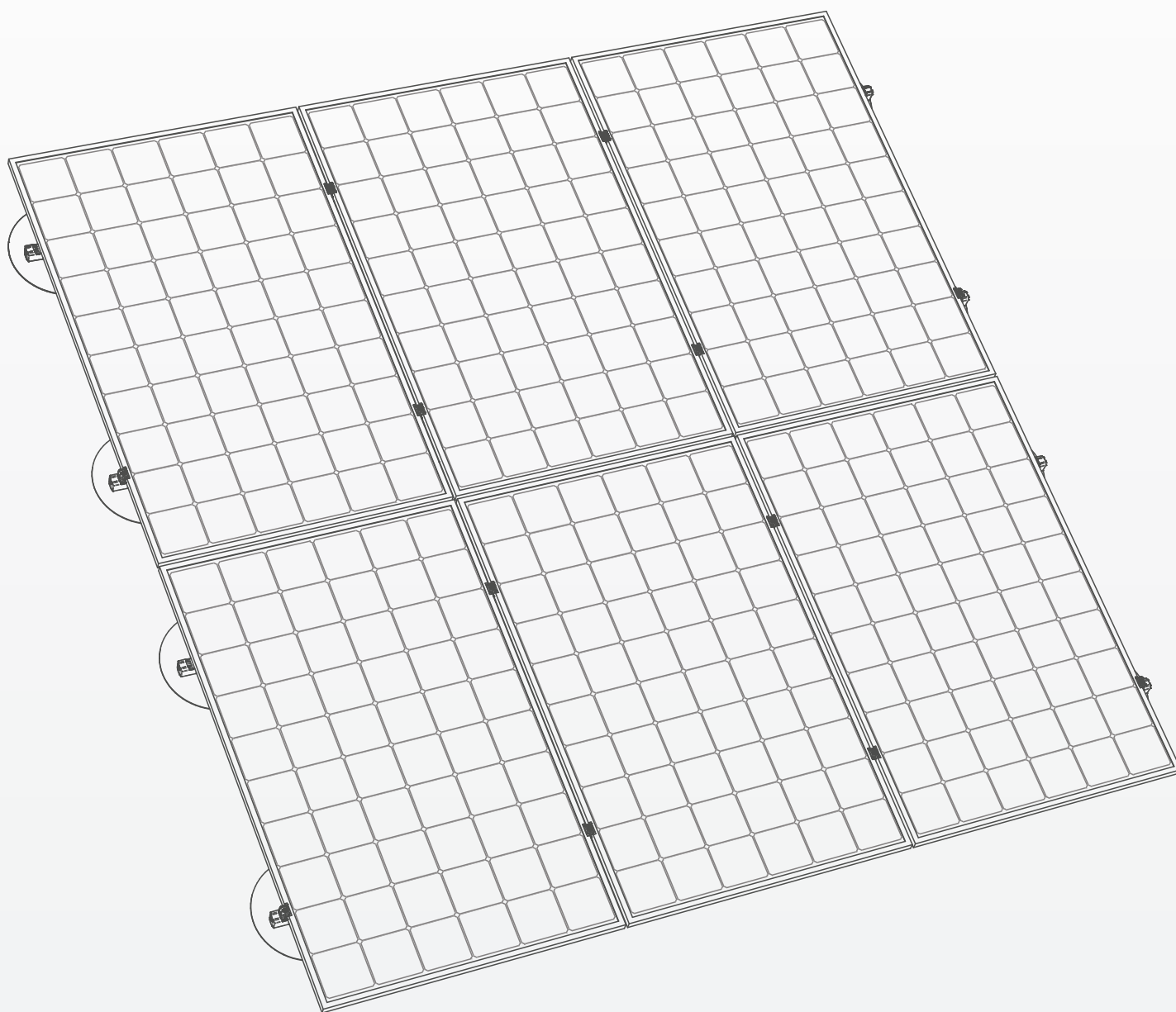


INSTRUCTION MANUAL

PITCHED ROOF ADHESIVE ROOF ANCHOR



COBALT MOUNTING SYSTEMS

Address

Baardmeesweg 21 a
3898 LD Zeewolde
The Netherlands

Contact details

Phone +31 (0) 88 6270 500
Website cobalt.solar
Email info@cobalt.solar

Version: 2026A

EN

TABLE OF CONTENTS

/ Introduction	3
/ Required tools	4
/ Required materials	5
/ Dimensions	6
/ Processing instructions for adhesive roof anchor	7
/ Installation instructions	8
· Check the bituminous roofing membrane	8
· Measure and determine the layouts	9
· Clean substrate and apply bottom sleeve	9
· Press down the bottom sleeve	9
· Fully torch-bond the top sleeve	10
· Apply and press down the top sleeve	10
· Install the mounting rails	11
· Connect rails	11
· Install all mounting rails	11
· Place the first PV module (end clamp)	12
· Install the middle clamp	13
· Complete the roof array	13
· Install the end cap	14
· Equipotential bonding	14
· Thermal expansion joint	15
/ General terms and conditions	16

Made in Europe

Made in Europe, extensively tested and designed for easier installation.
Made from high-quality aluminium and strong Magnelis steel.

Product application depends on the country and/or environmental factors and the roof type.

More information is available at www.cobalt.solar/downloads

Our general terms and conditions apply.



Manual
Pitched roof | Adhesive
roof anchor



Page
2 van 17



More information
cobalt.solar



Documentation
Downloads & tools



Made in Europe



Certified quality



Support: +31 (0) 88 627 0500



Smarter mounting. stronger results.

INTRODUCTION

/ General

This manual describes the installation of the Cobalt Mounting Systems mounting system using adhesive roof anchors. Read this manual carefully before starting work and follow the instructions provided.

Cobalt Mounting Systems continuously develops and improves its products. As a result, products may differ in detail from the images or descriptions in this manual.

Failure to comply with the requirements in this manual may cause damage to the system, building or installation and may affect warranty and liability claims.

/ Safety instructions

Cobalt products may only be installed by qualified and instructed personnel. Incorrect installation can damage the mounting system, building or PV installation and may pose a danger to persons.

Working at height involves a risk of falling. Always comply with the applicable requirements for safe work at height and use the prescribed personal protective equipment and fall protection. The PV mounting system must not be used as a climbing aid or as part of a fall-protection system.

Keep the working environment safe and take appropriate measures against falling objects and other risks to persons in and around the work area.

Do not carry out installation in weather conditions that prevent safe work, such as strong winds, slippery conditions or insufficient visibility.

/ General instructions

Ensure that this manual is available during installation and is retained with the project documentation after completion.

Before work begins, have the roof structure checked to ensure it has sufficient load-bearing capacity for the PV installation and the loads acting on it. If in doubt, or where required for the project, consult a structural engineer.

