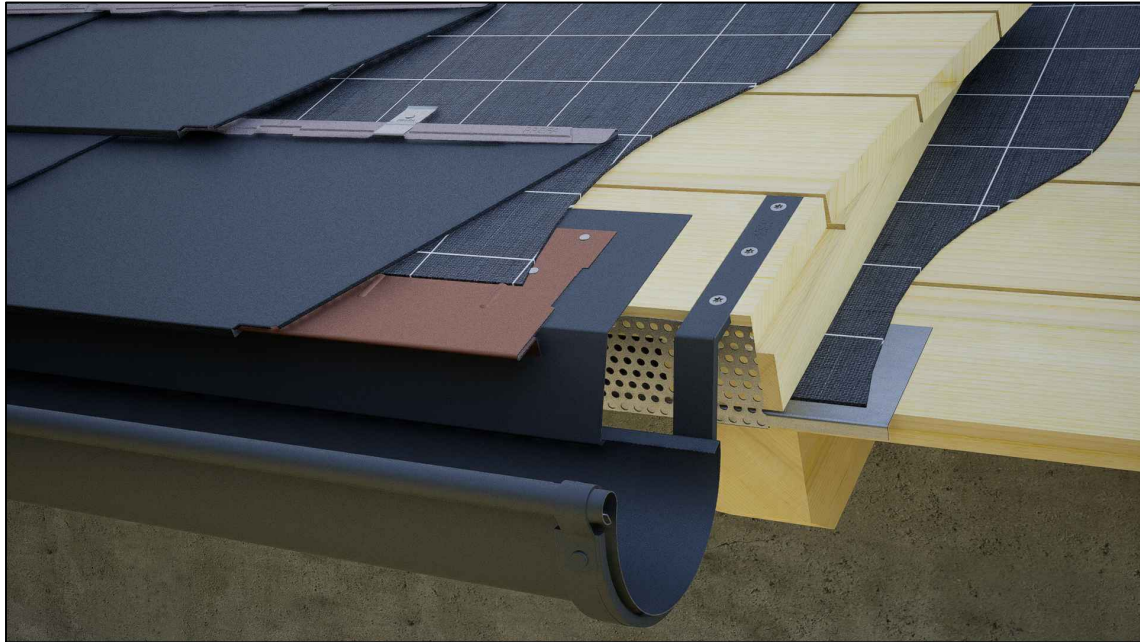




STARK WIE EIN STIER

DS.19 shingle

CAD DETAILS



CONTENTS:

- 2 MINIMUM ROOF PITCH
- 3 snow guards – installation diagram DS.19 1
- 4 snow guards – installation diagram DS.19 2
- 5 snow guards – installation diagram DS.19 3
- 6 single-skin roof construction
- 7 double-skin roof construction
- 8 ridge construction — ridge vent
- 9 ridge construction — hip cap
- 10 mono-pitched roof construction
- 11 eaves construction with gutter
- 12 eaves construction with box gutter
- 13 eaves construction with upright gutter bracket
- 14 eaves construction with upright gutter bracket (variant 1)
- 15 eaves construction with upright gutter bracket (variant 2)
- 16 eaves construction with on-roof gutter
- 17 roof verge construction with verge flashing
- 18 roof verge construction with recess
- 19 roof verge construction with bargeboard
- 20 wall flashing
- 21 roof parapet flashing
- 22 lateral wall connection
- 23 valley construction with safety valley
- 24 valley construction with simple valley
- 25 valley construction with recessed valley
- 26 valley construction with recessed valley
- 27 frog-mouth vent cover
- 28 roof anchor hook
- 29 Roof window flashing on a roof pitch over 25°.
- 30 Roof window flashing with an insert wedge on a roof pitch over 25°.
- 31 Roof window flashing with wedge frames under 15°
- 32 Roof window flashing with wedge frames under 15°
- 33 mansard crease
- 34 construction of pitch transition
- 35 Vario (or Fix) solar bracket
- 36 pipe-style snow guard system
- 37 pipe-style snow guard system XL
- 38 mountain snow-guard bracket
- 39 roof anchor hook according on mounts
- 40 safety tread
- 41 walkway support



STARK WIE EIN STIER

MINIMUM ROOF PITCH

CAD DETAILS

MINIMUM ROOF PITCH	3°	5°	7°	12°	14°	16°	17°	22°	≥ 25°
Prefalz	<ul style="list-style-type: none"> Observe the national guidelines (roof underlay, no valleys or penetrations, etc.). Sealant in longitudinal seams. 								
* ROOF TILE				rafter length: up to 7 m					
					rafter length: 7–12 m				
							rafter length: > 12 m		
* R.16 ROOF TILE							up to 25°: to be installed on a separating layer		
* SHINGLE									
* RHOMBOID ROOF TILE 29 × 29									
* RHOMBOID ROOF TILE 44 × 44				rafter length: up to 7 m					
					rafter length: 7–12 m				
							rafter length: > 12 m		
* FX.12 ROOF PANEL							up to 25°: to be installed on a separating layer		

* In general, we recommend using suitable bitumen separating layers.

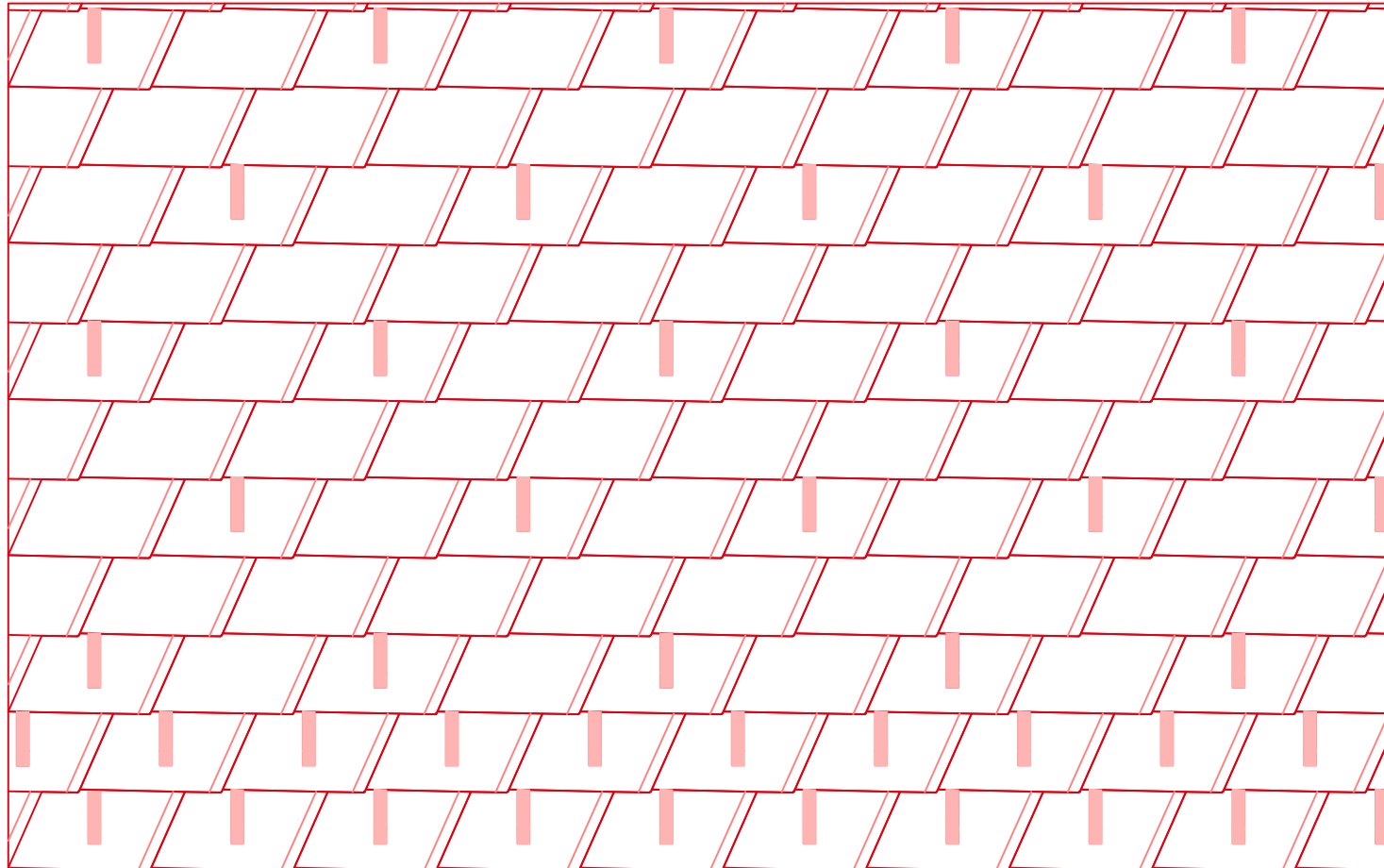
* In the case of snow loads greater than 3.25 kN/m² or in terrain categories 0, I or II, installation on fully boarded substrate with a separation layer is required.



STARK WIE EIN STIER

snow guards – installation diagram DS.19 1 DS.19 shingle

CAD DETAILS



Installation diagram DS.19 1 (2 per m² — must be installed along the first two rows)

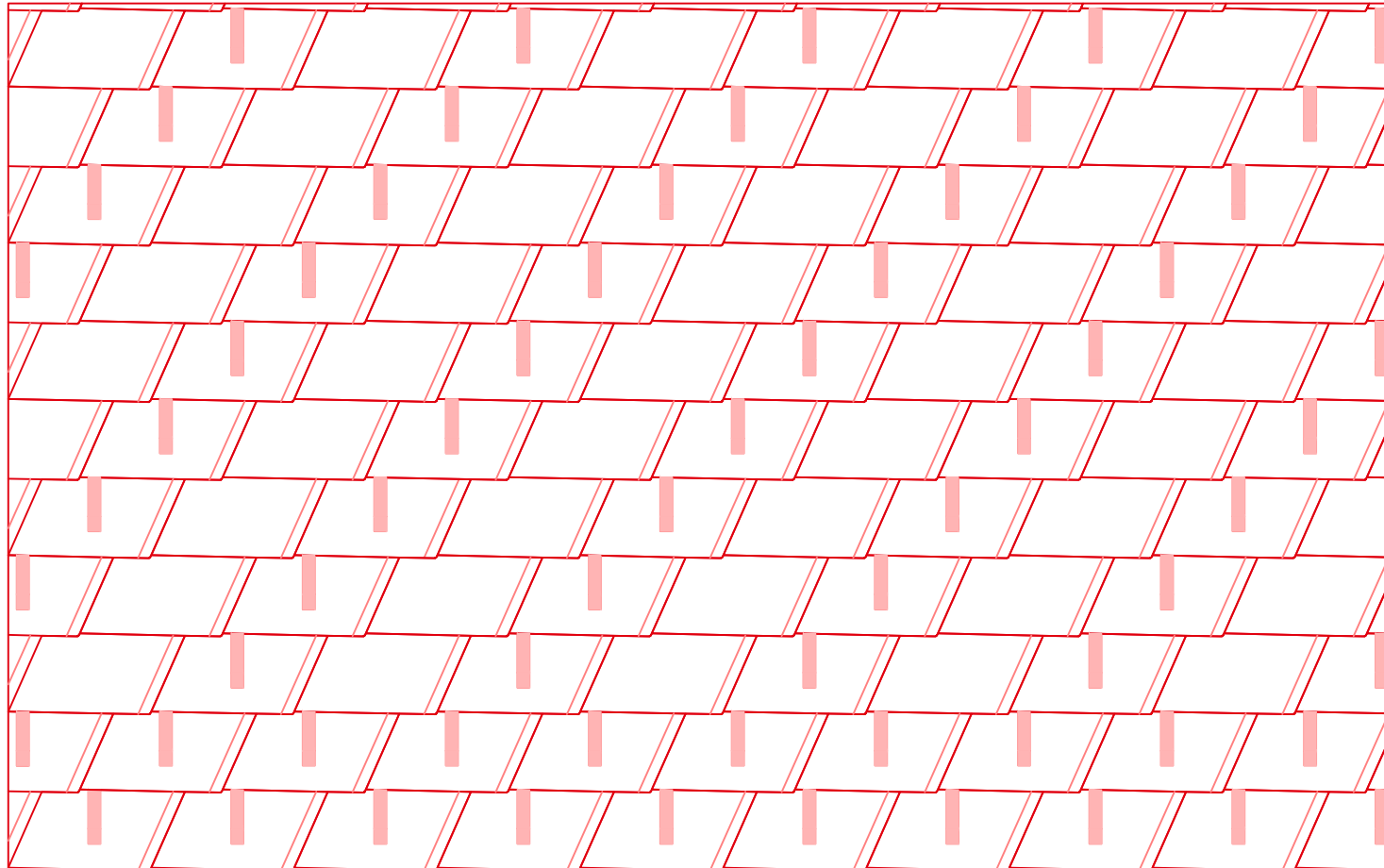
Basic principle: ÖNORM B 1991-1-3 and EN 1991-1-3



STARK WIE EIN STIER

snow guards – installation diagram DS.19 2 DS.19 shingle

CAD DETAILS



installation diagram DS.19 2 (4 pc. per m²; must be installed along the first two rows)

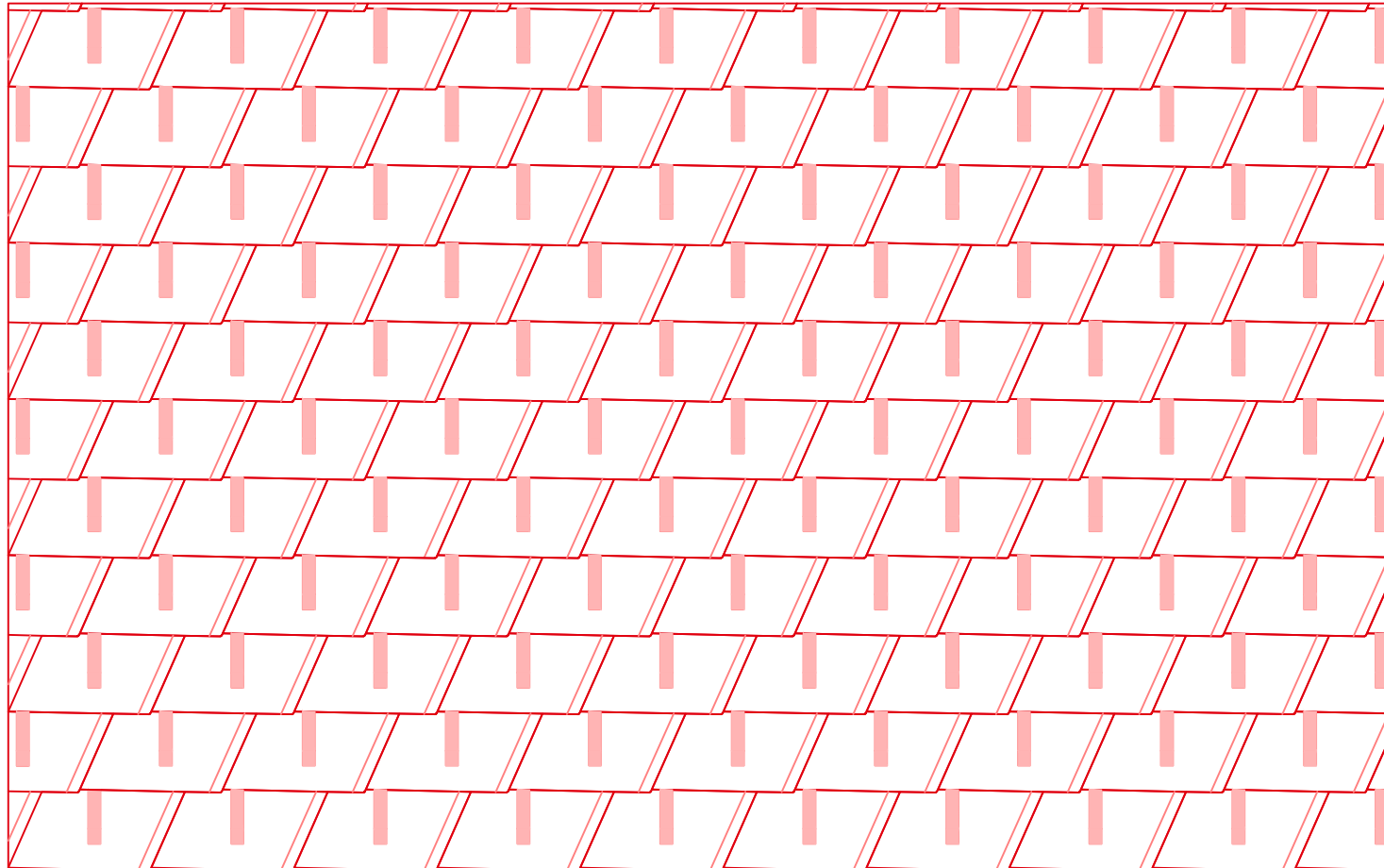
Basic principle: ÖNORM B 1991-1-3 and EN 1991-1-3



