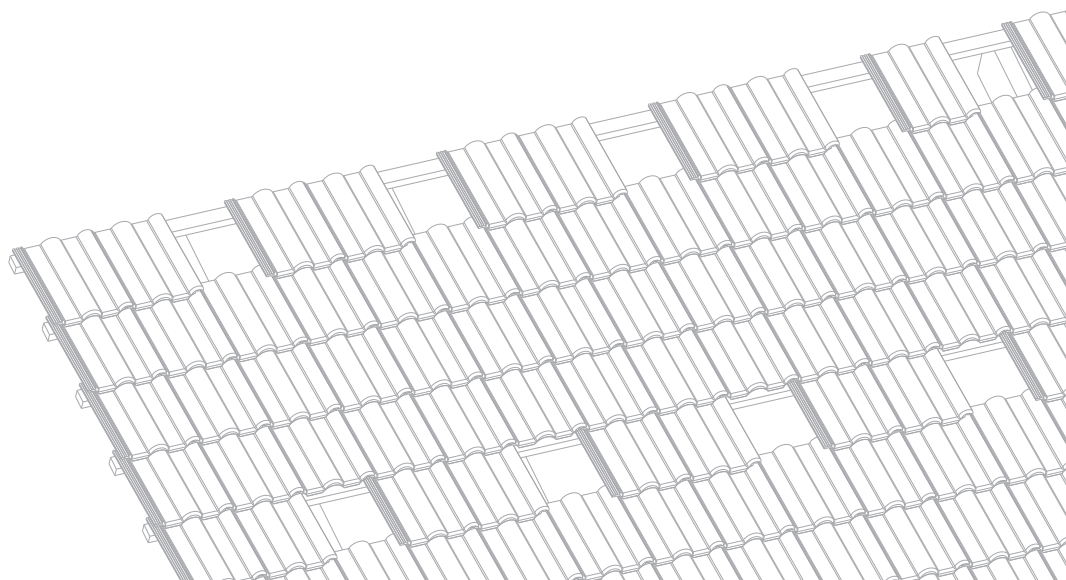
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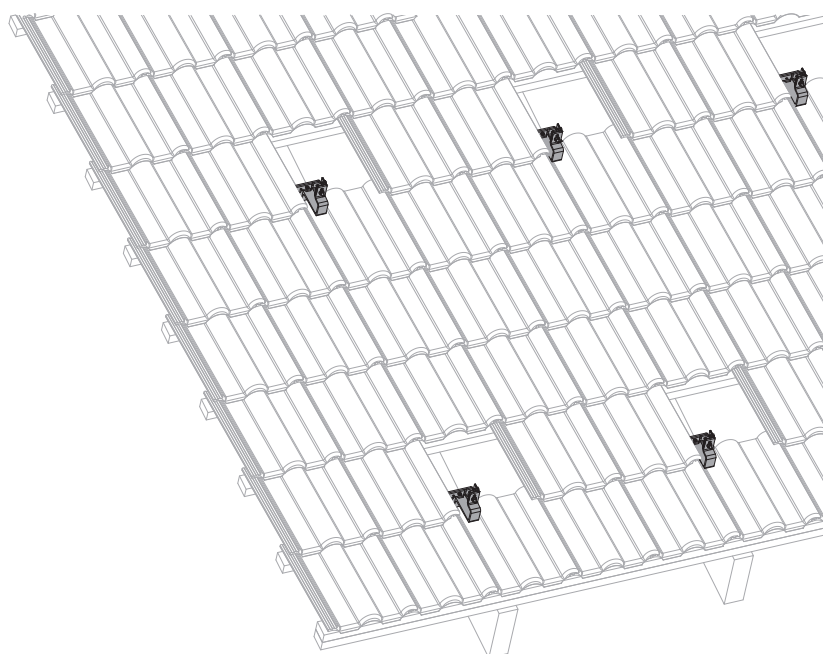
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*Crochet de toit*  
*Tuile*  
*Plaque d'écartement*  
*Liteau de toit*  
*Vis à bois*  
*Chevrons*



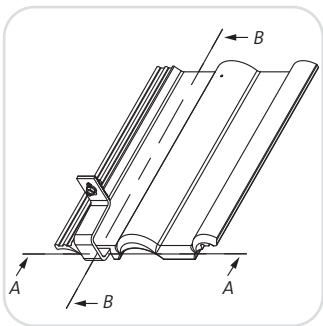
**Attention !**

Utilisez la perforation du crochet de toit pour placer le crochet de toit dans la dépression de la tuile. Vissez le crochet de toit seulement dans la zone autorisée. Respectez une distance de  $3 \times \varnothing$  de la vis à bois du bord extérieur du chevron de toit. Ne montez pas sur le crochet de toit.

La flèche du crochet de toit monté doit se trouver à une distance d'env. 5mm de la tuile.

Pour le nombre de vis, voir page 51-54.

## Système de rails monocouche - Alignement vertical des modules

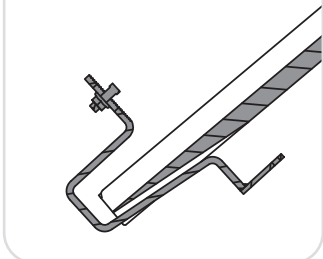


### Attention !

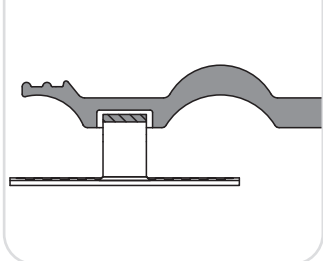
La modification suivante concerne les tuiles à emboîtement mécanique uniquement. En cas de tuiles plates, voir la page 46-48.

Modifiez les tuiles au-dessus du crochet de toit à l'aide d'une meuleuse angulaire. Modifiez la tuile selon la vue détaillée A-A et B-B.

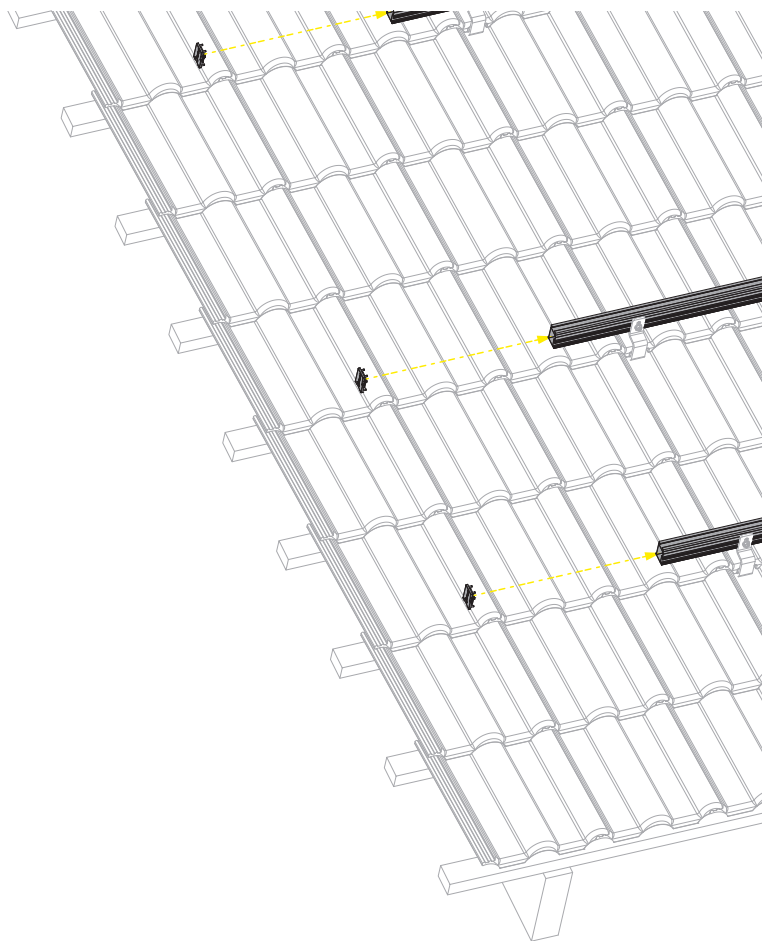
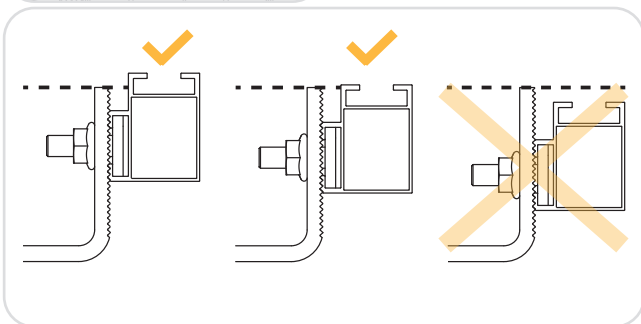
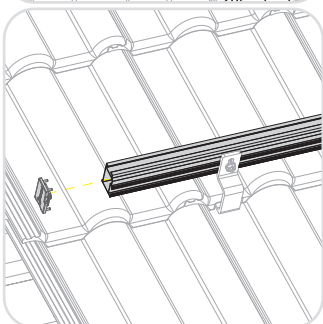
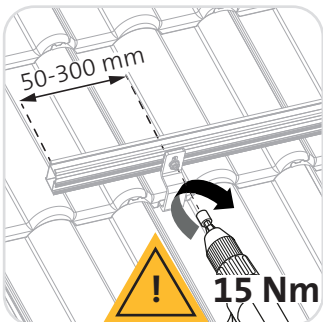
A-A



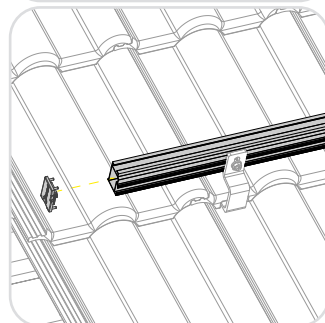
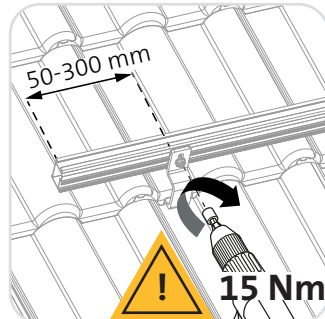
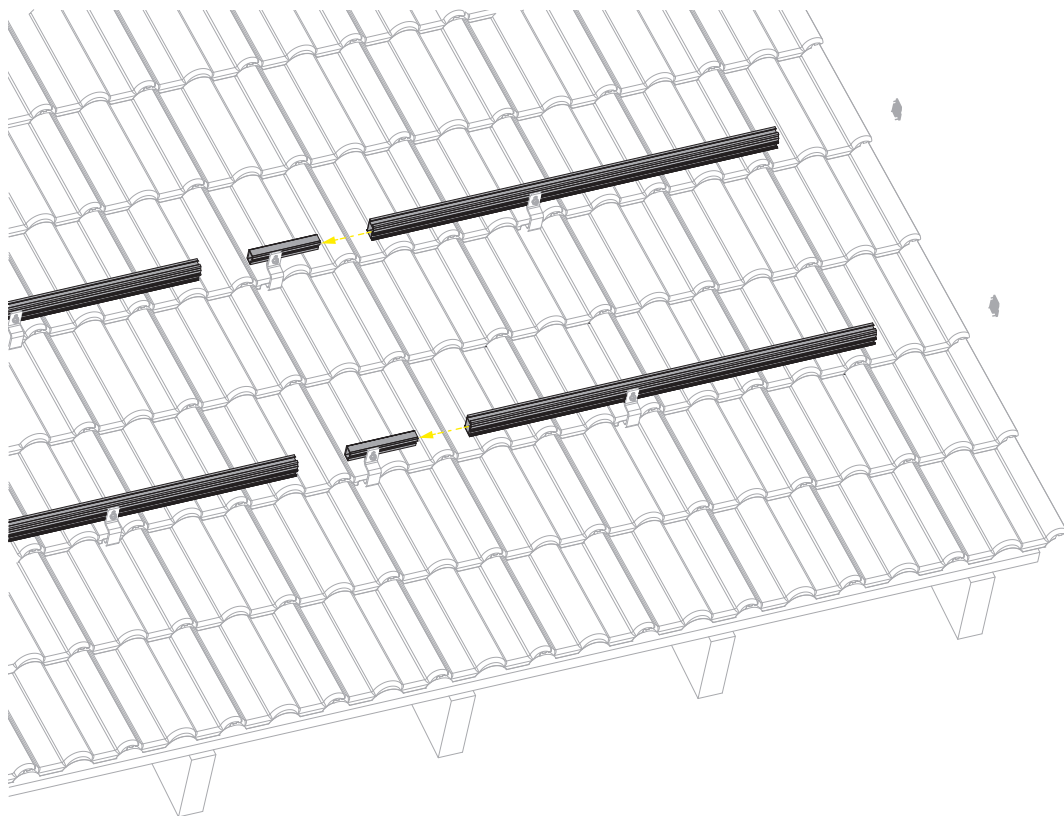
B-B



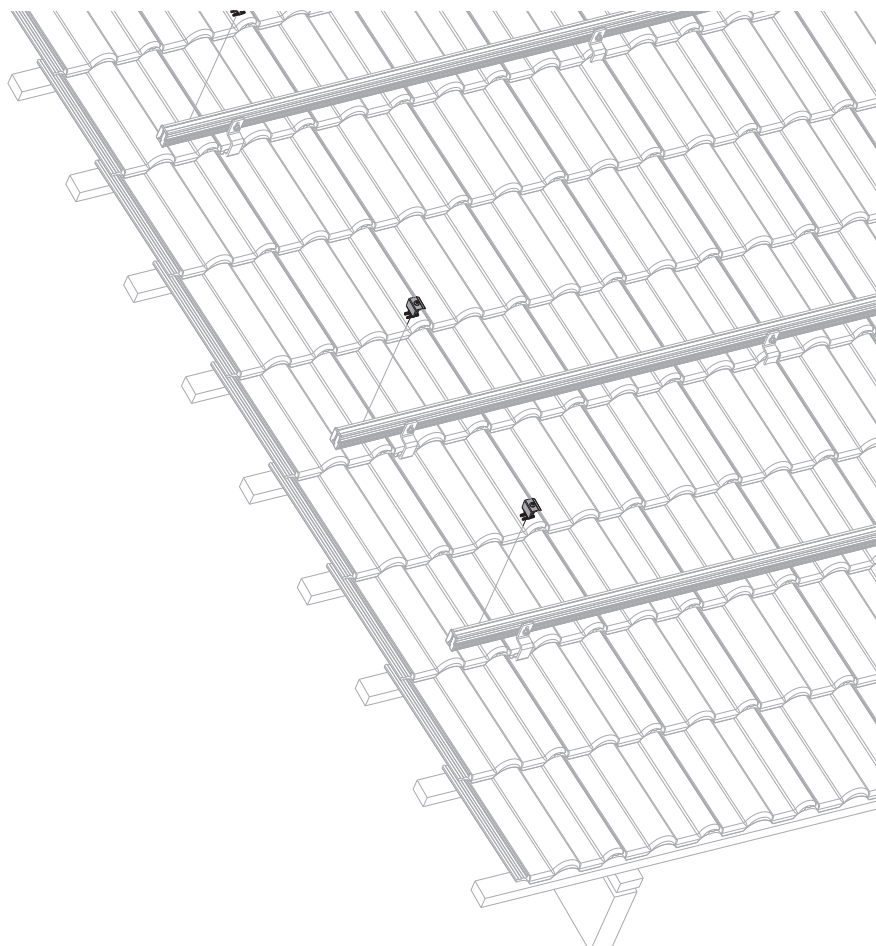
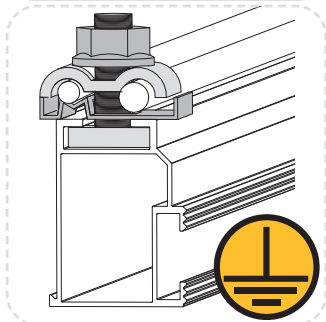
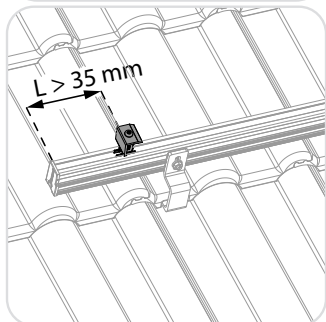
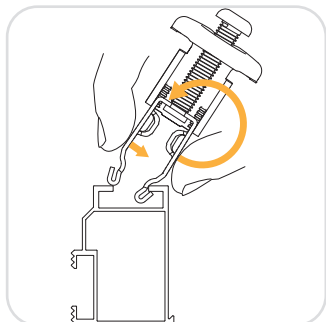
## Système de rails monocouche - Alignement vertical des modules



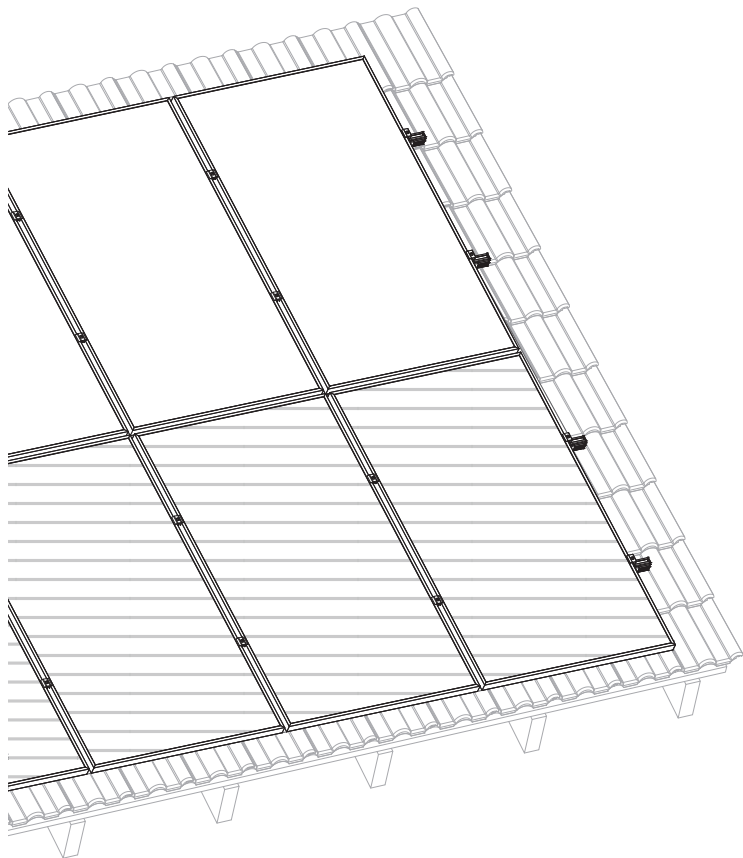
## Système de rails monocouche - Alignement vertical des modules



## Système de rails monocouche - Alignement vertical des modules



## Système de rails monocouche - Alignement vertical des modules

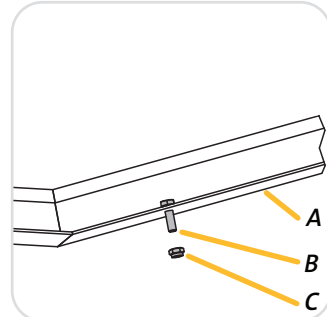
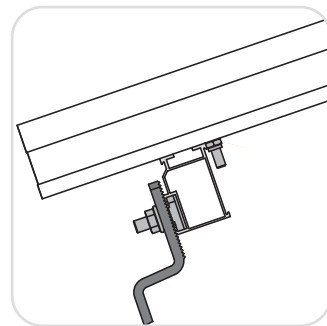


### Attention !

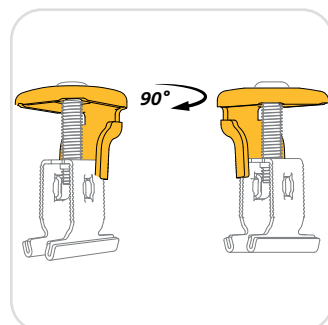
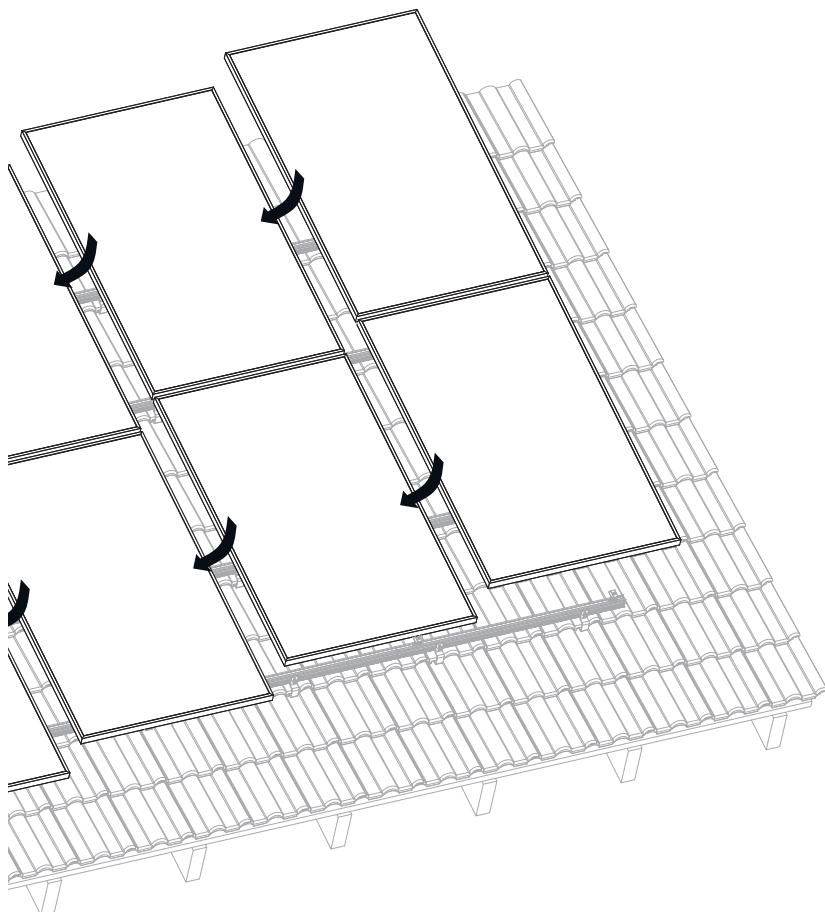
Avant l'installation des modules, il faut monter une protection antidérapante sur les modules de la rangée inférieure.

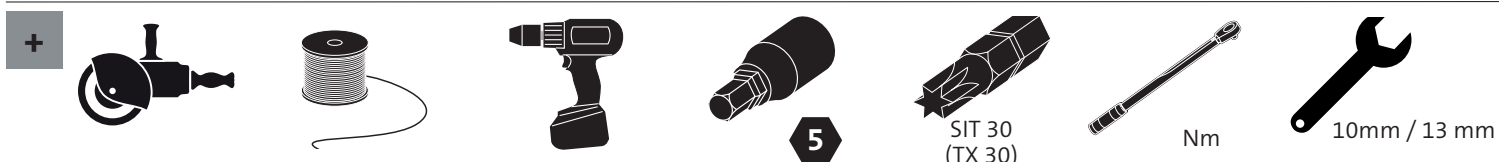
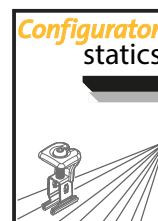
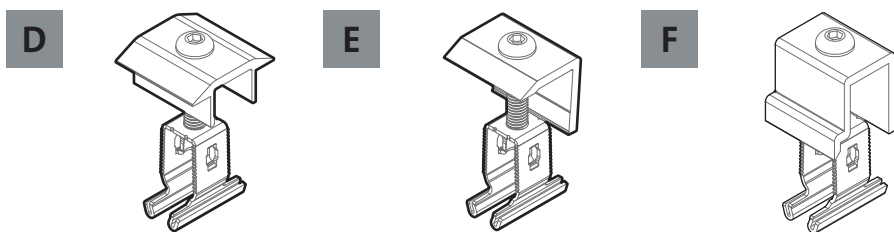
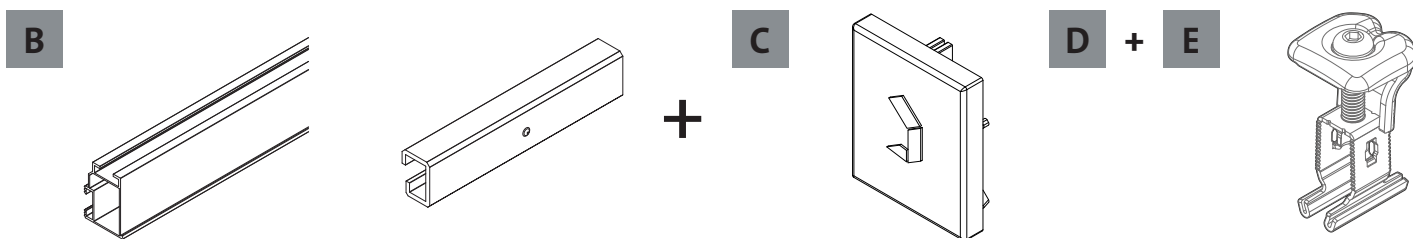
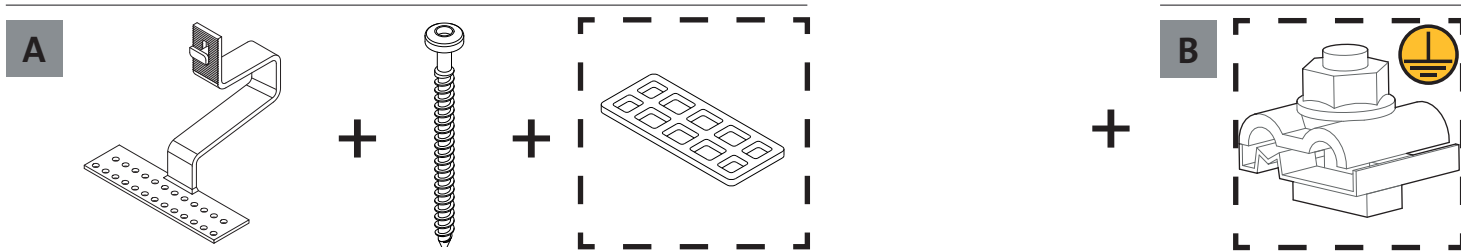
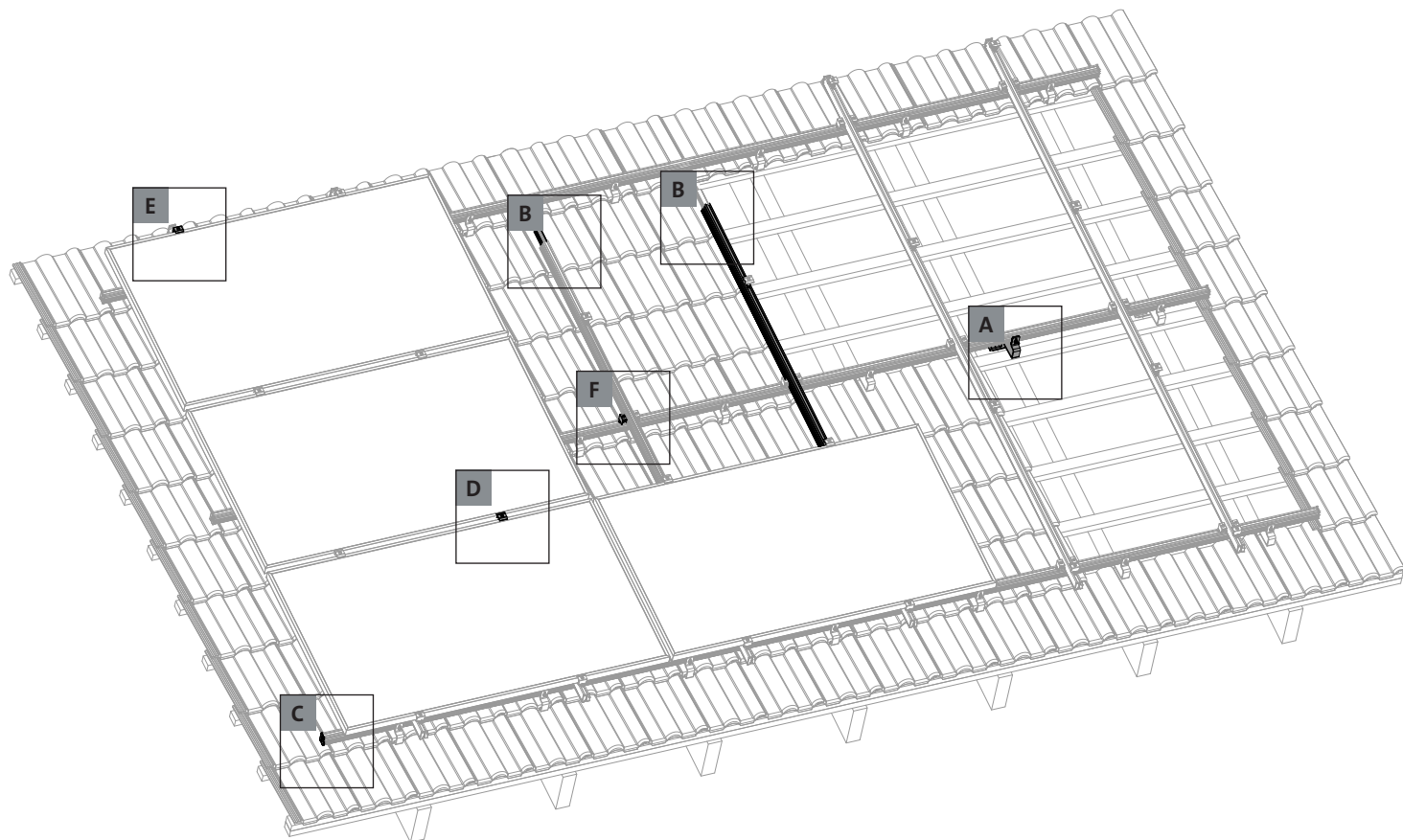
Pour ce faire, serrez les vis M6x20 (avec l'axe/filetage orienté vers le bas) à l'aide d'écrous M6 aux points de fixation du module. Positionnez les modules de la rangée inférieure de sorte que la protection antidérapante soit bien en place et que le bord du rail de montage inférieur (fig. B) soit en butée.

