

## Standing seam roof RLE/VARMA 180

### 1. Planning the location

- Entrances and accessways as well as play and recreational areas used during winter must be protected from snow and ice falling from the roof. This regulation also applies to the streets and other public areas surrounding the building.
- When the slope of the roof is steeper than 1:8, snow guards are used for protection.
- The snow guard should always be installed over the entire length of the eaves. It should not be used as short sections over the entrances only, for example.
- Snow must always be prevented from falling from one roof plane to another as well (RT instruction card 85-11132).
- Place the snow guard close to the side eaves so that the snow loads are transferred to the load-bearing structures.

### 2. Dimensioning of snow guards

Maximum roof plane length above the snow guard (m)						
Angle (°) and slope ratio of the roof	Distance between snow guard fixtures (m)					
Snow load on the roof 1.8 kN/m <sup>2</sup> (2.6 kN/m <sup>2</sup> )						
	0.5 m	0.6 m	0.75 m	0.9 m	1.0 m	1.2 m
< 15°, (1:3.7)	21.4 (15.0)	17.9 (12.5)	14.3 (9.9)	12.0 (8.3)	10.7 (7.4)	9.0 (6.2)
15...22°, 1:3.7...1:2.5	11.4 (8.0)	9.5 (6.6)	7.6 (5.3)	6.3 (4.4)	5.7 (4.0)	4.8 (3.3)
22...27°, 1:2.5...1:2	8.4 (5.8)	7.0 (4.8)	5.6 (3.9)	4.7 (3.3)	4.2 (2.9)	3.5 (2.4)
27...37°, 1:2...1:1.3	7.4 (5.2)	6.2 (4.3)	4.9 (3.4)	4.1 (2.8)	3.7 (2.6)	3.1 (2.1)
37...45°, 1:1.3...1:1	9.0 (6.2)	7.5 (5.2)	5.9 (4.1)	5.0 (3.5)	4.5 (3.1)	3.7 (2.6)

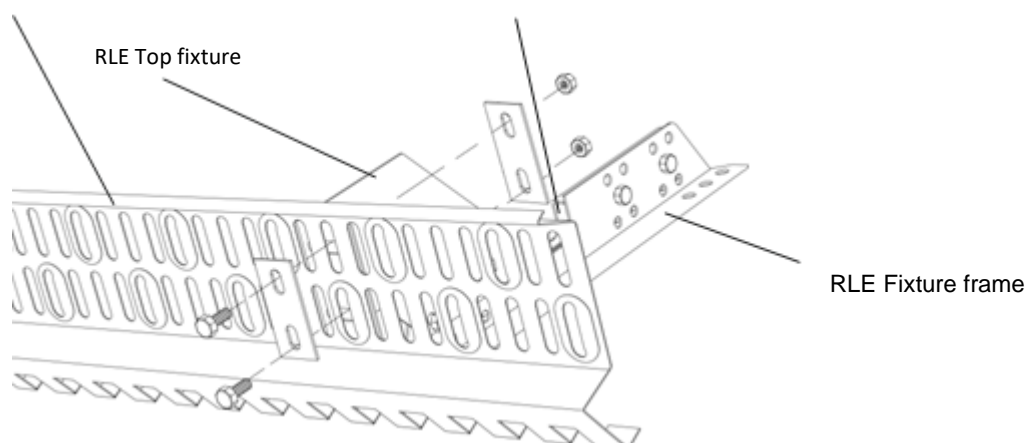
- If this load is exceeded, snow load on the roof must be reduced.
- **NOTE!** The maximum allowed distance between the fixtures of a snow guard grid is 1,085 mm.

### 3. Parts of the snow guard

The length of the grid-type snow guard element is 3,000 mm, effective length 2,915 mm.

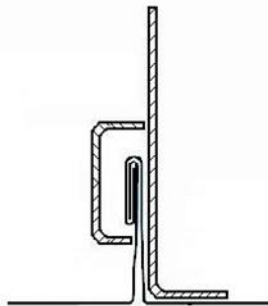
RLE/VARMA 180 Grid-type snow guard

SK Counter piece



## 4. Installation order

1. Plan the placement.
2. Ensure that the boarding under the snow guard is made of closed boarding as required by the RT instruction card. Check also that the number of fixture strips used for attaching the metal sheeting is adequate (RT instruction card 85-10862, standing seam metal roof).
3. Assemble the fixtures as shown in the figure. To assemble one fixture, you need one RLE fixture frame, one SK counter piece, one RLE top fixture, 4 pcs. M8 x 40 mm bolts and M8 nuts. Leave the bolts open at this point to be able to pass the fixture into the seam. NOTE! Always place the larger fixture on the straight side of the seam so that the fixture stands vertical. Correspondingly, the U-shaped counter piece (SK) is placed on the overturned seam side.



4. Plan the fixture distribution. The most commonly used distribution is fixing to every other seam. Note also that the grid may exceed the last fixture by maximum 100 mm.
5. Mark the locations of the fixtures (using a chalk line, for example) and make sure that the fixtures are in line.
6. Attach the fixtures one by one by tightening the M8 x 40 mm hexagonal screws and M8 nuts. The tightness of the bolts is correct when the counter piece begins to bend at the bolt locations. Additional tightening does not help after this.
7. Finally, lift the RLE/VARMA snow guard grid in its place. Use two M8 x 20 mm hexagonal screws, two rectangular double base plates and two M8 nuts to attach the grid to the RLE top fixture. The double base plates are placed between the top fixture and the oval holes in the grid, between the nut and the bolt head. The grid-type snow guard can be extended by overlapping the grids over a distance of minimum 85 mm and locking the connection with two M8 x 20 mm hexagonal screws and M8 nuts.