STARK WIE EIN STIER

snow guards – installation diagram DS.19 3 DS.19 shingle

CAD DETAILS



installation diagram DS.19 3 (8 pc. per m²)

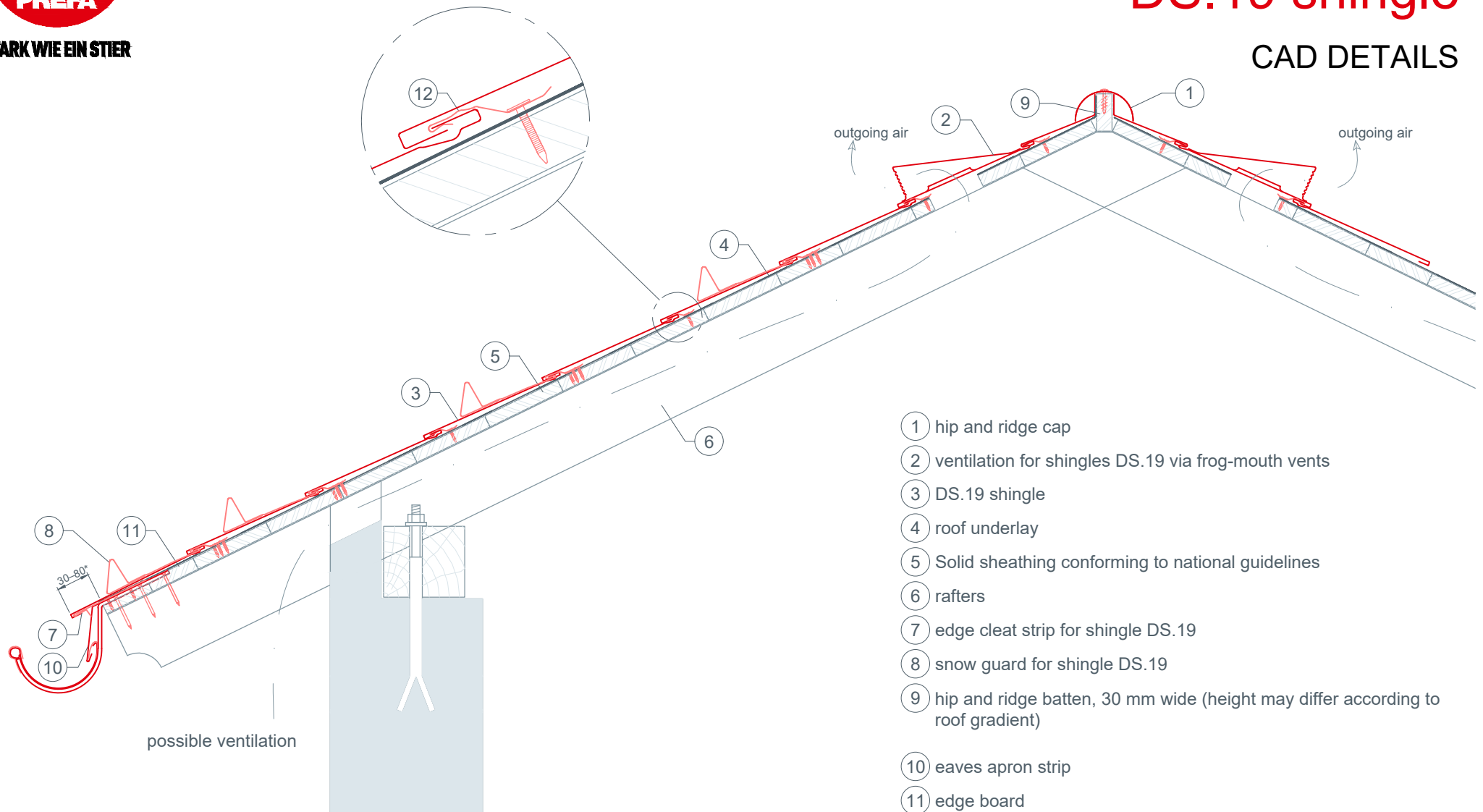
Basic principle: ÖNORM B 1991-1-3 and EN 1991-1-3



STARK WIE EIN STIER

single-skin roof construction DS.19 shingle

CAD DETAILS



- ① hip and ridge cap
- ② ventilation for shingles DS.19 via frog-mouth vents
- ③ DS.19 shingle
- ④ roof underlay
- ⑤ Solid sheathing conforming to national guidelines
- ⑥ rafters
- ⑦ edge cleat strip for shingle DS.19
- ⑧ snow guard for shingle DS.19
- ⑨ hip and ridge batten, 30 mm wide (height may differ according to roof gradient)
- ⑩ eaves apron strip
- ⑪ edge board
- ⑫ patent clips

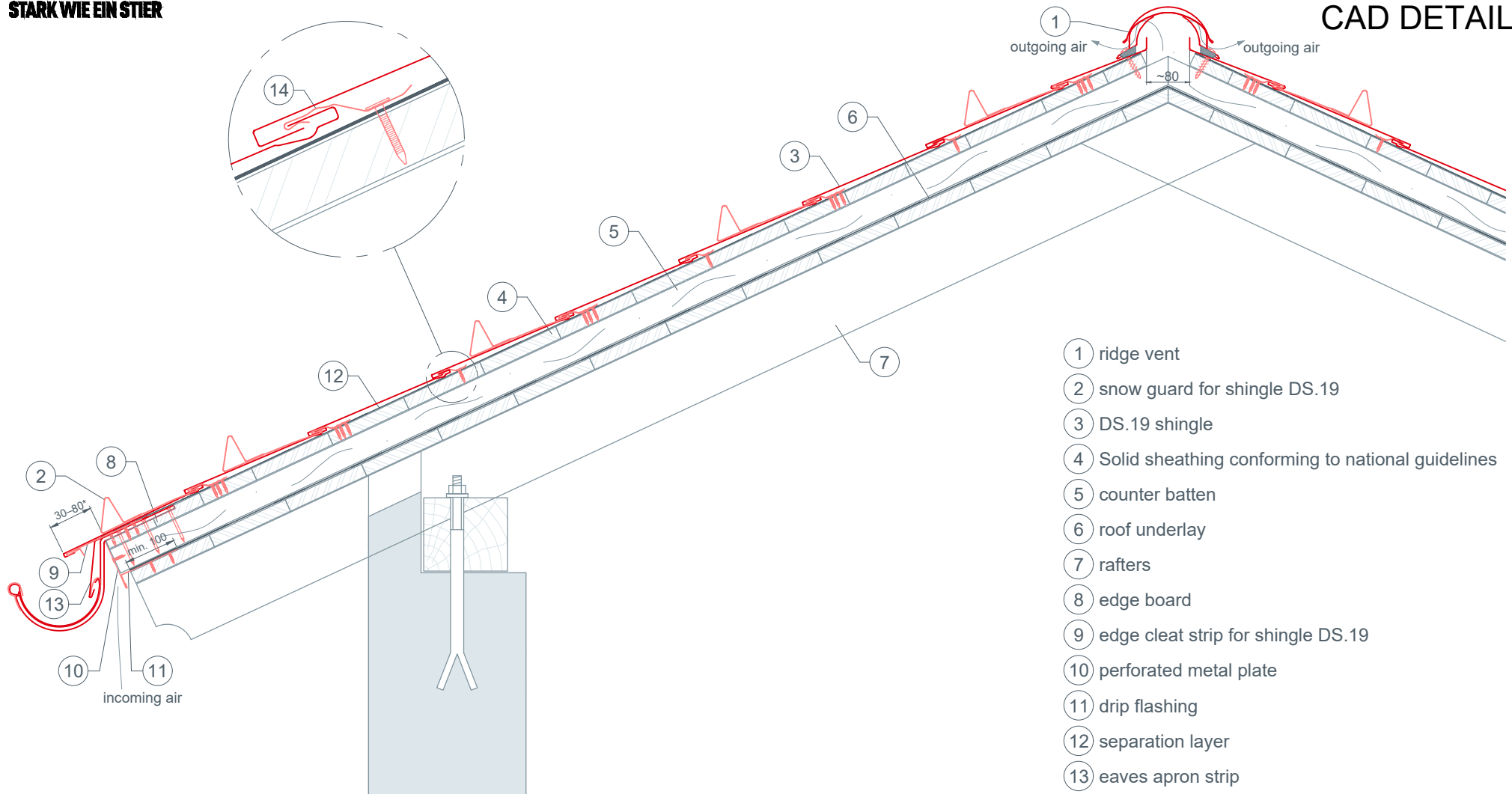
* The eaves projection must not exceed 80 mm.



STARK WIE EIN STIER

double-skin roof construction DS.19 shingle

CAD DETAILS



- ① ridge vent
- ② snow guard for shingle DS.19
- ③ DS.19 shingle
- ④ Solid sheathing conforming to national guidelines
- ⑤ counter batten
- ⑥ roof underlay
- ⑦ rafters
- ⑧ edge board
- ⑨ edge cleat strip for shingle DS.19
- ⑩ perforated metal plate
- ⑪ drip flashing
- ⑫ separation layer
- ⑬ eaves apron strip
- ⑭ patent clips

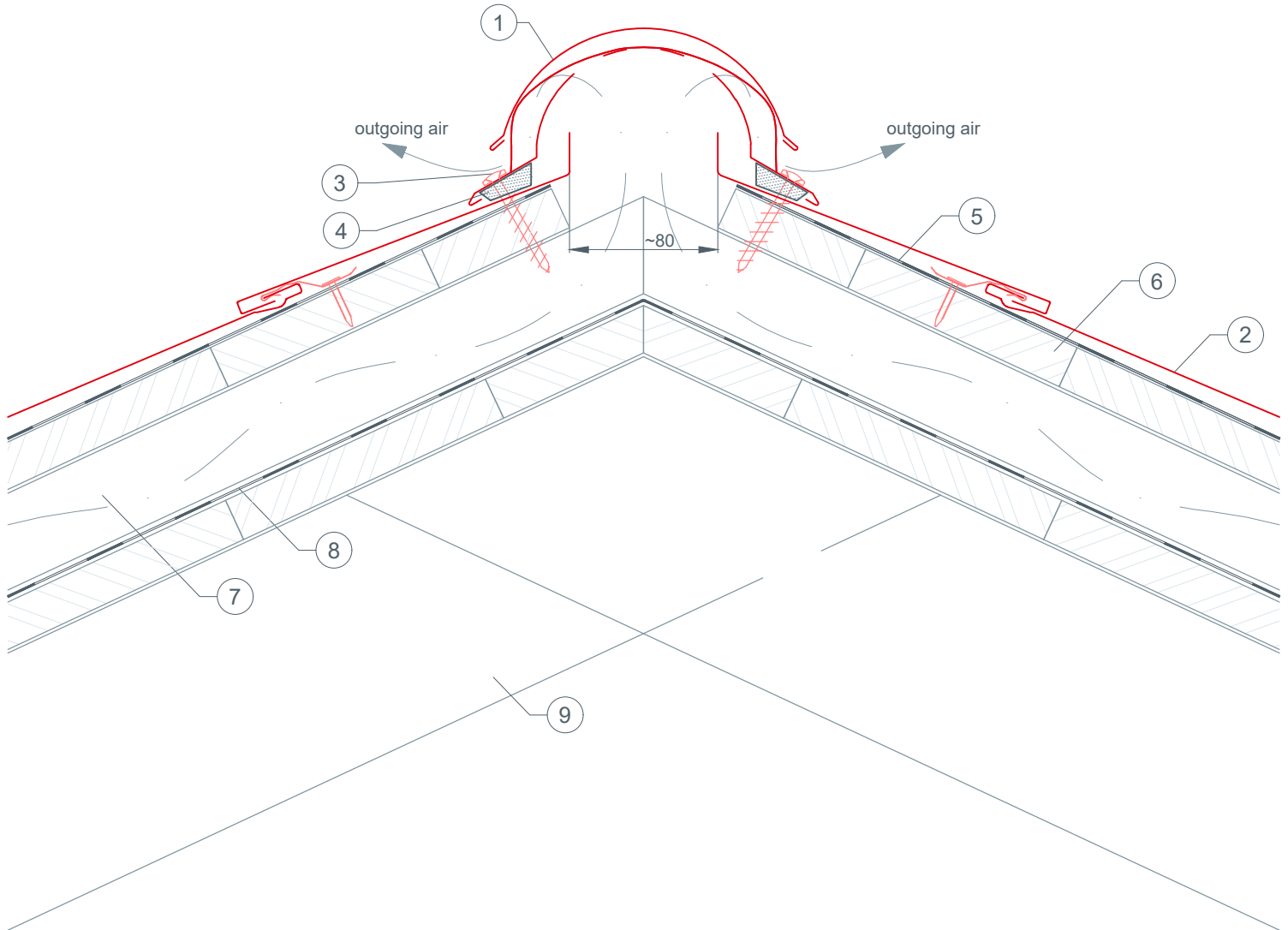
* The eaves projection must not exceed 80 mm.



STARK WIE EIN STIER

ridge construction — ridge vent DS.19 shingle

CAD DETAILS



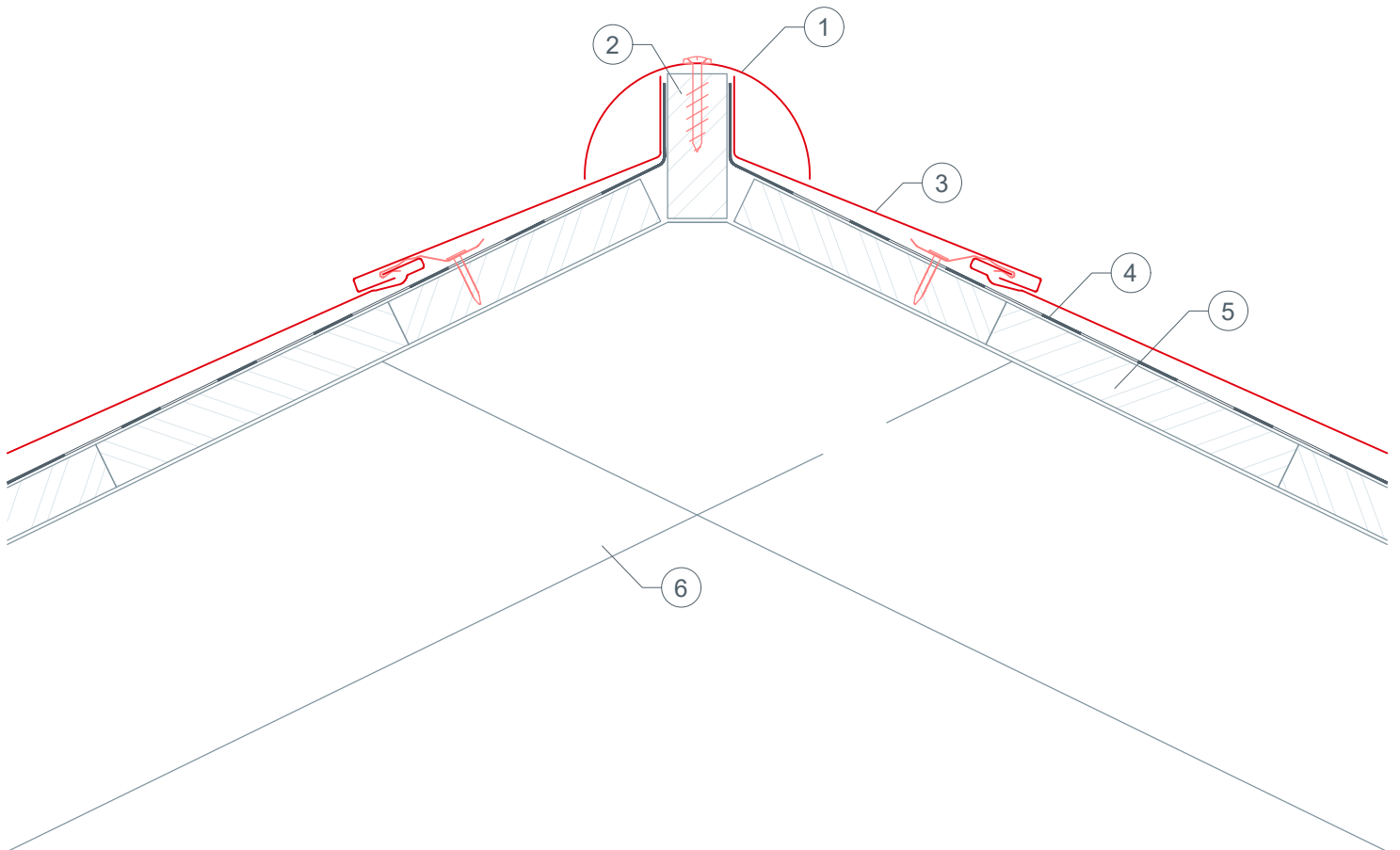
- ① ridge vent
- ② DS.19 shingle
- ③ sealing screw
- ④ self-adhesive foam wedge
- ⑤ separation layer
- ⑥ Solid sheathing conforming to national guidelines
- ⑦ counter battens (ventilated channel)
- ⑧ roof underlay
- ⑨ rafters