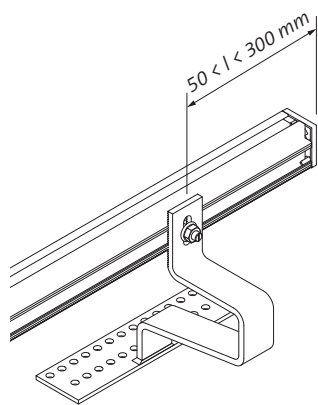
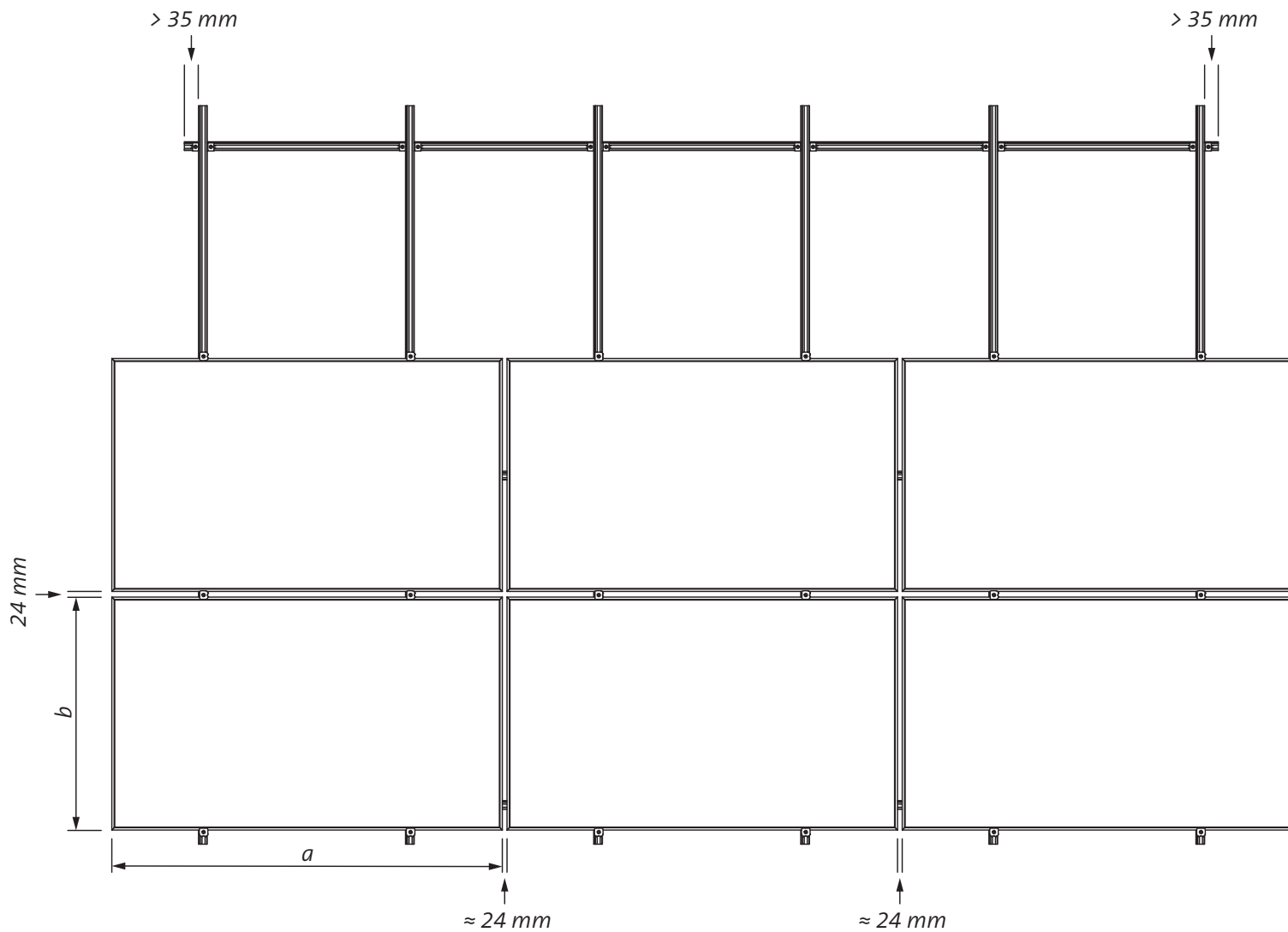
Remarque : La protection antidérapante ne doit être utilisée qu'avec des modules dotés des trous de fixation correspondants.



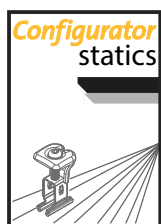
## Système de rails monocouche - Alignement vertical des modules



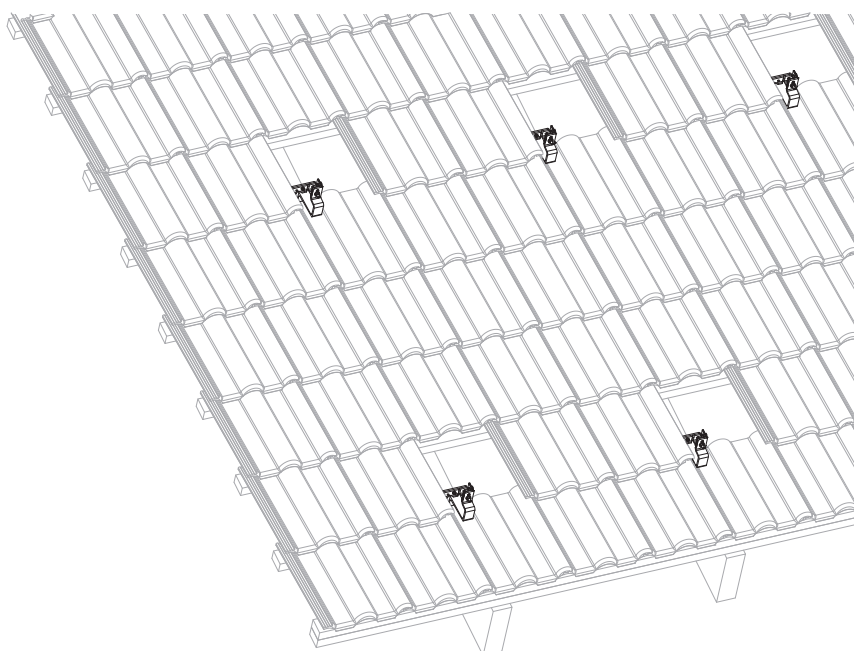
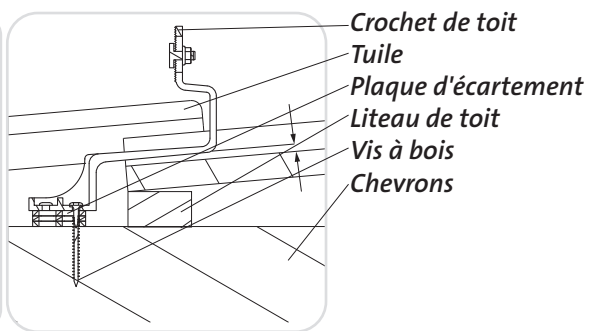
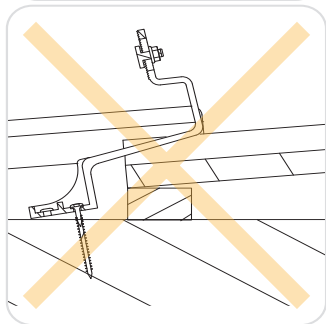
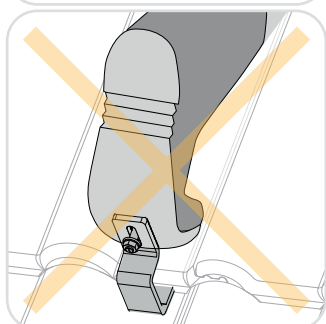
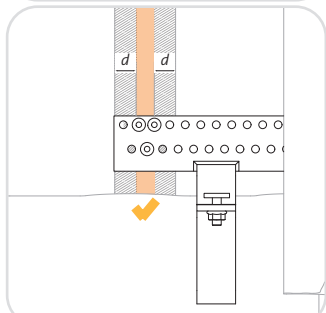
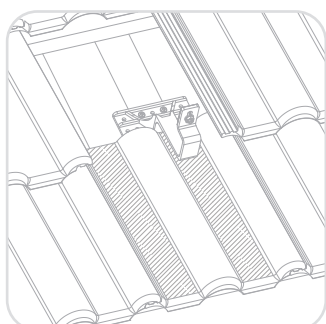
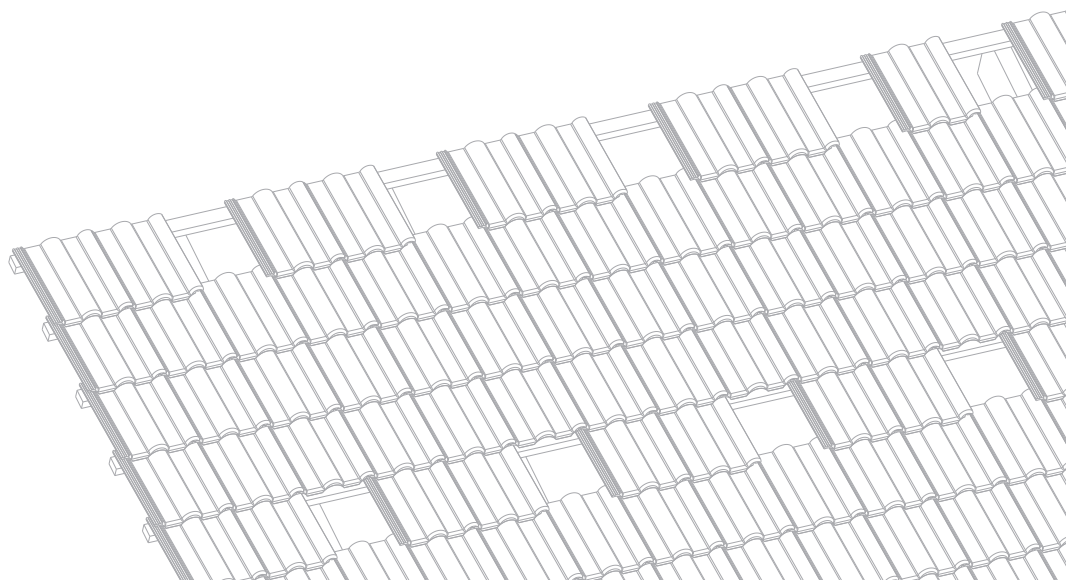




Sans calcul statique réalisé à l'aide du configurateur Renusol, la longueur de la console ne doit pas être supérieure à 300 mm.



- Indications générales
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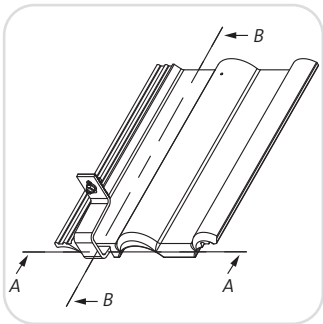
**Attention !**

Utilisez la perforation du crochet de toit pour placer le crochet de toit dans la dépression de la tuile. Vissez le crochet de toit seulement dans la zone autorisée. Respectez une distance de  $3 \times \varnothing$  de la vis à bois du bord extérieur du chevron de toit. Ne montez pas sur le crochet de toit.

La flèche du crochet de toit monté doit se trouver à une distance d'env. 5mm de la tuile.

Pour le nombre de vis, voir page 51-54.

## Système de rails bicouche - Alignement horizontal des modules

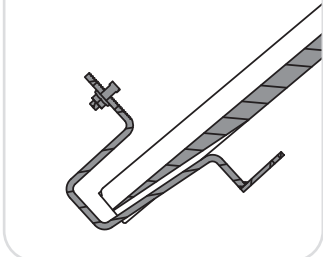


### Attention !

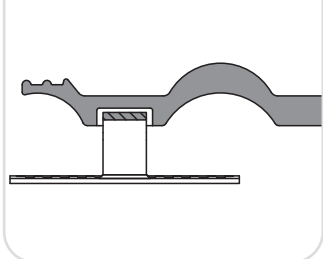
La modification suivante concerne les tuiles à emboîtement mécanique uniquement. En cas de tuiles plates, voir la page 46-48.

Modifiez les tuiles au-dessus du crochet de toit à l'aide d'une meuleuse angulaire. Modifiez la tuile selon la vue détaillée A-A et B-B.

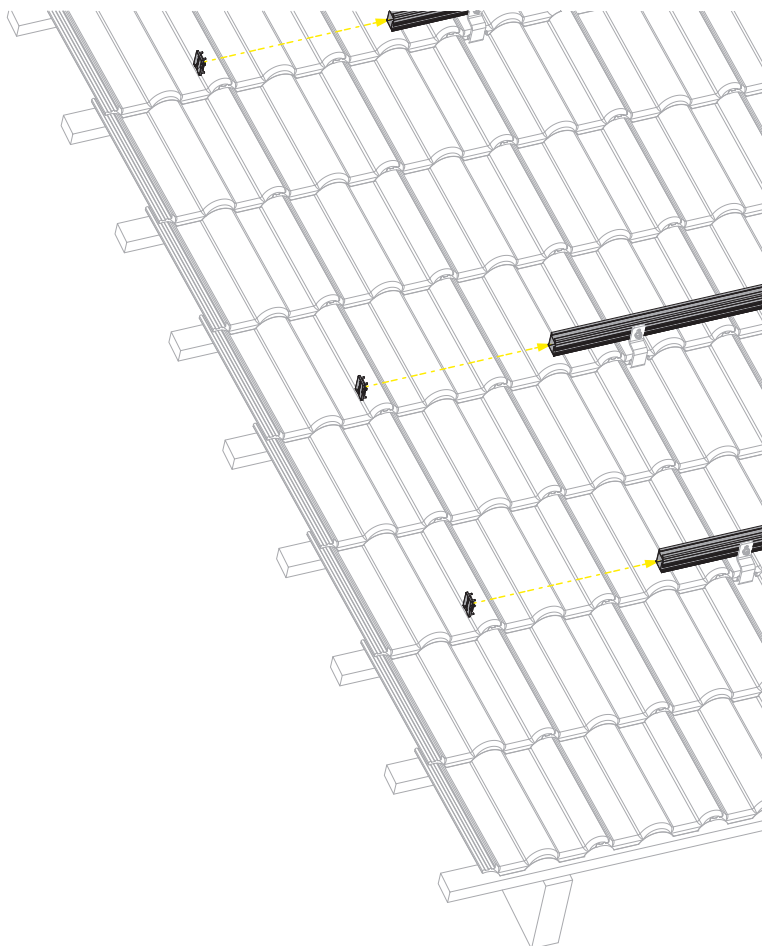
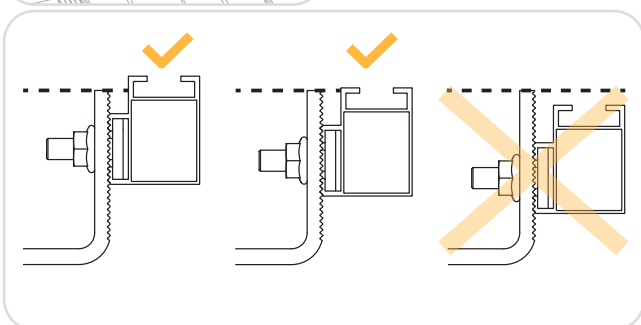
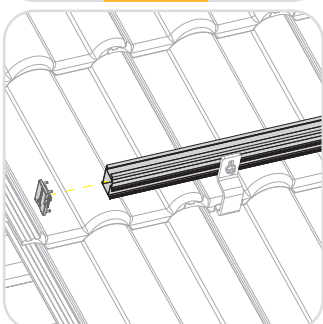
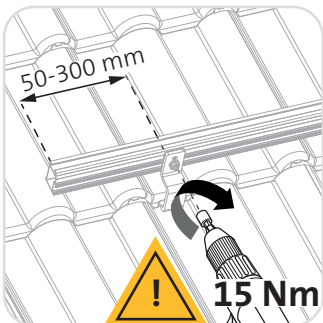
A-A



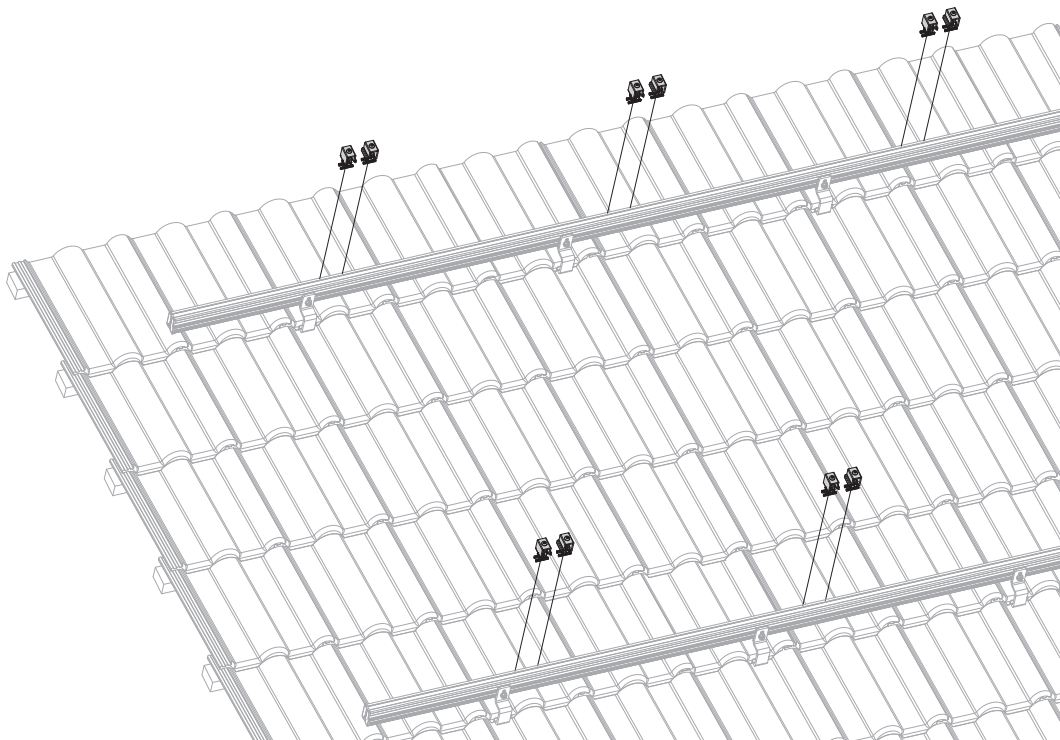
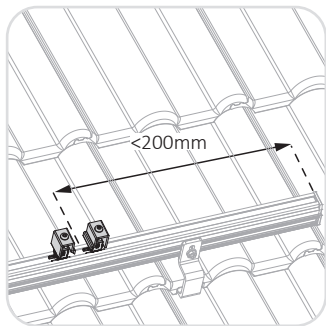
B-B



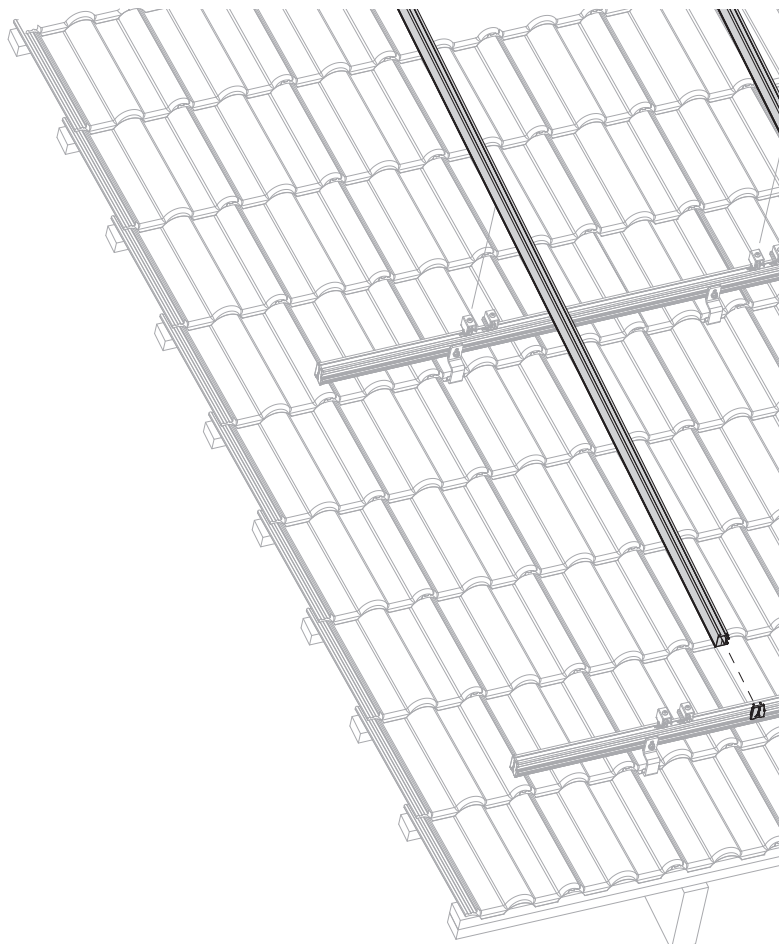
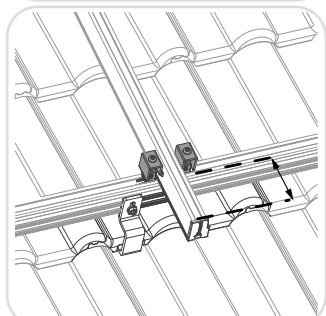
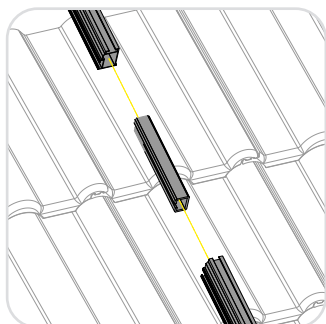
## Système de rails bicouche - Alignement horizontal des modules



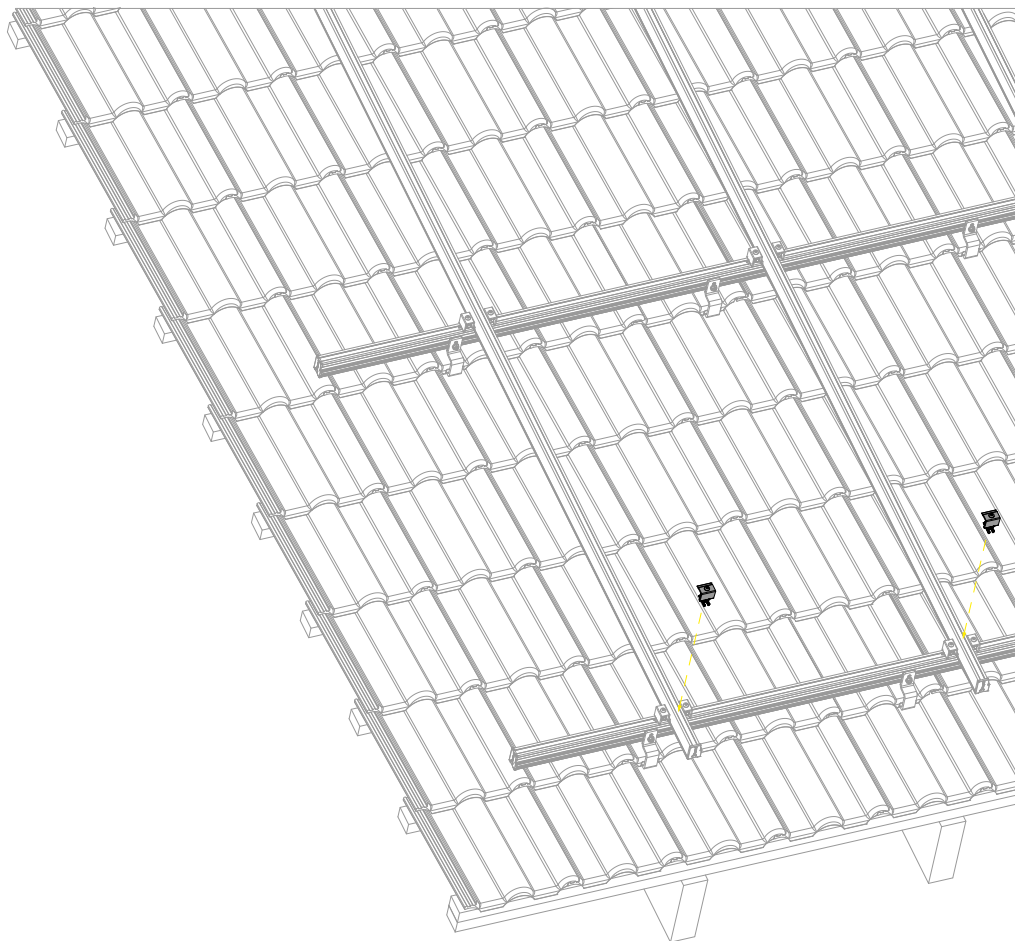
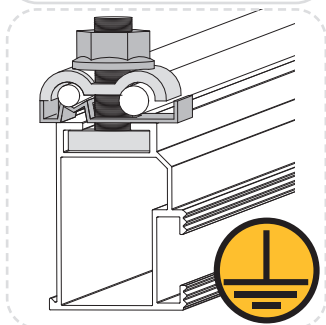
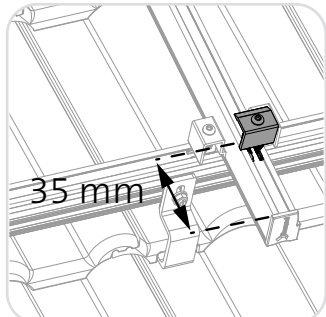
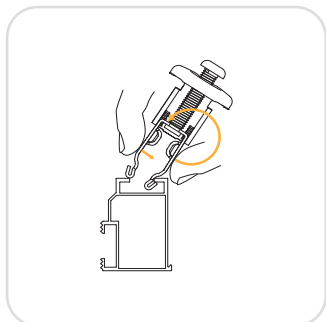
## Système de rails bicouche - Alignement horizontal des modules



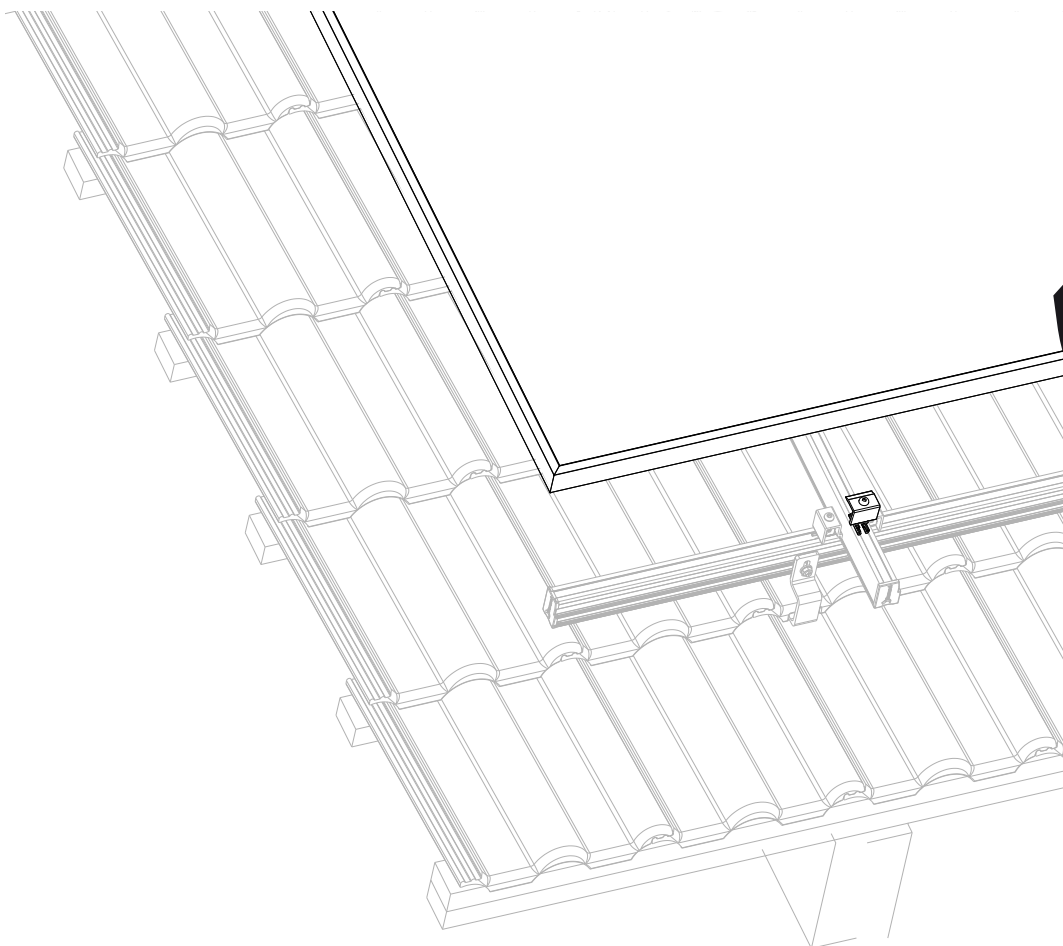
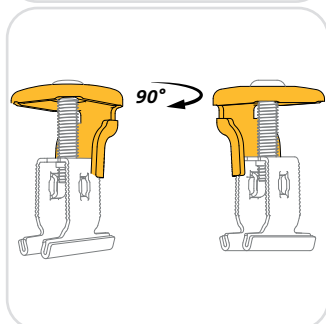
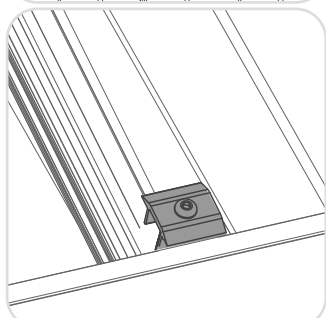
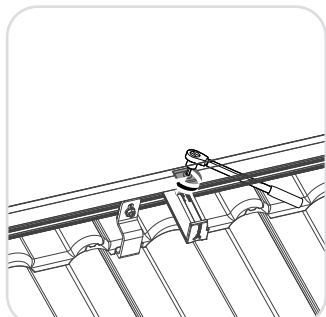
## Système de rails bicouche - Alignement horizontal des modules