Always comply with the applicable building regulations, standards, safety requirements and environmental requirements.

The waterproofing function of the roof must be maintained during and after installation. Always also follow the current processing instructions of the manufacturer of the existing roofing membrane

and the installation instructions of the PV-module manufacturer.

All electrical work must be carried out in accordance with the applicable standards and regulations, including requirements for equipotential bonding, earthing and the prevention of unwanted induction loops.

Use CoBuilder to determine, among other things, the module layout, clear edge zones and the fixing points required for the project.

The fasteners used to connect the adhesive roof anchor to the load-bearing structure must be suitable for the relevant substrate and project load. Select these fasteners professionally.

Always have the bituminous sleeves processed by a qualified roofer.

The system is designed for PV modules with frame thicknesses of 30–45 mm

In some cases, a thermal break must be provided (see the CoBuilder project printout).

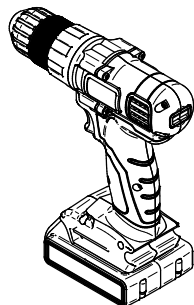
Ensure that the area of the roof where the PV modules are installed is clean, dry and flat. Gravel, sand, small stones, algae, dust, etc. can cause instability of the system and/or damage to the roof.

The minimum distance to the roof edge is 300 mm. For buildings below 5 m in height, this distance may be reduced subject to the applicable regulations. Use CoBuilder to calculate the required clear edge distance.



REQUIRED TOOLS

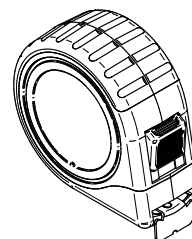
Cordless drill



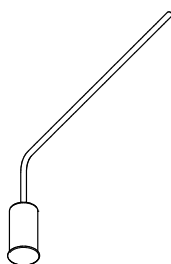
● SW10 / SW17

★ T30

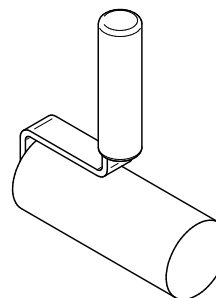
Measuring tools



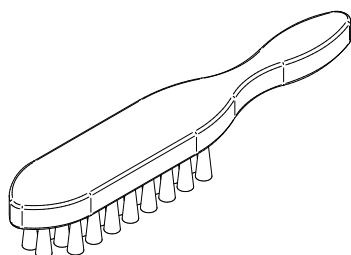
Roofing torch



Pressure roller



Steel brush



Cobalt - Calculator tool

Use CoBuilder to design and calculate the module layout. CoBuilder calculates the project based on the entered project data and the design parameters applied for the relevant country.

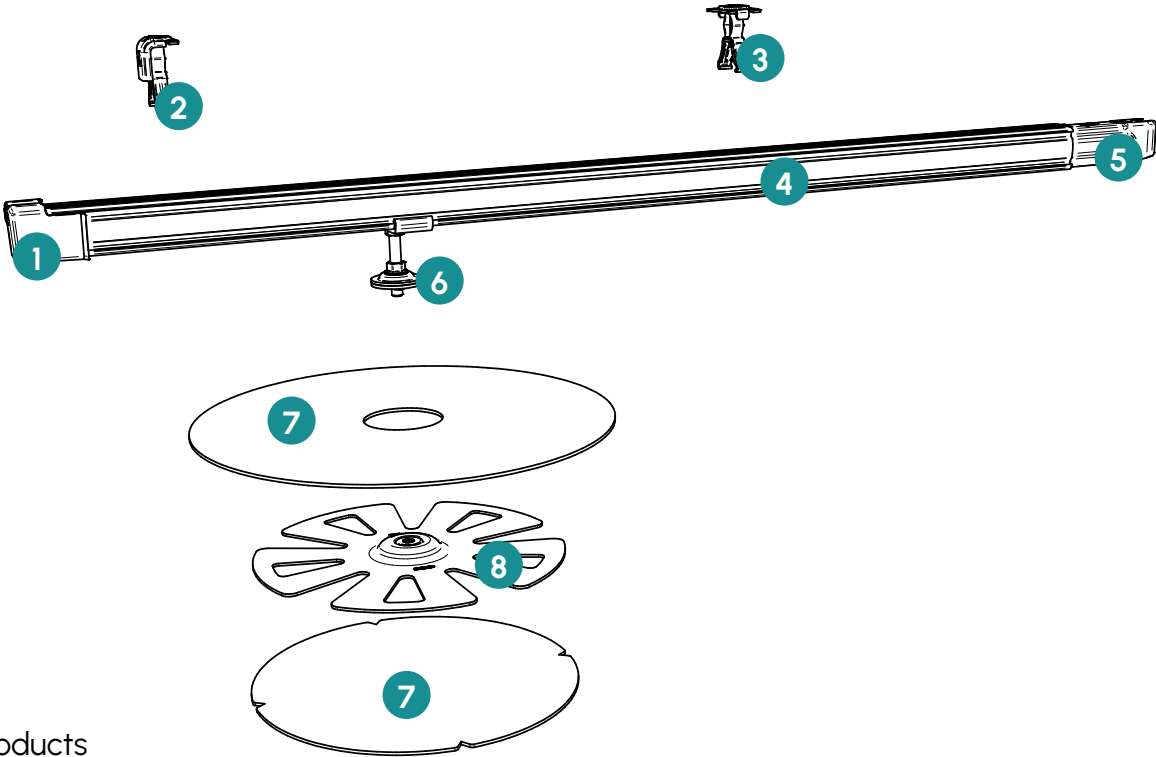
For installation, always use the project printout and anchor plan generated for the project.

More information:

<https://www.cobalt.solar/nl/tools/cobuilder>



REQUIRED MATERIALS



Basic products

End cap		1
9002100	Endcap mounting rail, black	

End clamps		2
7010030	End clamp 30mm, silver	
7000030	End clamp 30mm, black	
7010035	End clamp 35mm, silver	
7000035	End clamp 35mm, black	
7011000	Universal endclamp, silver	
7001000	Universal endclamp, black	

Rails		4
8001208	Mounting rail (L=1208mm)	
8002354	Mounting rail (L=2354mm)	
8003500	Mounting rail (L=3500mm)	
8004646	Mounting rail (L=4646mm)	
8005792	Mounting rail (L=5792mm)	
8006938	Mounting rail (L=6938mm)	
Use CoBuilder for the current project-specific rail lengths.		

