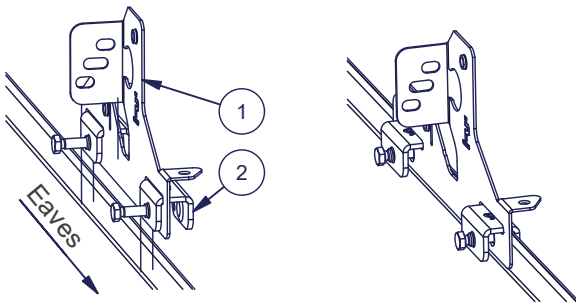


Pisko SnowDefence 150 3-pipe snow guard for standing seam roof

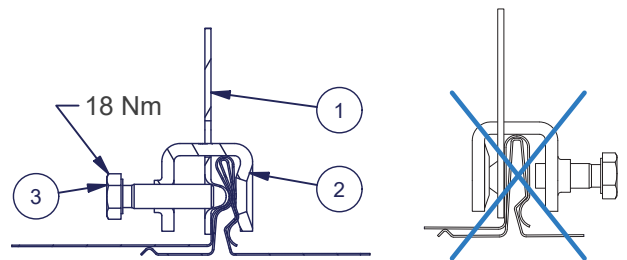
The snow guard can also be equipped with a Snow Rake. The Snow Rake effectively prevents the snow from falling under the snow guard. The Snow Rake is installed according to the separate installation instructions, Pisko Snow Rake for standing seam roof.

ASSEMBLY

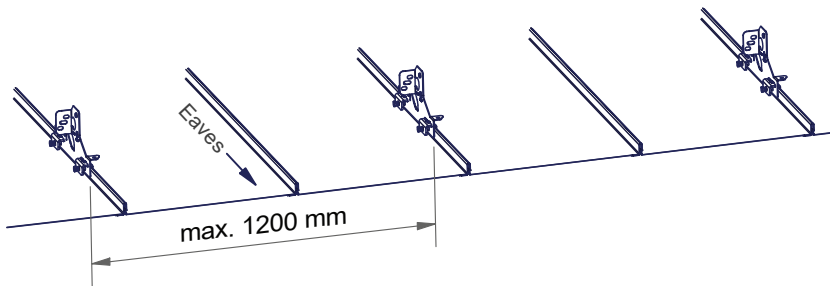
SG Fastener Uniseam 3-pipe (1) is mounted on standing seam with SG Tightening Clamps (2). Attach fastener and clamps to the seam.



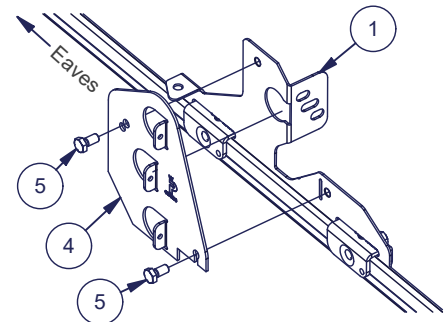
Tightening torque of the fastening bolt (3) is 18 N/m. Correct tightening torque will spread out the Tightening clamp a bit, in order to create a tight long-lasting connection. **NB!** The bolt of Tightening clamp must always be against the fastener, NOT against the seam.



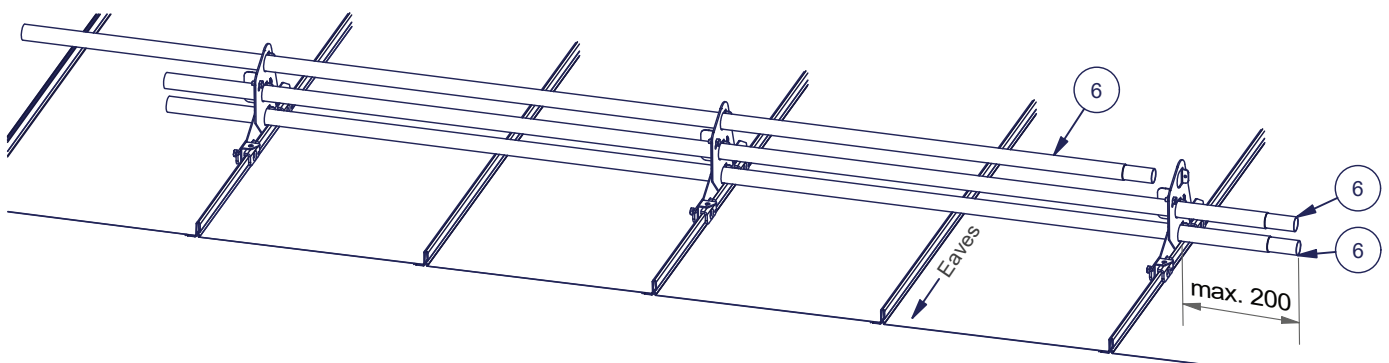
At least 3 brackets per continuous length.
Maximum distance between the brackets is 1200 mm.