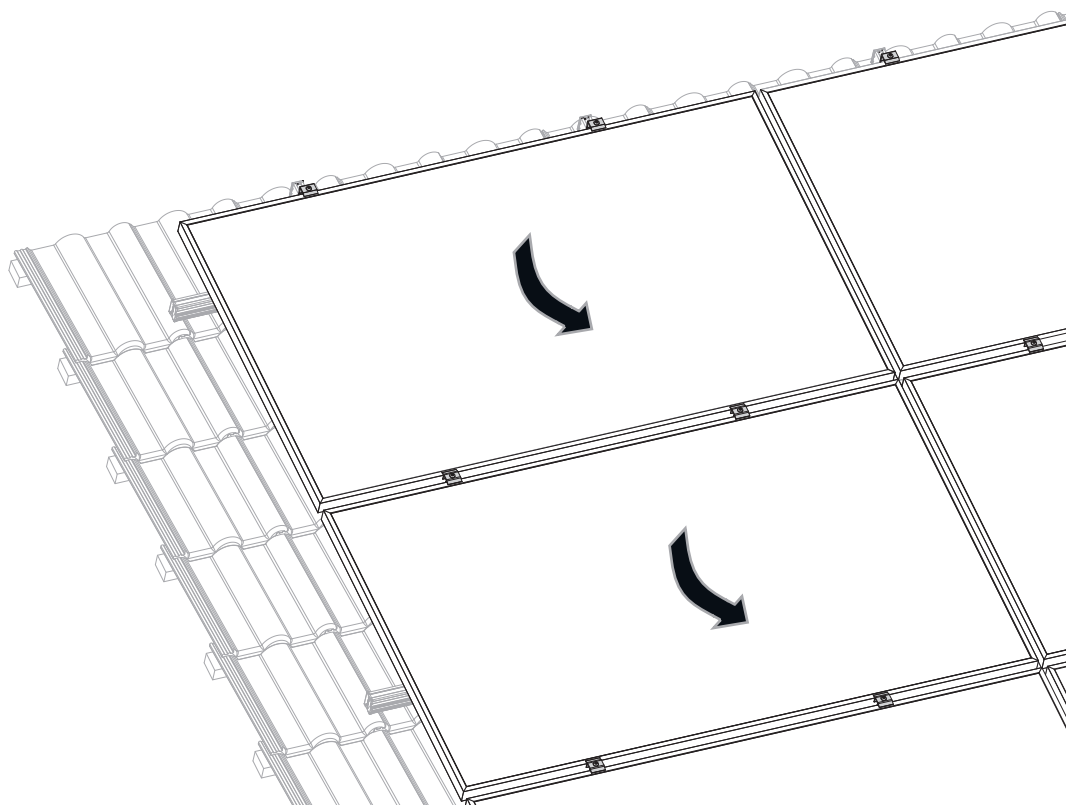
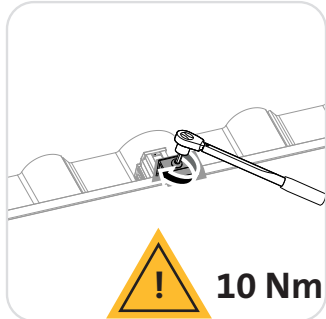


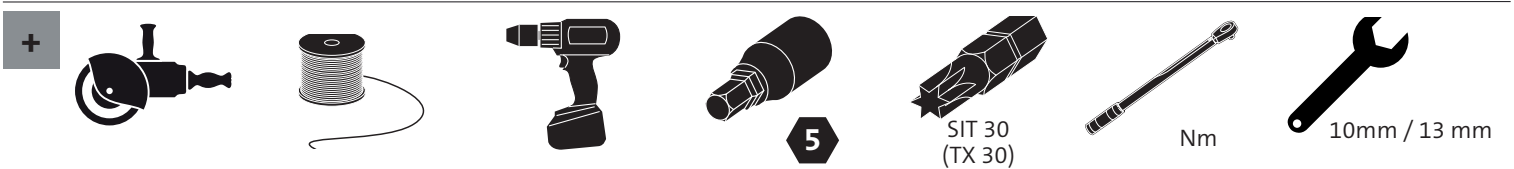
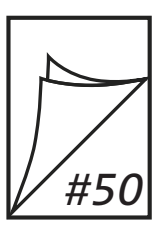
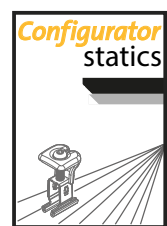
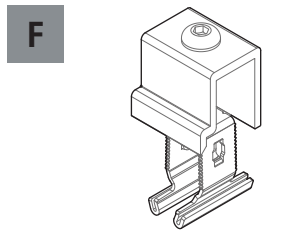
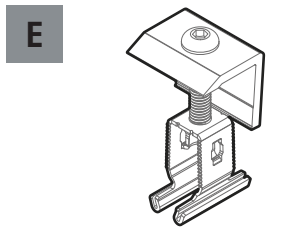
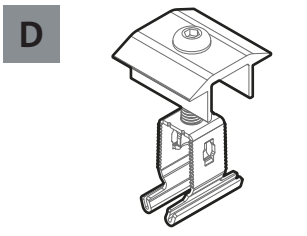
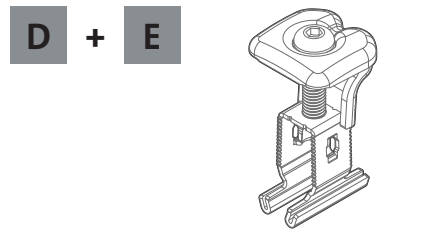
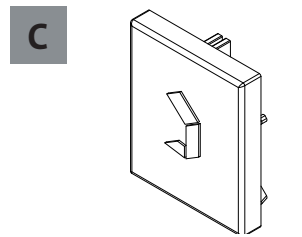
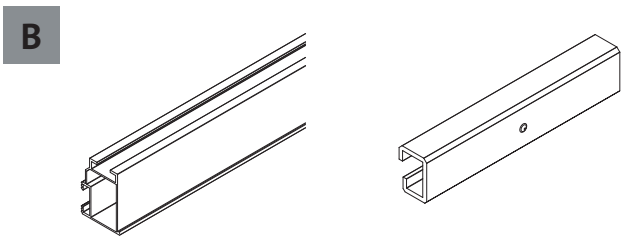
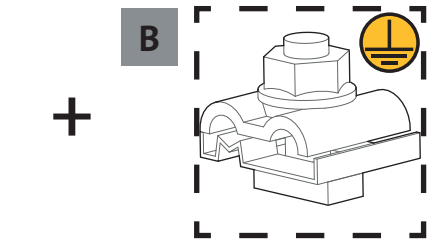
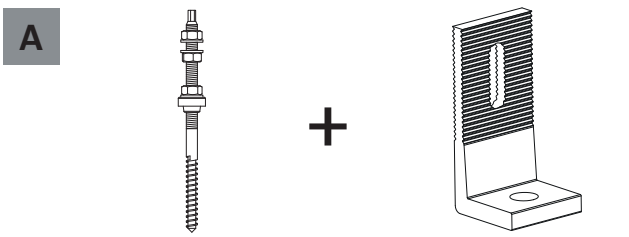
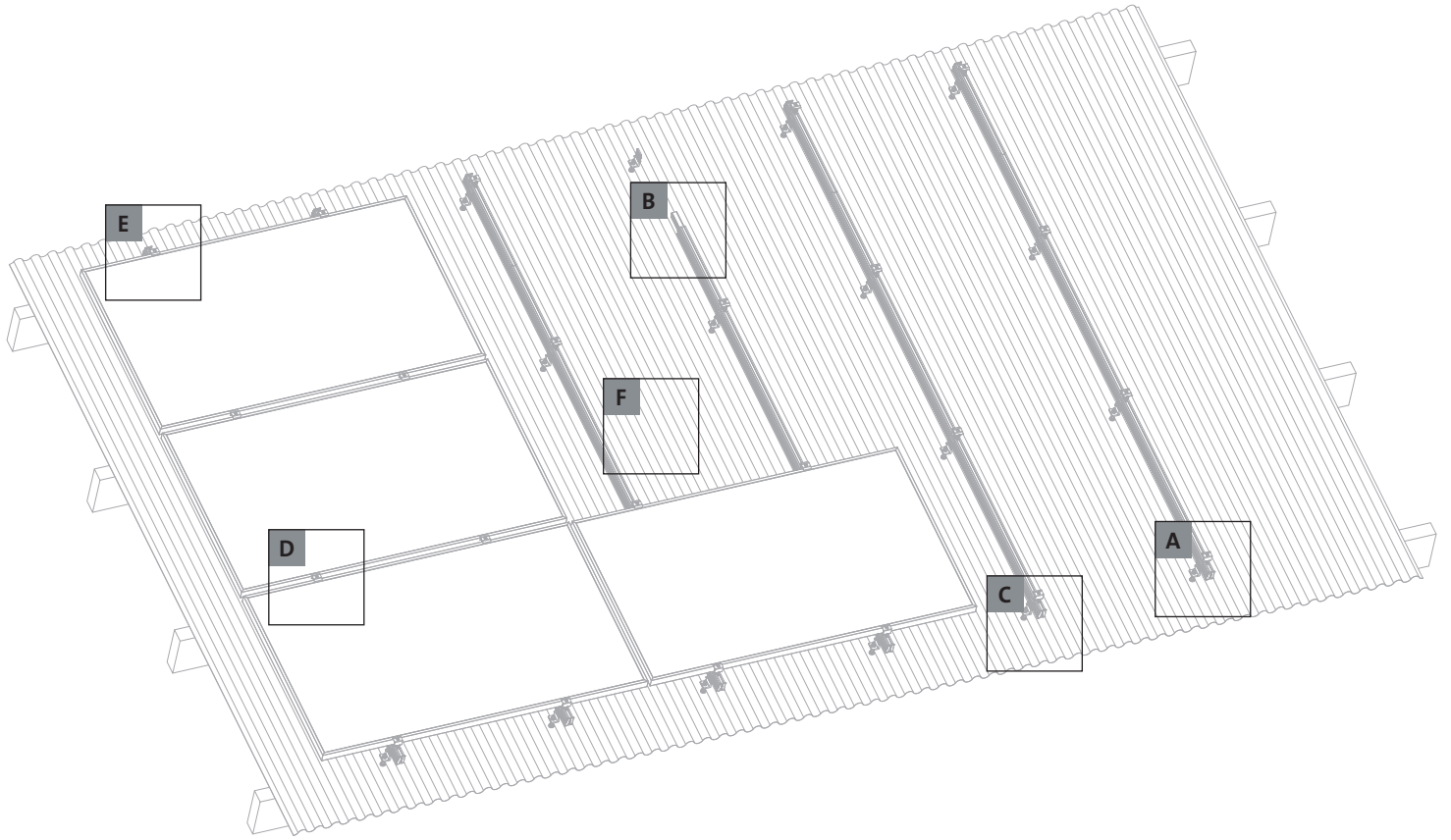
## Système de rails bicouche - Alignement horizontal des modules

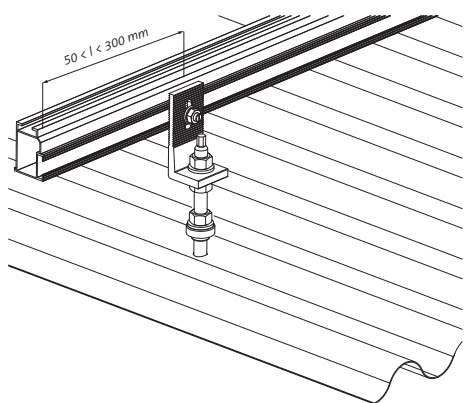
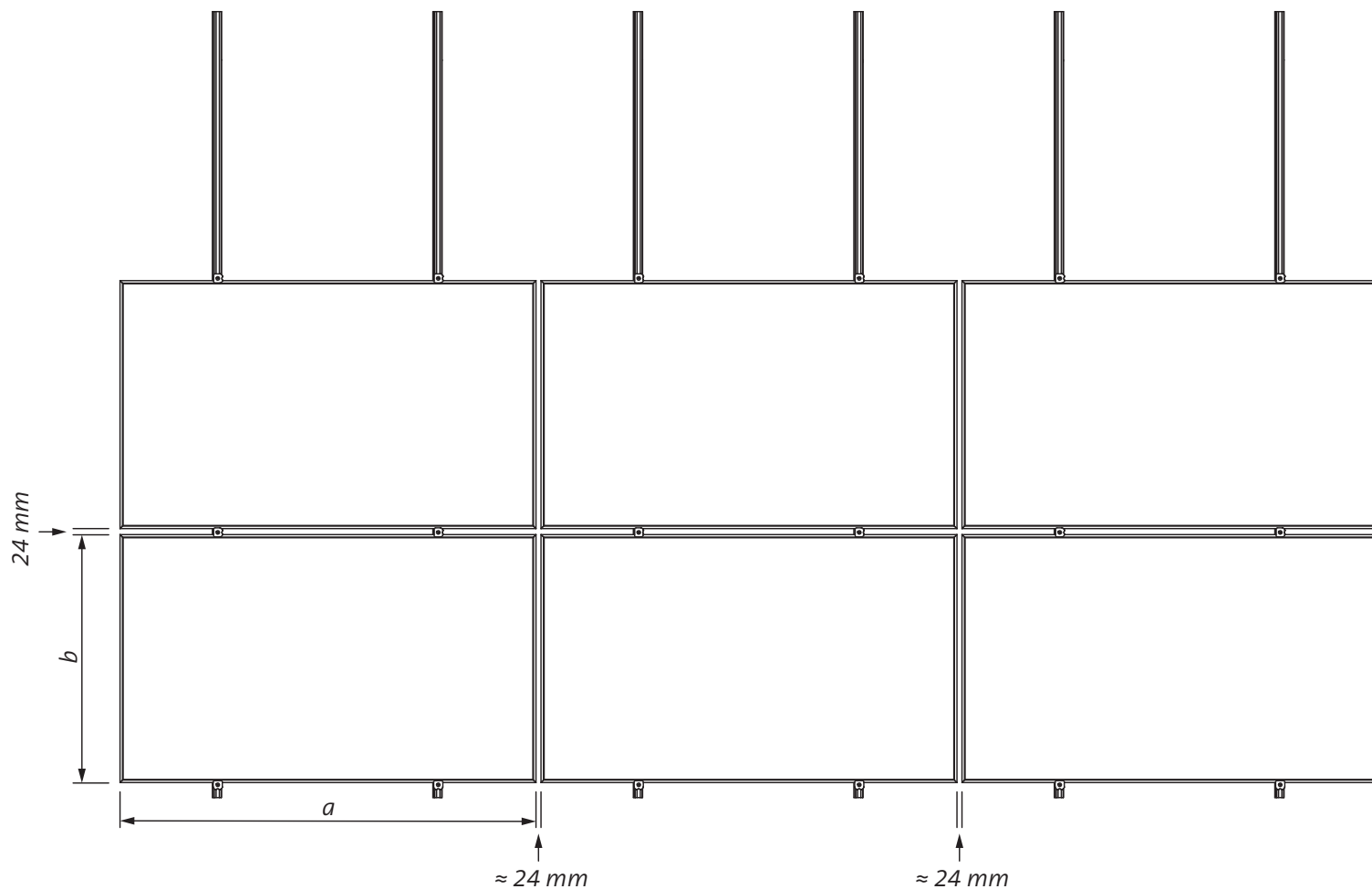


## Système de rails bicouche - Alignement horizontal des modules

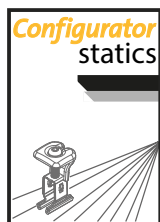






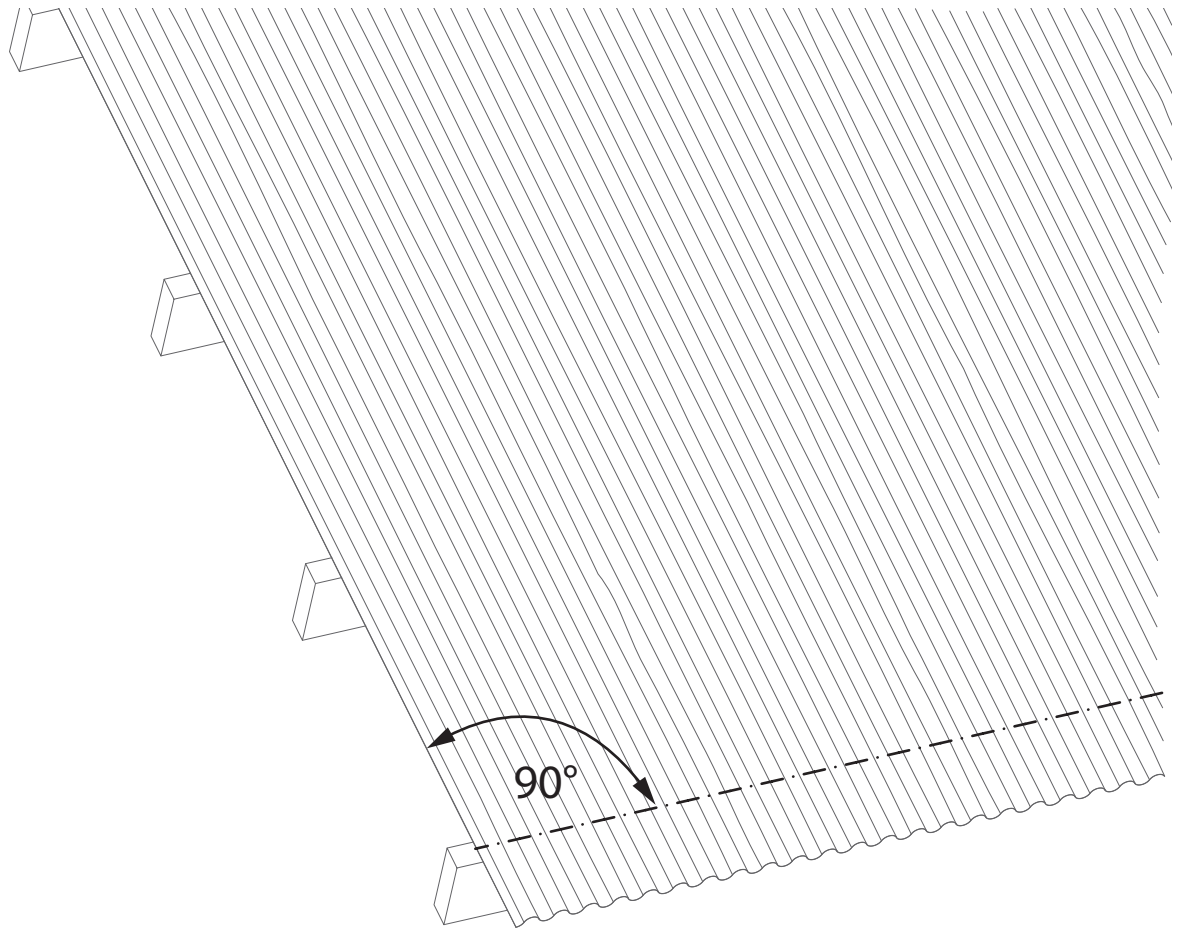
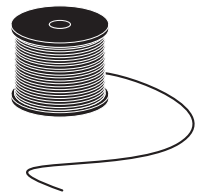
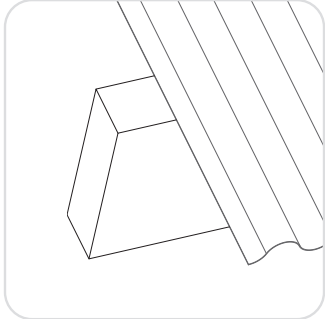
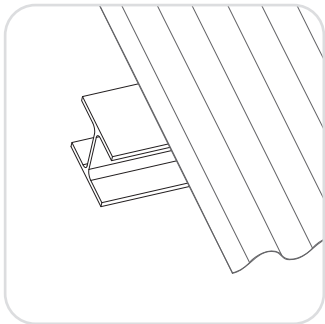


Sans calcul statique réalisé à l'aide du configurateur Renusol, la longueur de la console ne doit pas être supérieure à 300 mm.

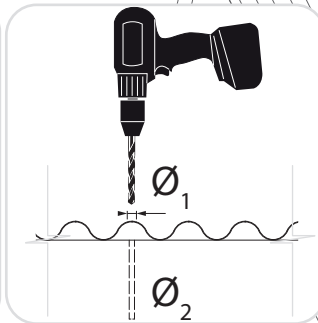
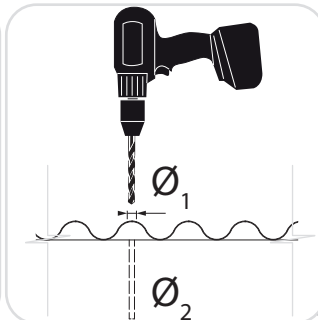
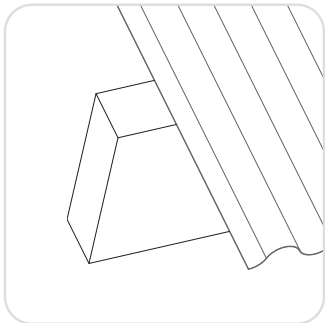
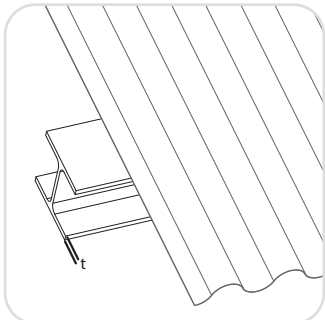


- Indications générales
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Vis à double filetage - Raccordement de fixation de panneau photovoltaïque - Alignement horizontal des modules

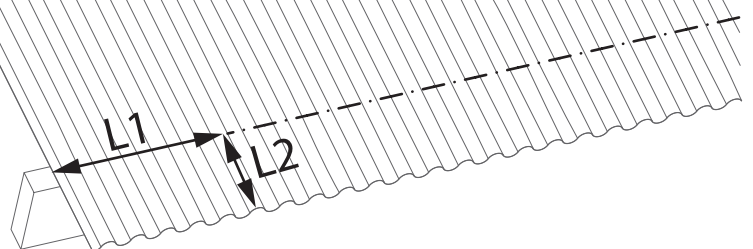


Vis à double filetage - Raccordement de fixation de panneau photovoltaïque - Alignement horizontal des modules

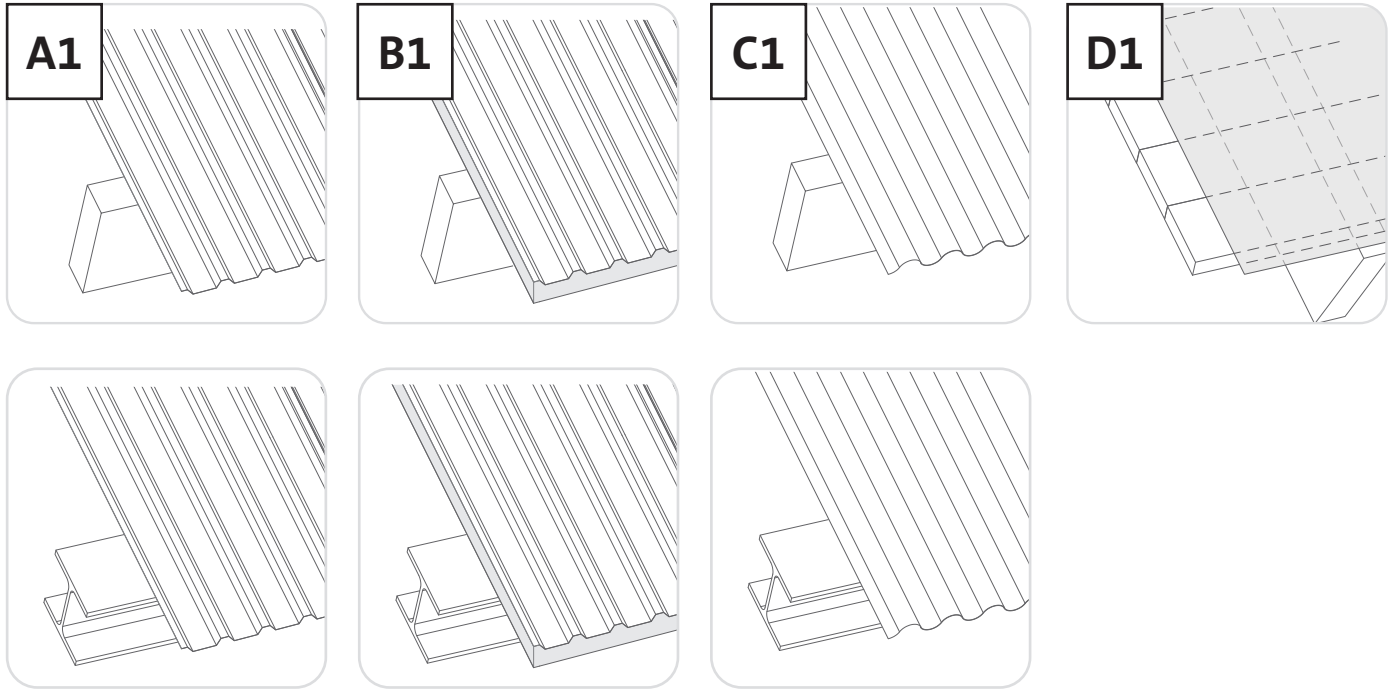


t= (mm)	1,5 - 5,0	6,0	8,0	>10
Ø <sub>1</sub> (mm)	14 mm			
Ø <sub>2</sub> (mm)	6,8	7,0	7,2	7,4

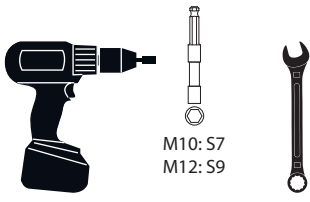
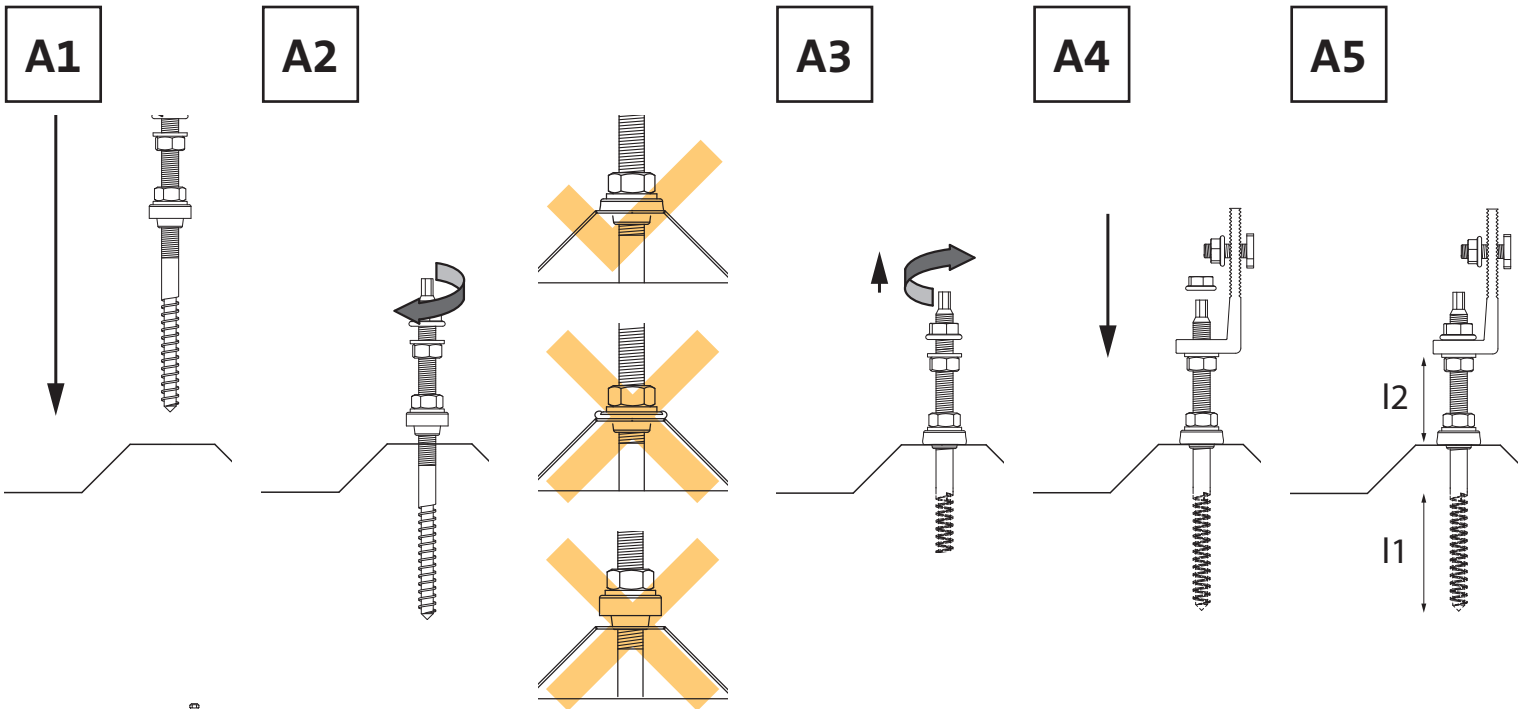
Ø	M10	M12
Ø <sub>1</sub>	14 mm	
Ø <sub>2</sub>	7,0 mm	8,4 mm