Optional products

Cable clip		+
9003000	Cable clip for mounting rail	

Middle clamp		3
7110100	Middle clamp (28-50mm), silver	
7100100	Middle clamp (28-50mm), black	

Rail coupler		5
9107100	Rail coupler for mounting rail	

Threaded rod assembly		6
9500010	Threaded rod for roof anchor	

Sleeves		7
9507010	Bitumen top sleeve	
9507020	Bitumen bottom sleeve	
Other materials available on request		

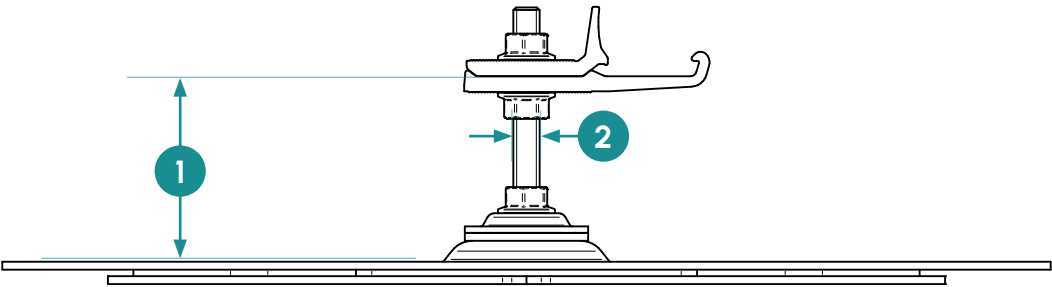
Adhesive roof anchor		8
9410300	Adhesive roof anchor non penetrating	

Optimizer clip		+
9105100	Optimizer clip	

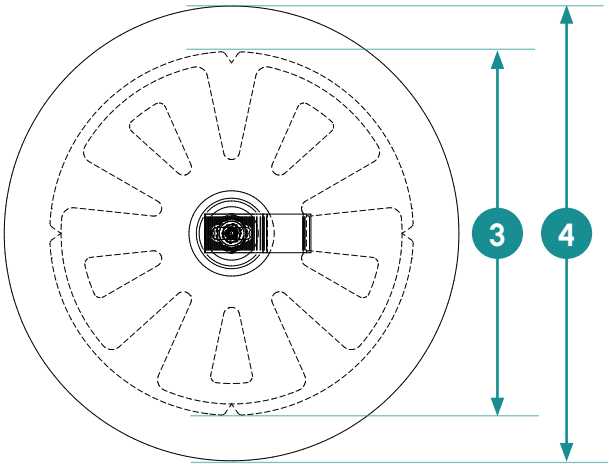


DIMENSIONS

Side view



Top view



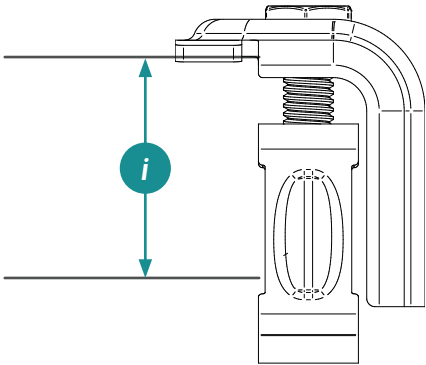
#	Dimension
1	50 - 80 mm
2	M10
3	320 mm
4	400 mm

End clamps

Cobalt offers two versions of end clamps: fixed end clamps and universal end clamps.

The fixed end clamp is suitable for the specified frame thickness. The universal end clamp is suitable for PV modules with a frame thickness within the stated clamping range.

All versions are available in silver and black.



Type	Frame thicknesses
30 mm	29 - 31 mm
35 mm	34 - 36 mm
Universal	29 - 46 mm



PROCESSING INSTRUCTIONS FOR ADHESIVE ROOF ANCHOR

Application

These processing instructions apply exclusively to installing the Cobalt adhesive roof anchor on a suitable bituminous roofing membrane.

The bituminous sleeves must be fully bonded to the underlying bitumen layer by torch application. Other processing methods, such as adhesive bonding, self-adhesion or heating solely with hot air, are not permitted.

The work must be carried out by a qualified roofer.

1. Assess the bituminous roofing membrane

Before starting, check the condition and quality of the existing bituminous roofing membrane.

Condition of the bitumen	Assessment and pretreatment
--------------------------	-----------------------------

New, clean and dry	Check that the top layer is suitable for fully torch-bonding the sleeve. Remove dust, moisture and loose contamination.
Existing or lightly weathered	Clean and dry the surface. Remove loose or coarse mineral chippings and check that the roofing membrane is sufficiently secure.
Old or heavily weathered	Carefully check for drying out, cracks, blisters, folds, loose layers and insufficient adhesion. Repair the roofing membrane before installation.
Damp or damaged	Do not install. The roofing membrane must first be repaired by a qualified roofer.
Unknown roof build-up	Do not install until the roof build-up, quality and fire safety have been established.

The adhesive roof anchor must not be installed on bitumen that is loose, brittle, insufficiently bonded or contains trapped moisture.

Preparation

Check that the installation position corresponds with the project-specific anchor plan.

Clean and dry the entire work area. Remove dust, dirt, grease, moisture and loose material. At the sleeve location, remove loose or coarse mineral chippings where necessary to achieve full bonding.

Check that the existing roofing membrane is sufficiently bonded to the substrate. Cracks, blisters, folds and other damage must be professionally repaired before installation.

Only use a primer where required by the instructions of the relevant roofing-membrane manufacturer. Allow any primer applied to dry completely before processing begins.

Before installation, the substrate must be flat, dry, clean, stable and have sufficient load-bearing capacity.

3. Processing

Place the sleeves flat, free of tension and without folds, in accordance with the installation steps in this manual.

Torch-bond the sleeves evenly and in a controlled manner. Heat the sleeve and the existing bitumen layer sufficiently to

obtain complete bonding without overheating or damaging the materials.

When pressing down, work from the centre outwards to prevent trapped air and moisture.

Ensure that:

- the sleeve is fully torch-bonded around its entire perimeter;
- the outer edge is sealed all around;
- the sleeve is fully torch-bonded and bonded over the entire required surface
- no dry or insufficiently heated areas remain;
- no folds, blisters or trapped air are present;
- the existing roofing membrane is not burned or damaged.

4. Fire safety

Before starting work, check whether combustible materials are present in or below the roof structure.

Do not use an open flame if the roof build-up is unsuitable or if the fire safety of the structure cannot be established.

Keep suitable fire-extinguishing equipment within immediate reach during the work. After completion, carefully check the work area for smouldering or overheated sections.

Always comply with the applicable fire-safety regulations and the safety and processing instructions of the roofing-membrane manufacturer.

5. Quality control

After cooling, check:

- whether the sleeve is fully torch-bonded and bonded over the entire required surface;
- whether the sleeve lies flat and free of tension throughout;
- whether the outer edge is fully sealed;
- whether there are no open or insufficiently torch-bonded areas;
- whether there is no trapped air, moisture, folds or blisters beneath the sleeve;
- whether the existing roofing membrane has not been damaged;
- whether the adhesive roof anchor is upright and stable;
- whether an even bead of bitumen is visible all around.