STARK WIE EIN STIER

ridge construction — hip cap DS.19 shingle

CAD DETAILS



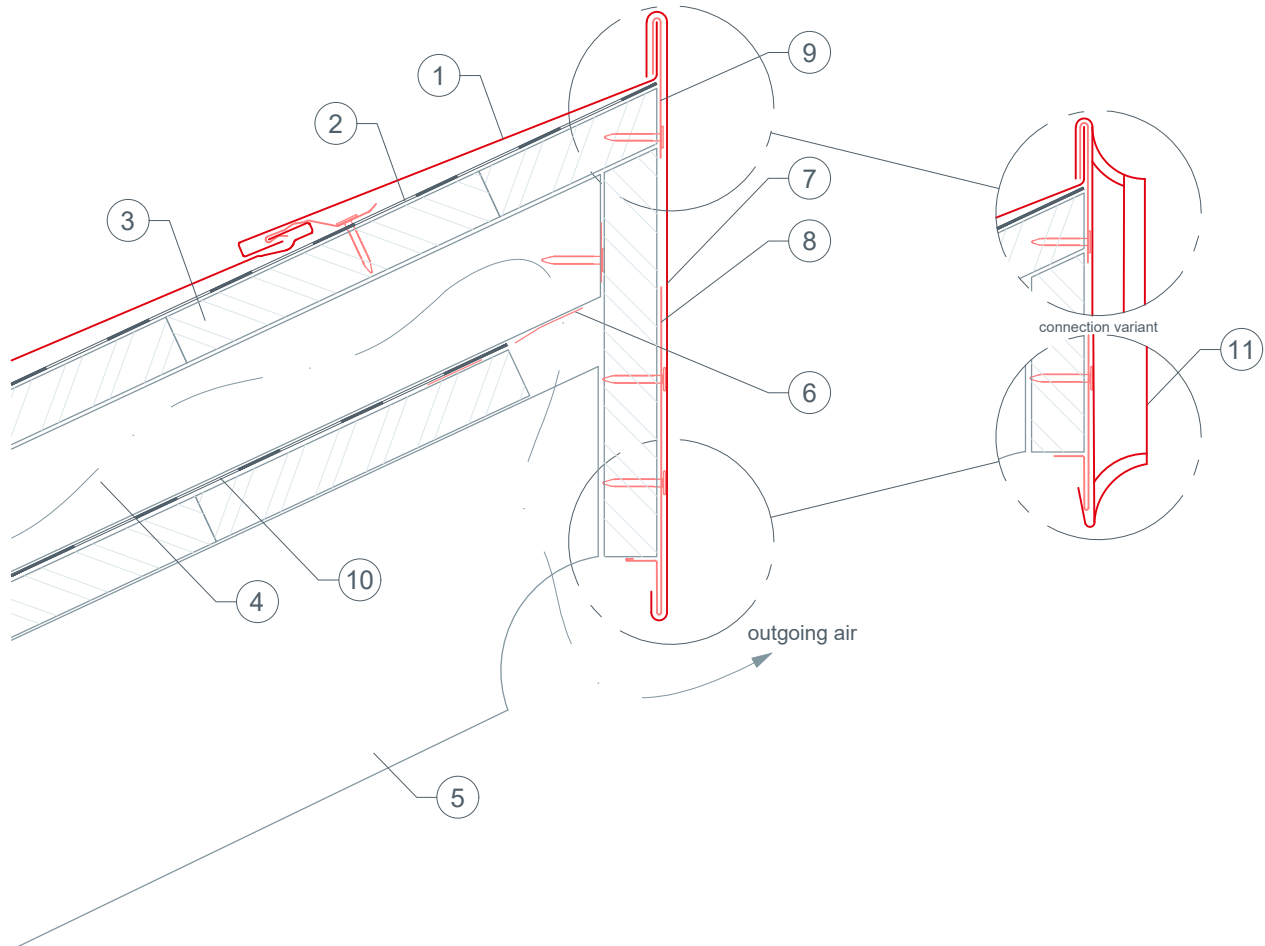
- ① hip and ridge cap
- ② hip and ridge batten, 30 mm wide (height may differ according to roof gradient)
- ③ DS.19 shingle
- ④ separation layer
- ⑤ Solid sheathing conforming to national guidelines
- ⑥ rafters



STARK WIE EIN STIER

mono-pitched roof construction DS.19 shingle

CAD DETAILS



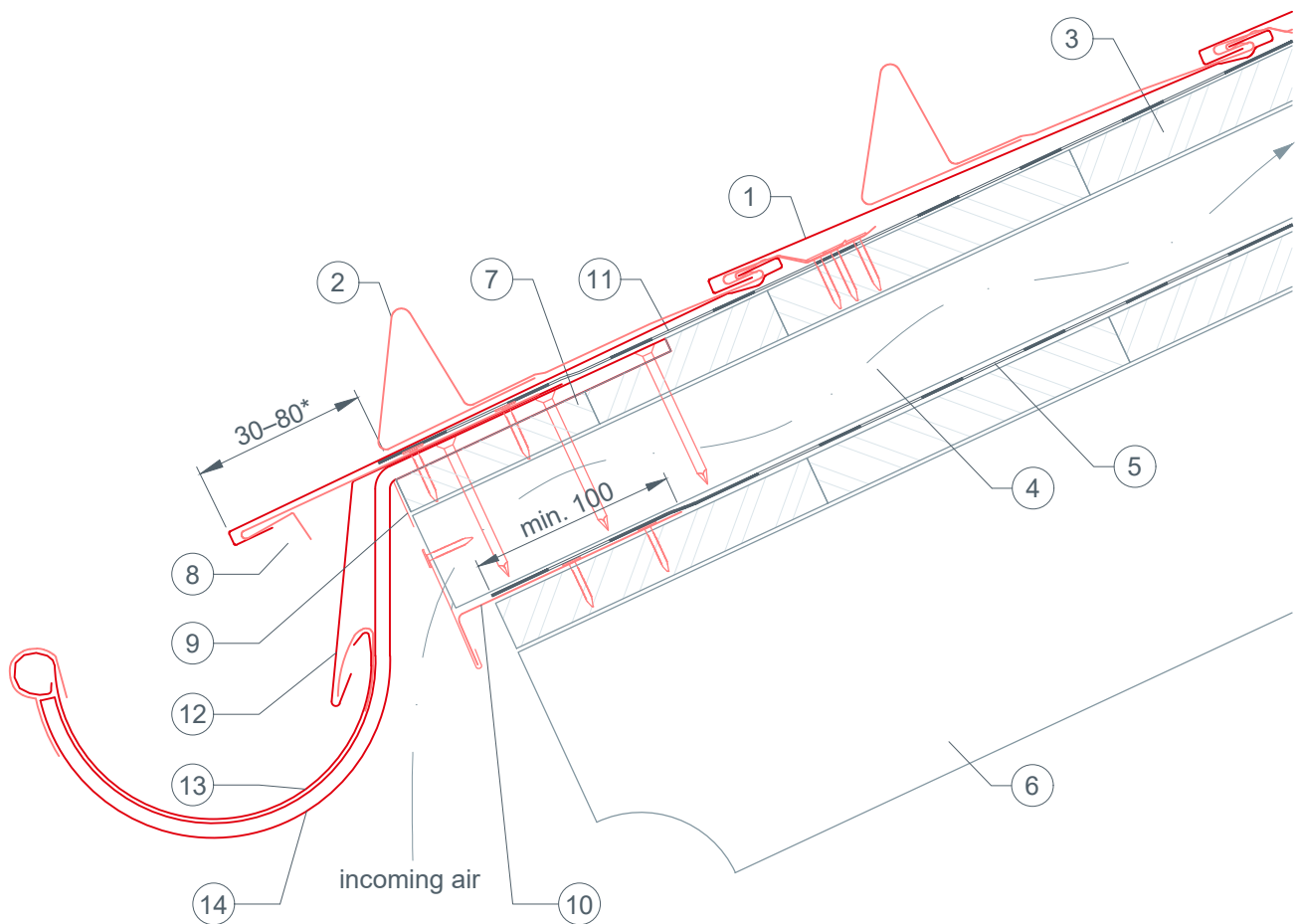
- ① DS.19 shingle
- ② separation layer
- ③ Solid sheathing conforming to national guidelines
- ④ counter battens (8/5 cm)
- ⑤ rafter
- ⑥ perforated metal plate
- ⑦ end of mono-pitched roof
- ⑧ patent edge cleat strip
- ⑨ edge cleat strip
- ⑩ roof underlay
- ⑪ mono-pitched-roof end (variant)



STARK WIE EIN STIER

eaves construction with gutter DS.19 shingle

CAD DETAILS



- ① DS.19 shingle
- ② snow guard for shingle DS.19
- ③ Solid sheathing conforming to national guidelines
- ④ counter batten
- ⑤ roof underlay
- ⑥ rafters
- ⑦ edge board
- ⑧ edge cleat strip for shingle DS.19
- ⑨ perforated metal plate
- ⑩ underlayment eaves apron strip
- ⑪ separation layer
- ⑫ eaves apron strip
- ⑬ gutter
- ⑭ gutter bracket

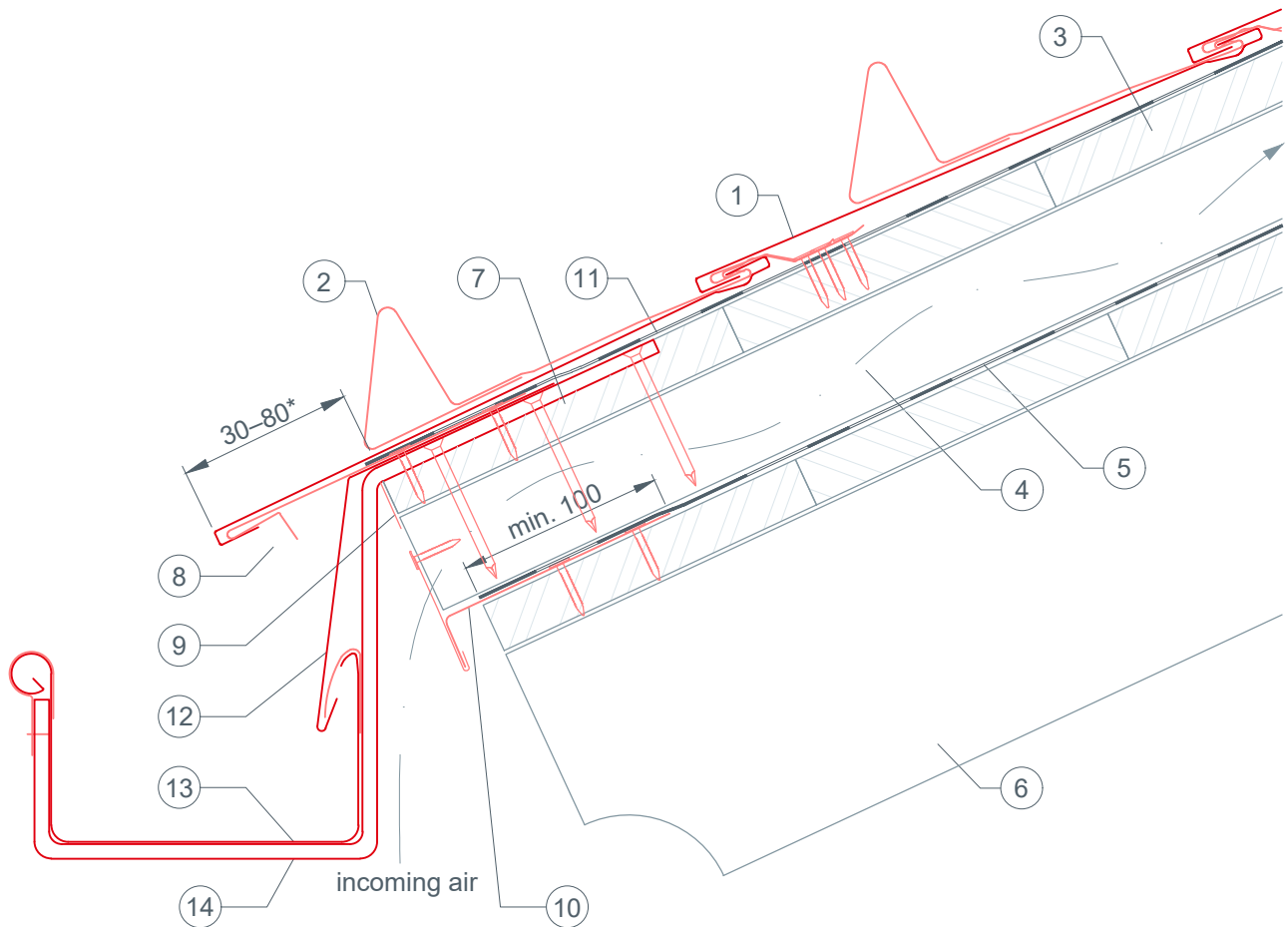
* The eaves projection must not exceed 80 mm.



STARK WIE EIN STIER

eaves construction with box gutter DS.19 shingle

CAD DETAILS



- ① DS.19 shingle
- ② snow guard for shingle DS.19
- ③ Solid sheathing conforming to national guidelines
- ④ counter batten
- ⑤ roof underlay
- ⑥ rafters
- ⑦ edge board
- ⑧ edge cleat strip for shingle DS.19
- ⑨ perforated metal plate
- ⑩ underlayment eaves apron strip
- ⑪ separation layer
- ⑫ eaves apron strip
- ⑬ aluminium box gutter
- ⑭ gutter bracket

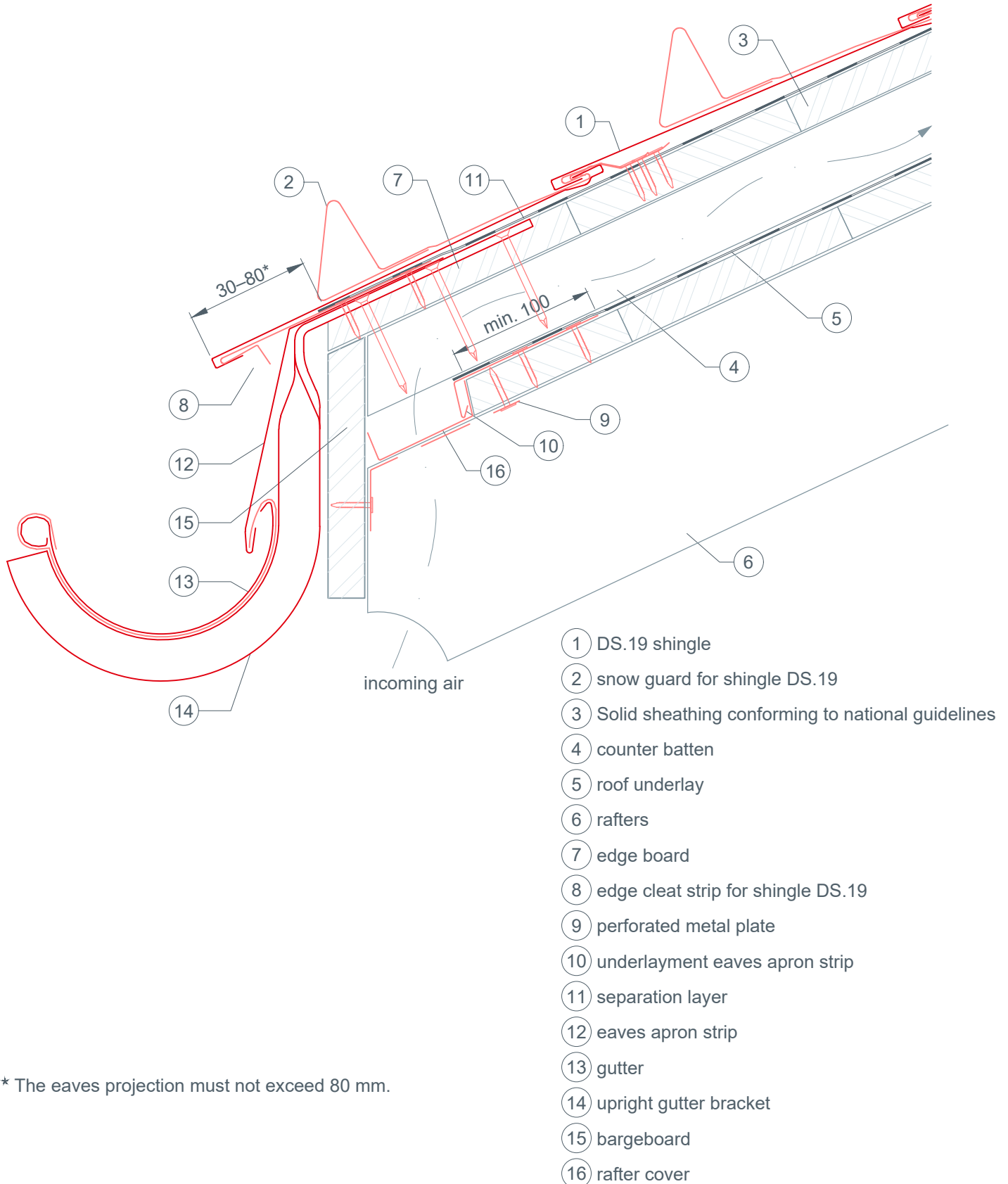
* The eaves projection must not exceed 80 mm.



