Duraklick HSS-Height safety system

Assembly instruction







For mounting you need the mounting set:



General instructions and preparations

The Duraklick HSS is a personal safety device and was specially developed for the Duraklick PV mounting systems. It can be installed on all systems (SR, EW, GR and ECO). The safety system may only be installed by Duraklick certified fitters. It must be installed according to the specifications in these installation instructions.

1. Anchor devices

Anchor devices Type D and E according to DIN EN 795, CEN/TS 16415:2013 Type: Duraklick-HSS-Hight Safety System tested by DEKRA EXAM GmbH according to dynamic and static load capacity according to item 4.4.4 und 4.4.5 DIN EN 795:2012 und CEN/TS 16415:2013 am 06.03.2013. **Approved for max. 4 persons at the same time.**

2. PPE sets (red bag)

The red bags contain the PPE sets (safety harness, fall protection runner, fall arrester/ AM4 fall arrester) should be stored near the entrance or roof access.

3. Protection during assembly

Please ensure that you are properly secured against falling during installation! For safety reasons, work in the fall area must not be carried out alone

Photograph roof damages!

Before installation, it should be checked whether there is any damage of any kind - especially water seepage or damage to the roof cladding. These should be documented with the digital camera to avoid later recourse claims.

Clean roof

Drilling and metal chips must be removed from the roof! Do not place any screws or sharp tools on the roof foil! The roof membrane could be damaged!



Instruction manual



The installation of the HSS height safety system may only be carried out by a certified fitter.







Gloves!

Wear gloves during assembly! Risk of injury from sharp edges!

1. Planning and requirements

Each Duraklick and HSS system is planned by Soltop for the respective PV system and the installing company receives an installation plan.

1. Delivery check

Immediately after delivery, check the components for completeness and possible damage.



2. Important dimensions









Disantance noor rain to support: min. 15cm



Distance from floor rail to windshield: min.15cm

1.Checking the conditions

Before starting the installation, check the dimensions and specifications in the planning with the actual conditions. It is possible that a PV system was built differently than originally planned.

Very important:

Minimum compound

Minimum size of the module field must be 3 x 4 modules. The minimum weight of the plant must be 460.00 kg (incl. ballast).

Position of the entry/exit

For safety reasons, the entrances must be at least 2.50m away from the nearest fall edge. The entry can also be integrated into existing guardrails or railings. (Not applicable for a ring installation. Here there are no entrances and the folding fall protection runners are used).

Placement of the anchor points

The anchor points are mounted on the floor rails. The standard distance is 3 m to 4.5 m - only in special cases a distance of up to 6 m is permitted.

Requirements for the floor rails

Don't install short rails (0.70 m and 1.40 m) at the be ginning and end of a composite where fixing points are to be installed.

The profile connectors of the floor profiles can only withstand a maximum of 9 kn, so short rails must always be placed in the middle of the compound or secured accordingly.

1. Position of the short anchor points

The short anchor point must be mounted at least 20 mm from the end of the floor rail. So choose the distance of the drilling template accordingly.

2. Drilling

Drill the 4 holes for mounting the single point stop with 11.5 mm drill bit. Please use the original HSS drilling template to drill the holes exactly.



Drilling and metal chips must be removed from the roof!

3. Grease the components

The threads of the stainless steel nuts in the anchor points must be completely greased with anti-seize assembly Paste



Always grease screws! If stainless steel screws and nuts are not sufficiently greased, there is a risk that the screws will seize in the threads when tightened.

4. Assembly of the front anchor points (short)

Insert the two halves of the anchor point into the bottom rail and fix them with the supplied stainless steel screws - but do not tighten them!

The 4 screws (M10x25mm) must be greased before insertion, otherwise the stainless steel nuts may seize when tightened.

5. Tightening

Stainless steel screws (M10 x 25) are screwed to the base plate from the outside through the floor rails with the anchor point. (Tightening torque = 25 Nm)



Distance of min. 20 mm to the end of the floor rail



Drill holes in floor rails with drilling template



Lubricate the threads and screws with anti size paste



Put the first anchor point into the foor rail



Attach and screw on load distribution plate

4. Installation of the lateral anchor points (long)



1. Position of the long anchor points

The lateral (long) anchor points are normally placed centrally between the modules.