An even visible bead of bitumen along the edge can be used as a practical visual check, but does not by itself guarantee complete bonding.

Correct any irregularities immediately before the adhesive roof anchor is loaded.

6. Do not install when

The adhesive roof anchor must not be installed when:

- the roofing membrane is wet or damp;
- the roofing membrane is loose or insufficiently bonded;
- cracks, blisters or folds are present;
- moisture may be present in the roof build-up;
- the bitumen is brittle, dried out or severely damaged;
- material suitability cannot be established;
- the roof build-up cannot be safely processed using an open flame;
- weather conditions prevent safe, high-quality processing.

INSTALLATION INSTRUCTIONS

1 Check the bituminous roofing membrane

Before starting work, check that the existing roofing membrane is suitable for installing the adhesive roof anchor. At a minimum, establish the following:

- whether the roofing membrane actually consists of bitumen;
- the brand and type of the bituminous roofing membrane;
- whether it is an APP- or SBS-modified bitumen membrane;
- whether the roofing membrane is suitable for torch application;
- whether the roofing membrane is sufficiently bonded to the substrate.

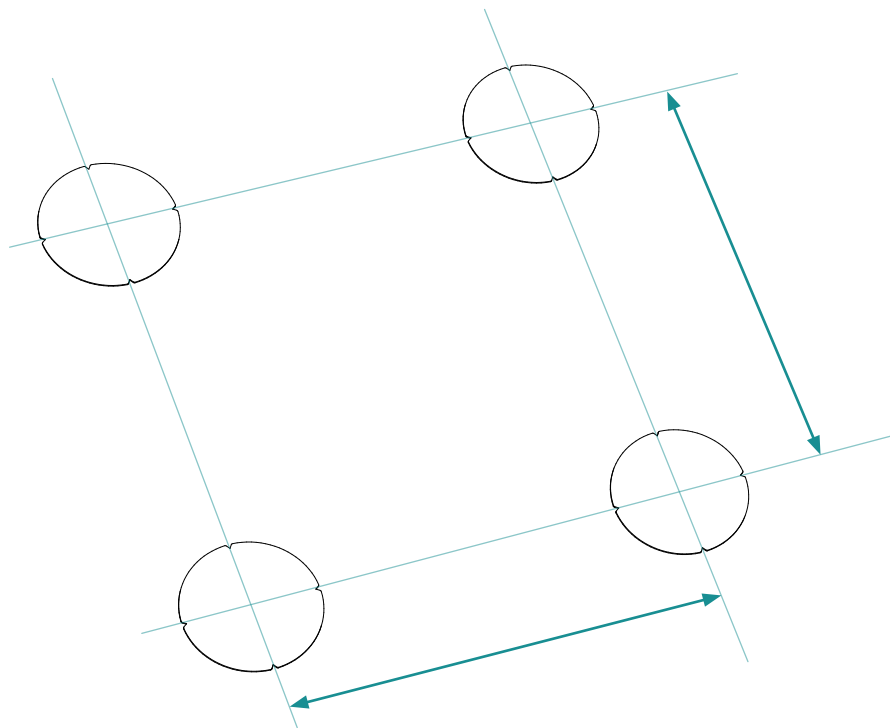
Where available, consult the roof documentation, product data or roof logbook. If in doubt, contact the manufacturer or supplier of the roofing membrane.

Also check that the roofing membrane is in good technical condition. The surface must be clean, dry and free from dust, dirt, grease and moisture. Do not install the adhesive roof anchor on roofing membrane with cracks, blisters, folds, loose sections or insufficient adhesion.

If in doubt, have the suitability of the roofing membrane assessed by a qualified roofer.



2 Measure the anchor positions



Use CoBuilder to determine the positions and required number of adhesive roof anchors. Install the adhesive roof anchors only in accordance with the project-specific anchor plan.

Measure the anchor positions accurately and check the spacing and alignment before installation.



TIP

Use a chalk line to mark out the anchor grid.



TIP

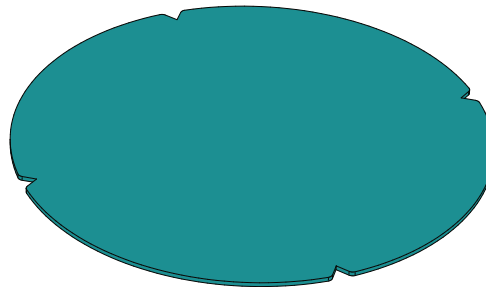
Use the openings in the outer edge to align the sleeve accurately and evenly around the adhesive roof anchor.

INSTALLATION INSTRUCTIONS

3 Clean substrate and apply bottom sleeve

Thoroughly clean the substrate and remove dust, dirt, grease, moisture and loose material. Check that the bituminous roofing membrane is flat, dry and sufficiently bonded.

Position the bottom sleeve according to the anchor plan and torch-bond it fully and evenly to the existing bituminous roofing membrane. Ensure complete bonding without folds, trapped air or loose edges.

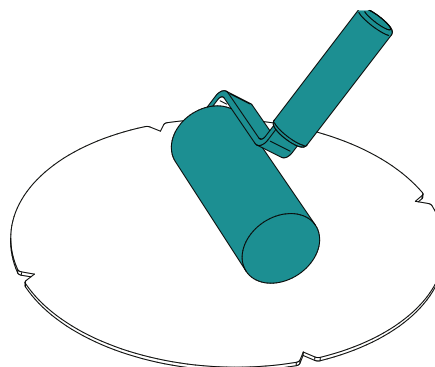


4 Press down the bottom sleeve

Immediately after torch-bonding, press the bottom sleeve down firmly and evenly with a suitable pressure roller.

Work from the centre outwards to prevent trapped air and folds. Check that the sleeve is properly bonded over the entire surface, paying particular attention to the outer edge.

There must be no loose edges, folds or trapped air.

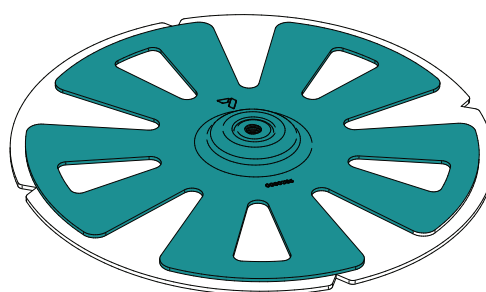


5 Prepare and position the adhesive roof anchor

Degrease the adhesive roof anchor and evenly roughen the bonding surface with a steel brush. Then remove all dust and dirt.

Place the adhesive roof anchor on the bottom sleeve and align it accurately according to the anchor plan.

Preheat the contact surface of the adhesive roof anchor in a controlled manner in preparation for the next step. Ensure that the anchor remains in the correct position.