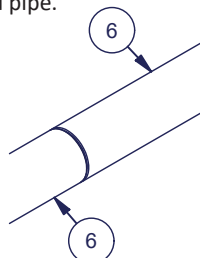
Attach the Locking brackets for snow guard pipes (4) to each SG Fasteners (1) with two M8x16 bolts (5).
* Note separate instructions later in this manual for the aluminum seam roofs.



Slide the pipes (7) through the holes of the brackets. Maximum protrusion from the outermost bracket 200 mm.

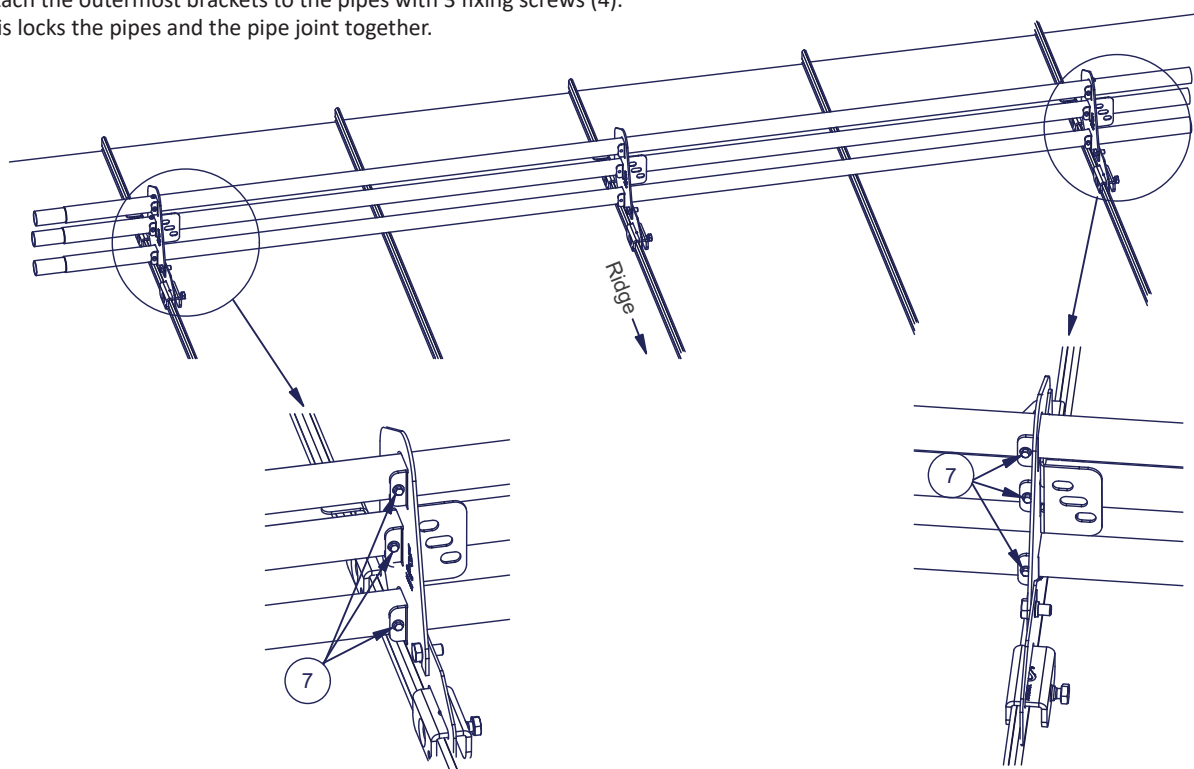


The extension of the pipes shall be done by sliding the pipe end with solid reducer inside the adjacent non-reduced pipe.