Vis à double filetage - Raccordement de fixation de panneau photovoltaïque - Alignement horizontal des modules



Vis à double filetage - Raccordement de fixation de panneau photovoltaïque - Alignement horizontal des modules



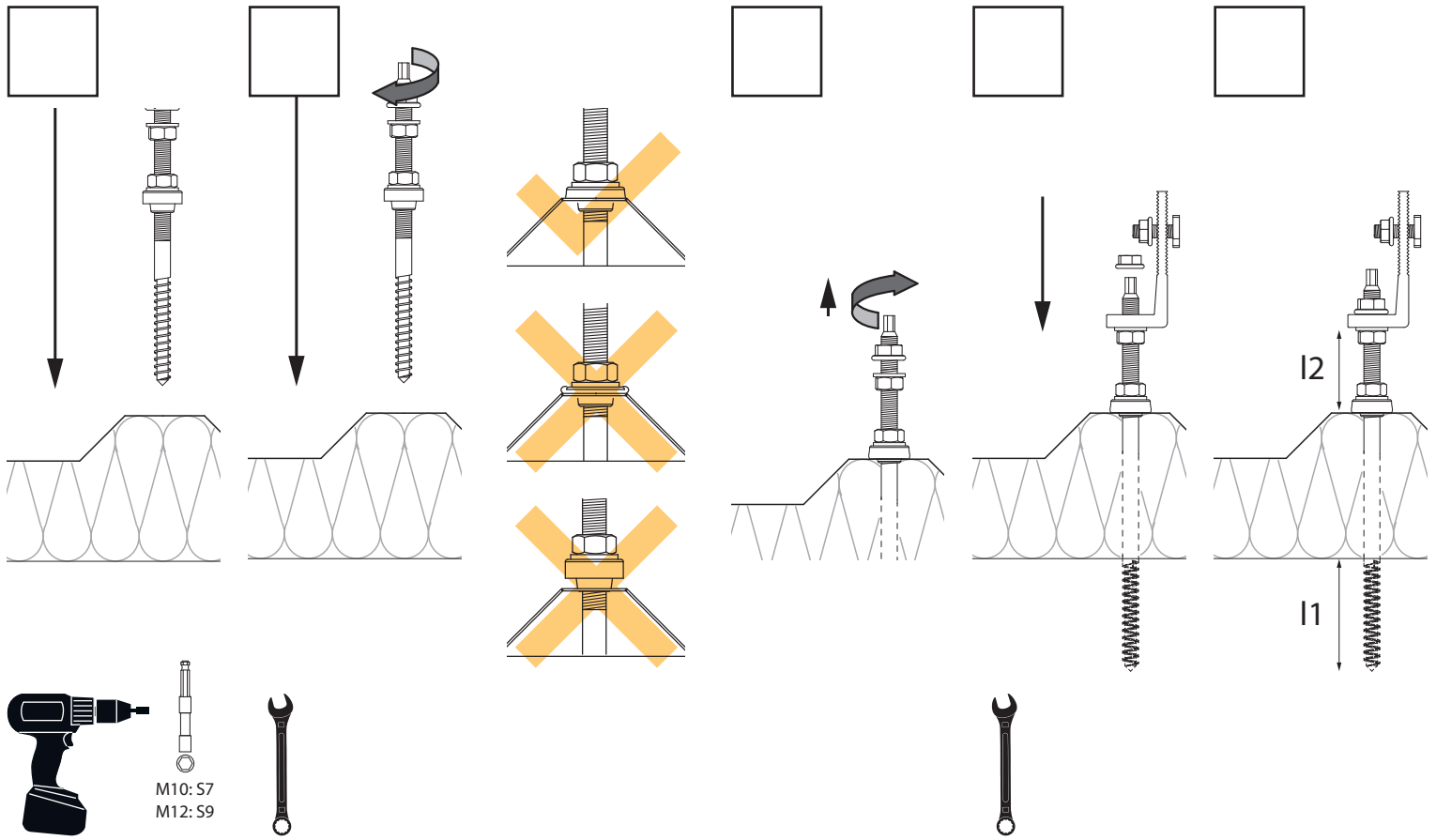
M10: SW17  
M12: SW19



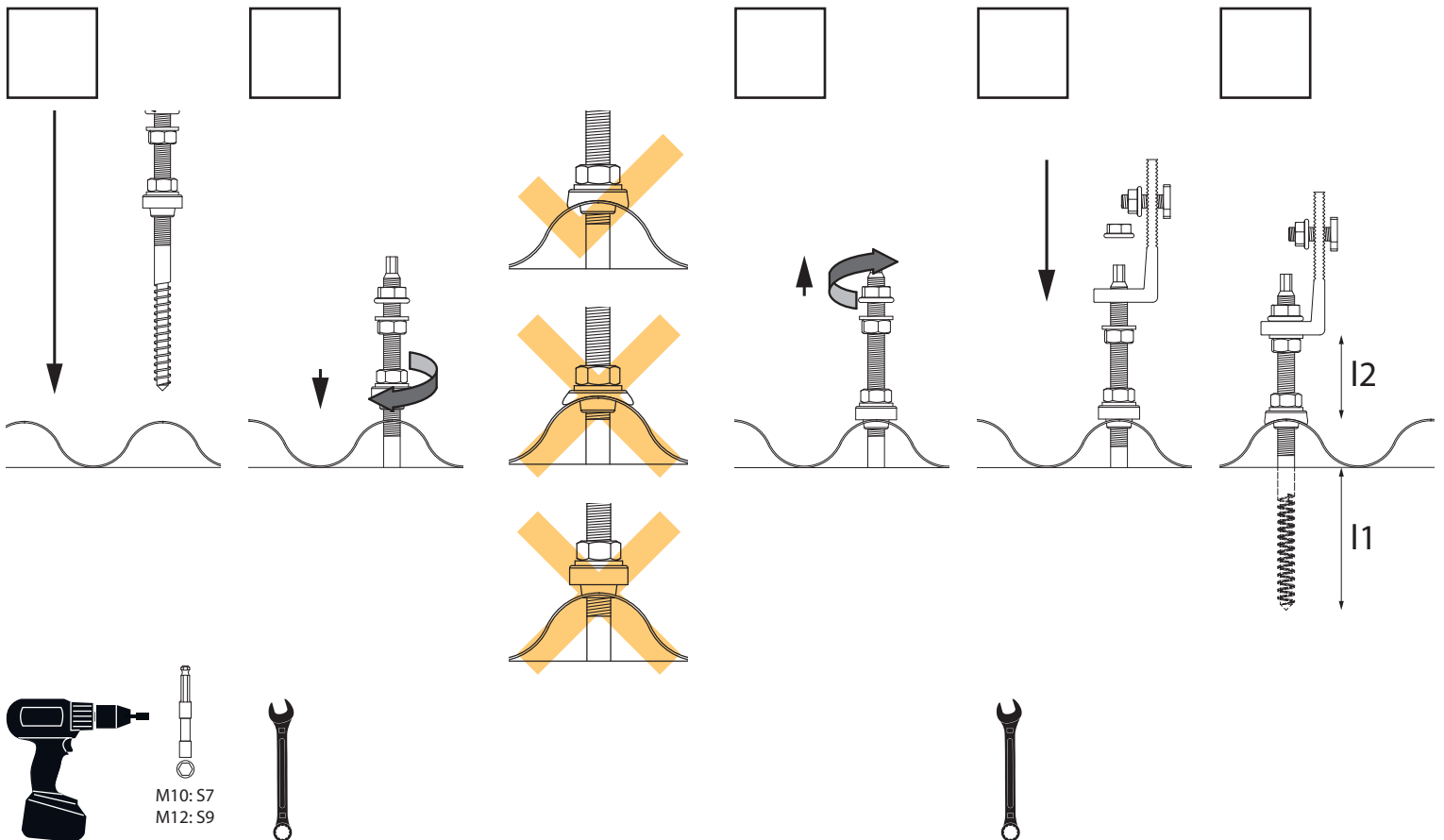
M10: SW17  
M12: SW19

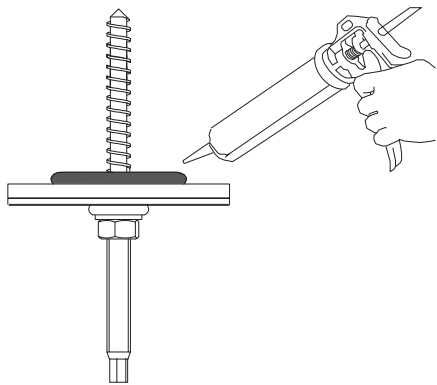
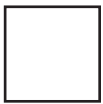
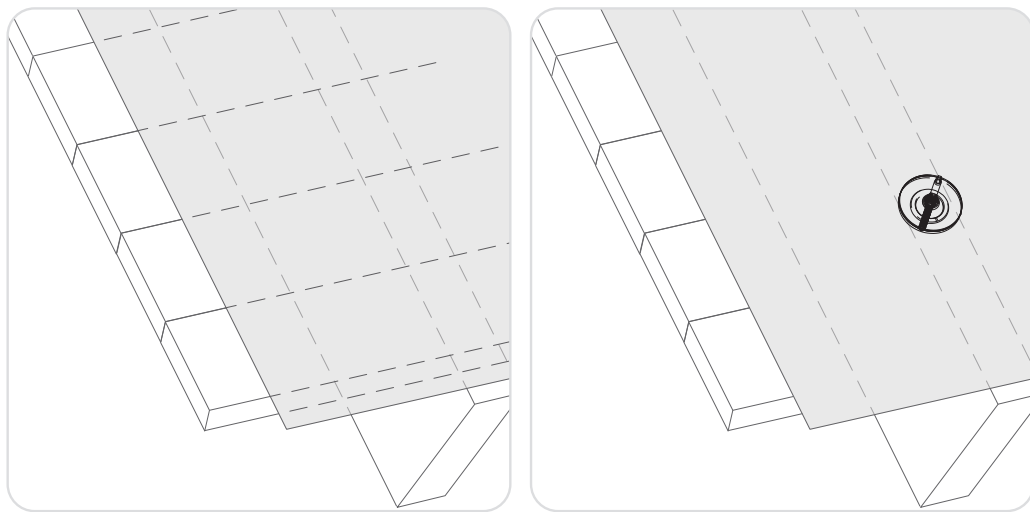
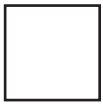
mm	M10	M12
l1	>40	>48
l2	<40	

Vis à double filetage - Raccordement de fixation de panneau photovoltaïque - Alignement horizontal des modules



Vis à double filetage - Raccordement de fixation de panneau photovoltaïque - Alignement horizontal des modules

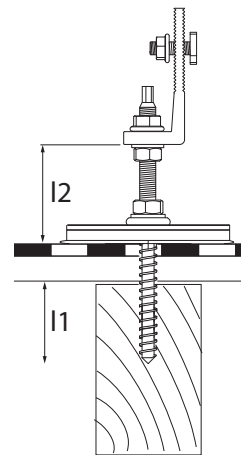
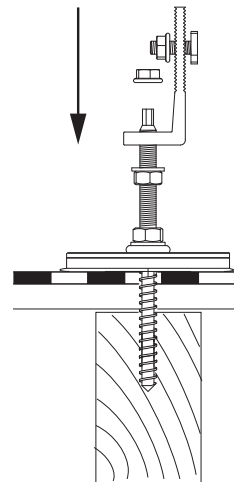
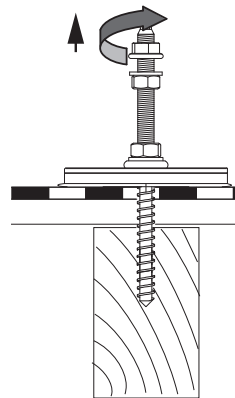
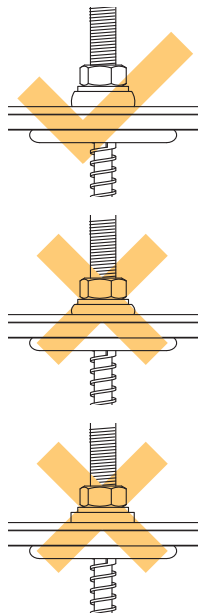
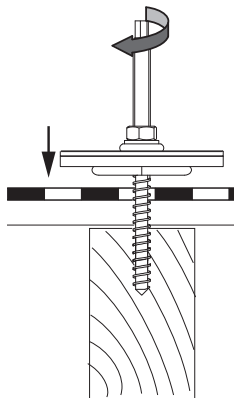
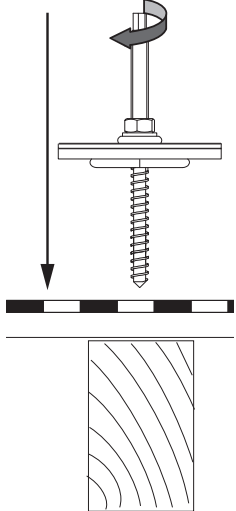
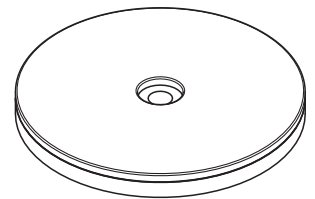
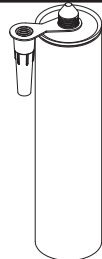




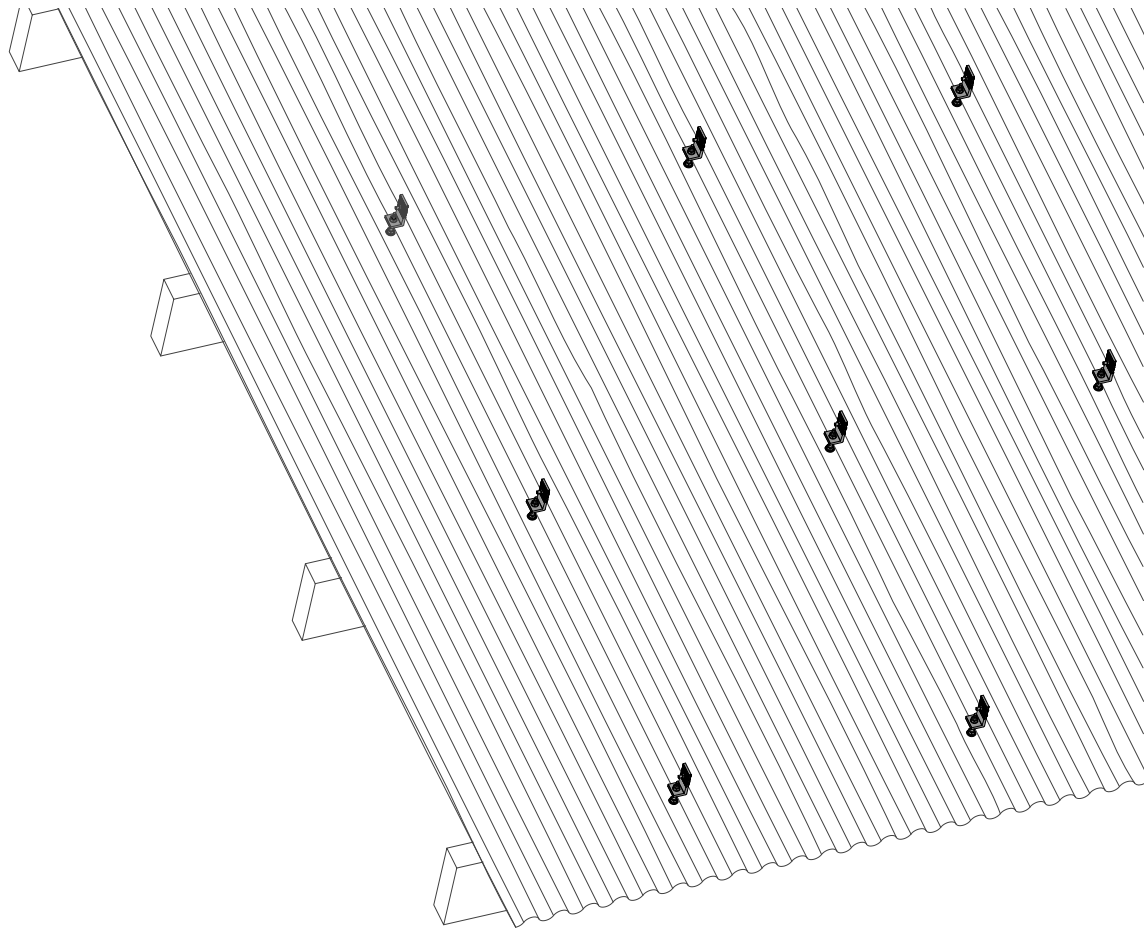
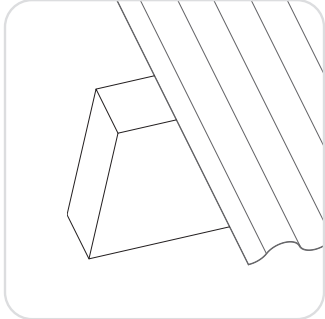
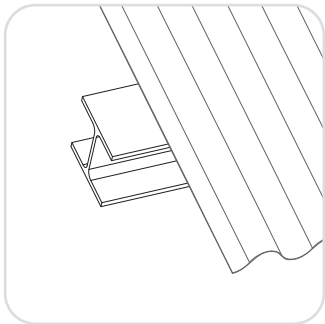
**1x R300000 = 12x R900274**

**R300000**

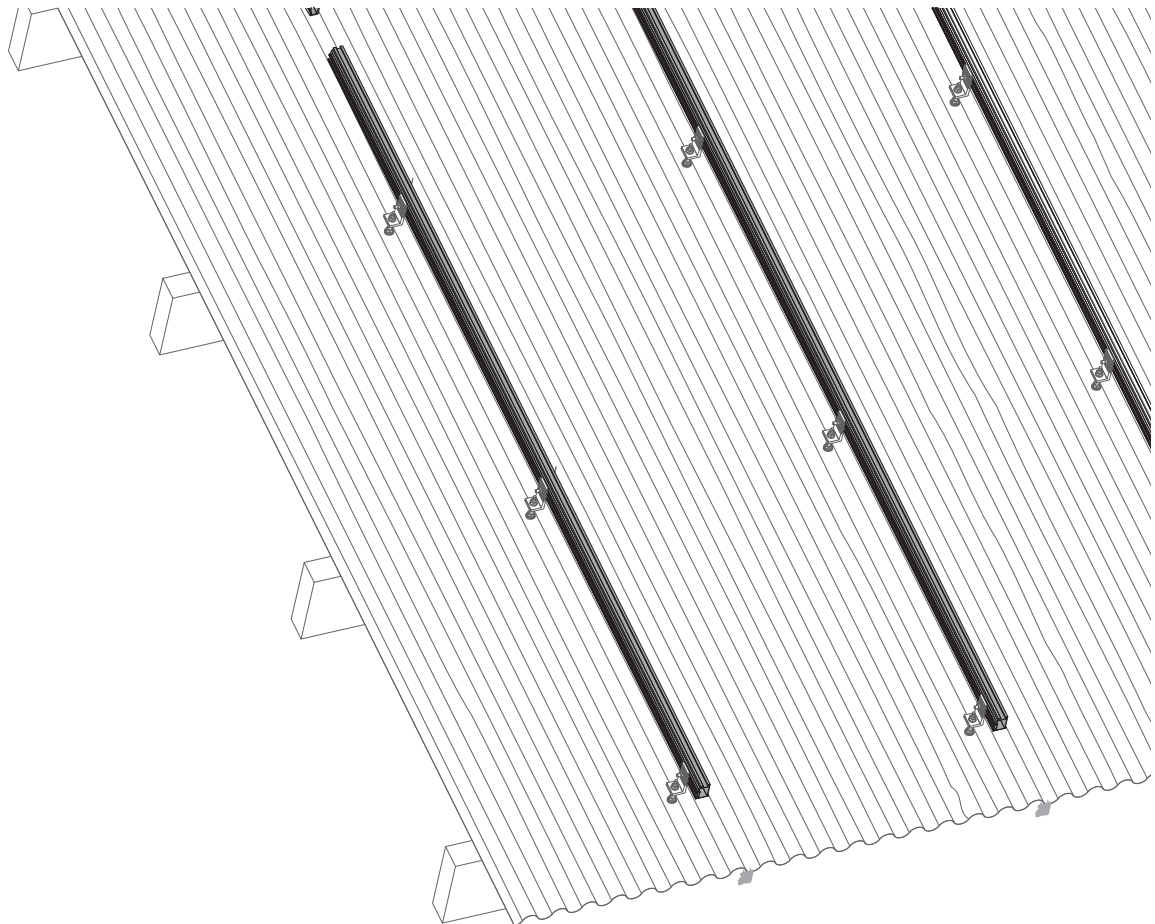
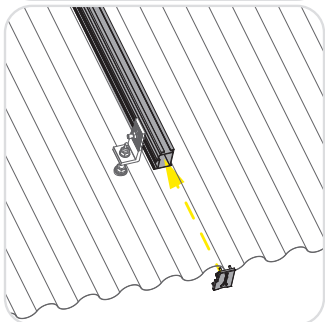
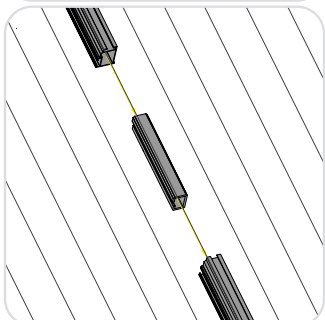
**R900274**



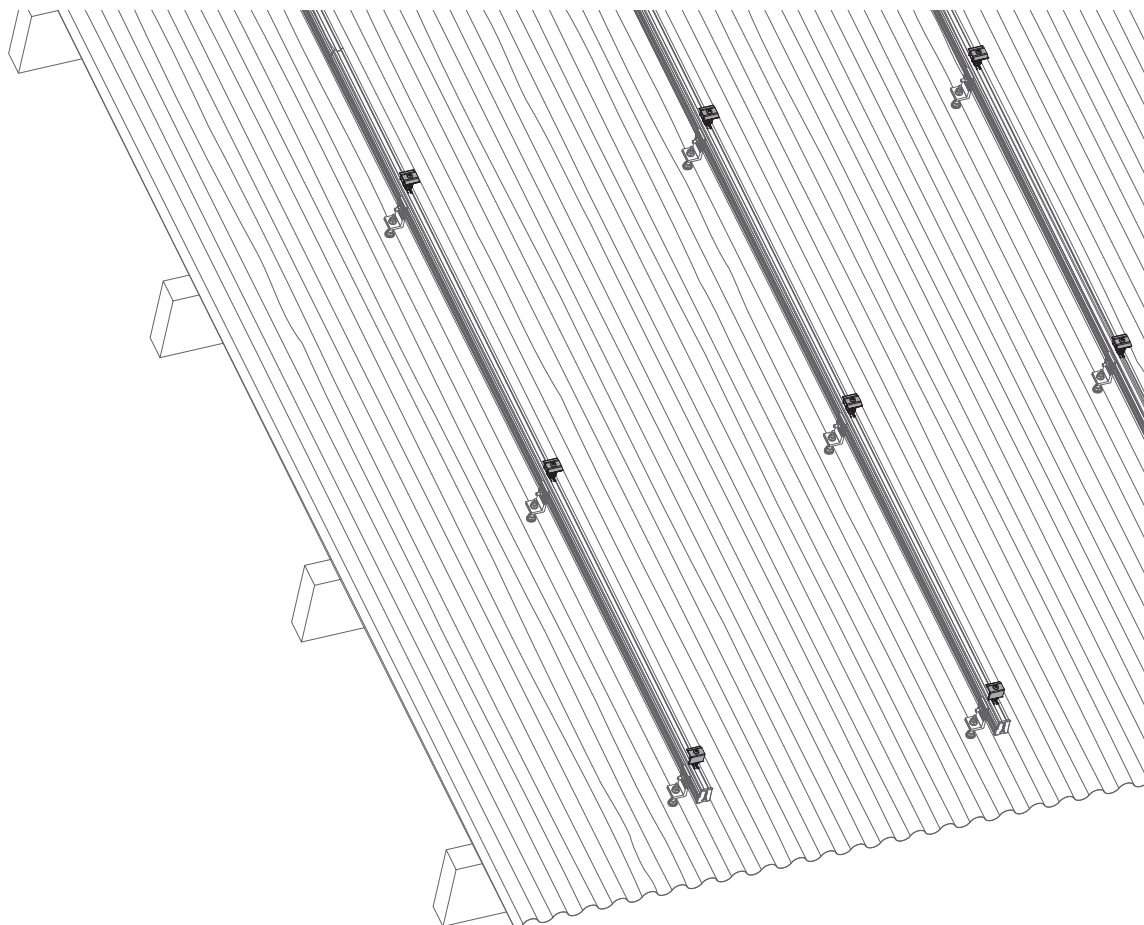
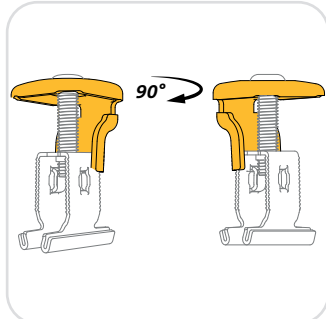
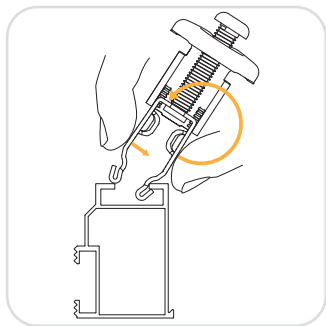
Vis à double filetage - Raccordement de fixation de panneau photovoltaïque - Alignement horizontal des modules



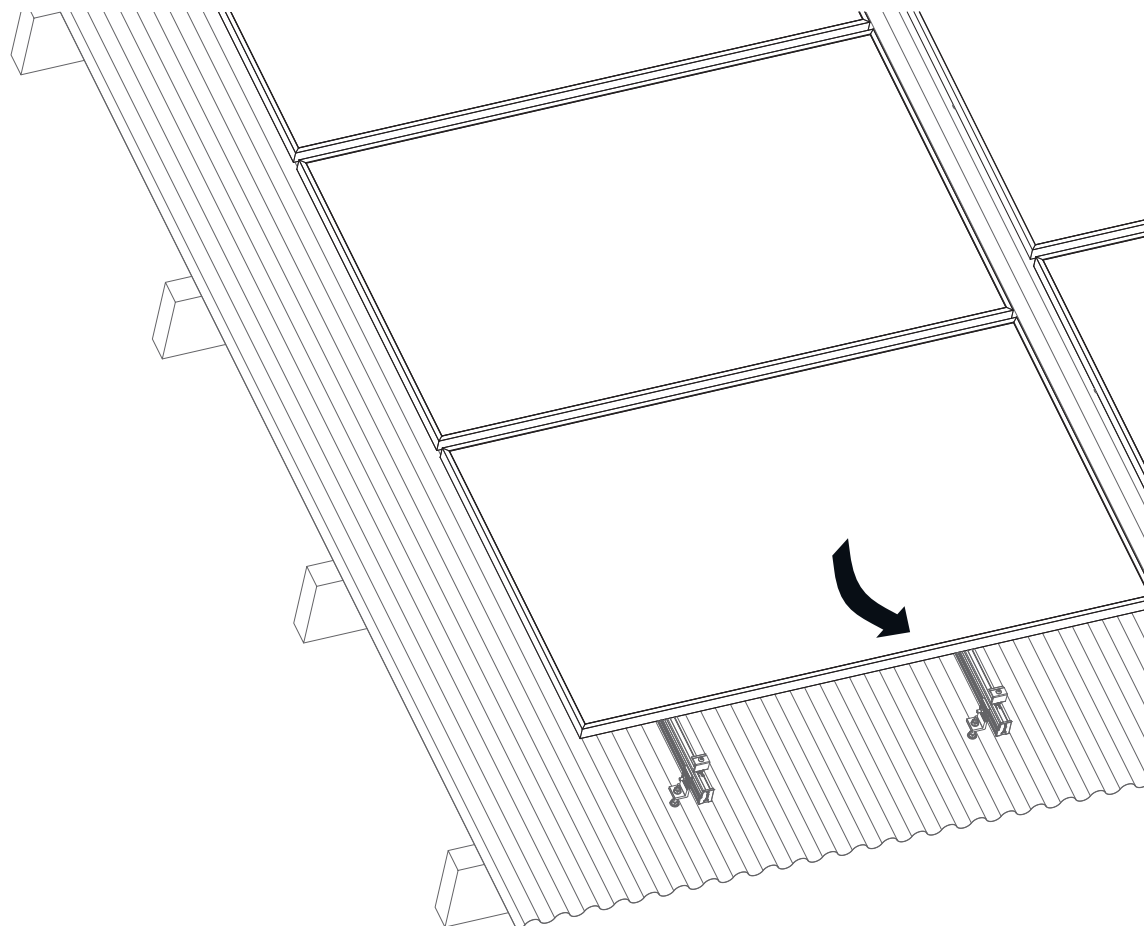
Vis à double filetage - Raccordement de fixation de panneau photovoltaïque - Alignement horizontal des modules