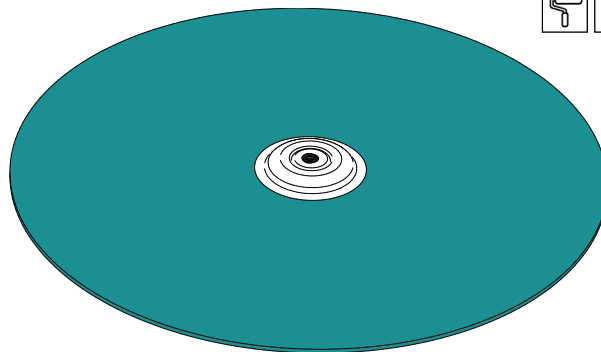


INSTALLATION INSTRUCTIONS

6 Fully torch-bond the top sleeve

Place the top sleeve centrally over the adhesive roof anchor and torch-bond it completely and evenly to the underlying bitumen layer.

Ensure that the sleeve fits closely around the adhesive roof anchor and is bonded over the entire required surface. Avoid folds, trapped air and insufficiently bonded areas.

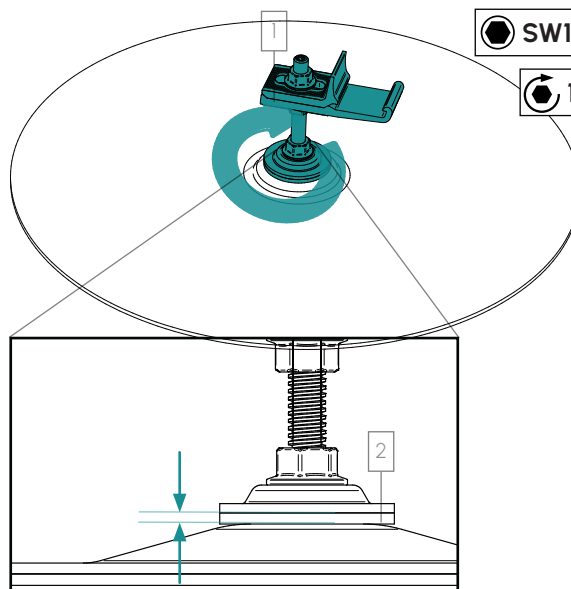
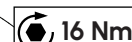


7 Apply and press down the top sleeve

Immediately after torch-bonding, press the top sleeve down firmly and evenly with a suitable pressure roller. Check the outer edge and the connection around the adhesive roof anchor particularly carefully to ensure complete bonding.

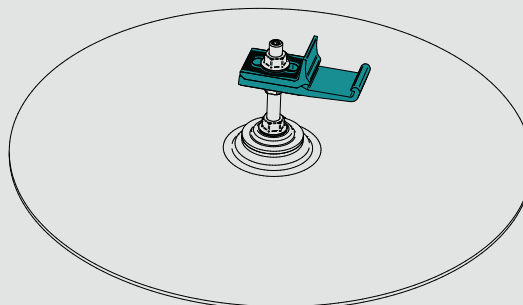
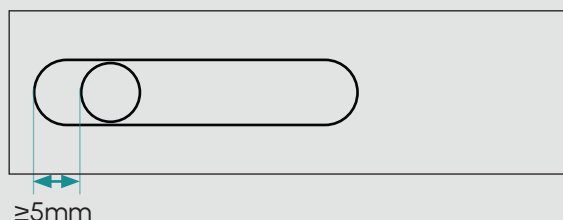
Screw the M10 threaded rod at least 8 mm into the adhesive roof anchor (1).

Place the M10 nut above the waterproofing seal and tighten it until the seal is compressed by at least 1 mm (2). Tighten the nut to a torque of 16 N·m.



TIP

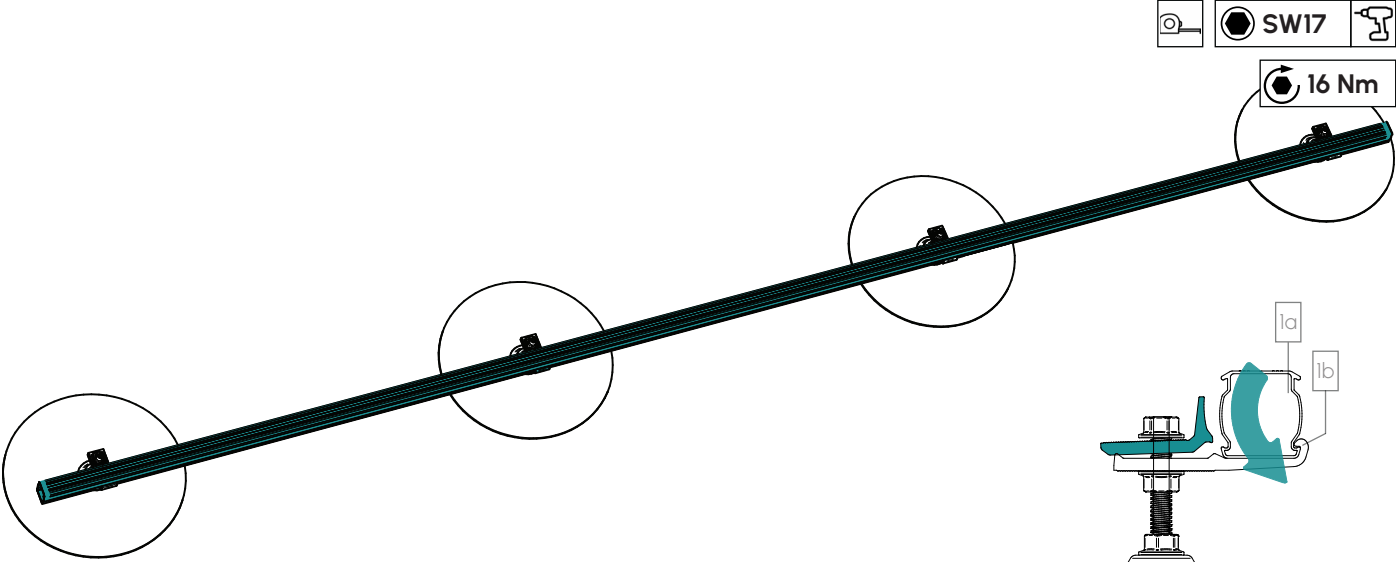
The adapter section has a slotted hole. Maintain at least 5 mm clearance between the threaded rod and the end of the slot on the side where no rail is present. This extra space simplifies installation and alignment.



INSTALLATION INSTRUCTIONS

8

Install the mounting rails



Place the mounting rail (1a) in the lower half of the adapter and ensure that the rail engages correctly behind the barb (1b).

Slide the upper half of the adapter (2) against the mounting rail and check that it hooks correctly into the rail.