STARK WIE EIN STIER

eaves construction with upright gutter bracket DS.19 shingle

CAD DETAILS



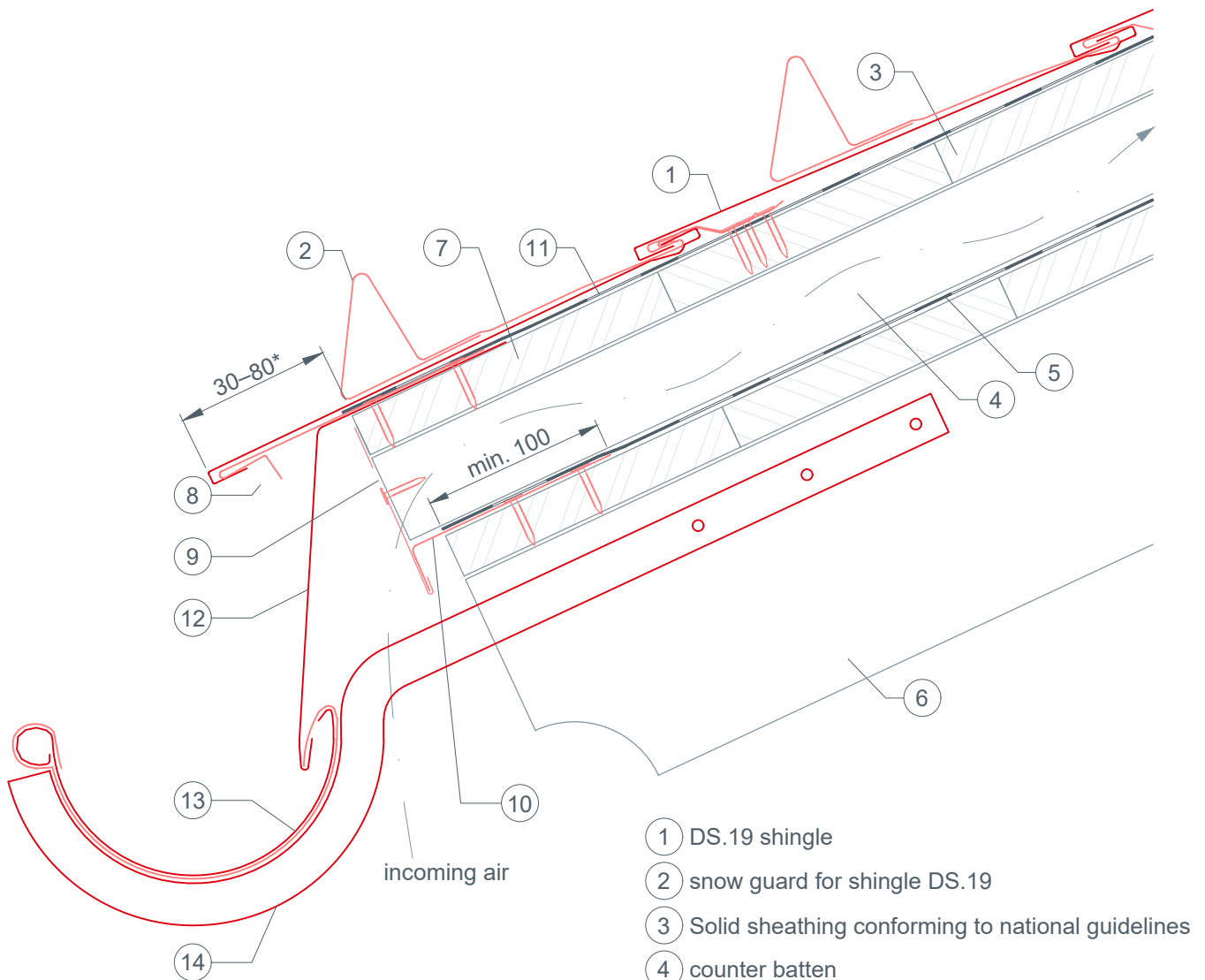
* The eaves projection must not exceed 80 mm.



STARK WIE EIN STIER

eaves construction with upright gutter bracket (variant 1) DS.19 shingle

CAD DETAILS



- ① DS.19 shingle
- ② snow guard for shingle DS.19
- ③ Solid sheathing conforming to national guidelines
- ④ counter batten
- ⑤ roof underlay
- ⑥ rafters
- ⑦ edge board
- ⑧ edge cleat strip for shingle DS.19
- ⑨ perforated metal plate
- ⑩ underlayment eaves apron strip
- ⑪ separation layer
- ⑫ eaves apron strip
- ⑬ gutter
- ⑭ upright gutter bracket

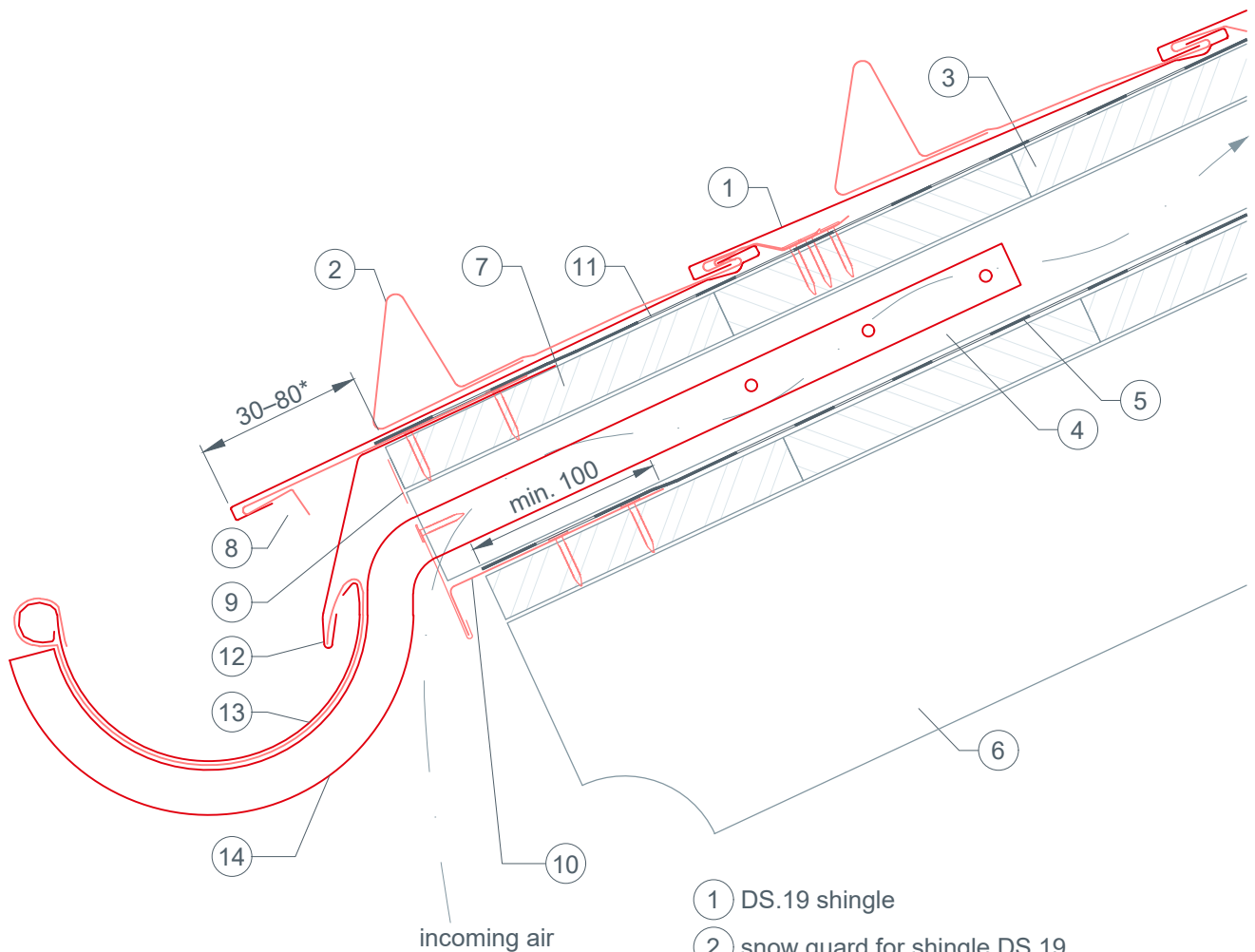
* The eaves projection must not exceed 80 mm.



STARK WIE EIN STIER

eaves construction with upright gutter bracket (variant 2) DS.19 shingle

CAD DETAILS



- ① DS.19 shingle
- ② snow guard for shingle DS.19
- ③ Solid sheathing conforming to national guidelines
- ④ counter batten
- ⑤ roof underlay
- ⑥ rafters
- ⑦ edge board
- ⑧ edge cleat strip for shingle DS.19
- ⑨ perforated metal plate
- ⑩ underlayment eaves apron strip
- ⑪ separation layer
- ⑫ eaves apron strip
- ⑬ gutter
- ⑭ upright gutter bracket

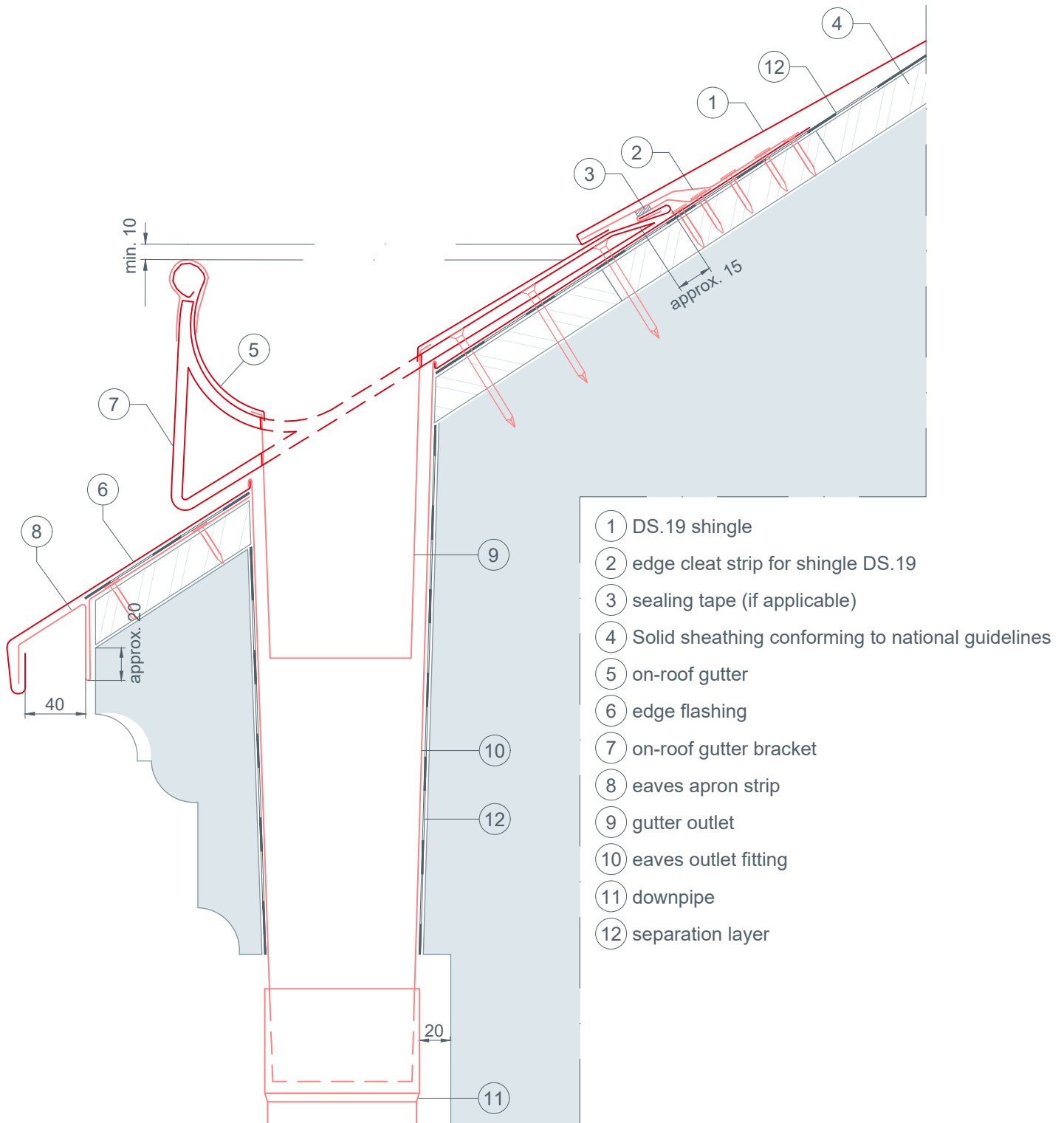
* The eaves projection must not exceed 80 mm.