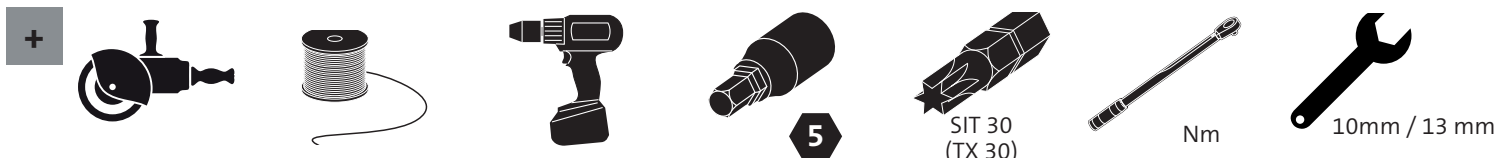
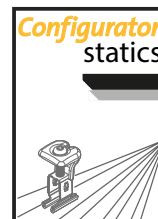
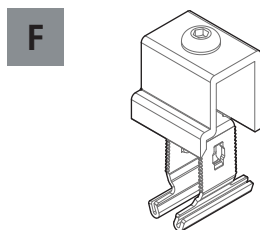
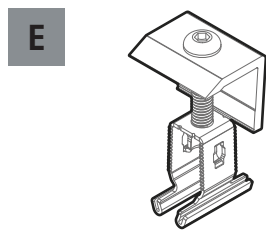
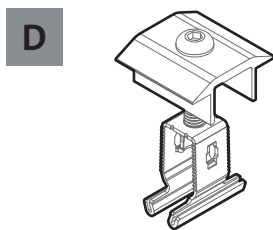
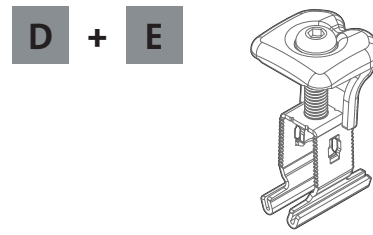
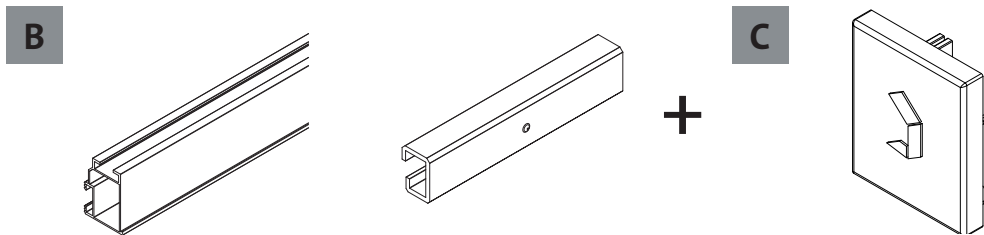
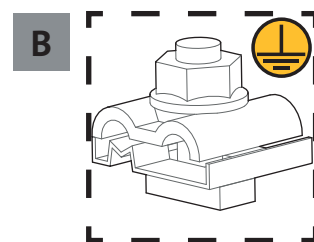
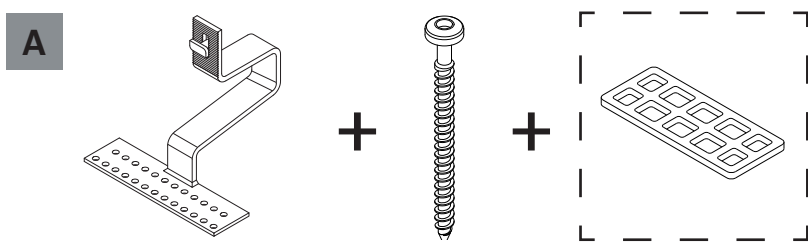
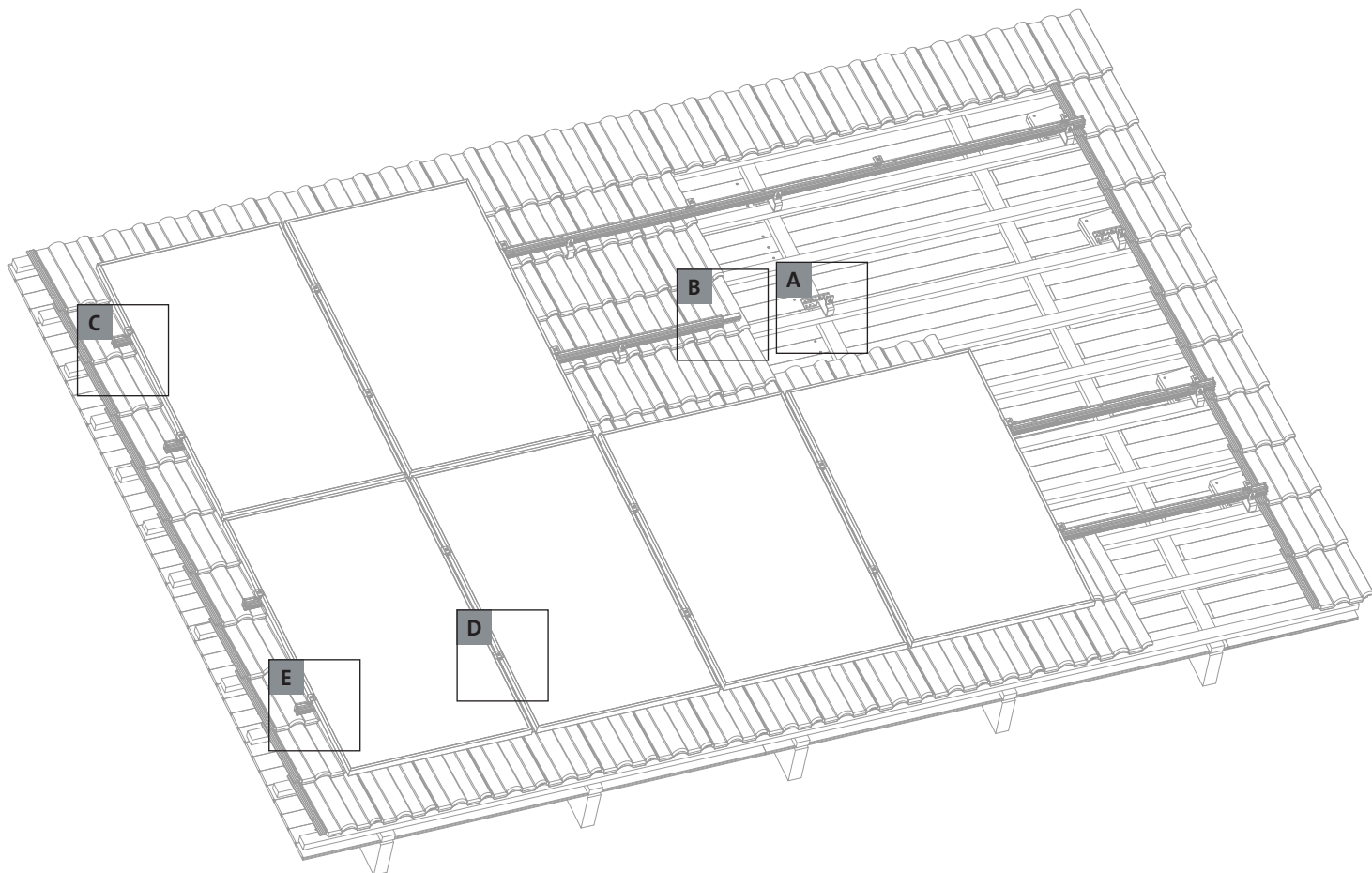


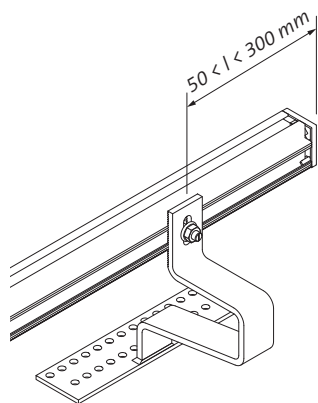
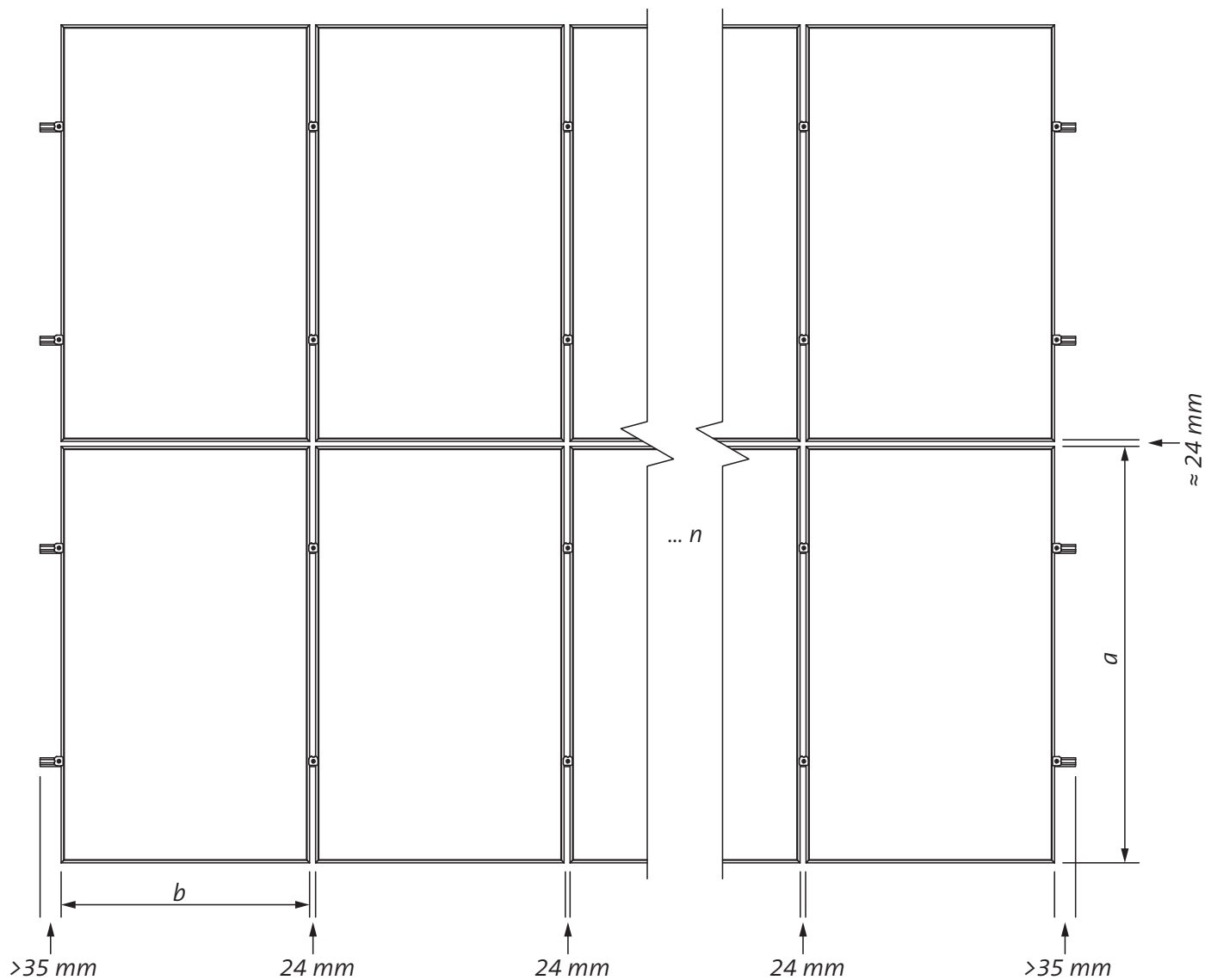
Vis à double filetage - Raccordement de fixation de panneau photovoltaïque - Alignement horizontal des modules



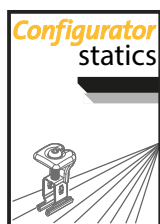
Vis à double filetage - Raccordement de fixation de panneau photovoltaïque - Alignement horizontal des modules







Sans calcul statique réalisé à l'aide du configurateur Renusol, la longueur de la console ne doit pas être supérieure à 300 mm.

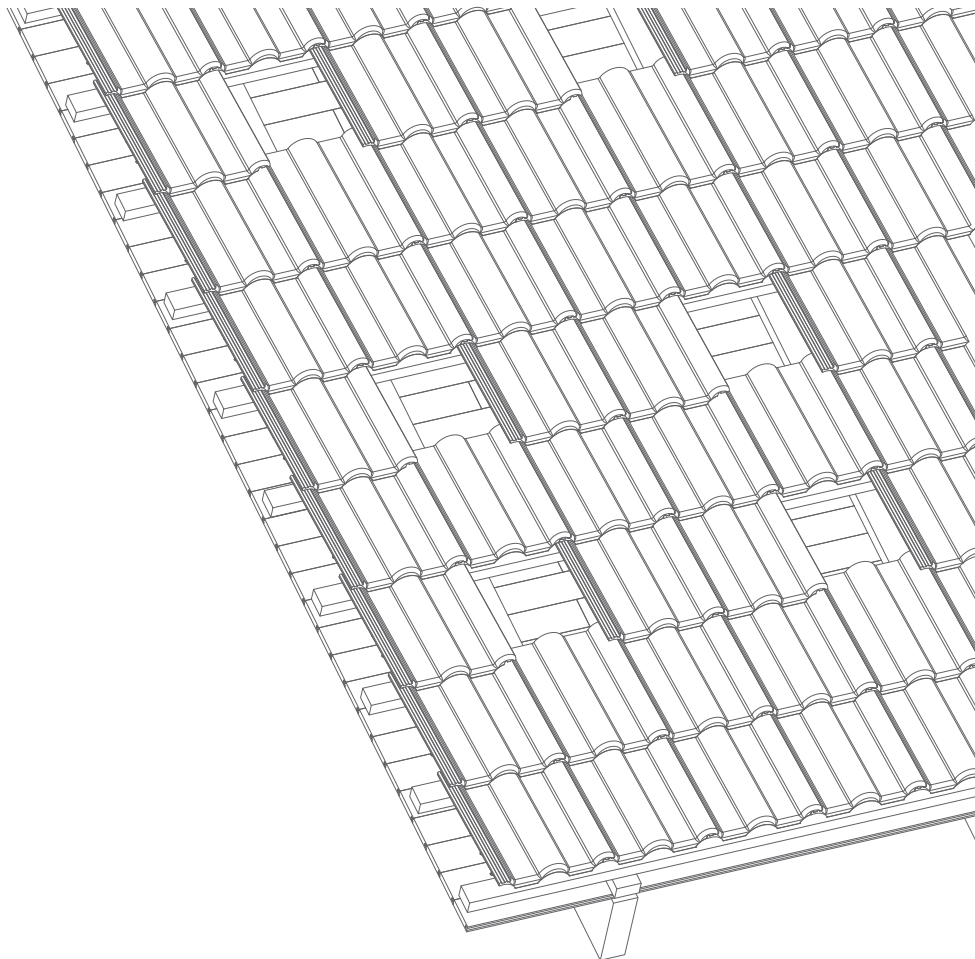


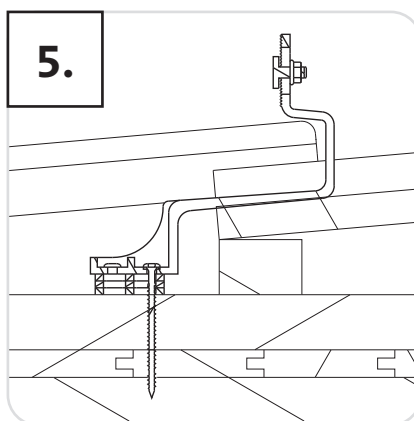
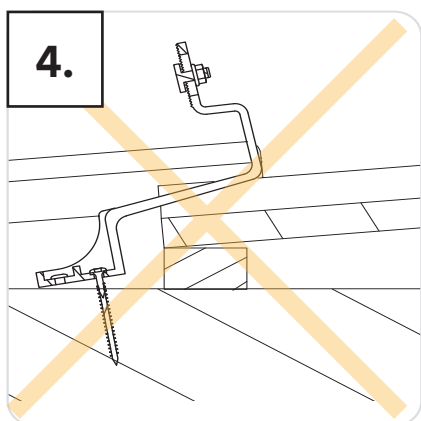
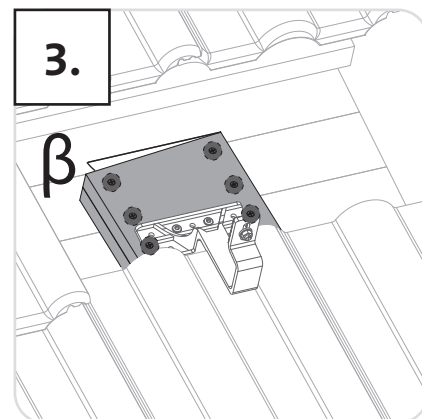
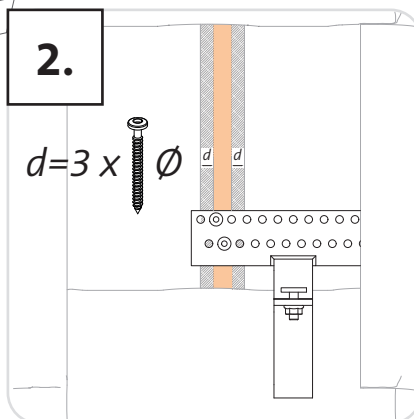
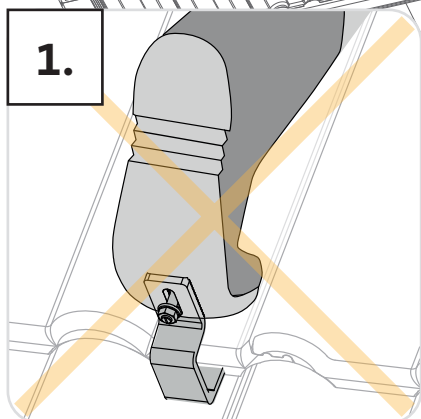
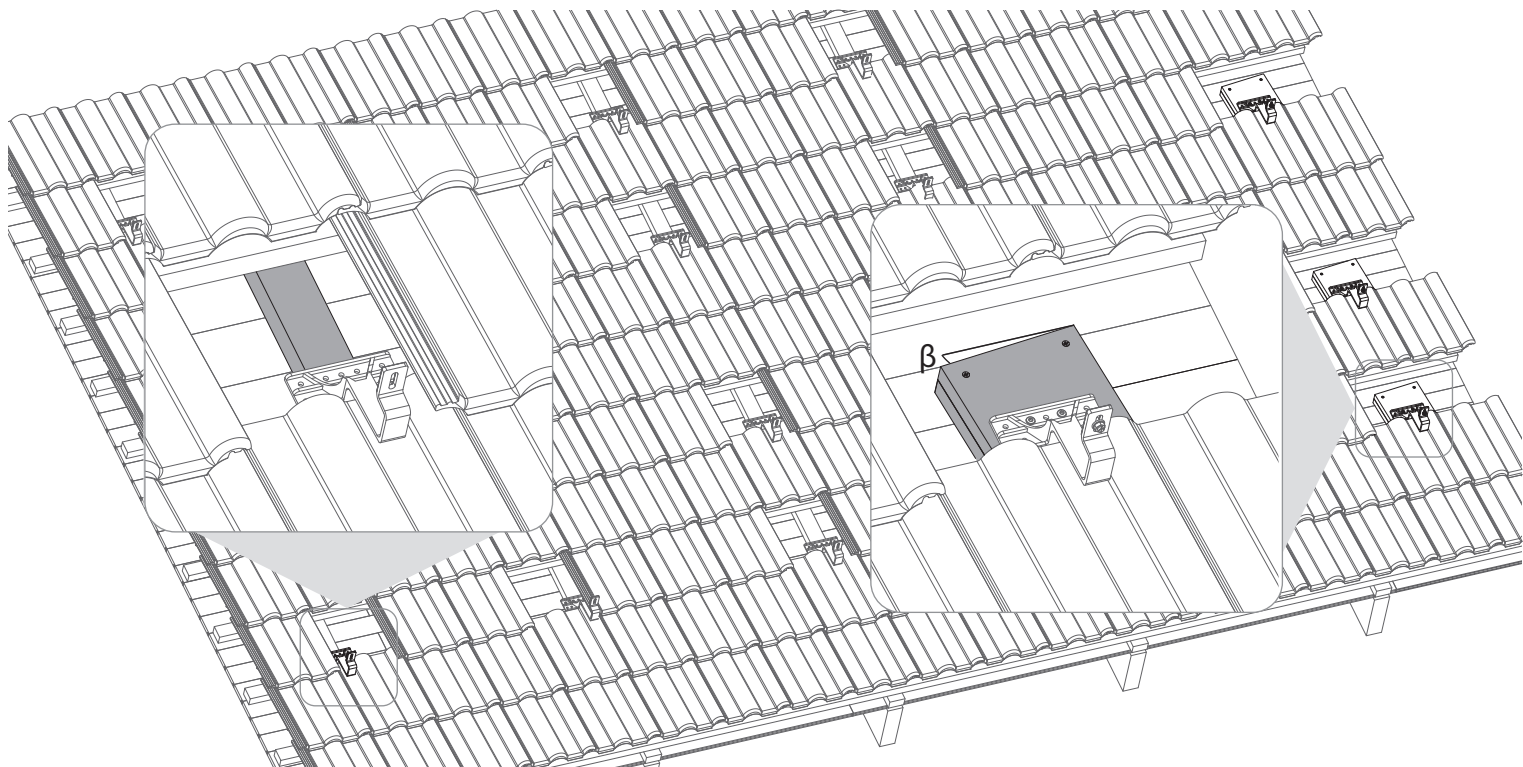
- Indications générales
- Calculs statiques
- Vue d'ensemble technique du projet  
 → [www.pv-configurator.com](http://www.pv-configurator.com)

Retirez les tuiles de toit supplémentaires de la partie supérieure selon le dessin pour dégager l'espace de travail.

### Attention !

Avant le montage, contrôlez l'état de la charpente. Il faut vérifier, par exemple, la qualité et l'épaisseur des chevrons, des pannes et de l'étanchéité du toit. Le bâtiment doit pouvoir soutenir les charges supplémentaires liées à l'installation photovoltaïque de manière sûre et durable.

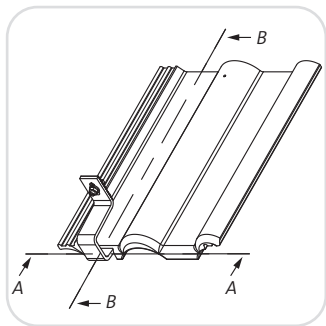




**Warning!**

1. Do not use the roof hook as step
2. Only screw the roof hooks attached to the rafters within the permissible range. Keep a distance of  $3x \varnothing$  wood screws to the outer edge. The quantity of screws can be found in the annex.
3. avoid the possibility of standing water by twisting or beveling the levelling element at an angle of approx.  $\beta \approx 5^\circ$ . We recommend screwing the levelling element with 2 screws each to at least 3 boards to ensure an even load transfer to the substructure.
4. Ensure that the roof hook does not rest on the tile.
5. The roof hook should be screwed through all levelling elements into the boards.

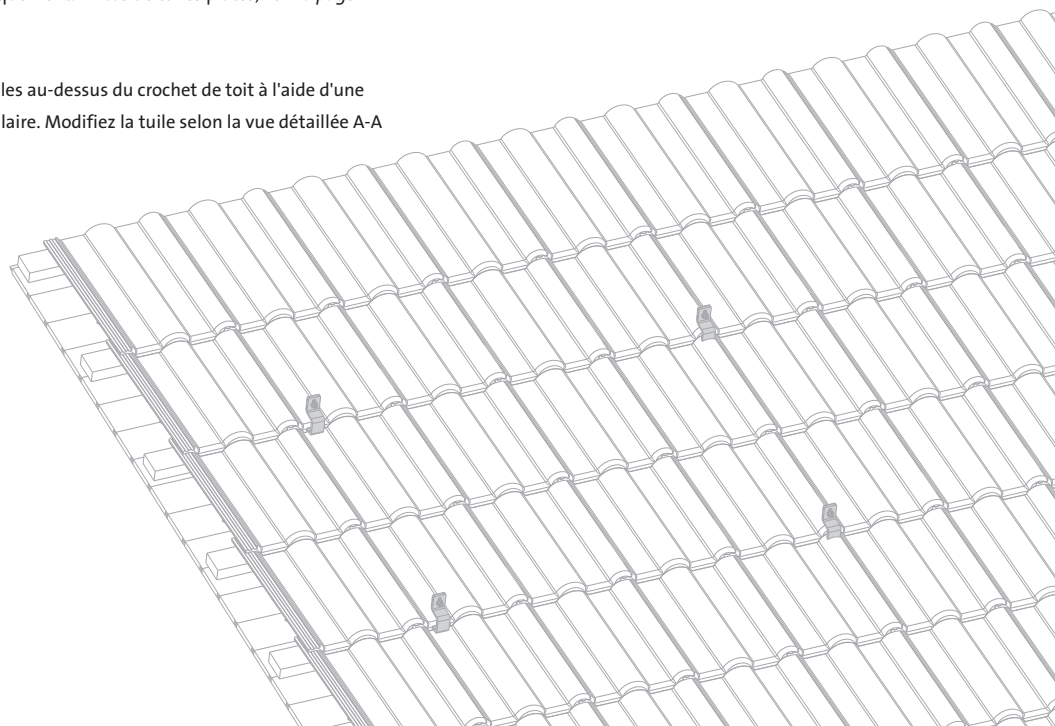
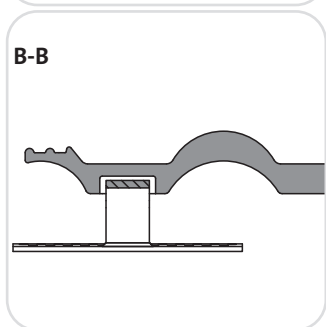
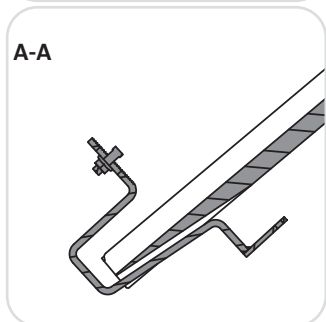
## Système de rails monocouche avec vissage dans le coffrage en bois - Alignement vertical des modules



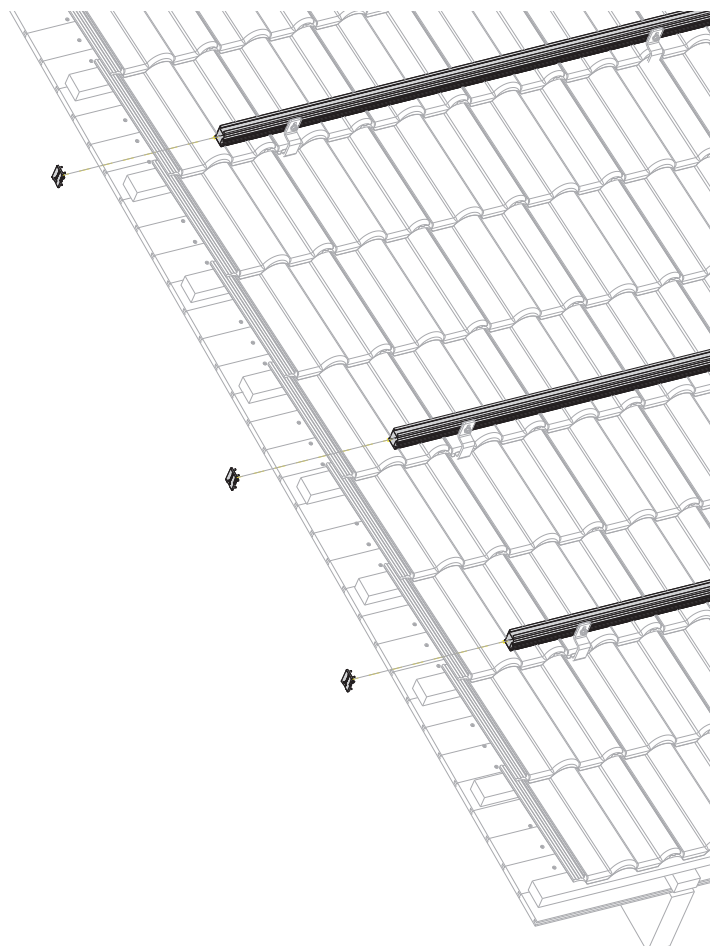
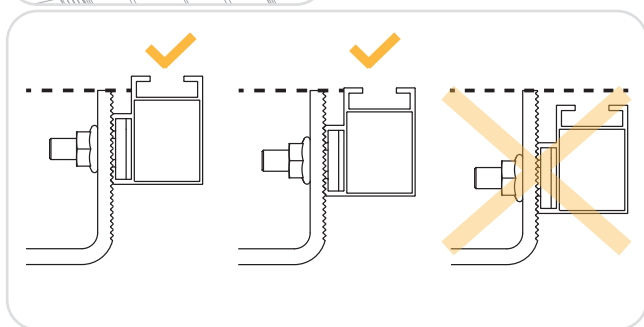
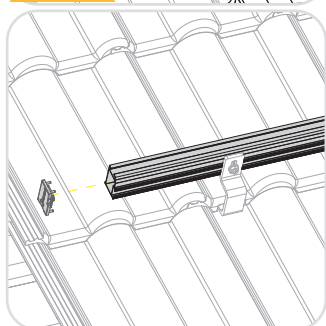
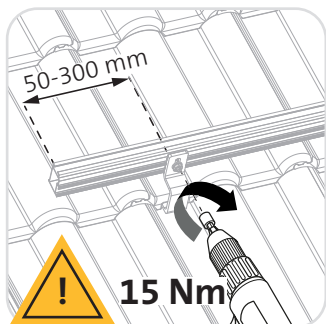
### Attention !