Set the rail to the required height using the lower nut (3b). Check the alignment and then tighten both nuts (3a and 3b) to 16 N·m.

Note: allow the mounting rail to project no more than 300 mm beyond the last adhesive roof anchor.

Optional

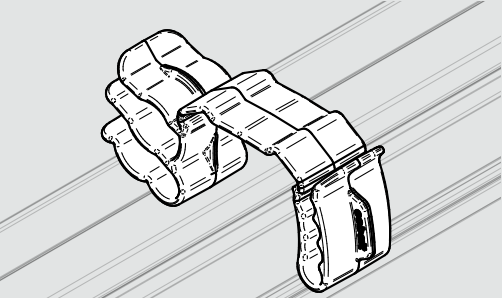
Connect the rails

Slide the rail coupler into the first mounting rail up to the stop lug (1). Then slide the second mounting rail over the rail coupler (2).

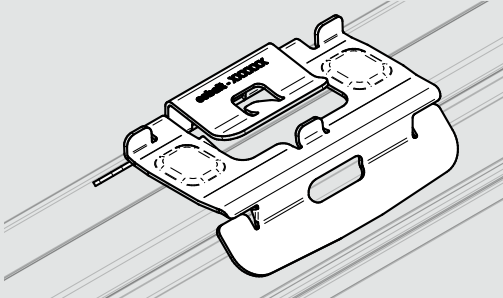
After installation, a gap of approximately 1 mm remains between the two rails (3).

INSTALLATION INSTRUCTIONS

Optional



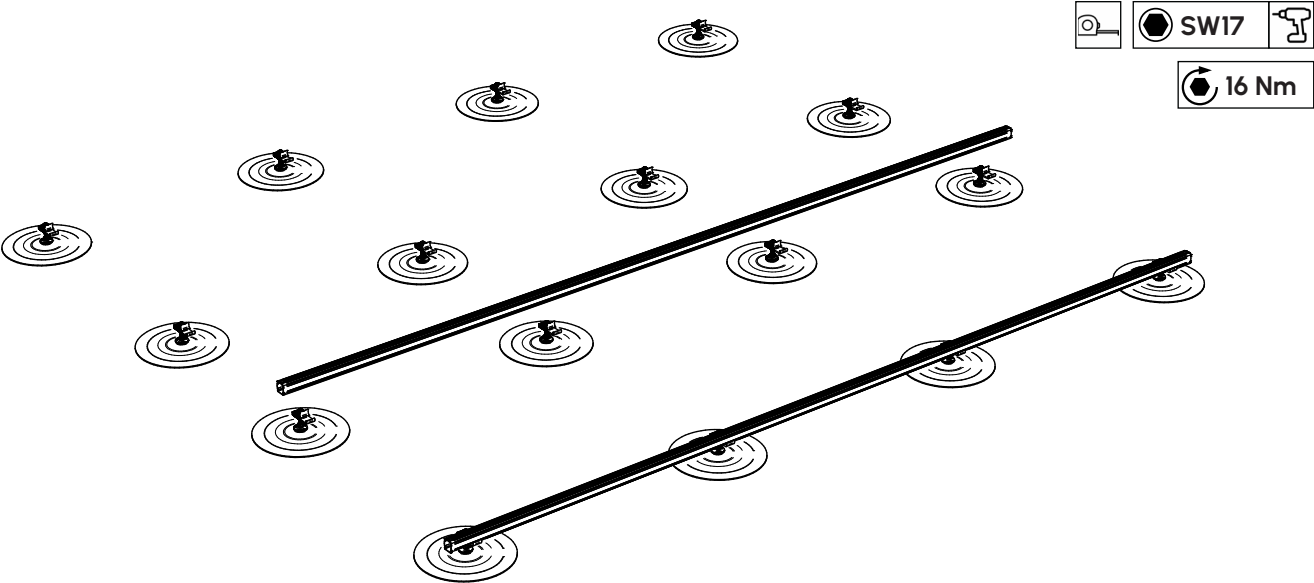
The cable clip allows string cables and MC connectors to be secured neatly and reliably.



The steel clip can be used to secure an optimiser or micro-inverter.

9

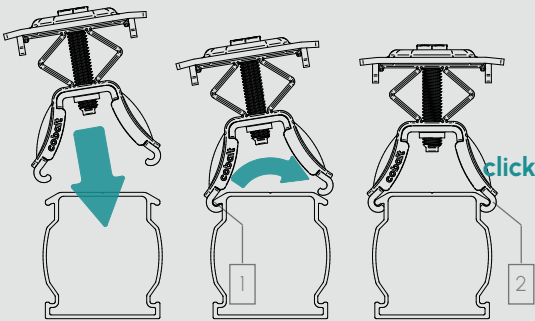
Install all mounting rails



Repeat step 7 to install mounting rails across the entire array. Where mounting rails need to be connected, rail couplers must be used. See the previous page.



TIP
Twisting in the clamps



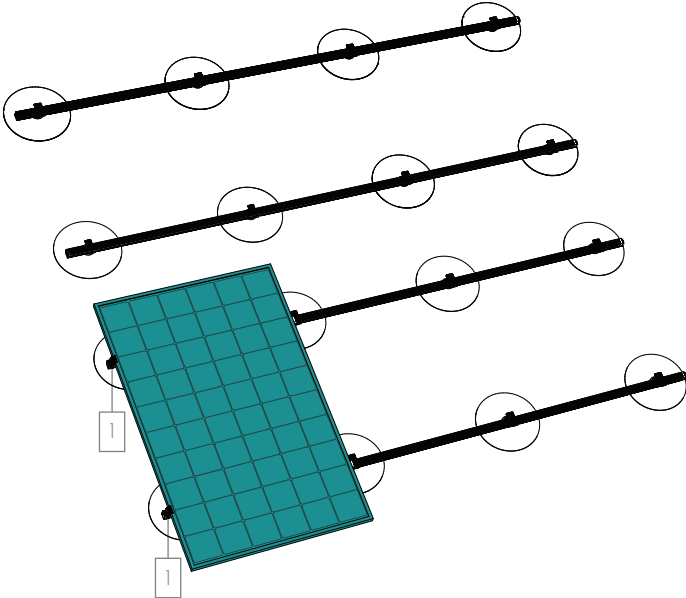
Hook one tab (1) over one of the rail edges and then tilt the clamp until you hear a distinct click (2). Check that both sides are correctly engaged and slide the clamp into position.