STARK WIE EIN STIER

eaves construction with on-roof gutter DS.19 shingle

CAD DETAILS

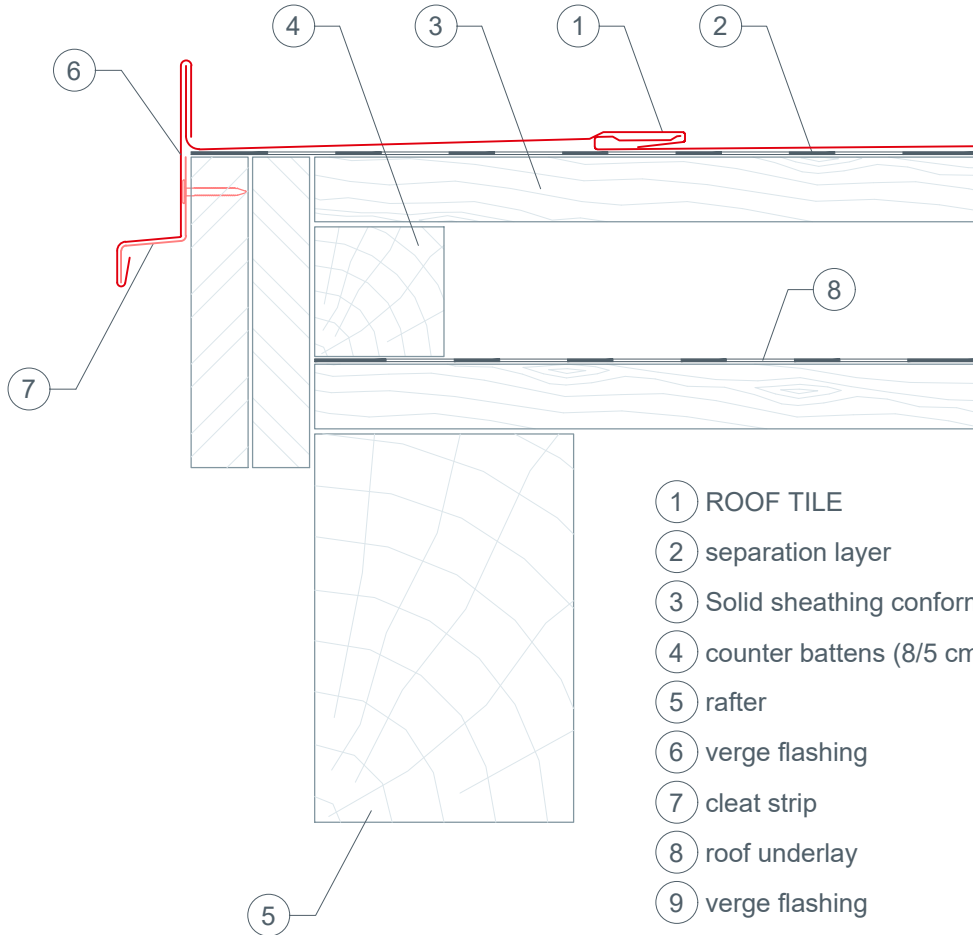




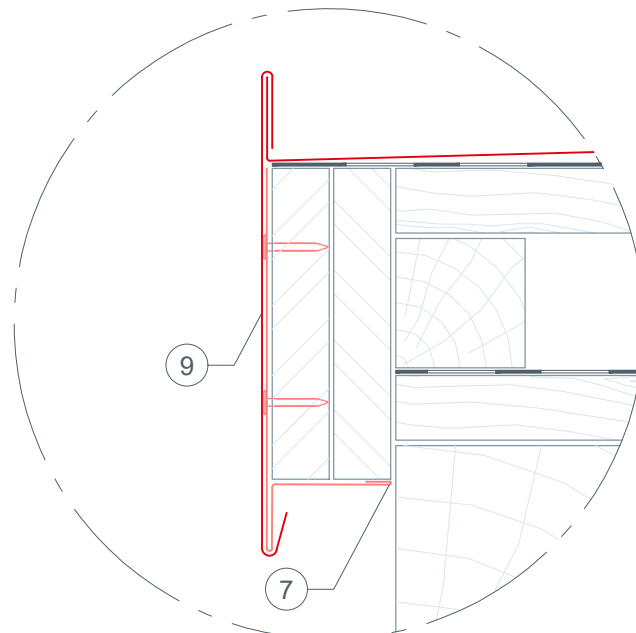
STARK WIE EIN STIER

roof verge construction with verge flashing DS.19 shingle

CAD DETAILS



connection variant

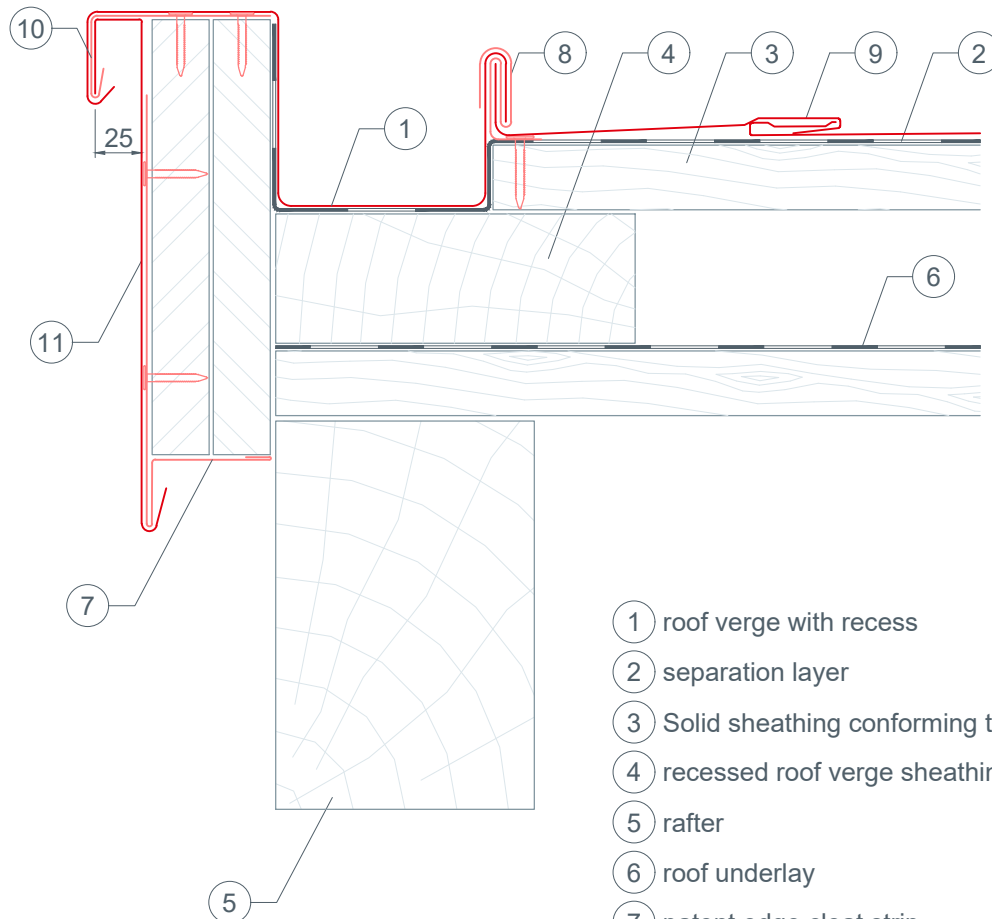




STARK WIE EIN STIER

roof verge construction with recess DS.19 shingle

CAD DETAILS



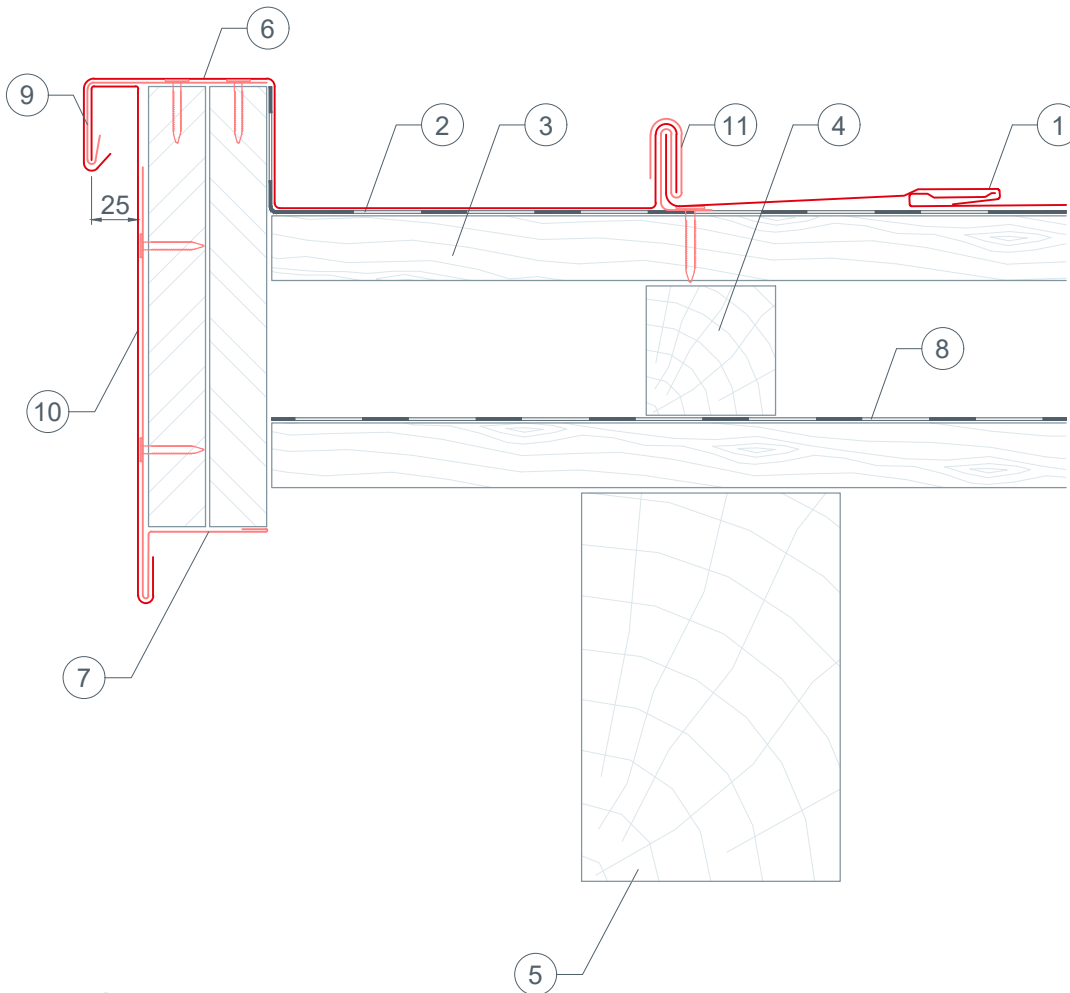
- ① roof verge with recess
- ② separation layer
- ③ Solid sheathing conforming to national guidelines
- ④ recessed roof verge sheathing
- ⑤ rafter
- ⑥ roof underlay
- ⑦ patent edge cleat strip
- ⑧ double-lock clip
- ⑨ DS.19 shingle
- ⑩ edge cleat strip
- ⑪ verge flashing



STARK WIE EIN STIER

roof verge construction with bargeboard DS.19 shingle

CAD DETAILS



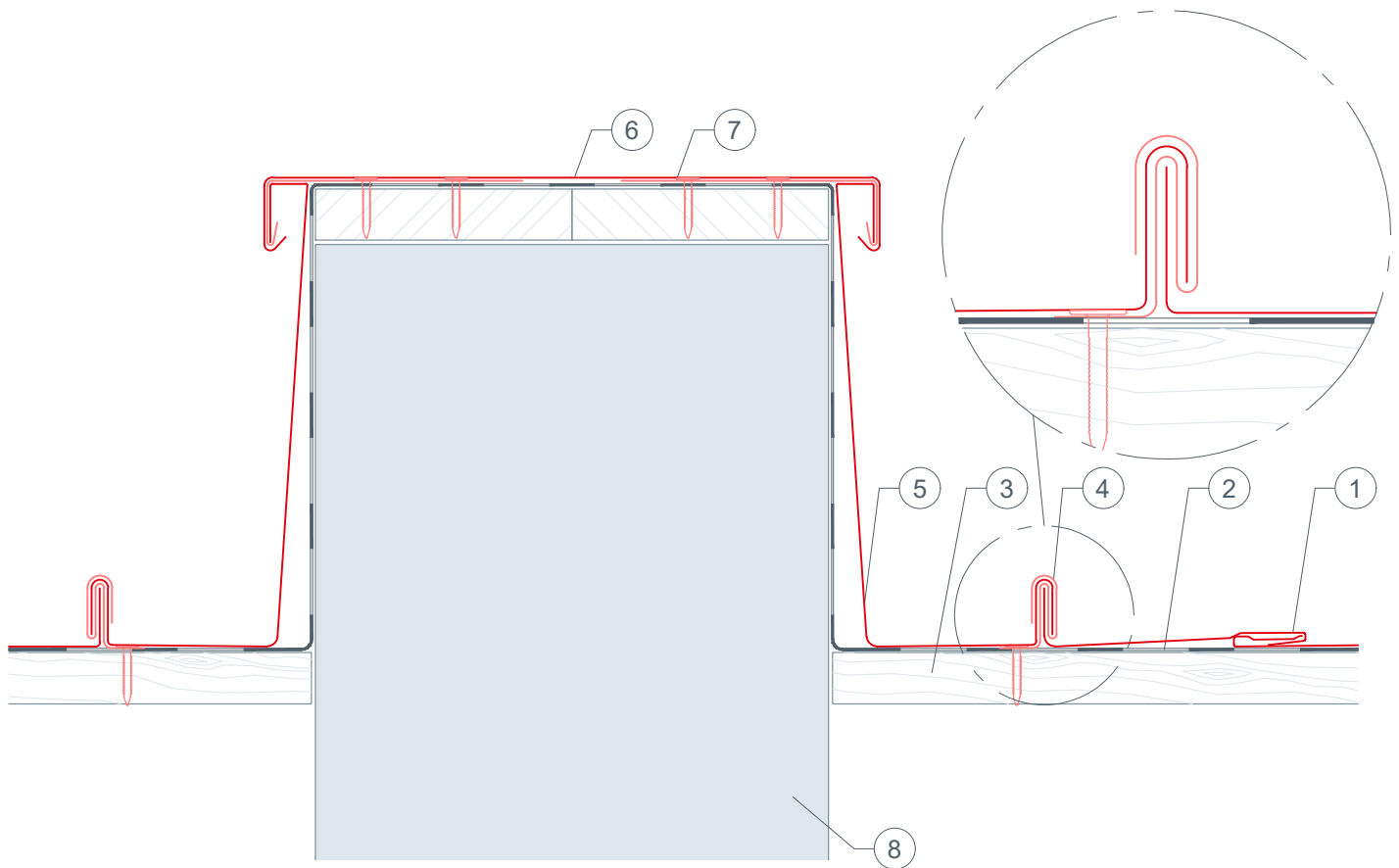
- ① DS.19 shingle
- ② separation layer
- ③ Solid sheathing conforming to national guidelines
- ④ counter battens (8/5 cm)
- ⑤ rafter
- ⑥ verge flashing
- ⑦ patent edge cleat strip
- ⑧ roof underlay
- ⑨ edge cleat strip
- ⑩ verge flashing
- ⑪ double-lock clip



STARK WIE EIN STIER

wall flashing DS.19 shingle

CAD DETAILS



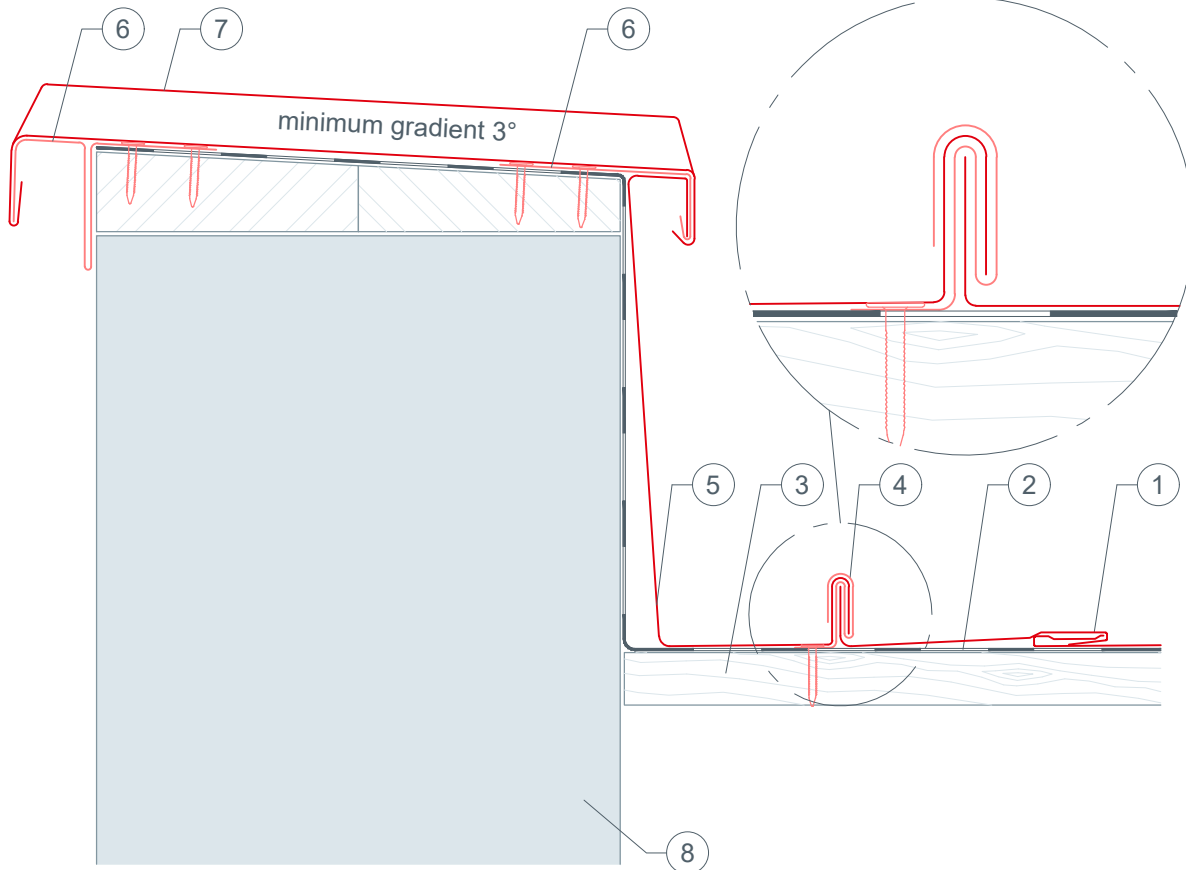
- ① DS.19 shingle
- ② separation layer
- ③ Solid sheathing conforming to national guidelines
- ④ double-lock clip
- ⑤ wall connection plate
- ⑥ wall flashing
- ⑦ patent edge cleat strip
- ⑧ wall