Part	Description
1	SG Fastener UniSeam 3-pipe
2	SG Tightening clamp, Pisko Uniseam
3	Fastening bolt DIN 933 - M8 x 30
4	Locking bracket for snow guard pipes
5	Bolt DIN 933 - M8 x 16 HDG
6	Snow guard pipe Ø32

Attach the outermost brackets to the pipes with 3 fixing screws (4).
This locks the pipes and the pipe joint together.



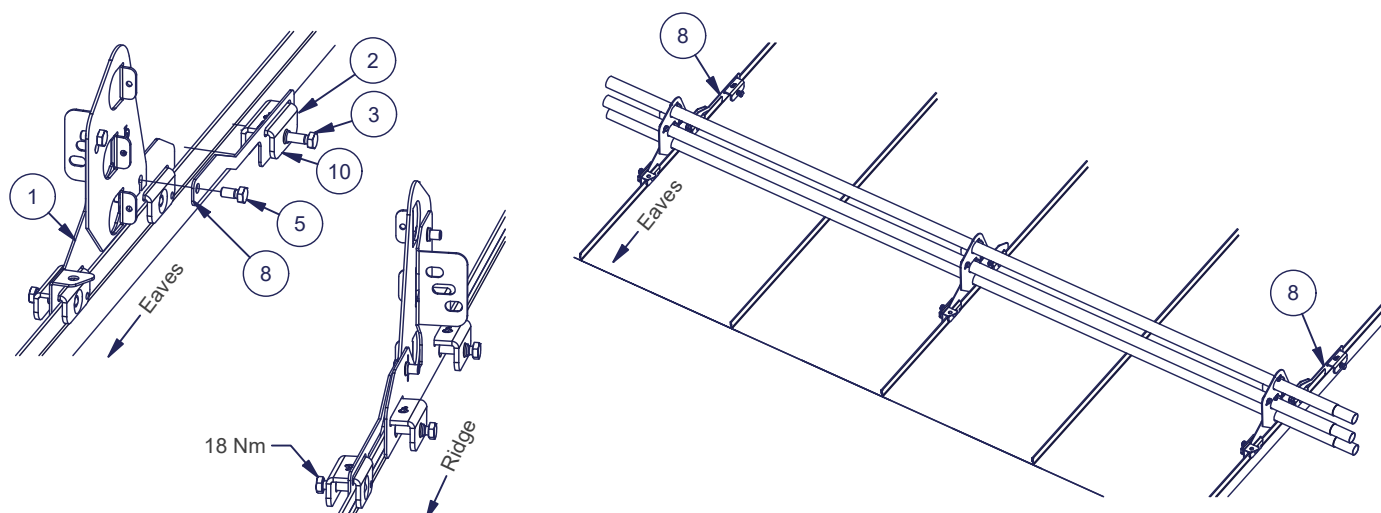
Requirements for min. raw material thickness by roof type:

- Standing seam roofs (lock seam)
 - steel 0,5 mm
 - aluminum 0,7 mm
- Standing seam roofs (tinsmith)
 - steel 0,5 mm
 - aluminum 0,8 mm

Part	Description
1	SG Fastener UniSeam 3-pipe
2	SG Tightening clamp, Pisko Uniseam
3	Fastening bolt DIN 933 - M8 x 30
4	Locking bracket for snow guard pipes
5	Bolt DIN 933 - M8 x 16 HDG
6	Snow guard pipe Ø32
7	Pipe fixing screw, e.g. 4,8x25 self-tapping farmer screw or 4,8x19 self drilling screw
8	Auxiliary fastener, 3-pipe SG Uniseam

ASSEMBLY - Aluminum standing seam roofs

Installing snow guard on an aluminum tinsmith or lock seam roof requires Auxiliary fasteners (8) to the outermost SG fasteners. Attach the Auxiliary fastener, 3-pipe SG UniSeam (8) to SG fastener (1) with M8x16 bolt (5) and SG tightening clamp (2) to seam. The installation direction of the tightening clamp of the auxiliary fastener is opposite than the tightening clamps of the SG fastener. Tightening torque of fastening bolt (3) is 18 N/m.



MAXIMUM LENGTH OF ROOF SLOPE (RT Reference Card 85-11132)

Indicative figures for the maximum distance (m) of the roof slope above the snow guard on a smooth surface. The maximum distance on coarse roofs, such as bitumen roofs can be increased by 1.3 – 1.5 times the stated amount. The snow load values shown are the actual snow loads on a roof.