INSTALLATION INSTRUCTIONS

10

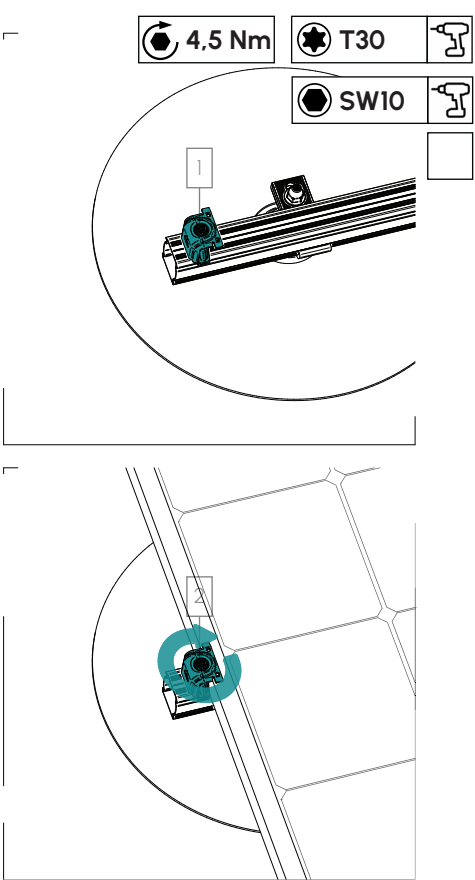
Place the first PV module (end clamp)



Place the end clamps (1) at the ends of the mounting rails and position the first PV module firmly against the end clamps.

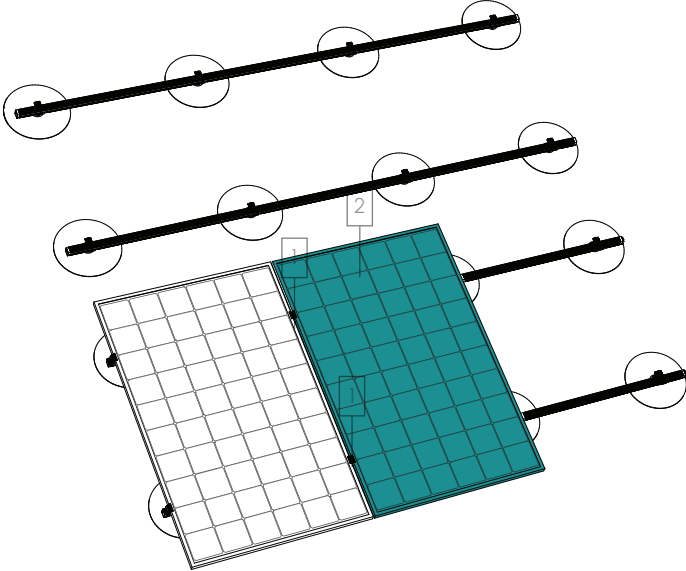
Check that the module is straight and fully supported by both mounting rails.

Tighten the end clamps evenly to a torque of 4.5 N·m.



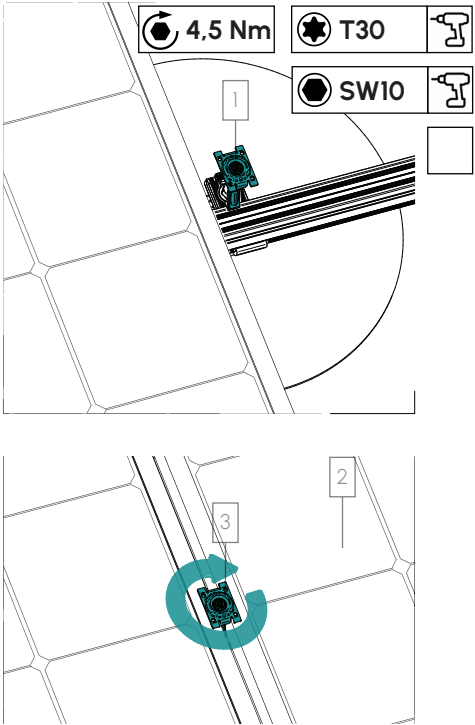
11

Install the middle clamp



Place the middle clamp (1) in the mounting rail and slide it against the already installed PV module. Then position the next PV module (2) and slide it firmly against the middle clamp.

Check the position of both modules and then tighten the middle clamp to 4.5 N·m (3).



INSTALLATION INSTRUCTIONS

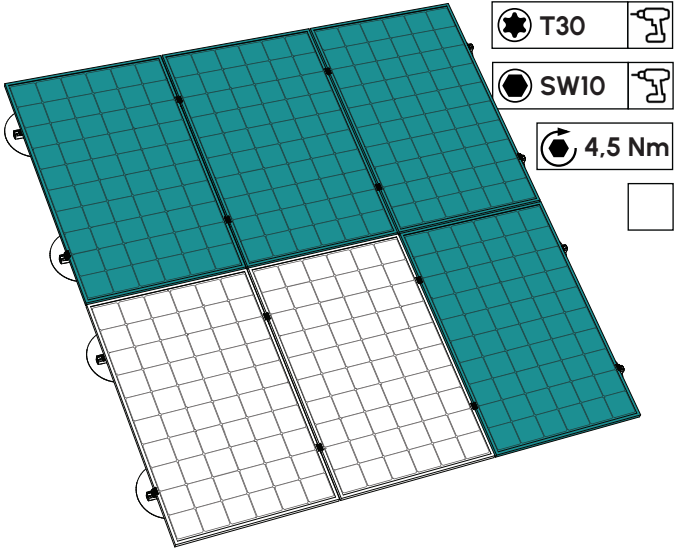
12

Complete the roof array

Repeat the previous steps until the entire module array has been installed.

Maintain an even spacing of 12 mm between adjacent PV modules.

During installation, regularly check that the rows are straight and evenly aligned with one another.

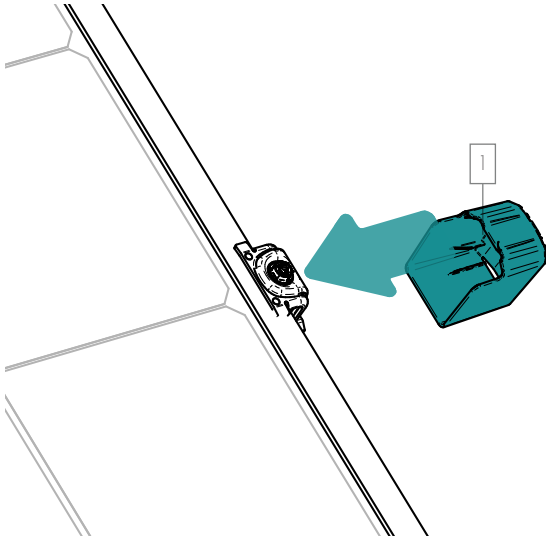


13

Install the end cap

After installing the module array, fit the end caps to the open ends of the mounting rails.

Slide the end cap fully over the end of the rail. The end cap does not require additional screw fixing.