STARK WIE EIN STIER

roof parapet flashing DS.19 shingle

CAD DETAILS



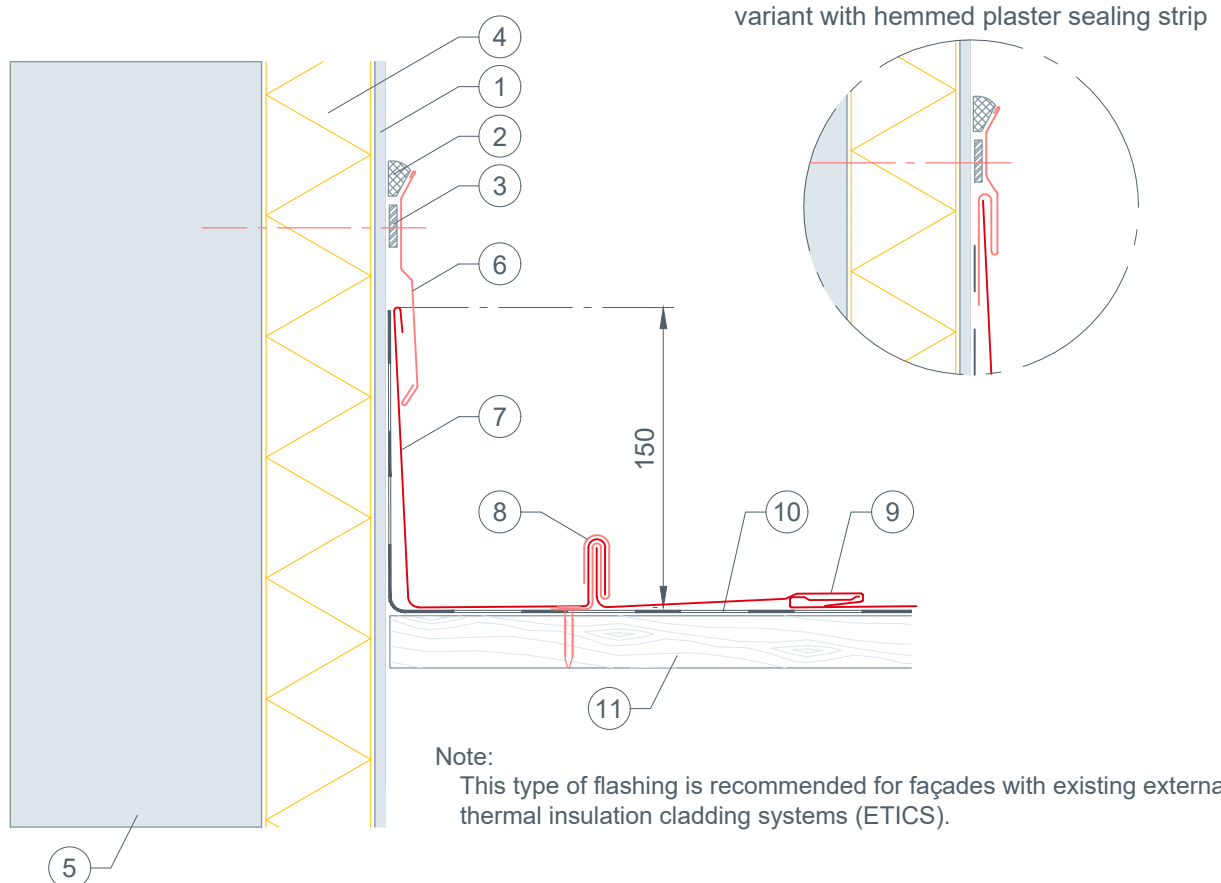
- ① DS.19 shingle
- ② separation layer
- ③ Solid sheathing conforming to national guidelines
- ④ double-lock clip
- ⑤ wall connection plate
- ⑥ patent edge cleat strip
- ⑦ roof parapet flashing
- ⑧ wall



STARK WIE EIN STIER

lateral wall connection DS.19 shingle

CAD DETAILS



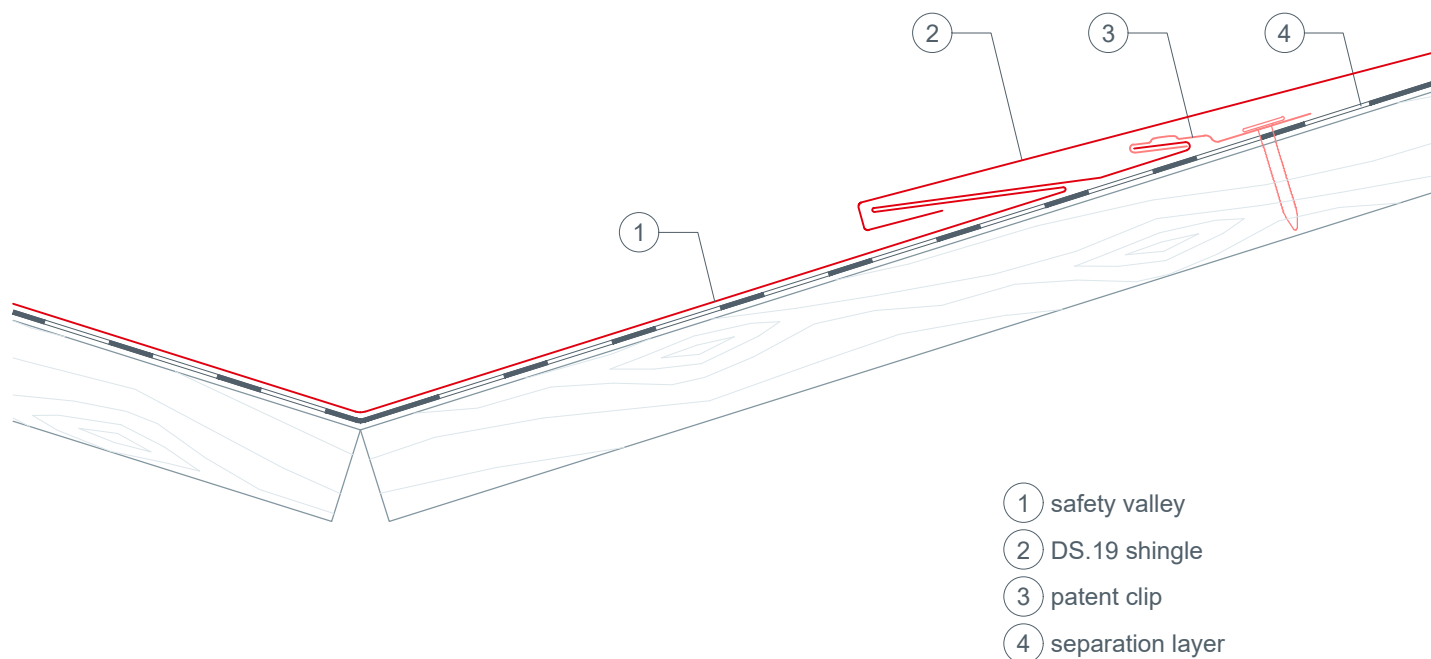
- ① plaster
- ② elastic sealant
- ③ sealing tape
- ④ full thermal insulation
- ⑤ wall
- ⑥ counter flashing (plaster sealing strip)
- ⑦ wall flashing (height: min. 150 mm)
- ⑧ double-lock clip
- ⑨ DS.19 shingle
- ⑩ separation layer
- ⑪ Solid sheathing conforming to national guidelines



STARK WIE EIN STIER

valley construction with safety valley DS.19 shingle

CAD DETAILS

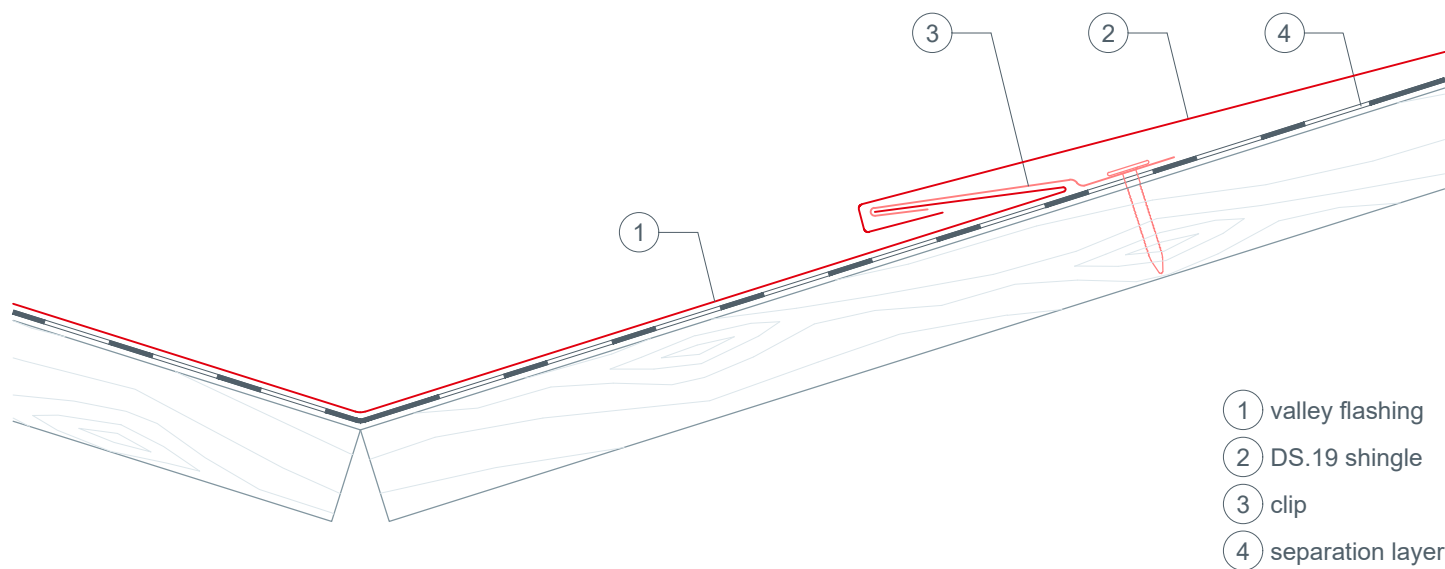




STARK WIE EIN STIER

valley construction with simple valley DS.19 shingle

CAD DETAILS



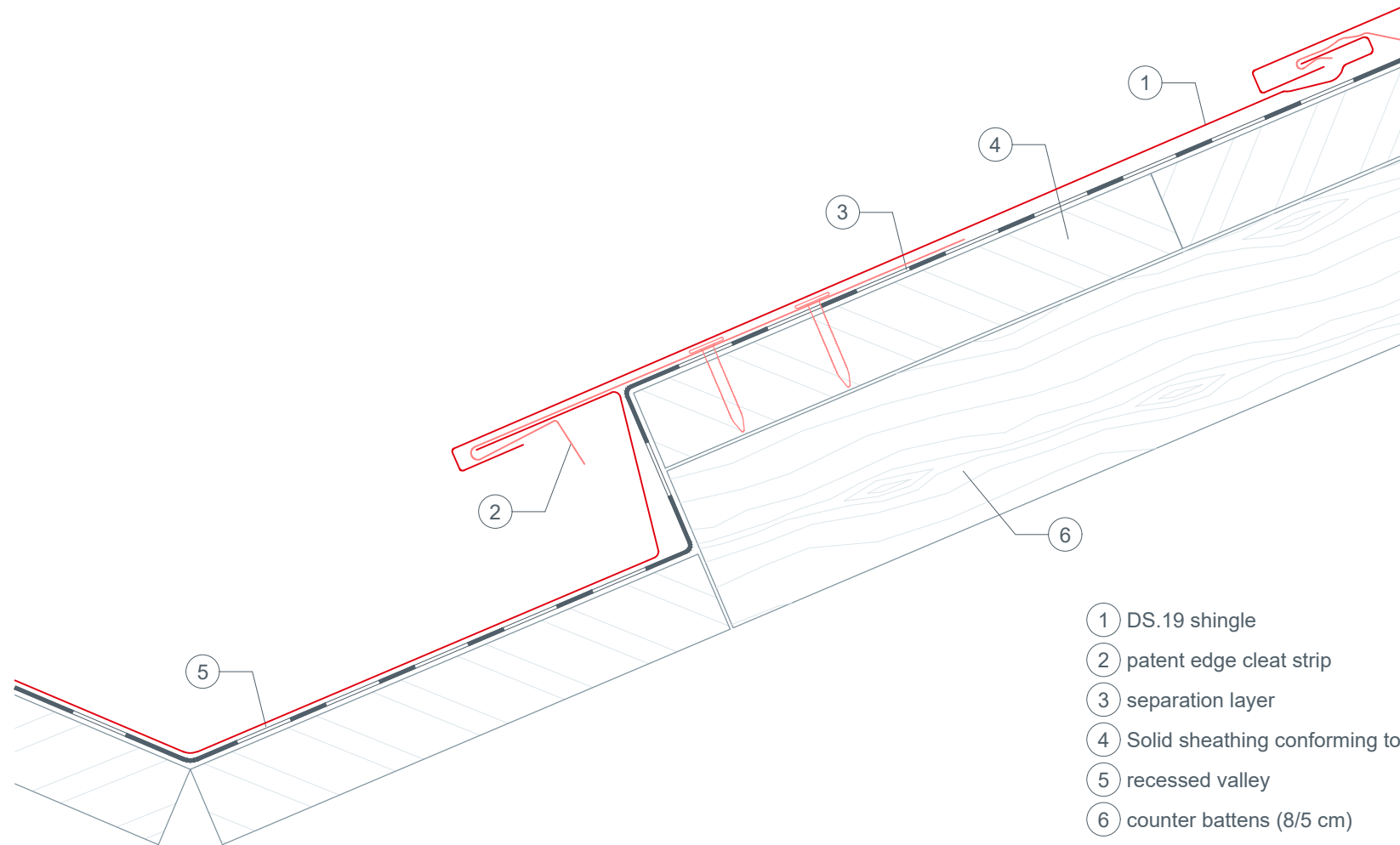
- ① valley flashing
- ② DS.19 shingle
- ③ clip
- ④ separation layer