- 2. Drilling
- 3. Grease the components
- 4. Assembly of the anchor points
- 5. Tightening



Place the cantilever





Distanzhalter unter der HSS-Führungsschiene

6. Cantilever assemble

Stainless steel screws (M10 x 35) are screwed to the base plate from the outside through the floor rails with the anchor point. (Tightening torque = 25 Nm)

Option: Lifting with spacer

In the case of green roofs or elevated gravel, the spacers can be used. They raise the guide rails.

Schrauben M10x35mm



Fixingpoint short+spacer



Fixingpoint short+spacer

5. Installation of the wire rope system

1. Mounting the wire cable on anchor points

The lateral anchor points must be connected to the floor rails behind them by a steel cable. This is the only way they can absorb and distribute the load in an emergency.

Guide the wire rope end through the hole provided for this purpose in the end of the cantilever and fix it with two rope clamps. (Overlap approx. 30 cm)



Position des Drahtseils am Ausleger

2. Feedthrough through floor rail

Guide the steel cable through the bottom rail to the opposite anchor point (or according to the plan). Mark the rails at the corresponding position and drill through with an 8 mm drill bit.



Drilling and metal chips must be removed from the roof!

3. Attach rope clamps

Thread 2 rope clamps **between each rail** and guide the rope through the holes in the rails. (If an anchor point is only mounted on one side, one rope clamp is enough. This must then be mounted on the opposite side to the anchor point).

Tension slightly the steel rope and fasten it to the opposite anchor point with 2 rope clamps. If the anchor point is on one side, pass it through the last drilled rail and guide it back. Form a loop with a rope clamp. Now push the rope clamps onto the rails and clamp them tight.



The saddle of the wire rope clamp must always be at the pull rope, not at the rope end! Never saddle a dead horse!



Wire rope system for load introduction into the system



Tight the rope clamps





Attach rope clamps on each floor rail



Loop on the last floor rail

6. Installation of the guide rails



Insert stainless steel screws



Insert screws through the sliding blocks







Insert screws and tighten

1. Insert stainless steel screws

Insert two M10 x 25mm stainless steel screws into each of the guide rails

2. Insert sliding blocks

Place sliding blocks on the fixing point to absorb thermal expansion. The little bars come upwards into the gap of the rail.

3. Grease and insert screws

Grease the threads of the self-locking stainless steel nuts with the lubricant supplied. Guide the two screws through the sliding blocks and holes on the anchor point.

4. Fixing the guide rail

Fix guide rail with washer and nut. but do not tighten the curves yet!

Connecting the guide rails

Insert the corresponding number of M10x35mm stain less steel screws into the next rail. Join the rails using the connectors and screw them together.



Always grease screws! If stainless steel screws and nuts are not sufficiently greased, there is a risk that the screws will seize in the threads when tightened.

6. Finnishing

Fasten the rail as described under point 1 and tighten it!

Repeat this procedure until the next curve or entry point.

7. Assembling the fitting pieces

1. Measuring

First measure the distance between the rails to be connected (minimum distance = 15 cm).

2. Assembling the passport pieces



Cut best with a chop saw

Drill holes for connectors using the drilling template. Drill Ø 10.5mm



Drilling and metal chips must be removed from the roof!

1. Countersinking holes outside

With sinker 20,5mm 90°



Measure the distance between the rails



drilling with the template



3. Countersinking holes inside

With sinker 12,4 mm 90° with cut tip



1. Insert the fitting pieces

Assemble the fitting piece accordingly. Insert it, move the rails apart a bit to make it easier and screw them together with connectors.



2. Tightening the rails on the anchor point

After all rails have been mounted, align the system so that it is as stress-free as possible.

Then check and tighten all screw connections (M10 x 20) between rails and fastening points. The tightening torque for stainless steel screws M10 strength class 70 is 25 Nm.

Finally, check all screw connections for tightness.



Assemble the fitting piece accordingly.



Fixing entry / end-stop

3. Assembly of the entrys and end stops

Please check the position of the entrys before mounting them. The entry should be at least 2.5 m away from the nearest fall edge to allow safe use of the HSS-System.

Every entry or end stop must be fixed on an anchor point and not protrude more than 30 cm above the last anchor point.



Step in element on a fixing point



8. Final inspection



Function of the entrance

1. Final inspection

Check the system for tight fit of all connecting elements. Then check the function of the accesses/end stops.