Optional

Cross rail (using cross connector)

8 Nm

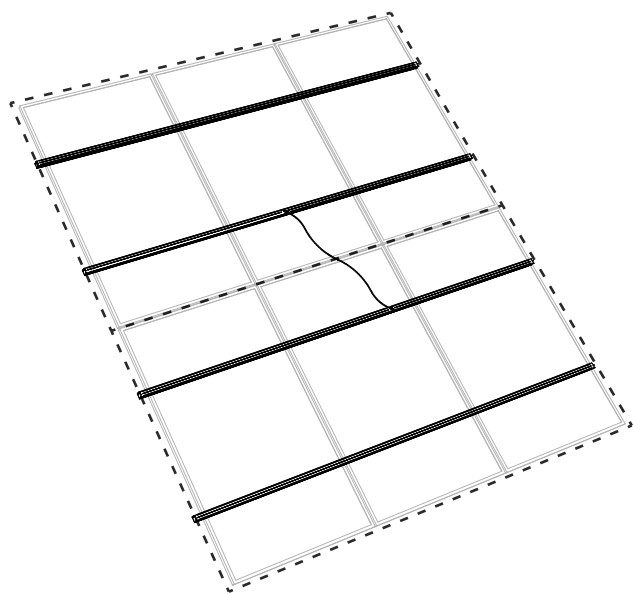
First install the cross connector on the lower mounting rail. Then position the second mounting rail perpendicular to the first and secure it with the cross connector. Tighten the bolt to 8 N·m.



INSTALLATION INSTRUCTIONS

14

Equipotential bonding



Cobalt module clamps feature integrated equipotential bonding. This electrically connects the PV modules within the same row, provided the components are installed correctly.

Connect separate rows and other bonding points in accordance with the project-specific electrical design and the applicable standards and regulations.

Consult the applicable requirements for equipotential bonding and earthing of the PV installation.

15

Thermal expansion joints

To prevent damage due to thermal expansion, expansion joints must be incorporated once the array reaches a certain size. As a rule of thumb, the following distances may be used.

D1

A (spacing)

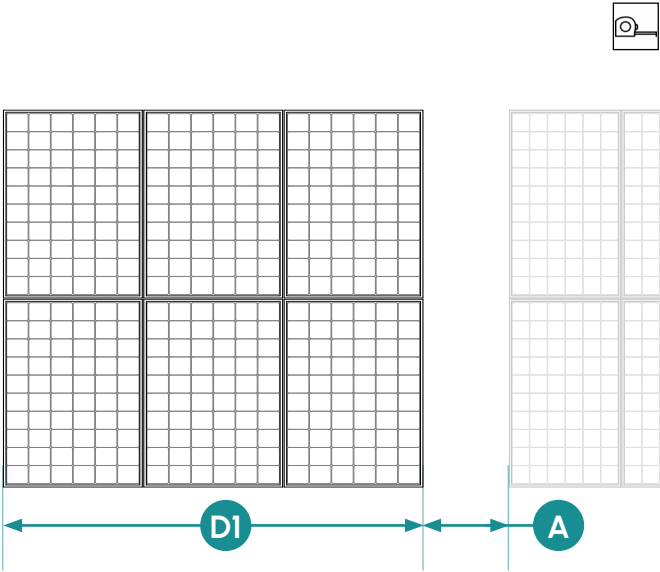
=

=

max 21 m (21,000 mm)

min 150 mm

Tip! Use calculator.cobalt.solar to automatically calculate expansion-joint sections based on the drawn module layout.



GENERAL TERMS AND CONDITIONS

/ General terms and conditions

Our general terms and conditions apply and can be downloaded from our website www.cobalt.solar.

/ Versions

Cobalt Mounting Systems takes great care in preparing and updating this manual. However, our products and mounting systems are continuously developed further. As a result, products, calculation methods and installation instructions may change over time.

Before starting installation, always check that you have the latest version of this manual.

Current documentation is available at www.cobalt.solar

/ Rights

All rights to this manual are reserved by Cobalt Mounting Systems B.V.

Without the prior written permission of Cobalt Mounting Systems B.V., this manual may not be reproduced, distributed, translated or processed in whole or in part, regardless of the method or medium used.

Cobalt Mounting Systems B.V. reserves the right to make changes to products, documentation and technical data as a result of product development and technical progress.

/ Validation and certification

Where applicable, Cobalt Mounting Systems has its products, systems and calculation methods assessed and validated by external specialist parties.

These investigations, calculations and validations form part of the technical basis for the calculations performed in CoBuilder and for project-specific applications.

For available certificates and technical documentation, see: www.cobalt.solar/nl/tools/downloads

/ Eurocode

Cobalt mounting systems are designed, calculated and manufactured in accordance with the Eurocodes and NEN 7250 requirements, their derivatives and local annexes (listed below).

EN 1990 - Basis of structural design
EN 1991-1-3 - Actions on structures (snow load)
EN 1991-1-4 - Actions on structures (wind load)
EN 1993-1-1 - Design of steel structures
EN 1993-1-3 - Design of steel structures
NEN 7250 - Solar energy systems - Integration in roofs and facades
EN 1998 - Design of structures for earthquake resistance
EN 1090 - Execution of steel structures and aluminium structures
BRL9931 - Mounting solar elements on and to buildings

General disclaimer

This manual contains general installation and processing instructions for connecting Cobalt sleeves and adhesive roof anchors to suitable bituminous roofing membranes.

This manual does not replace the current processing instructions, technical product data sheets, safety information or project-specific requirements of the manufacturer of the existing roofing membrane and the processing materials used. The current instructions of the relevant manufacturers must always be followed.

Only use materials whose suitability and mutual compatibility have been established.

The roofer is responsible for:

assessing the condition and quality of the existing roofing membrane and roof build-up; assessing suitability for torch application; correctly preparing and processing the sleeves; complying with the applicable fire-safety requirements; carrying out quality control after processing; and ensuring the final watertight execution of the connection.

Cobalt Mounting Systems B.V. provides no guarantee for the quality of roofing work carried out by third parties or for the watertightness of a connection made by third parties.

Where sleeve material is not supplied by Cobalt Mounting Systems, a sleeve is manufactured by a third party or a Cobalt sleeve is modified, Cobalt Mounting Systems is not responsible for the fit, material compatibility, adhesion, durability or watertightness of that connection.

This manual is not a manual for general roofing work and does not replace the applicable standards, safety requirements or processing guidelines for such work. The processing information included is intended as supplementary practical information for installing the Cobalt adhesive roof anchor and has also been derived from Bauder technical processing instructions. For the actual processing of the existing bituminous roofing membrane, the current instructions of the relevant roofing-membrane manufacturer and the applicable laws and regulations remain decisive.



INSTRUCTION MANUAL

PITCHED ROOF

ADHESIVE ROOF ANCHOR