STARK WIE EIN STIER

valley construction with recessed valley DS.19 shingle

CAD DETAILS



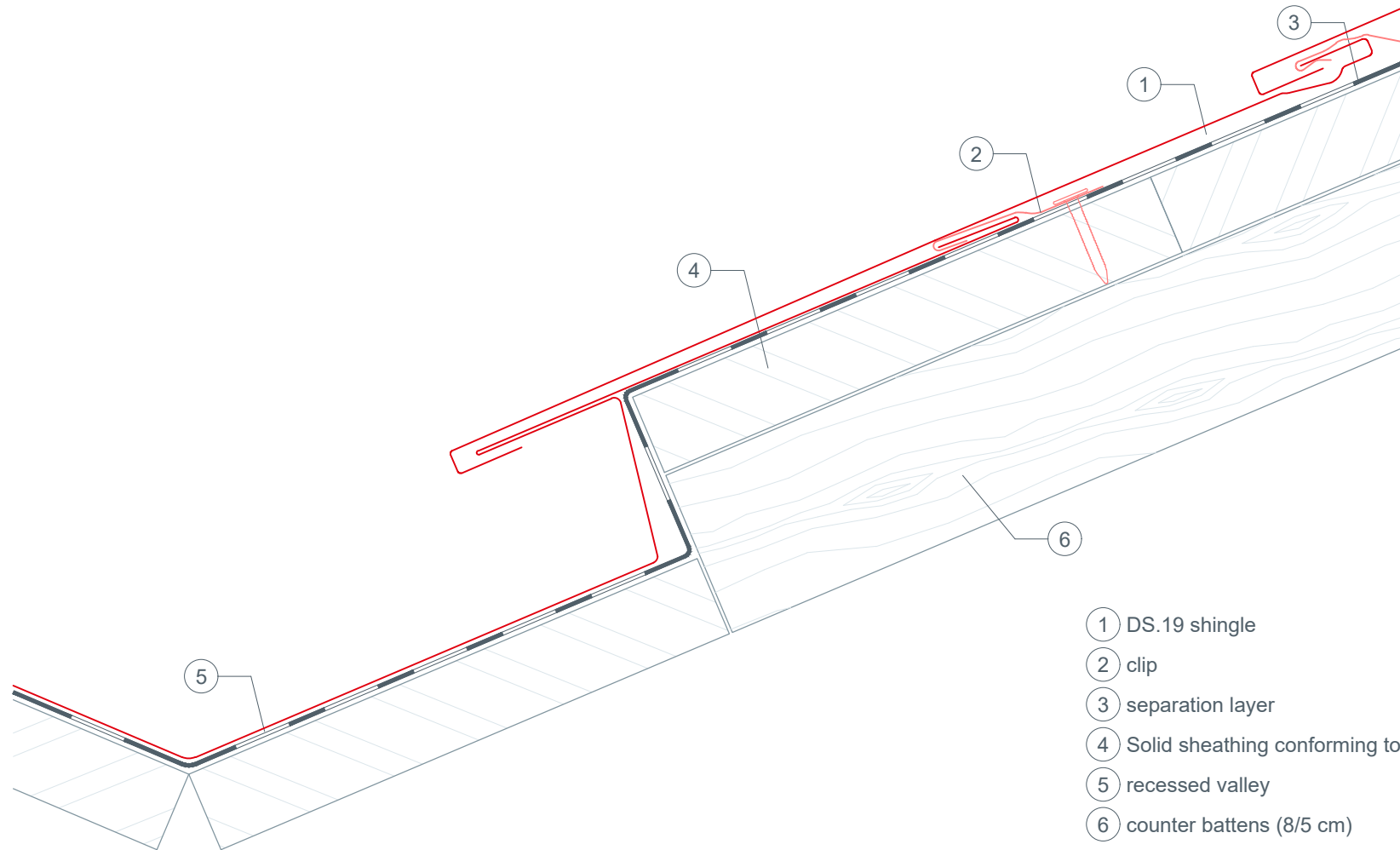
- ① DS.19 shingle
- ② patent edge cleat strip
- ③ separation layer
- ④ Solid sheathing conforming to national guidelines
- ⑤ recessed valley
- ⑥ counter battens (8/5 cm)



STARK WIE EIN STIER

valley construction with recessed valley DS.19 shingle

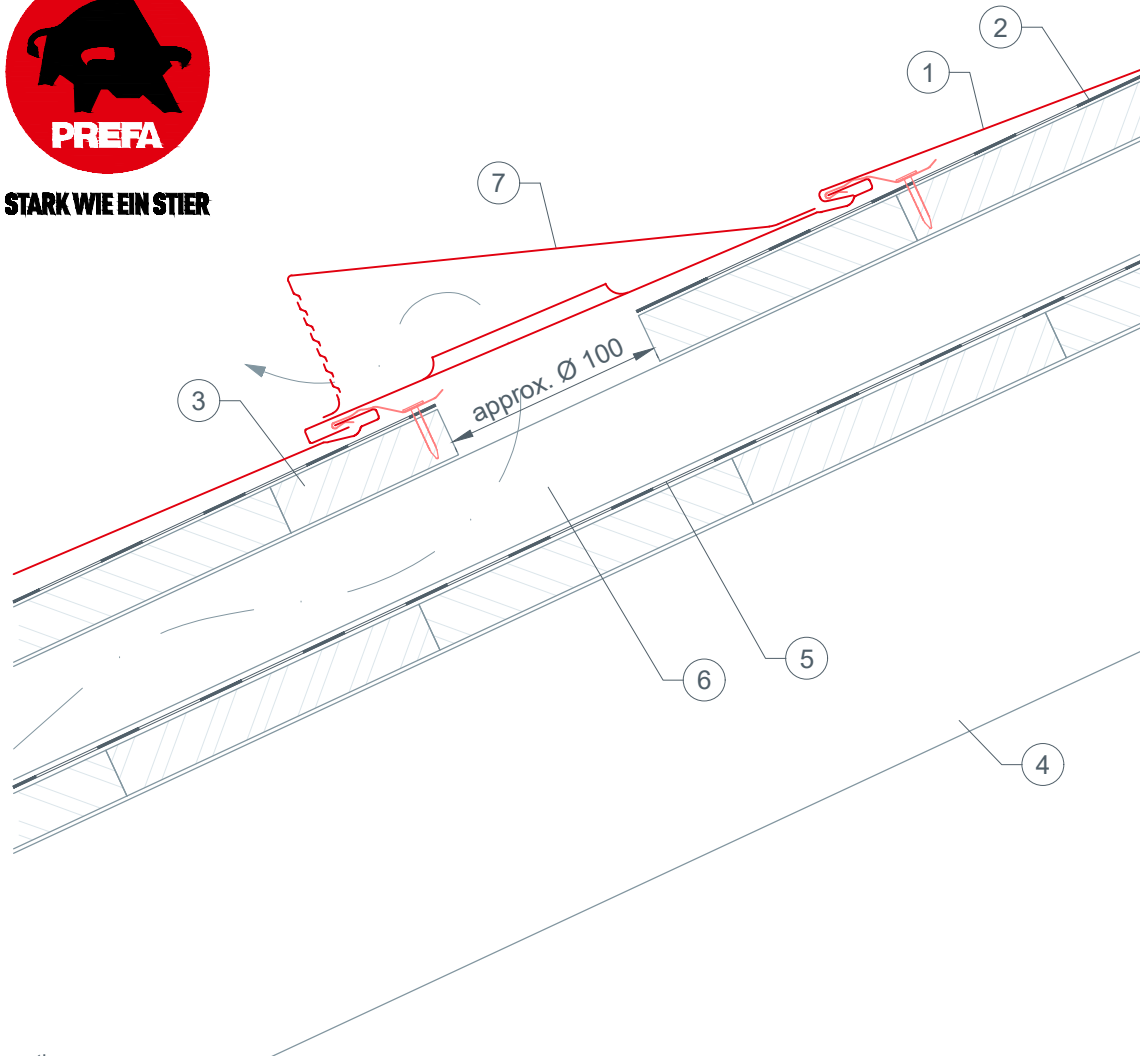
CAD DETAILS



- ① DS.19 shingle
- ② clip
- ③ separation layer
- ④ Solid sheathing conforming to national guidelines
- ⑤ recessed valley
- ⑥ counter battens (8/5 cm)



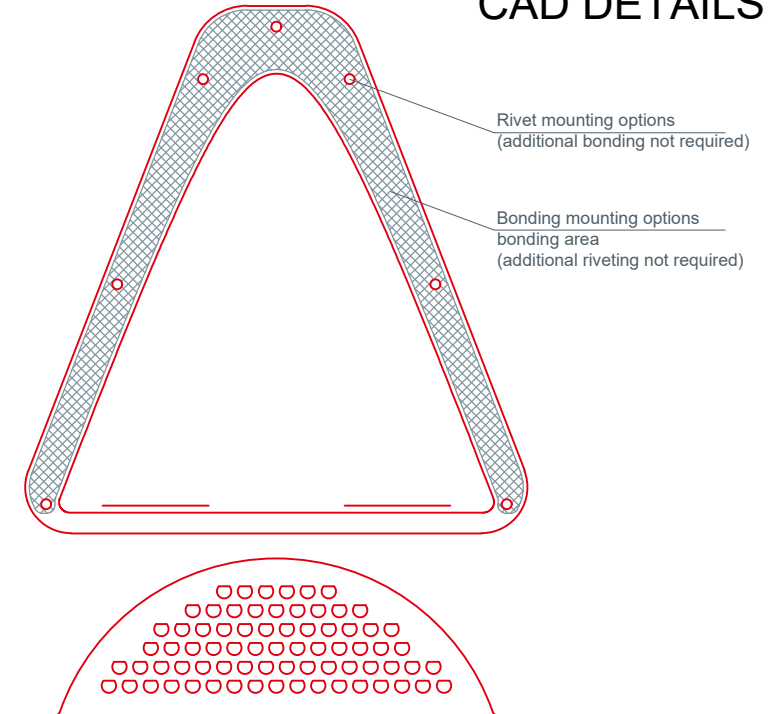
STARK WIE EIN STIER



Information:
air intake section of frog-mouth vents: approx. 30 cm²
The air intake section must be taken into account when cutting out the sheathing (diameter: approx. 10 cm).
The edges of the cut-outs on the roof covering must be surrounded by a raised curve with a height of 1 cm.

frog-mouth vent cover DS.19 shingle

CAD DETAILS



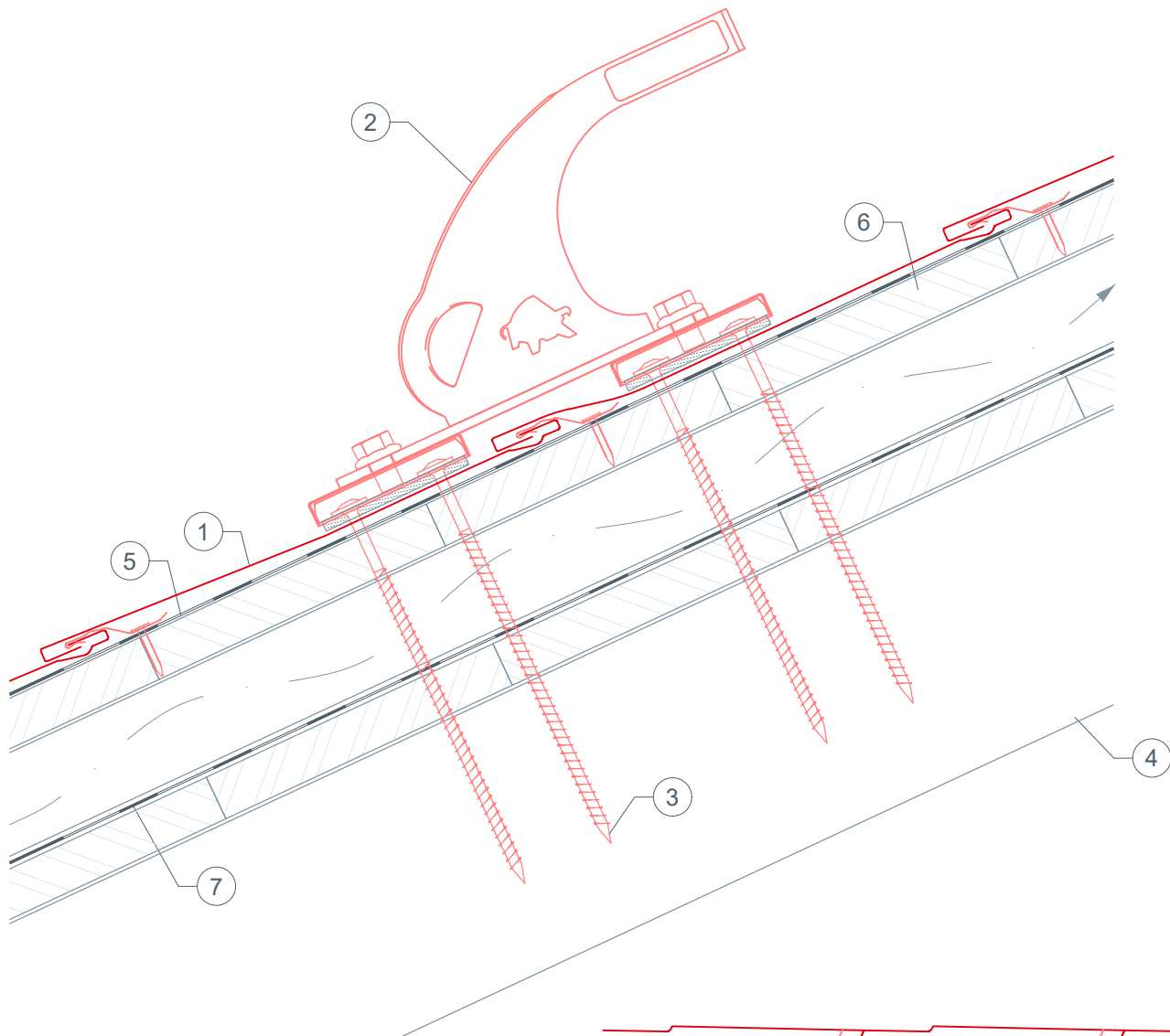
- ① DS.19 shingle
- ② separation layer
- ③ Solid sheathing conforming to national guidelines
- ④ rafter
- ⑤ roof underlay
- ⑥ counter battens (8/5 cm)
- ⑦ frog-mouth vent cover



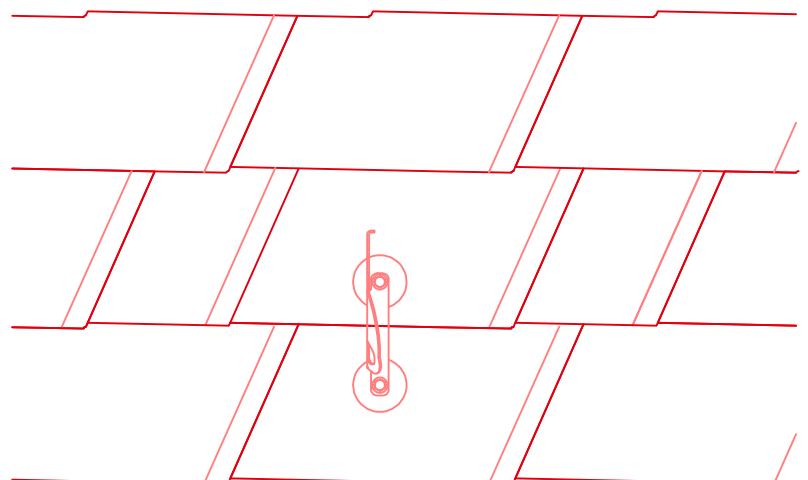
STARK WIE EIN STIER

roof anchor hook according on mounts DS.19 shingle

CAD DETAILS



- ① DS.19 shingle
- ② roof anchor hook
- ③ fasteners (timber construction screws)
- ④ rafter
- ⑤ separation layer
- ⑥ Solid sheathing conforming to national guidelines
- ⑦ roof underlay
- ⑧ base plate



Double-skin roof structure: 2 fixing screws 8 × 220 mm.
Single-skin roof structure: 2 fixing screws 8 × 120 mm.

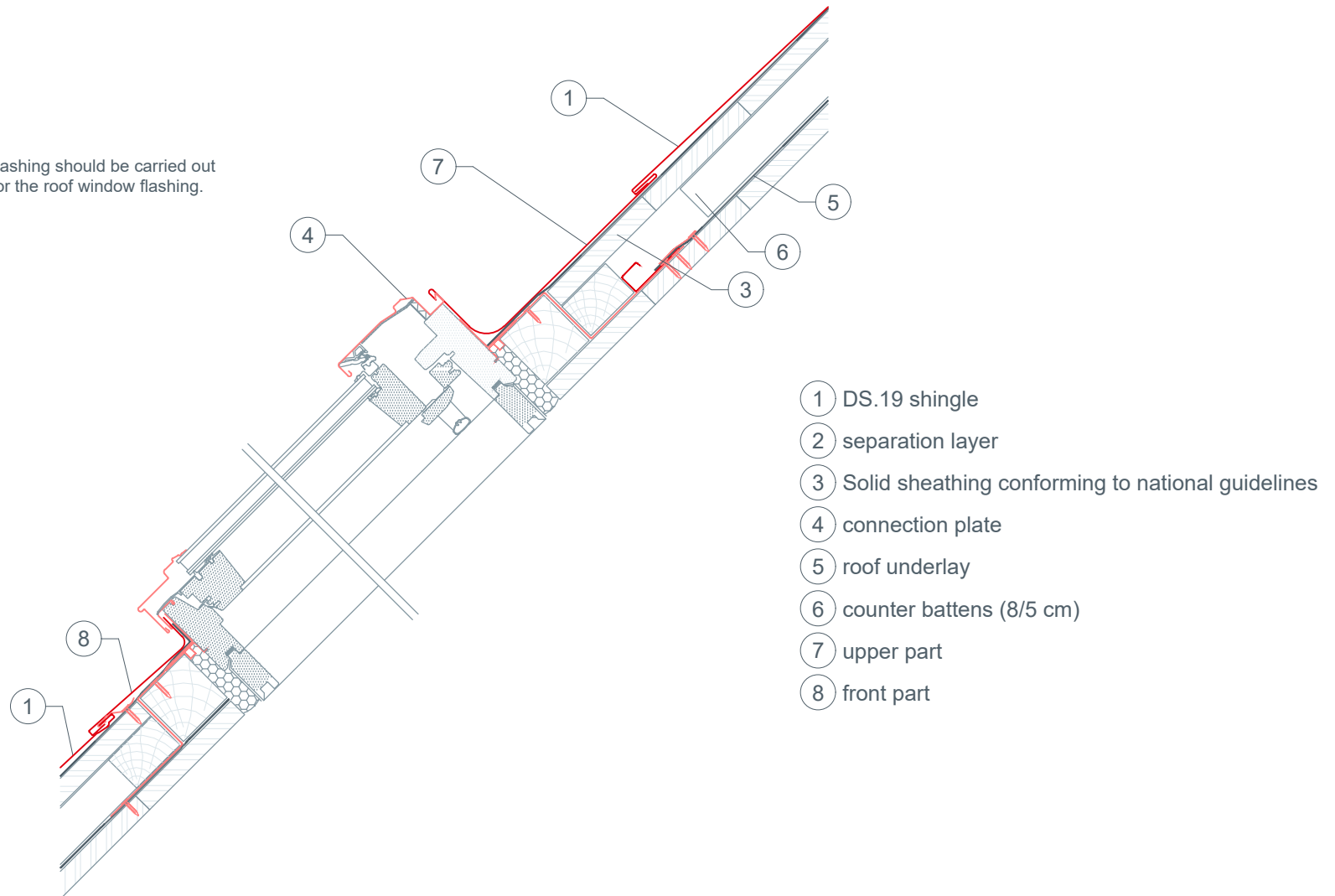


STARK WIE EIN STIER

Roof window flashing on a roof pitch over 25°. DS.19 shingle

CAD DETAILS

Professional installation of the roof window flashing should be carried out according to the manufacturer's guidelines for the roof window flashing.