La modification suivante concerne les tuiles à emboîtement mécanique uniquement. En cas de tuiles plates, voir la page 46-48.

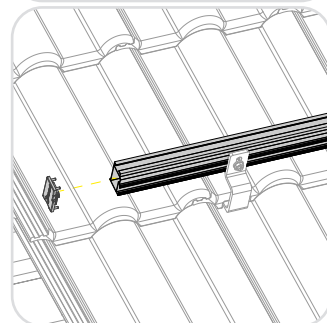
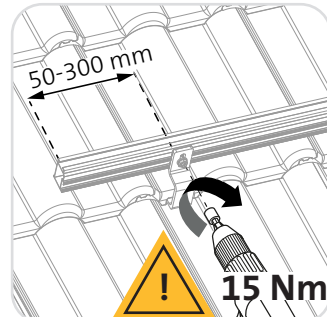
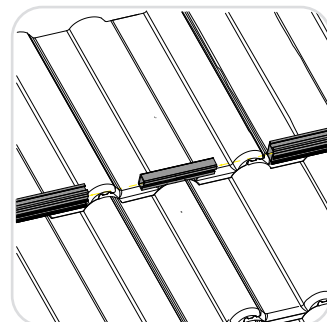
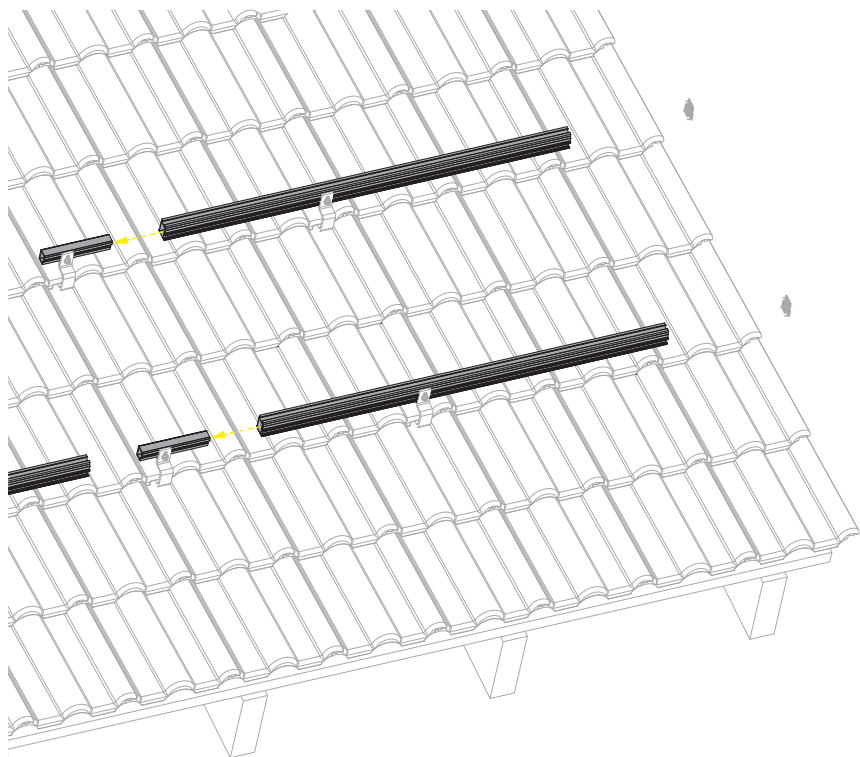
Modifiez les tuiles au-dessus du crochet de toit à l'aide d'une meuleuse angulaire. Modifiez la tuile selon la vue détaillée A-A et B-B.



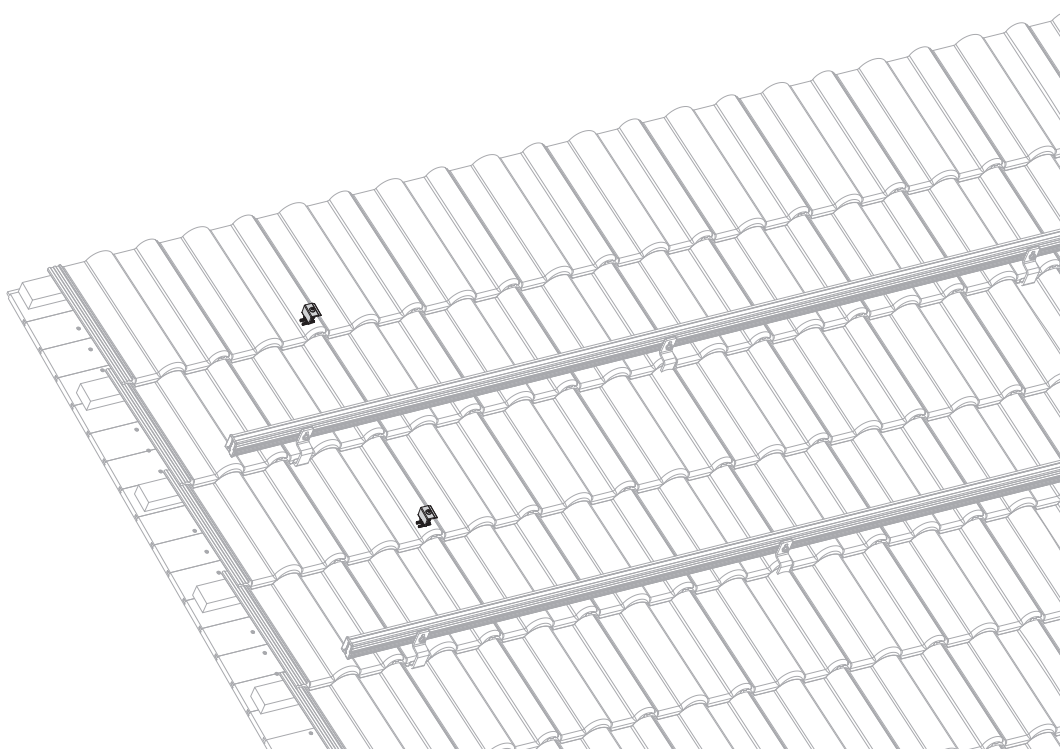
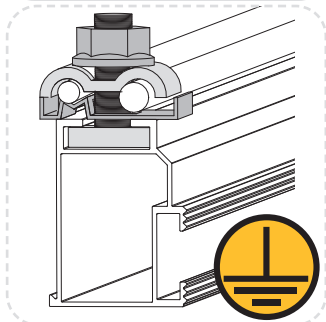
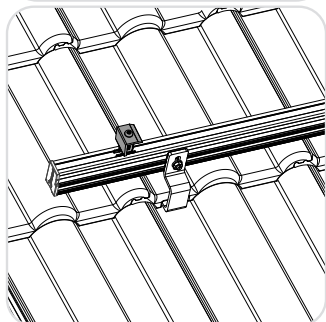
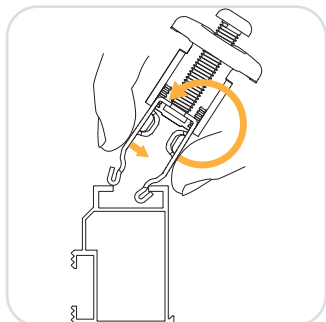
## Système de rails monocouche avec vissage dans le coffrage en bois - Alignement vertical des modules



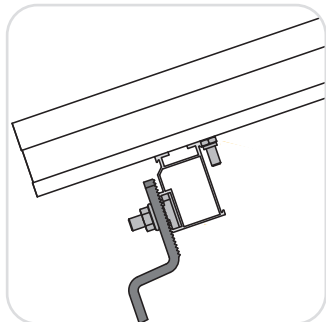
Système de rails monocouche avec vissage dans le coffrage en bois - Alignement vertical des modules



Système de rails monocouche avec vissage dans le coffrage en bois - Alignement vertical des modules



## Système de rails monocouche avec vissage dans le coffrage en bois - Alignement vertical des modules

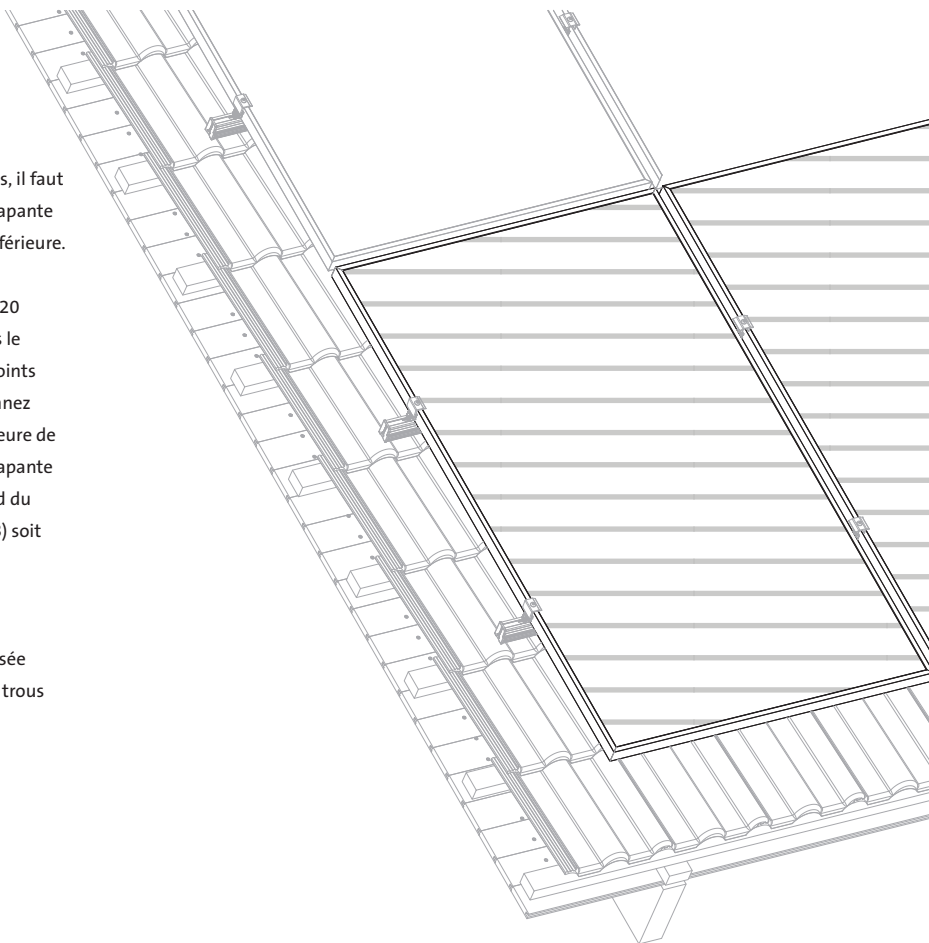
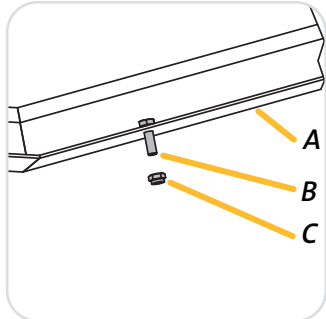


### Attention !

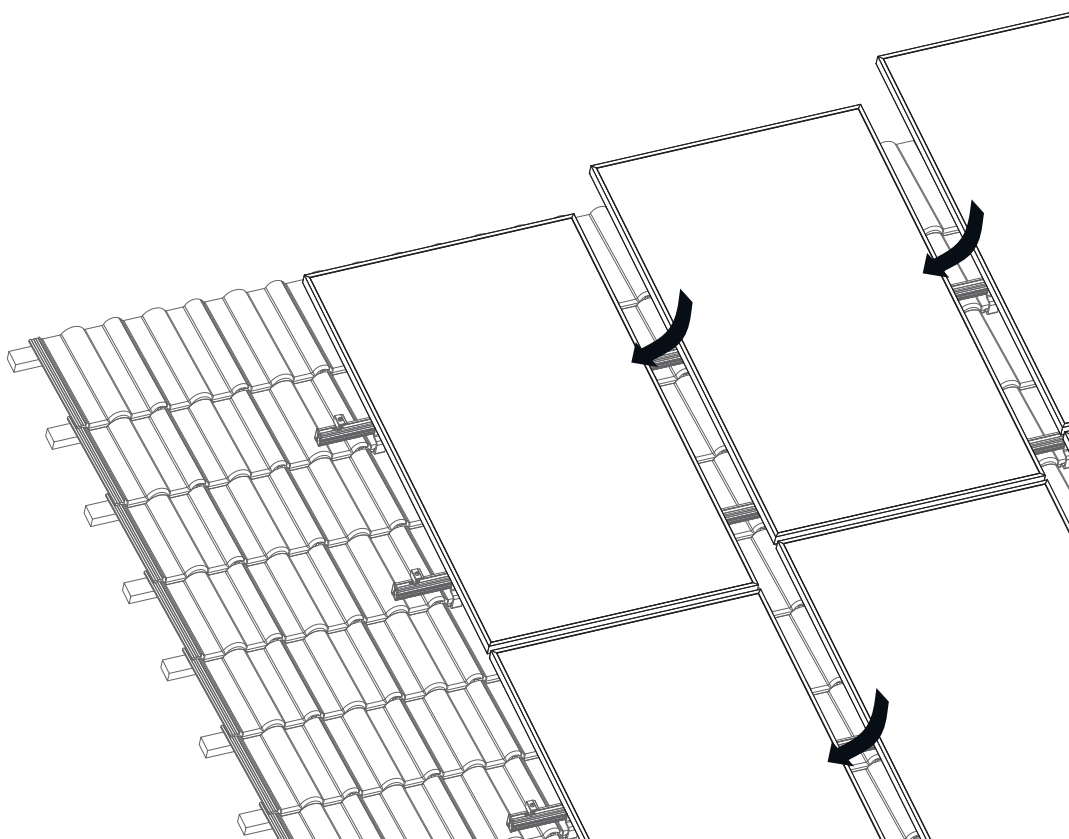
Avant l'installation des modules, il faut monter une protection antidérapante sur les modules de la rangée inférieure.

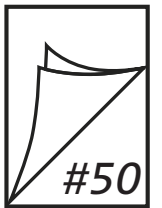
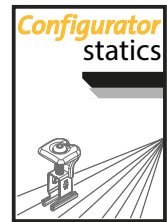
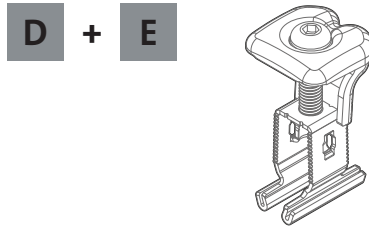
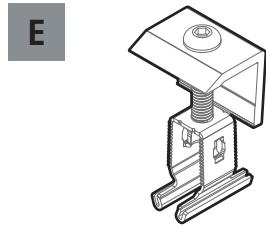
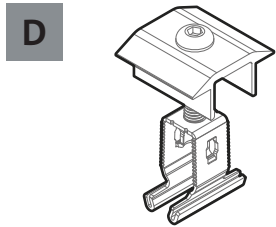
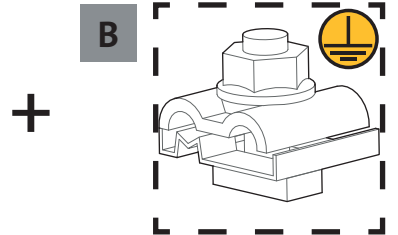
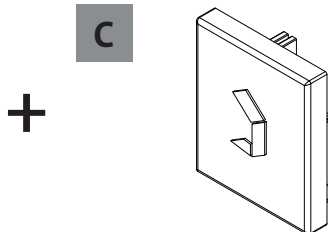
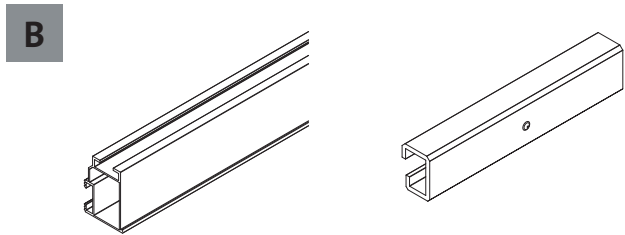
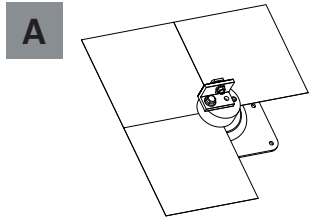
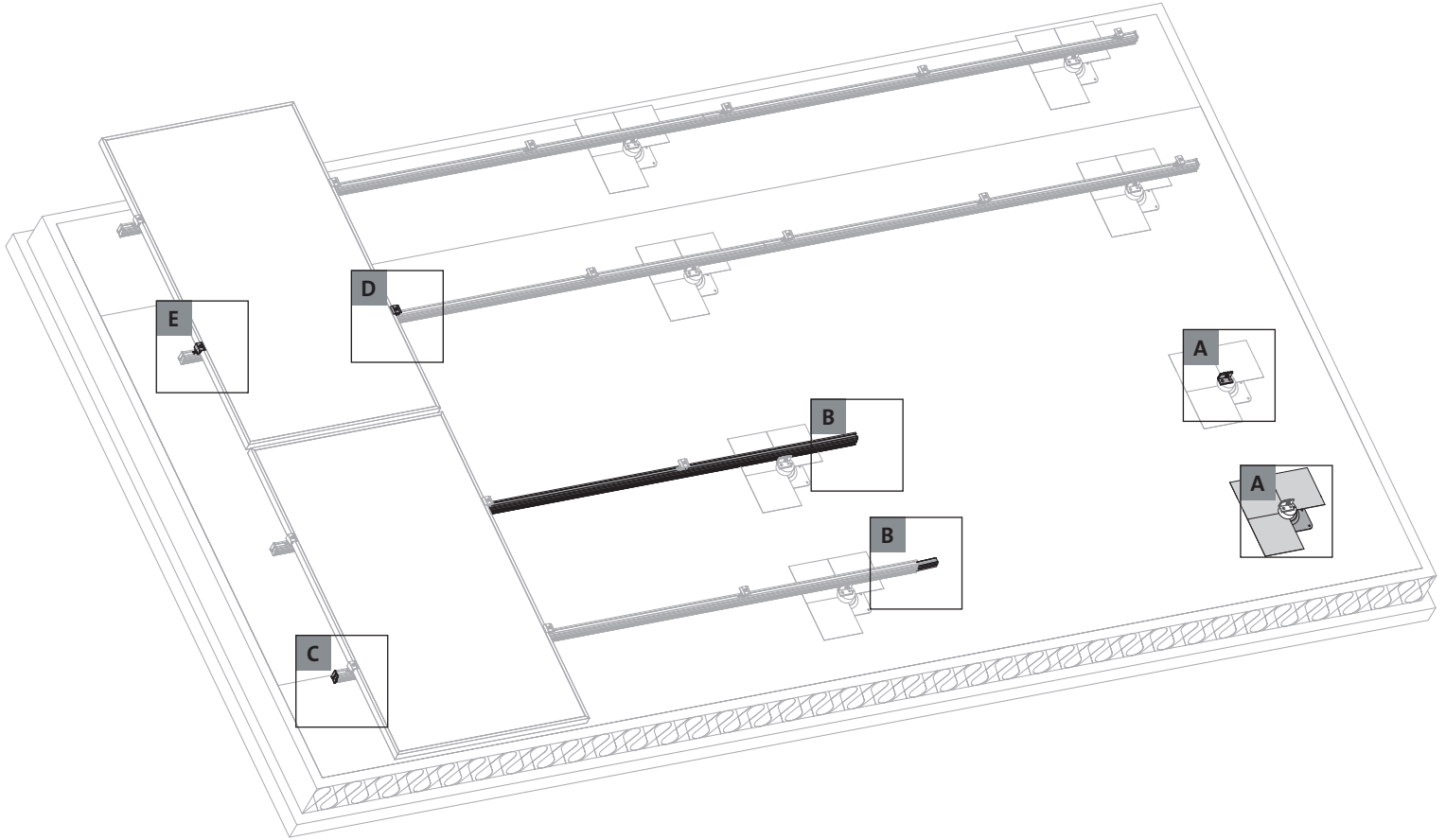
Pour ce faire, serrez les vis M6x20 (avec l'axe/filetage orienté vers le bas) à l'aide d'écrous M6 aux points de fixation du module. Positionnez les modules de la rangée inférieure de sorte que la protection antidérapante soit bien en place et que le bord du rail de montage inférieur (fig. B) soit en butée.

Remarque : La protection antidérapante ne doit être utilisée qu'avec des modules dotés des trous de fixation correspondants.



## Système de rails monocouche avec vissage dans le coffrage en bois - Alignement vertical des modules





5



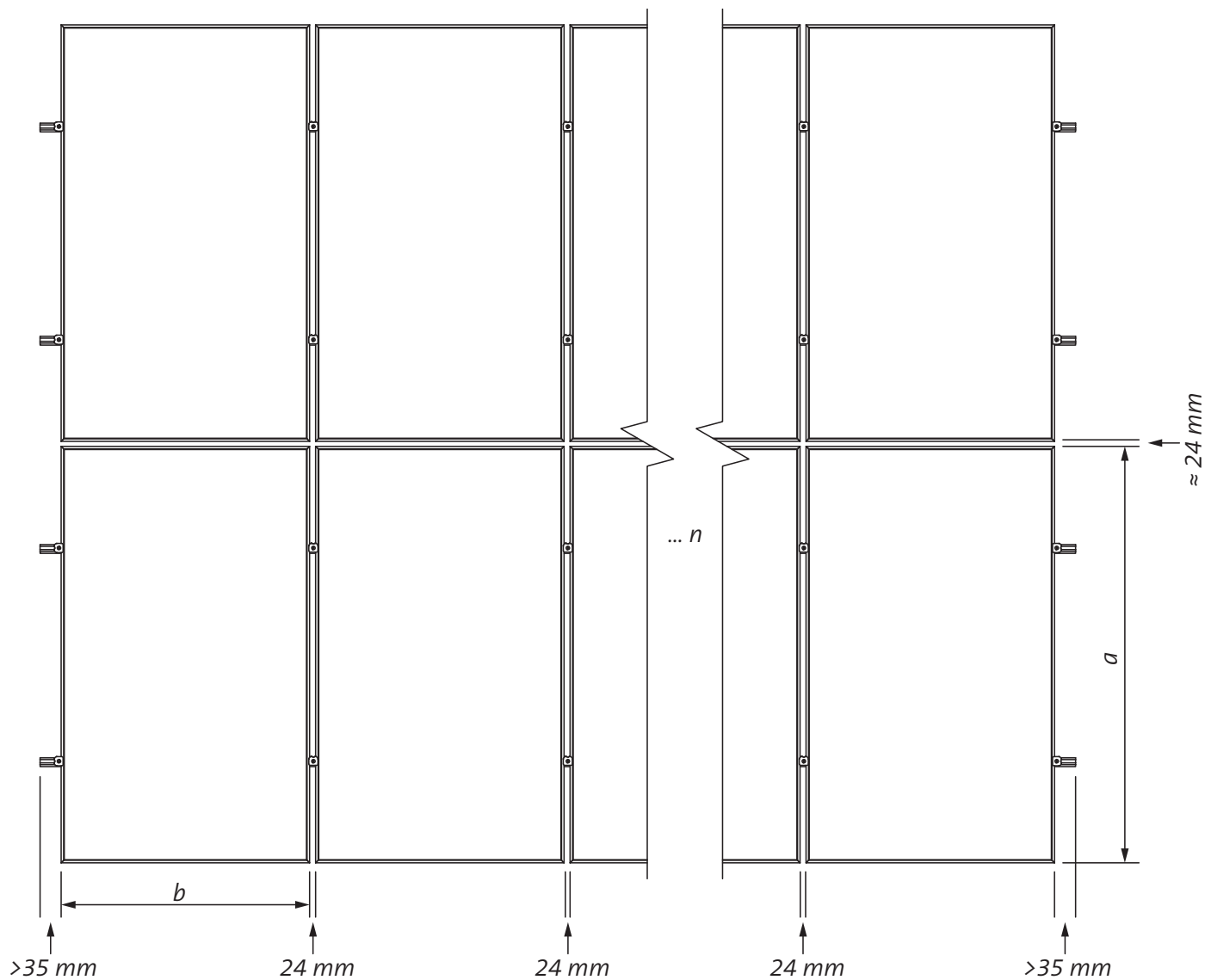
SIT 30  
(TX 30)



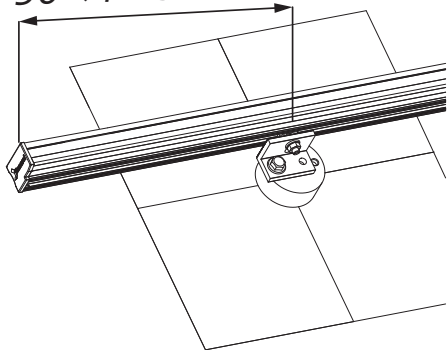
Nm



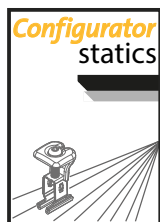
10mm / 13 mm



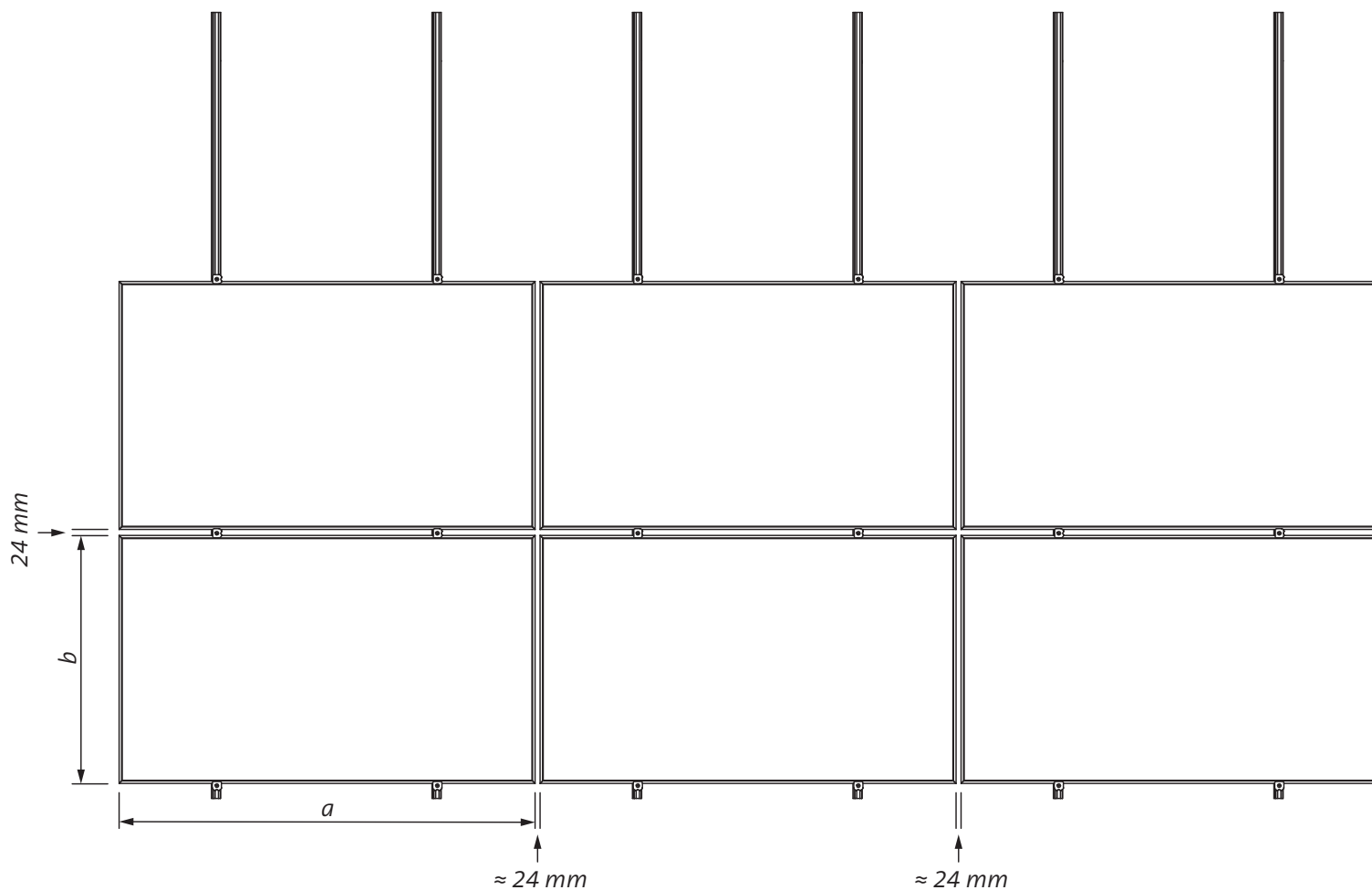
$50 < l < 300 \text{ mm}$



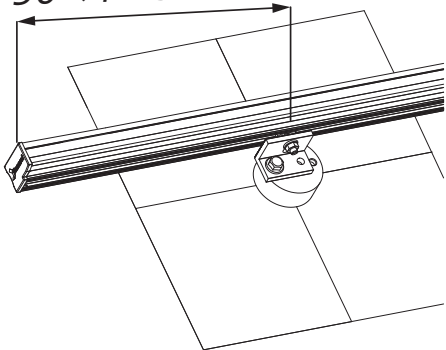
Sans calcul statique réalisé à l'aide du configurateur Renusol, la longueur de la console ne doit pas être supérieure à 300 mm.