2. Final testwalk

Check the supplied PPE set (red bag) for completeness and function. Put on the equipment according to the instructions and perform a test walk of the system. In particular, check that the entrances move smoothly and ensure that the fall protection runner runs smoothly in bends and curves.

3. Fill out acceptance protocol

After completion, fill out the complete HSS acceptance protocol.

4. Attach type plate

The HSS nameplate should be attached to the HSS entrance closest to the roof access. It can be stuck directly onto the guide rail.



5. Attach lock sign

The warning sign indicates whether the system is ready for operation and use or not (e.g. due to maintenance or conversion work). Attach the holder in a clearly visible position either to the roof ladder or to the nearest HSS entrance and insert the card with the corresponding side.

6. Providing the equipment sets

The "equipment sets" (red bag/case) should be stored in such a way that they are quickly available to any roof climbers. The ideal place is directly at the roof ascent, which is dry and easily accessible. The equipment set should also always contain an HSS instruction manual.





Safe working on the roof!

The HSS fall protection system is now ready for use.

For the correct use of the system, please refer to the instructions for use, which are included in every Soltop PSA set (red bag).

We wish you safe work!



Manufacturer's specifications:

The Duraklick fall protection system (HSS) is made by:

SOLTOP EU GmbH Sonnenhalde 5 D-88161 Lindenberg www.soltop.eu



The system has been tested and certified by the following testing institute:

DEKRA Testing and Certification GmbH Dinnendahlstr. 9 44809 Bochum

Zertifikat Nr.: ZPB03522



Dura klick

H53

Acceptance protocol

Control list for assembly and approval of the horizontal Durakilok-HSS security system according to DN EN 795/2012 Typ D+E. Please fil in the positions accordingly and hard over the signed protocol to the system operator. Please mail a scanned copy to the resperior SOLTOP expediate. Attach the inspection streker to the system.

Operator:						
Projectnumber:		HSS-serialnumber:				
Plantname / location:						
Assembly company:						
Adress:						
Phone:				Mounting date of HSS:		
Certified fitter:				Last check:		
Installation identical with lay	outplan and ballast plan			n.a.	I note	
Stop sign at the roof access						
Type plate with serial number existing (indication of the maximum number of persons)						
Gap width at butt joints max. 5 mm						
Screw connections between system and fixing elements are V2A / V4A and nuts are self-locking (Polystop)						
All screw connections secured against loosening (1.5 - 2 thread turns protruding)						
Entry / exit openings available and self-closing						
Overhang of the rail above the first / last Single stop point maximum 300 mm						
Constructive end stop / end stop (safety pins) at the end of the rail end available (not applicable for revolving systems)						
Rail free from dirt						
System unit min. 3 x 4 modules with min. 480 kg						
Trial inspection carried out						
Rail course is straight						
No interference with existing infrastructure (rail and runner do not collide with other components)						
Nspection carried out by:			Date:			
Signature:			Date of next test:			
- Acceptance protocol handed over to the operator						

ID plate information:

The HSS system is marked with an ID plate at the system entry point nearest to the roof access. The plate is shown below and contains the following information:

Anschlageinrichtung Roof S	Anschlageinrichtungen DIN EN 795 2012 www.dekra-siegel.de	EN 795 2012 Typ D CEN/TS 16415:2017		
Maximal zugelassene Personen: Maximum permitted number of 4	Baujahr /Year 2023			認認為
Vor Gebrauch die Anleitung lesen! Please read manual before use!	Serien-Nr / Serial-No 2023-016	DEKRA	D-88161 Lindenberg I Aligåu www.soltop.eu	回翻。

Regular checks:

The system must be regularly checked and tested. For this, our test report templates or testing app are used:

Acceptance protocol:

After installation of the HSS, this is used to check and accept the system. The original remains with the operator; SOLTOP receives a copy by email.

- Inspection documentation:

This is used for the annual or biennial inspections. It is created digitally by an approved inspector and handed over to the operator with photos. SOLTOP receives a copy by email and sends a sticker to the operator.

- Soltop EU has certified expert examiners for the PPEand the HSS fall protection system

Inspection intervals:

HSS fall arrest system.....every 24 months

all components permanently connected to the Dura klick mounting system

PSAgA.....every 12 months harnesses, lanyards, fall protection runners, Height safety device

Duraklick HSS -Height safety system Everything understood? "Sure!"



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