Roof's inclination angle (°) and snow ratio (the ratio of the slope to the horizontal width of the roof pane)	Maximum length of slope above the snow guards					
The characteristic value of the snow load on the roof: 1,8 kN /m ²						
Space between the snow guard fasteners	0,5 m	0,6 m	0,75 m	0,9 m	1,0 m	1,2 m
Roof's inclination angle and snow ratio						
< 15°, (1:3,7)	21,4	17,9	14,3	12,0	10,7	9,0
15... 22°, 1:3,7... 1:2,5	11,4	9,5	7,6	6,3	5,7	4,8
22... 27°, 1:2,5... 1:2	8,4	7,0	5,6	4,7	4,2	3,5
27... 37°, 1:2... 1:1,3	7,4	6,2	4,9	4,1	3,7	3,1
37... 45°, 1:1,3... 1:1	9,0	7,5	5,9	5,0	4,5	3,7
The characteristic value of the snow load on the roof: 2,0 kN /m ²						
Space between the snow guard fasteners	0,5 m	0,6 m	0,75 m	0,9 m	1,0 m	1,2 m
Roof's inclination angle and snow ratio						
< 15°, (1:3,7)	19,1	16,1	12,9	10,8	9,6	8,1
15... 22°, 1:3,7... 1:2,5	10,2	8,6	6,9	5,7	5,1	4,3
22... 27°, 1:2,5... 1:2	7,6	6,3	5,1	4,2	3,8	3,2
27... 37°, 1:2... 1:1,3	6,7	5,6	4,4	3,7	3,3	2,8
37... 45°, 1:1,3... 1:1	8,2	6,8	5,3	4,5	4,1	3,3
The characteristic value of the snow load on the roof: 2,6 kN /m ²						
Space between the snow guard fasteners	0,5 m	0,6 m	0,75 m	0,9 m	1,0 m	1,2 m
Roof's inclination angle and snow ratio						
< 15°, (1:3,7)	15,0	12,5	9,9	8,3	7,5	6,2
15... 22°, 1:3,7... 1:2,5	8,0	6,6	5,3	4,4	4,0	3,3
22... 27°, 1:2,5... 1:2	5,8	4,8	3,9	3,3	2,9	2,4
27... 37°, 1:2... 1:1,3	5,2	4,3	3,4	2,8	2,6	2,1
37... 45°, 1:1,3... 1:1	6,2	5,2	4,1	3,5	3,1	2,6

PICTURED IS AN EXAMPLE OF SNOW GUARDS BEING USED ACCORDING TO THE TABLE.

Maximum length of the slope above the snow guards: 4,7 m

Roof angle 25°
Snow load 1,8 kN/m²

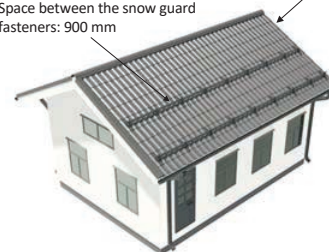
Space between the snow guard fasteners: 900 mm



Maximum length of the slope above the snow guards: 3,3 m

Roof angle 25°
Snow load 2,6 kN/m²

Space between the snow guard fasteners: 900 mm



Pisko Snow Guards are capable of bearing a load of at least 5 kN/m, in the direction of the inclined roof. By following the values in the table these requirements are fulfilled.

MAINTENANCE

Pisko products are hard-wearing and safe to use, guaranteed by the ongoing quality control and development work by Piristeel Ltd, as well as correct installation of the products according to the manufacturer's instructions. To ensure the reliability and safety of the products, the property owner must carry out yearly inspection and maintenance procedures, and make sure that excessive snow load does not accumulate on the roof.

Yearly maintenance inspection checklist for Pisko snow guards:

- Check the tightness of joints, connections and attachments.
- Check fixings to the roof
- Take care to regularly clean the accumulated debris and dirt in the snow guard (such as leaves)
- Ensure any excessive snow load is cleared to minimize the strain on structures and attachment points of snow guard (as necessary; there might be a need several times during the winter). Product durability in accordance with the certification certificate.
- Check the paintwork and zinc coating of the products; repair faults and touch up paintwork if necessary
- Replace or repair any damaged or faulty parts as soon as possible.



C900083