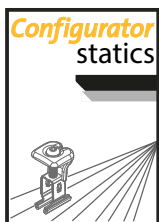
- Indications générales
- Calculs statiques
- Vue d'ensemble technique du projet  
⇒ [www.pv-configurator.com](http://www.pv-configurator.com)



$50 < l < 300 \text{ mm}$

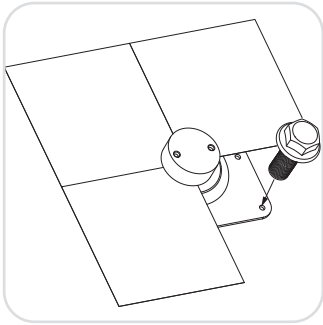


Sans calcul statique réalisé à l'aide du configurateur Renusol, la longueur de la console ne doit pas être supérieure à 300 mm.

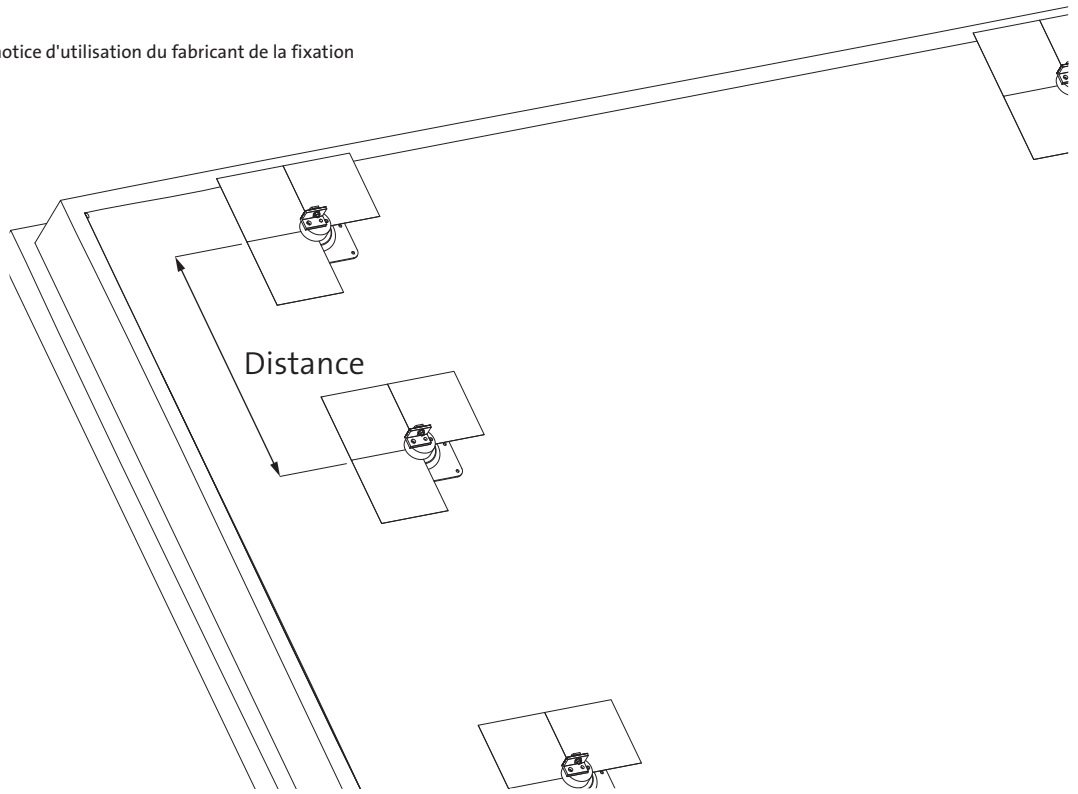
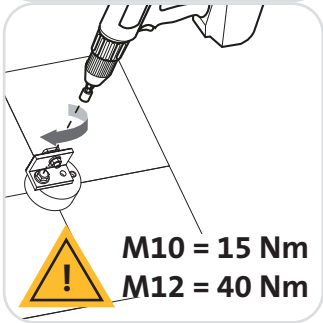
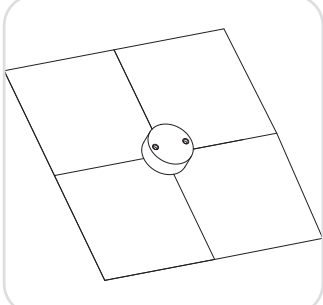


- Indications générales
- Calculs statiques
- Vue d'ensemble technique du projet  
⇒ [www.pv-configurator.com](http://www.pv-configurator.com)

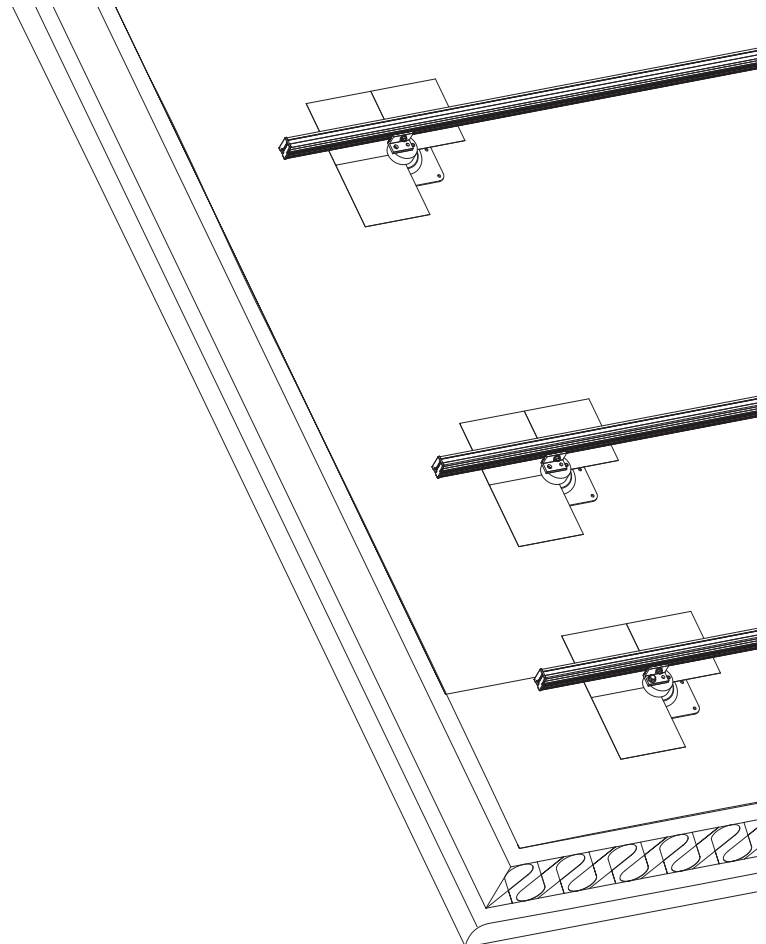
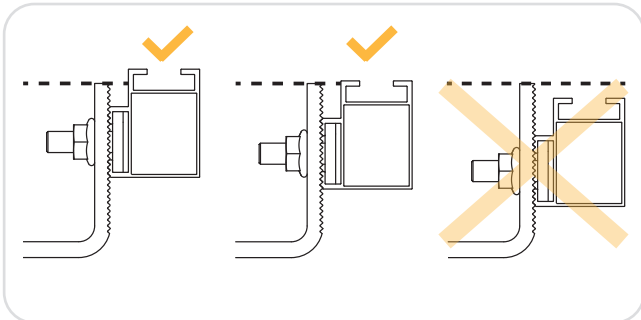
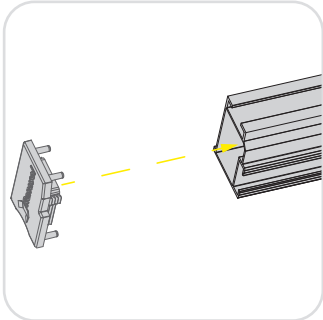
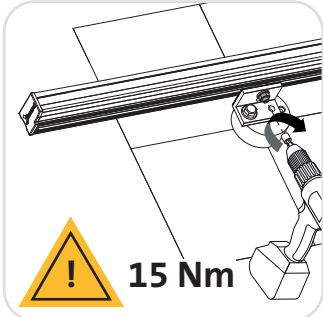
## Raccordement sur une fixation alternative



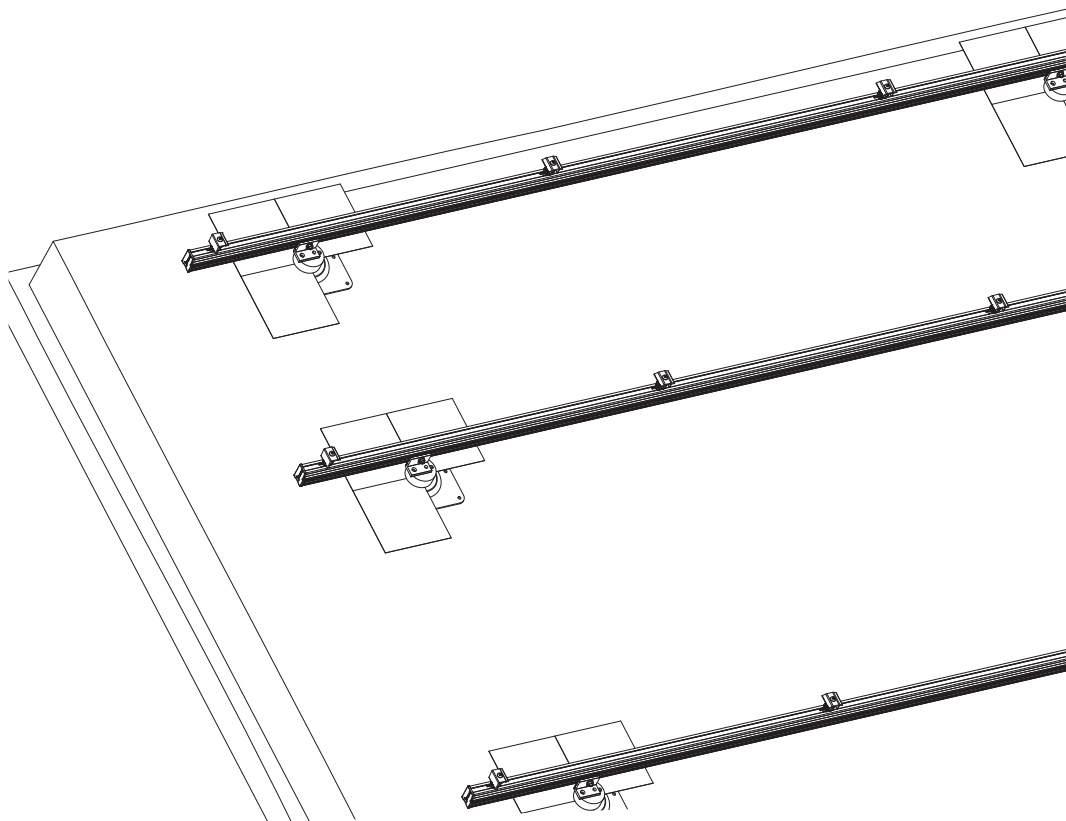
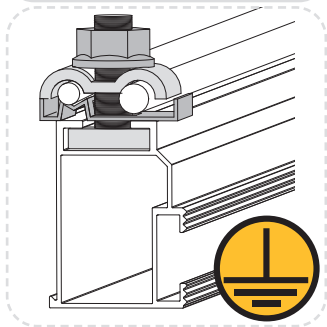
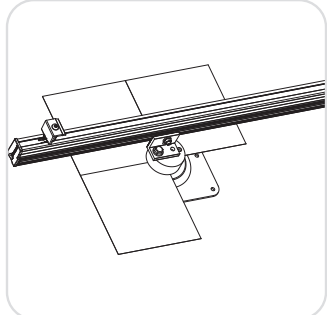
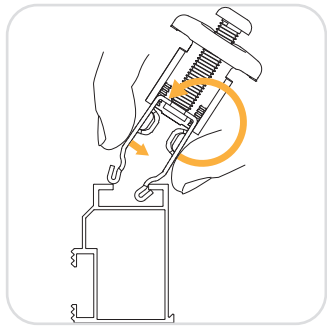
**Attention !**  
Respectez la notice d'utilisation du fabricant de la fixation alternative.



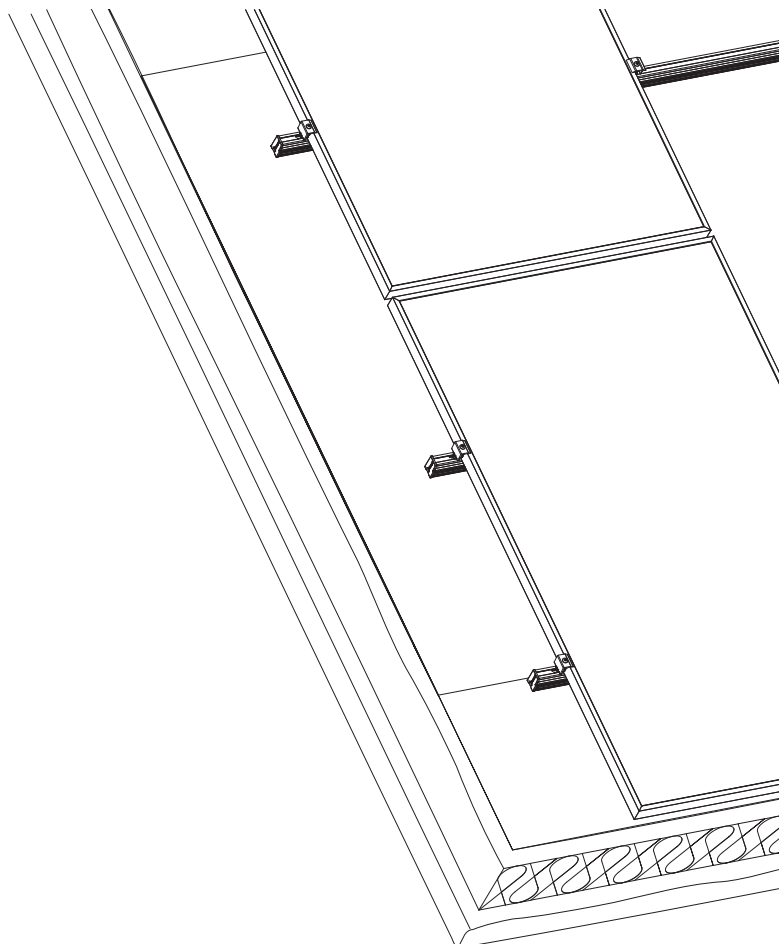
## Raccordement sur une fixation alternative



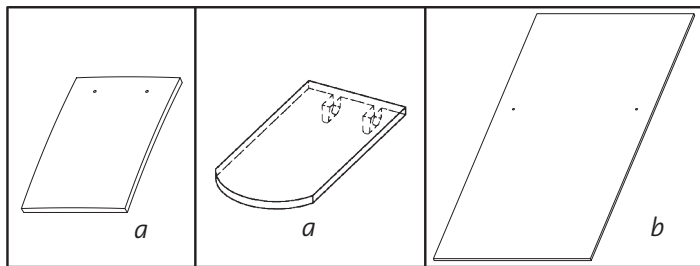
## Raccordement sur une fixation alternative



## Raccordement sur une fixation alternative



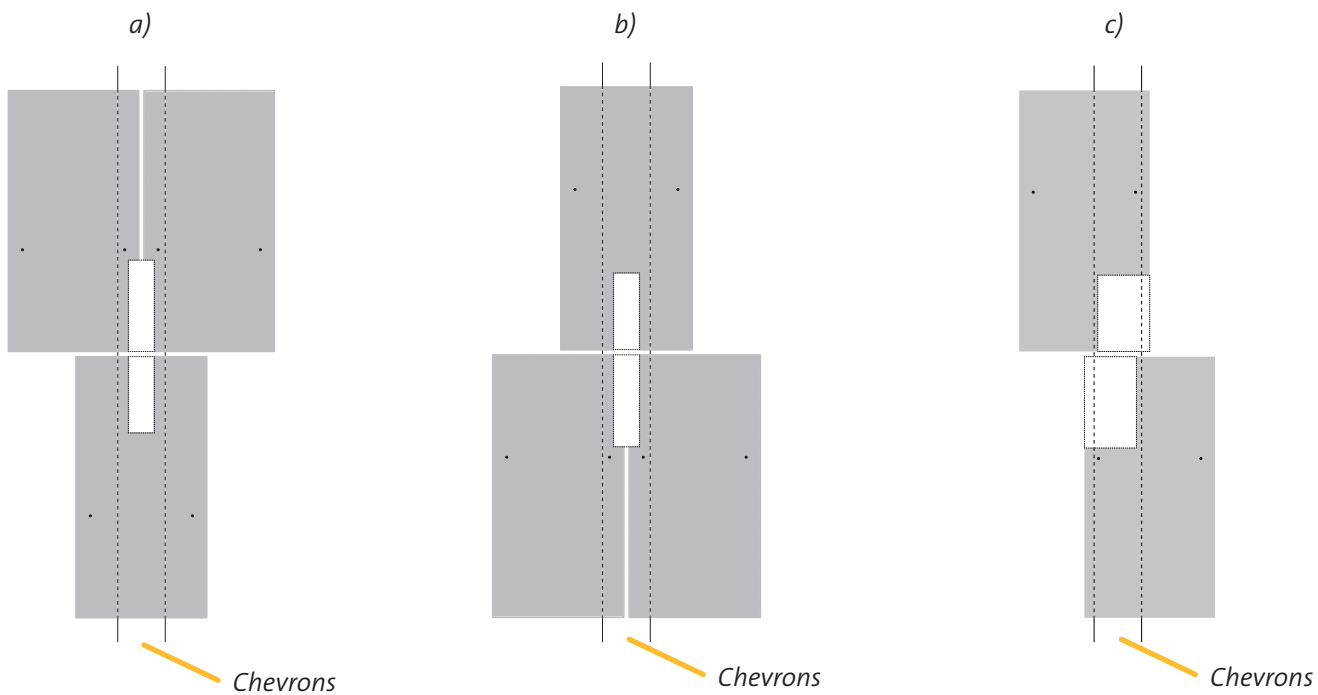
**A**



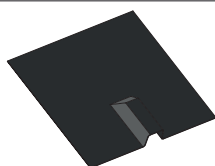
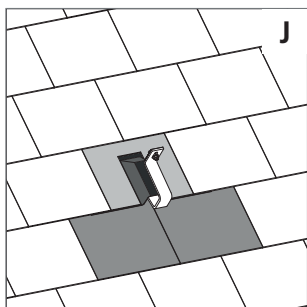
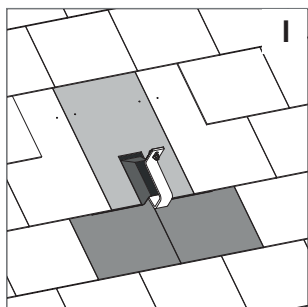
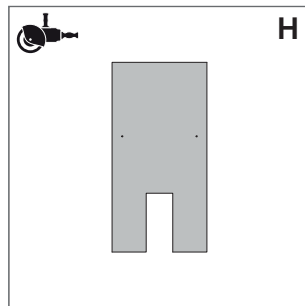
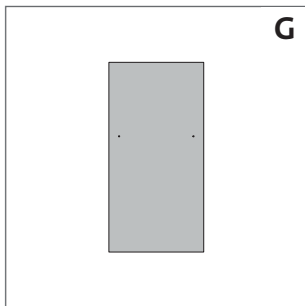
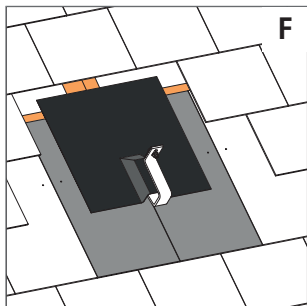
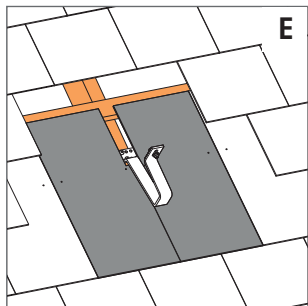
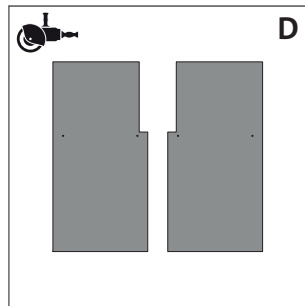
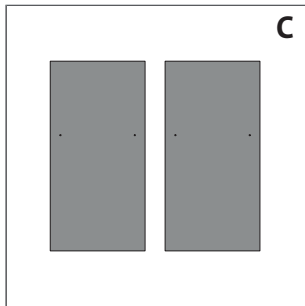
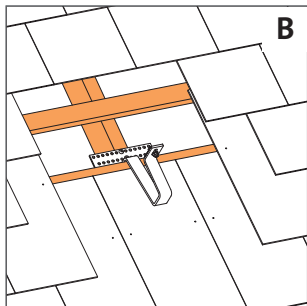
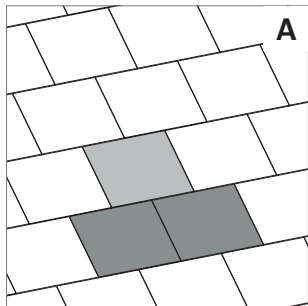
a Tuile plate  
b Tuile ardoise

**Modification des tuiles**

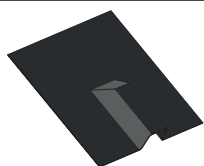
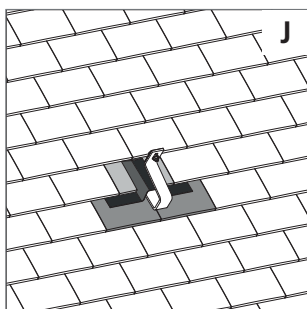
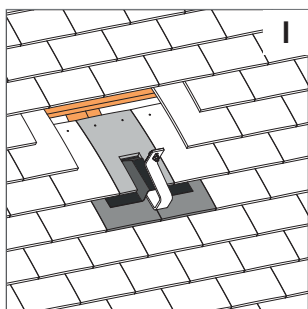
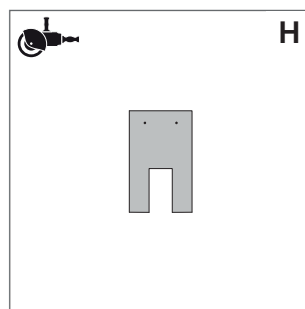
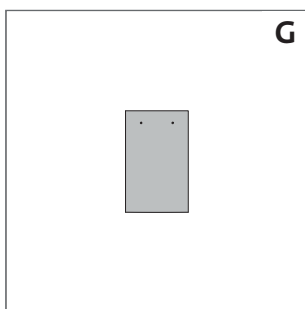
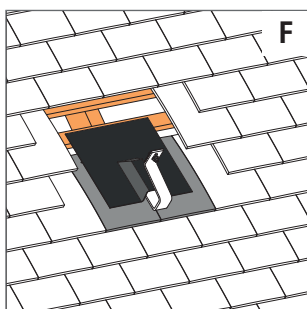
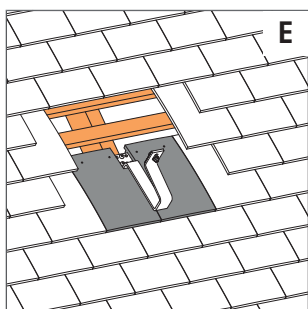
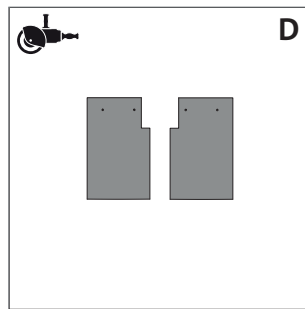
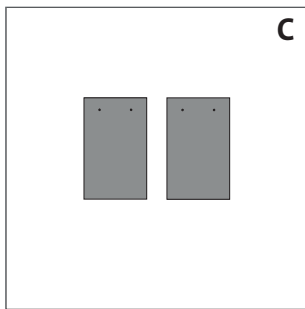
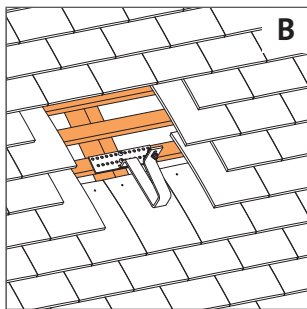
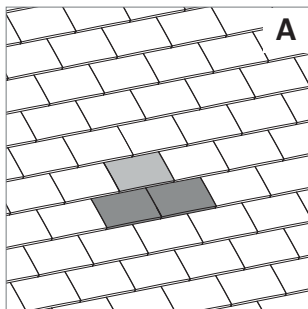
Utilisez une meuleuse angulaire ou une coupe-ardoise pour couper une encoche au point de montage du crochet de toit dans la tuile qui couvre le crochet de toit de sorte que la tuile s'appuie bien à plat. Si les tuiles sont rainurées, il faut aussi couper une encoche dans la partie supérieure de la tuile inférieure. Utilisation de trois positions différentes :



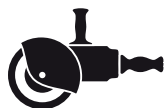
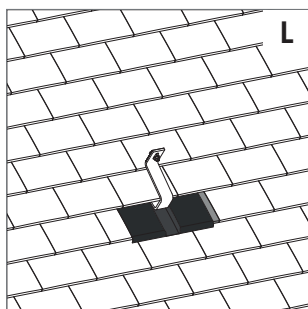
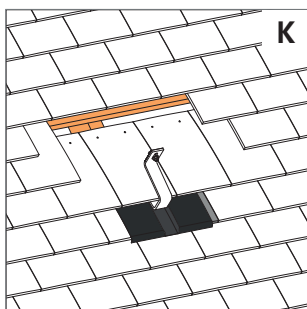
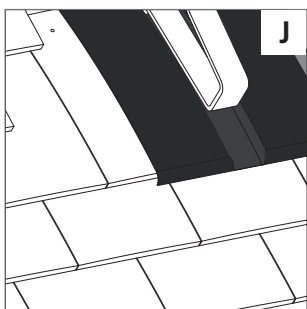
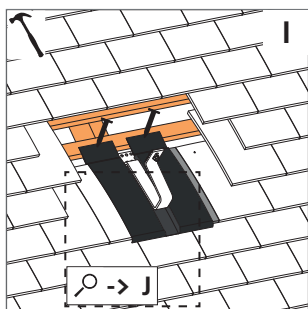
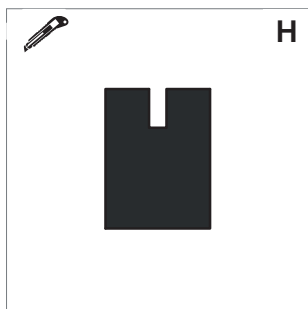
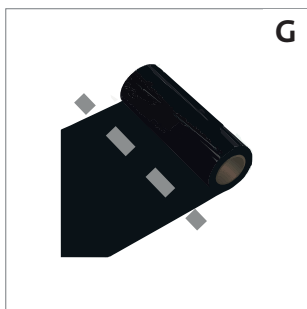
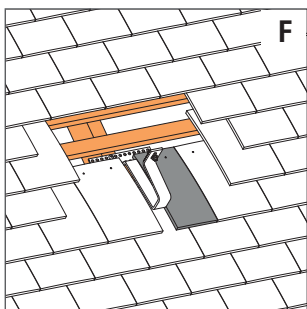
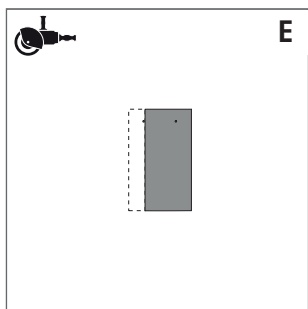
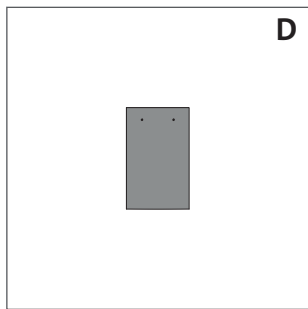
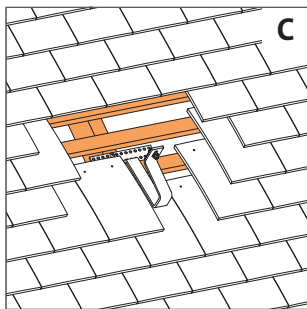
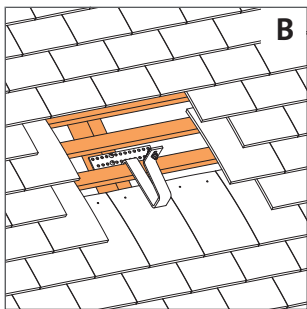
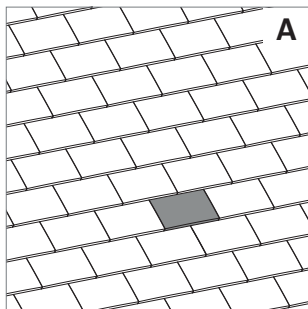
**A**



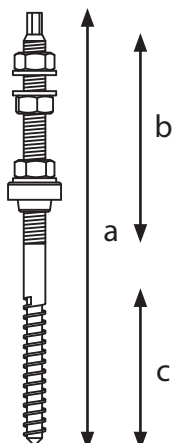
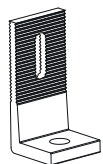
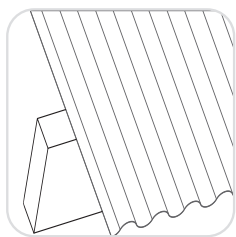
A



A

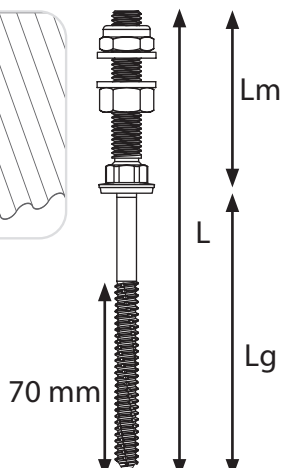
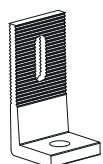
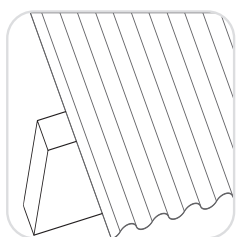


**B**

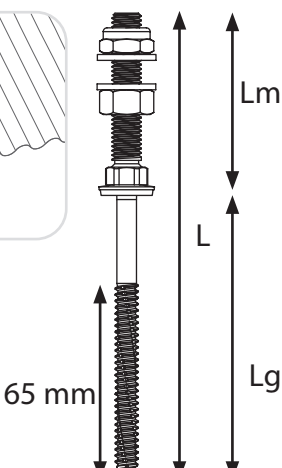
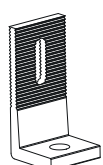


	Réf.	a :	b :	c :	
M10	920159	160mm.	71mm.	65mm.	(Raccordement décalé/ Offset Connection)
M10	860020	180mm.	81mm.	65mm.	
M10	920008	200mm.	81mm.	65mm.	(Raccordement décalé/ Offset Connection)
M10	860006	200mm.	81mm.	65mm.	
M10	860022	250mm .	81mm.	65mm.	(Raccordement décalé/ Offset Connection)
M10	860021	250mm	81mm	65mm	

M12	920002	250mm.	91mm.	100mm.	(Raccordement décalé/ Offset Connection)
M12	860007	250mm.	91mm.	100mm.	
M12	860017	300mm.	141mm.	100mm.	
M12	920136	350mm.	191mm.	100mm.	
M12	920137	400mm.	211mm.	100mm.	



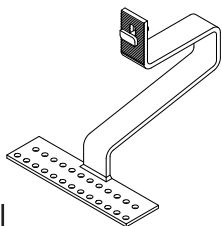
	Réf.	Lg/Lm:	L	Zone de fixation
M10	900187	80/50	136mm.	0-40 mm
M10	900188	100/50	156mm.	20-60 mm
M10	900189	130/50	186mm.	55-90 mm
M10	900190	150/50	206mm.	75-110 mm
M10	900191	180/50	236mm.	105-140 mm
M10	900192	200/50	256mm.	125-160 mm



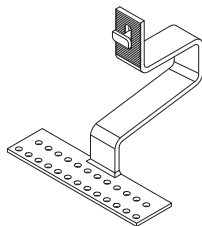
	Réf.	Lg/Lm:	L	Zone de fixation
M10	900181	80/50	136mm.	15-60 mm
M10	900182	100/50	156mm.	35-80 mm
M10	900183	125/50	181mm.	60-105 mm
M10	900184	150/50	206mm.	85-130 mm
M10	900185	160/50	216mm.	95-140 mm
M10	900186	200/50	256mm.	135-180 mm

**B**

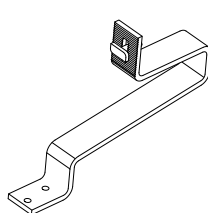
R420182  
UK Roof hook,  
Flexible



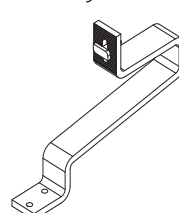
R420180  
UK Roof hook,  
Pantile



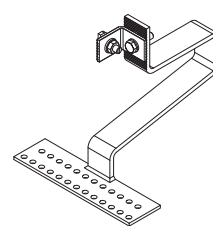
R420181  
UK Roof hook,  
Plain



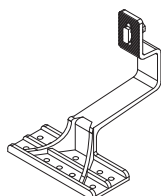
R420184  
UK Roof hook,  
Plain, Heavy Load



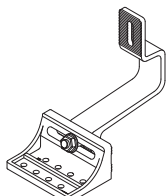
R420183  
UK Roof hook 90°,  
Flexible



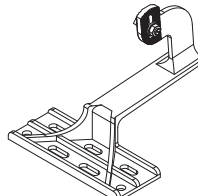
R420151  
Roof hook, aluminium,  
adjustable



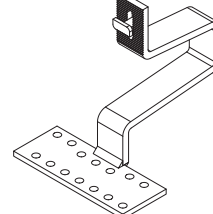
R420161  
Roof hook,  
aluminium, adjustable



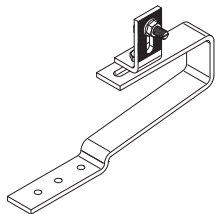
R920003  
Crochet de toit,  
aluminium, 90°



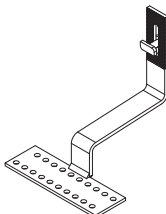
R420170  
Crochet de toit  
Heavy Load



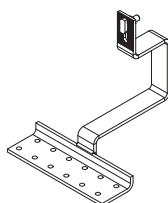
R420150  
Crochet de toit  
Isolation extérieure de toit



R420165  
Crochet de toit  
Eco Basic

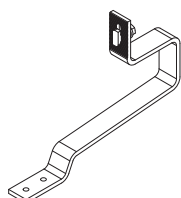


R420158  
Crochet de toit  
Acier inox TP

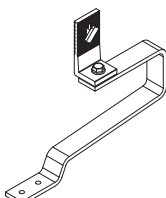


Acier galvanisé à chaud  
selon EN ISO 1461.  
Adapté à la classe de  
corrosion C3.

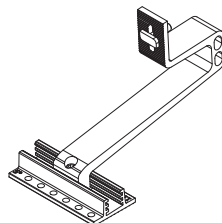
R420153  
Crochets de toit biber



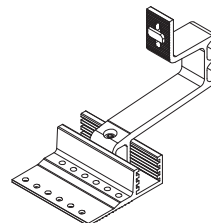
R420154  
Crochets de toit Biber,  
90°



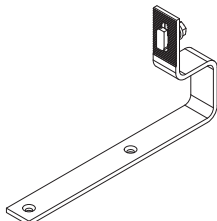
R420172  
Crochets de toit,  
RH Plat



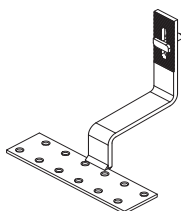
R420171  
Crochets de toit,  
RH1



R420155  
Crochets de toit pour ar-  
doises



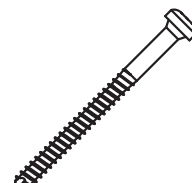
R420150  
Crochet de toit  
acero inox



R900050 5x30



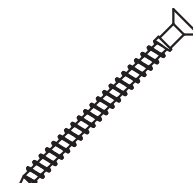
R900305 6 x 80



R900127 6 x 120  
R900145 6 x 160  
R900129 8 x 100

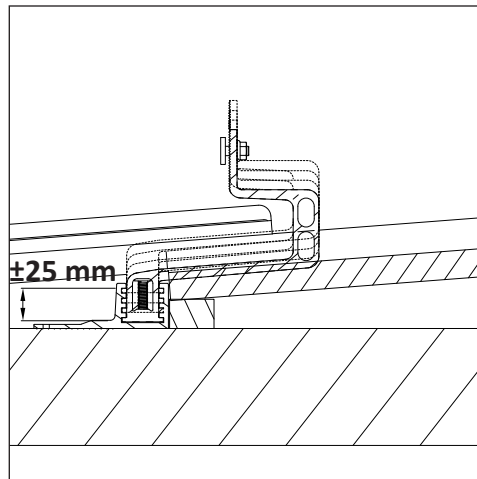
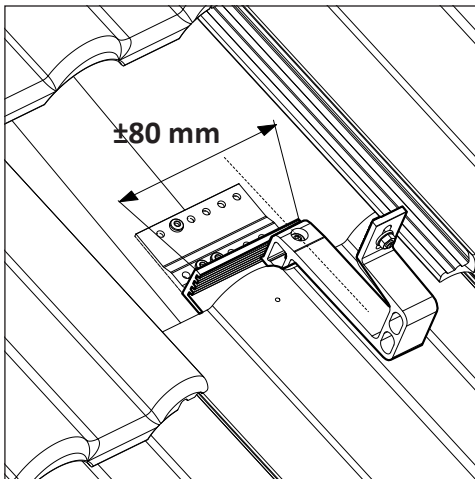
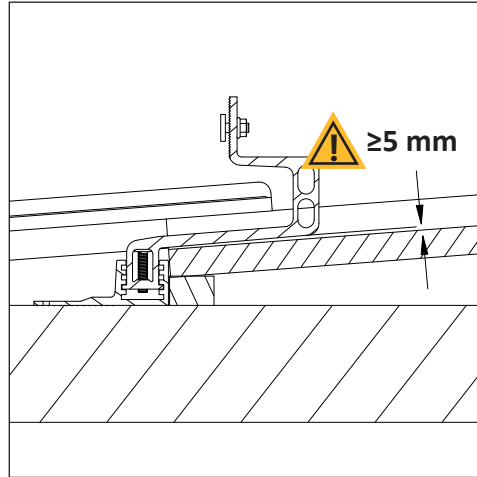
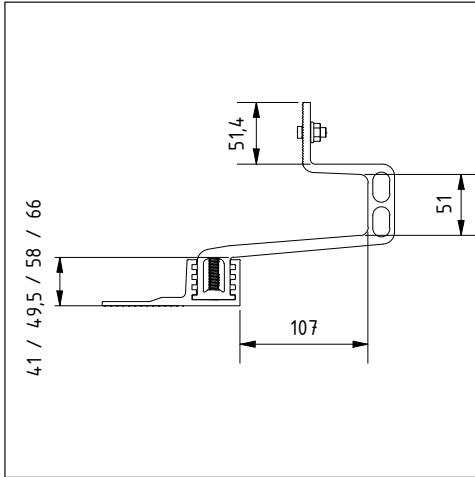
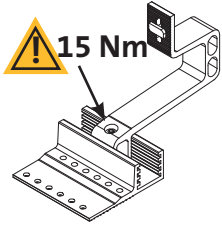


R900013 6 x 80



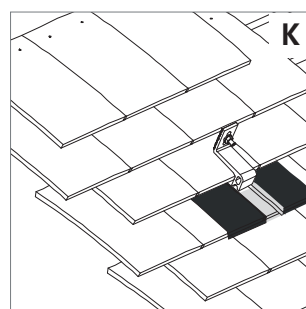
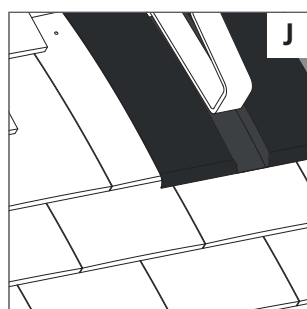
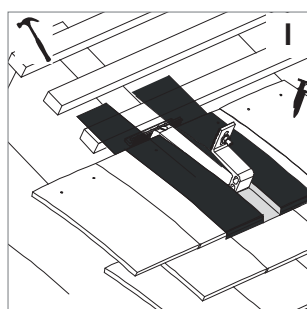
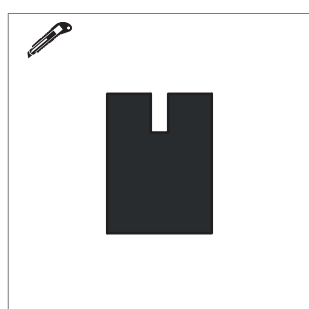
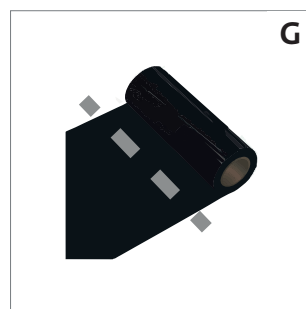
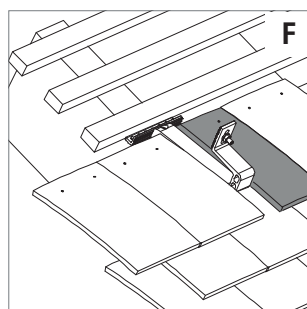
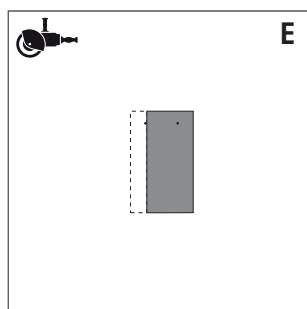
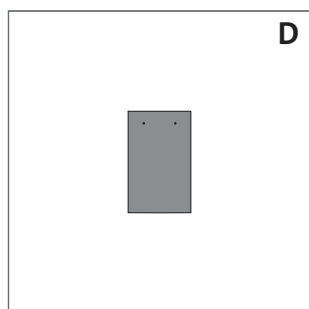
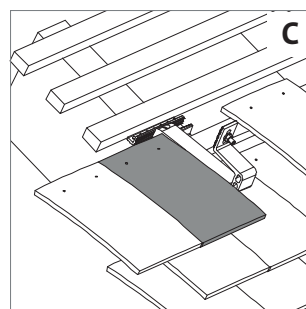
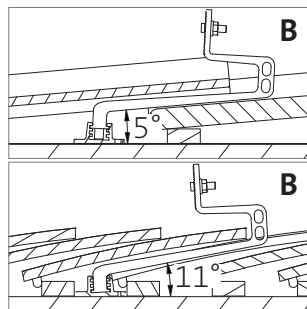
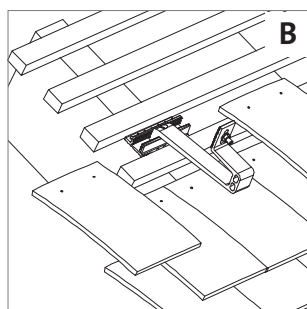
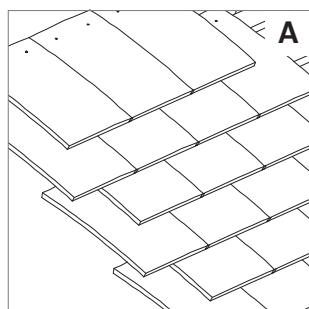
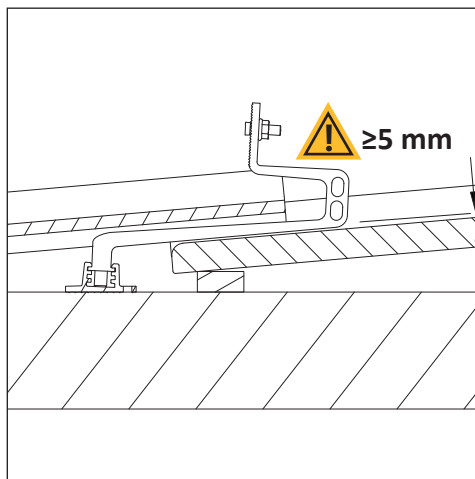
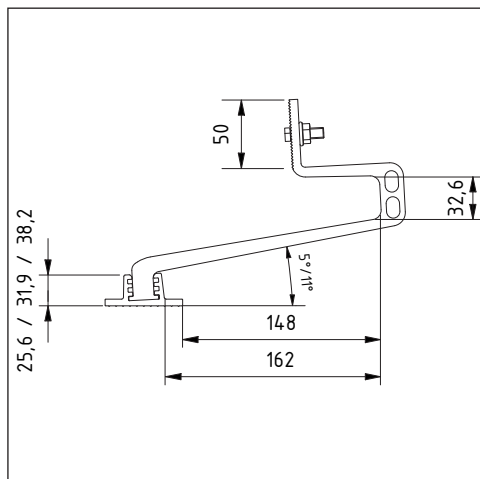
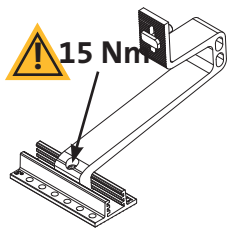
**B**

R420171  
Roof hook,  
RH1



**B**

R420172  
Roof hook,  
RH1 Plat



**B**

**1x**

- D Dachhaken
- UK Roof hooks
- F Crochet de toit
- I Staffa
- E Gancho de tejado

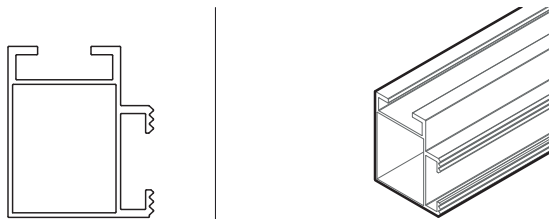
**+** **n**

- D Holzschraube
- UK Wood screw
- F Vis a bois
- I Vite da legno
- E Tornillo de madera

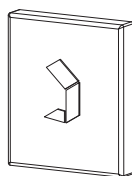
	900318	900013	900129	900127	900145	900050
420171	3x	–	–	2x	2x	–
420172	2x	–	–	2x	2x	–
420151	3x	–	–	2x	2x	–
420161	3x	–	–	2x	2x	–
420150	3x	–	–	2x	2x	–
420153	2x	–	–	2x	2x	–
420154	2x	–	–	2x	2x	–
420155	–	2x	–	–	–	–
420158	3x	–	–	2x	2x	–
420160	–	–	–	–	–	3x
420165	3x	–	–	–	–	–
420180	2x	–	–	–	–	–
420181	2x	–	–	–	–	–
420182	2x	–	–	–	–	–
420183	2x	–	–	–	–	–

**B**

VS+ rail de montage 41 x 35

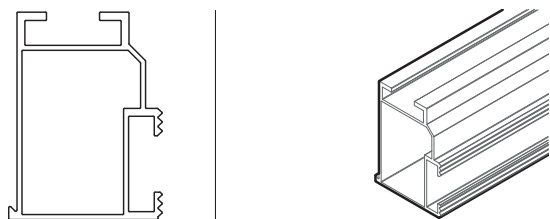


Capuchon pour  
Mounting rail 41 x 35

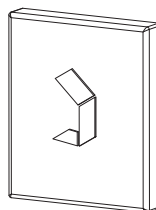


Référence	Couleur
R900245	Noir
R900246	Nu

VS+ rail de montage 50 x 37

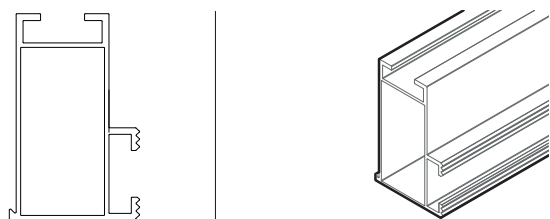


Capuchon pour  
Mounting rail 50 x 37



Référence	Couleur
R920043	Noir
R920044	Nu

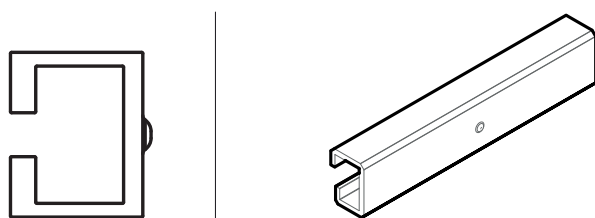
VS+ rail de montage 60 x 38



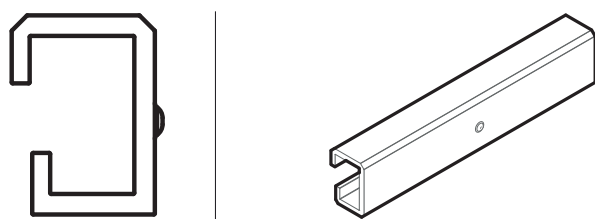
Rail de montage

Référence	Longueur	Couleur
R400523	41x35x <b>2250</b> mm	Nu
R400511	41x35x <b>3200</b> mm	Nu
R500411-B		Noir
R400524	41x35x <b>3300</b> mm	Nu
R400512	41x35x <b>4200</b> mm	Nu
R400512-B		Noir
R400525	41x35x <b>4400</b> mm	Nu
R400513	41x35x <b>6200</b> mm	Nu

VS+ raccord de rail 41 x 35 - R400531

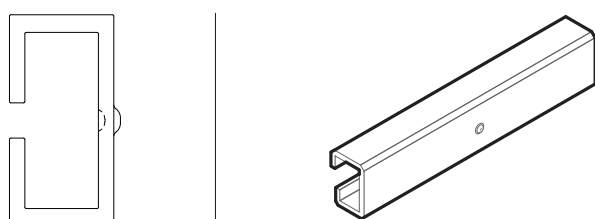


VS+ raccord de rail 50 x 37 - R400532



Référence	Longueur	Couleur
R400527	50x37x <b>2250</b> mm	Nu
R400502	50x37x <b>3200</b> mm	Nu
R400502-B		Noir
R400528	50x37x <b>3300</b> mm	Nu
R400505	50x37x <b>4200</b> mm	Nu
R400505-B		Noir
R400529	50x37x <b>4400</b> mm	Nu
R400506	50x37x <b>6200</b> mm	Nu

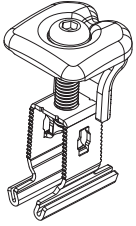
VS+ raccord de rail 60 x 38 - R400533



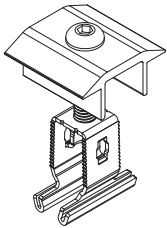
Référence	Longueur	Couleur
R400535	60x38x <b>3300</b> mm	Nu

**B**

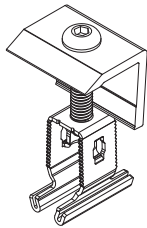
R420080/ R420080-BE  
RS1 bride intermédiaire/  
terminale



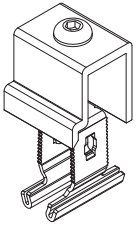
R420081/ R420081-BE  
Bride terminale +



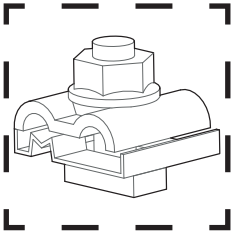
R420082/ R420082-BE  
Bride intermédiaire +



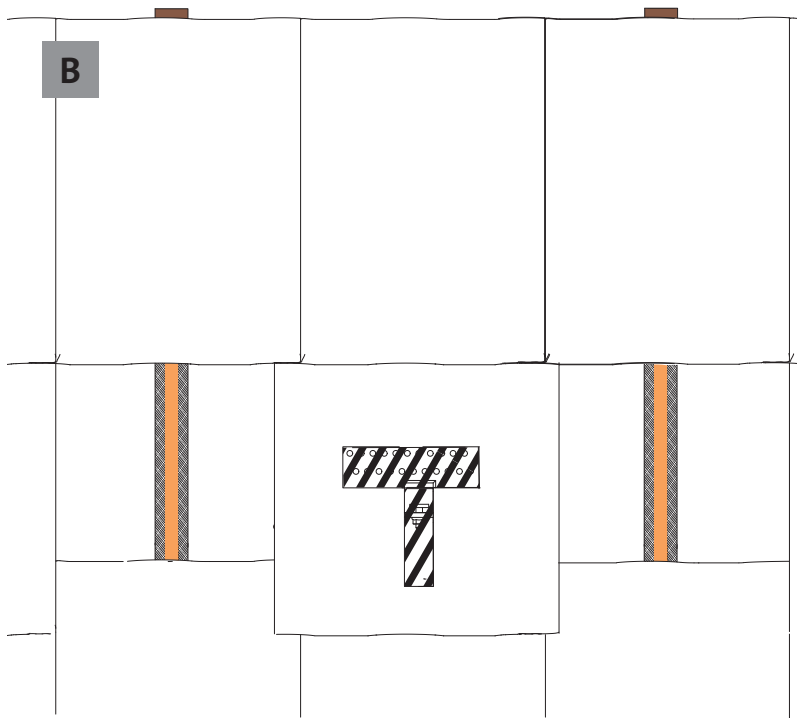
R420083/ R420083-BE  
Raccord de rails croisé +



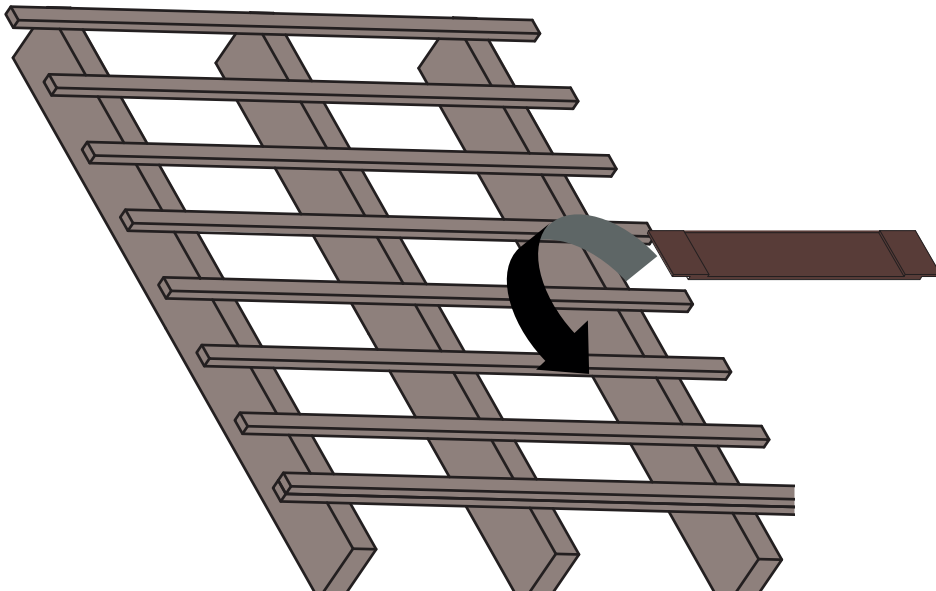
R900241  
Borne de terre UNI



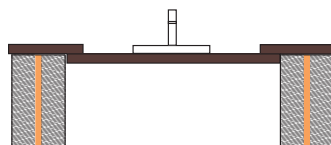
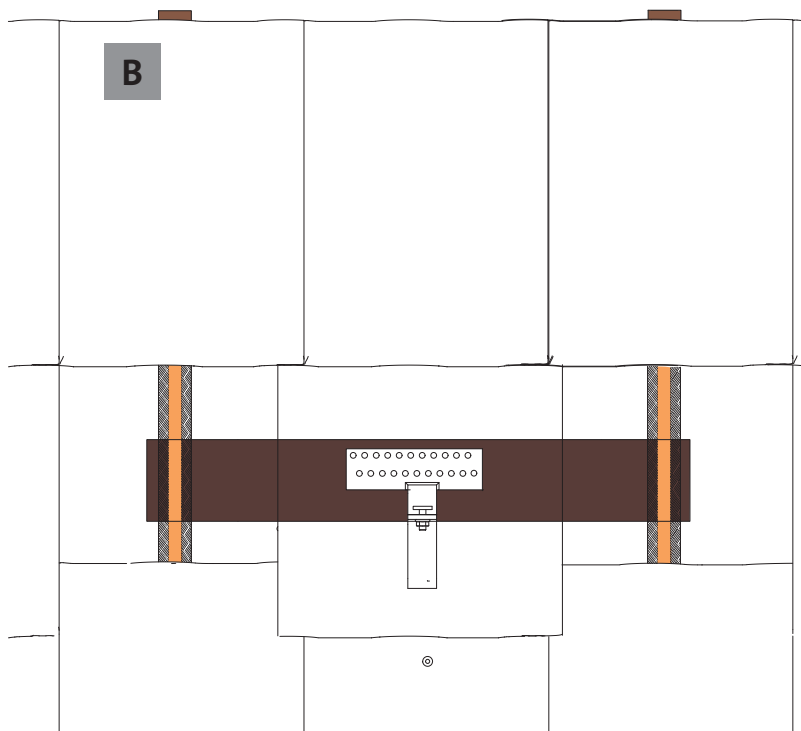
C



B



C



B