STARK WIE EIN STIER

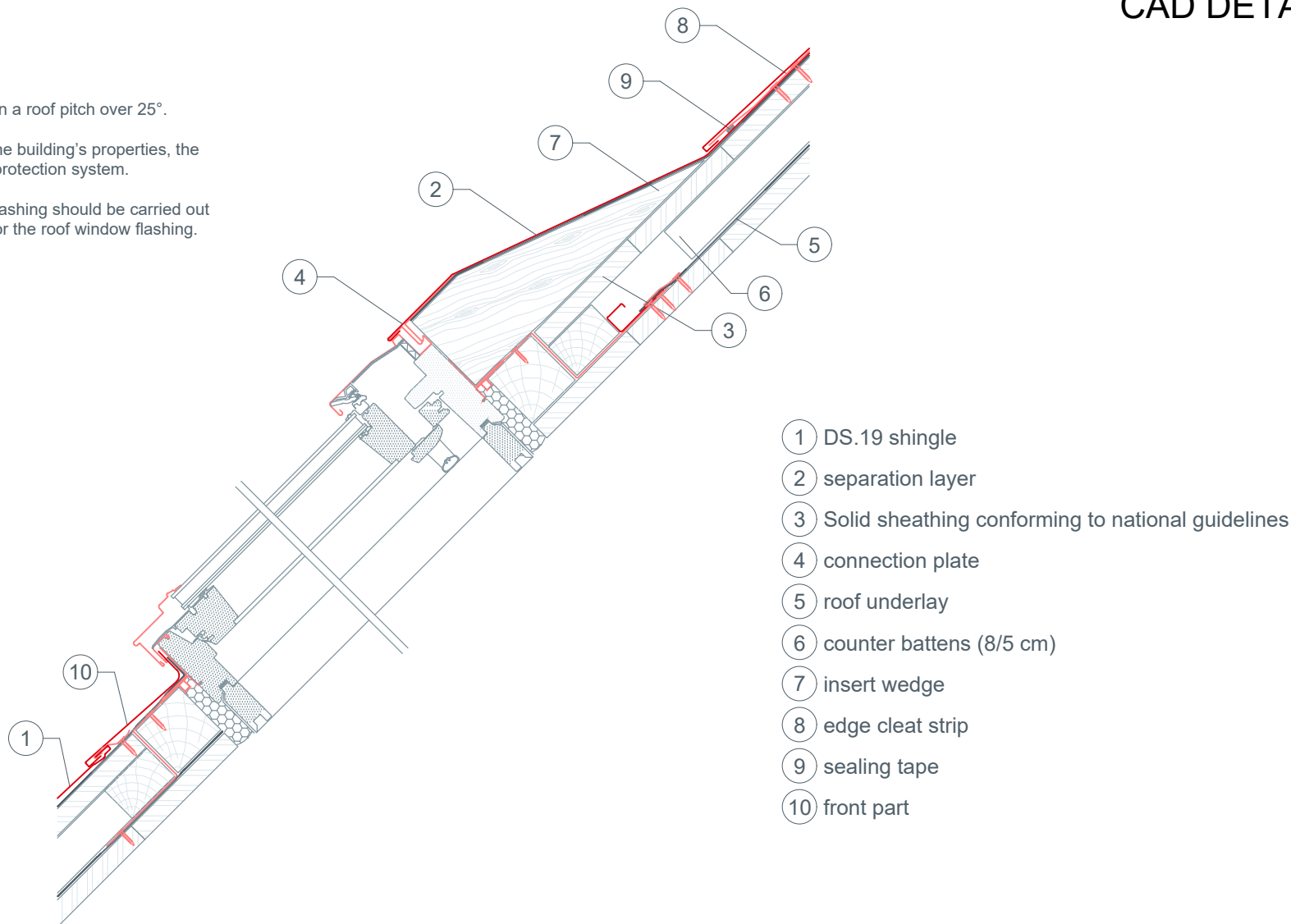
Roof window flashing with an insert wedge on a roof pitch over 25°. DS.19 shingle

CAD DETAILS

Roof window flashing with an insert wedge on a roof pitch over 25°.
Installation in snowy areas.

The need for the insert wedge depends on the building's properties, the location and whether or not there is a snow protection system.

Professional installation of the roof window flashing should be carried out according to the manufacturer's guidelines for the roof window flashing.



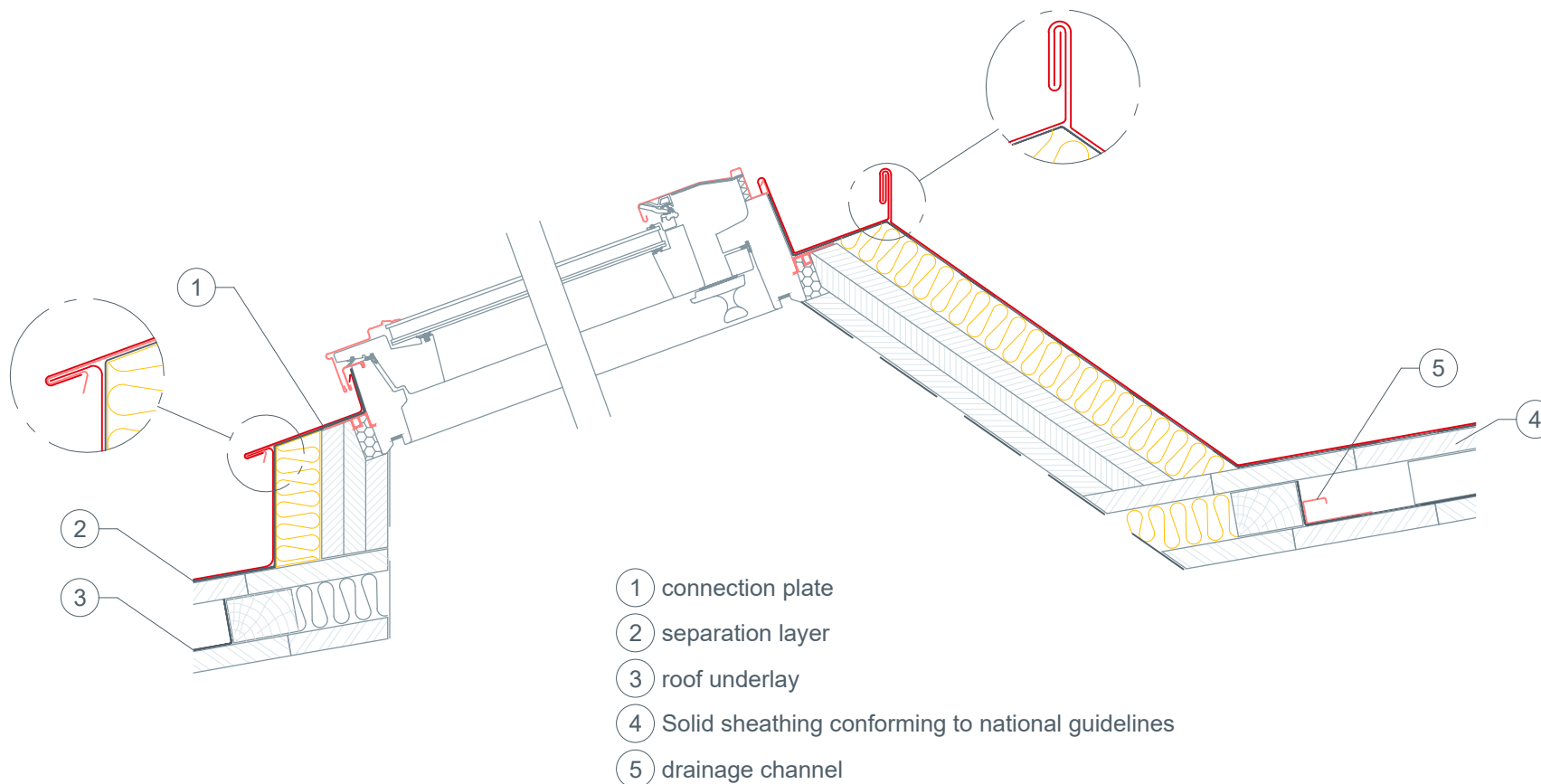


STARK WIE EIN STIER

ROOF WINDOW FLASHING WITH WEDGE FRAME

DS.19 shingle

CAD DETAILS



Professional installation should be carried out, and the need for the roof window flashing wedge frame assessed, according to the manufacturer's guidelines for the roof window.

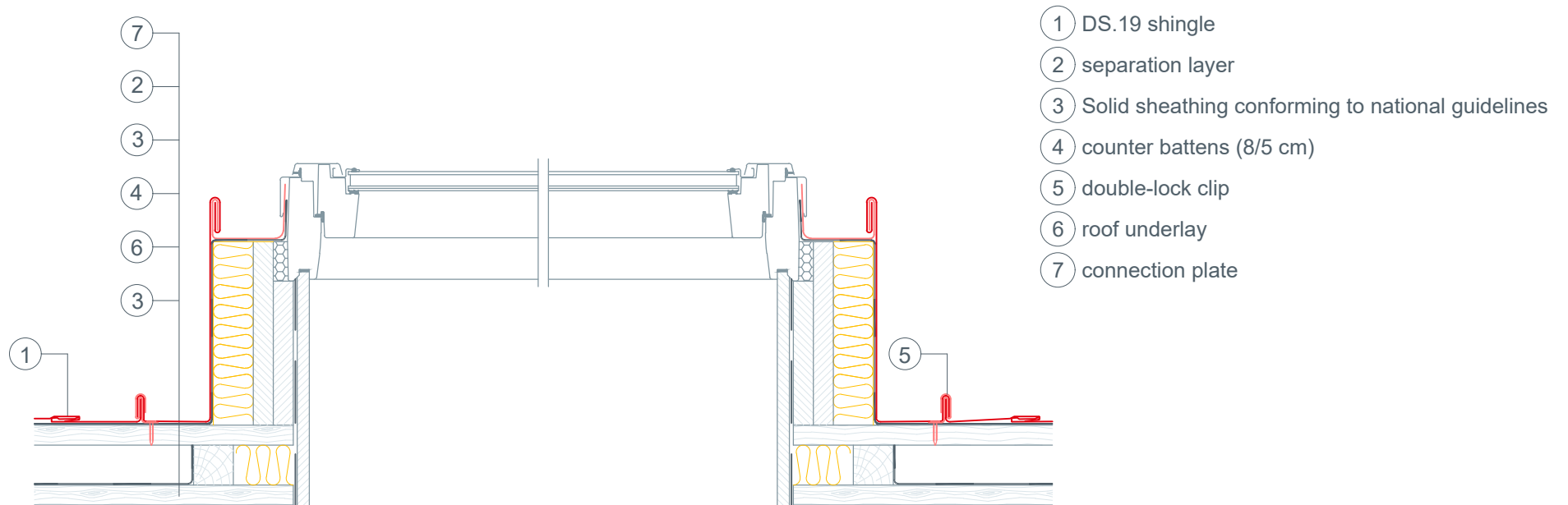


STARK WIE EIN STIER

ROOF WINDOW FLASHING WITH WEDGE FRAME

DS.19 shingle

CAD DETAILS



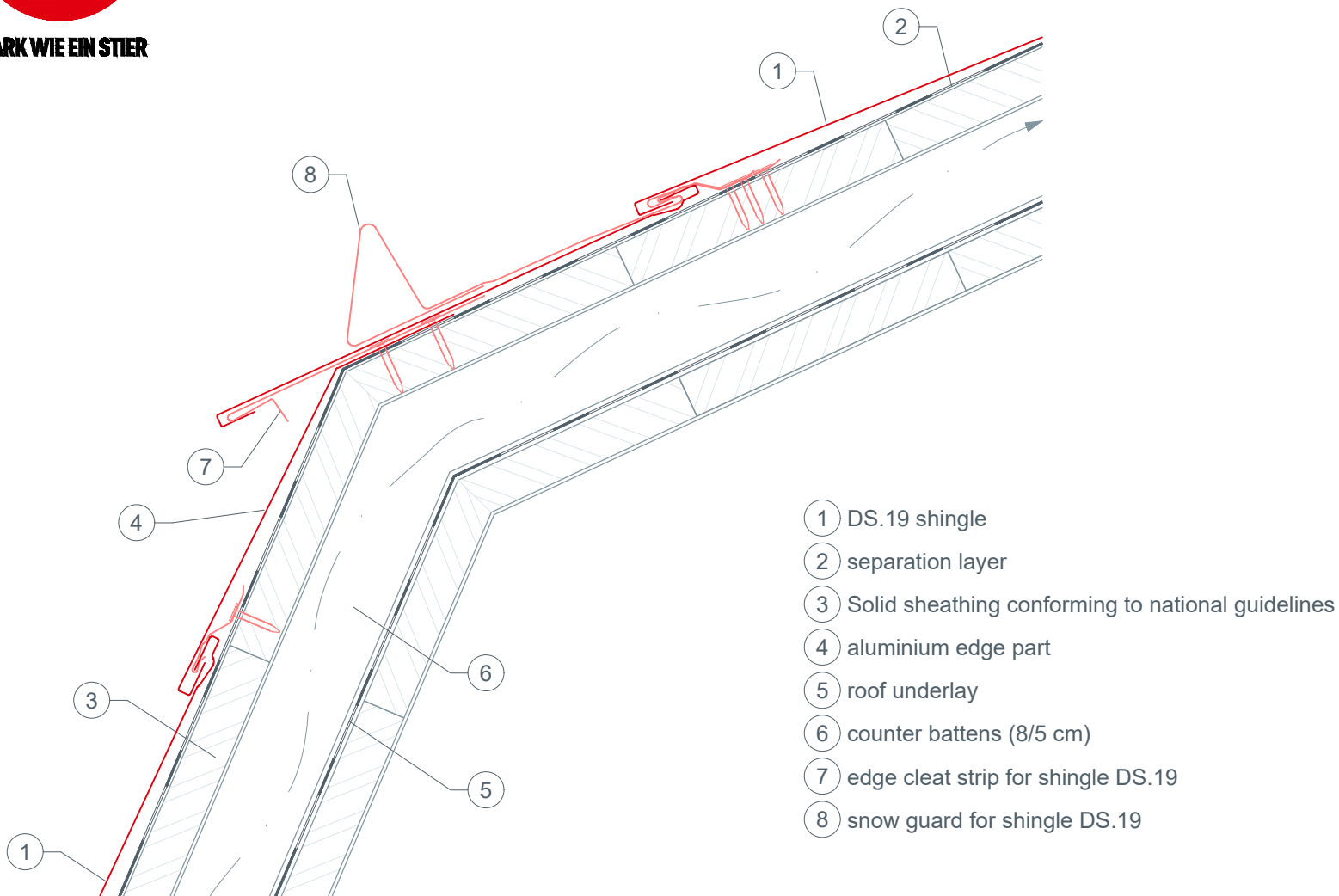
Professional installation should be carried out, and the need for the roof window flashing wedge frame assessed, according to the manufacturer's guidelines for the roof window.



STARK WIE EIN STIER

mansard crease DS.19 shingle

CAD DETAILS



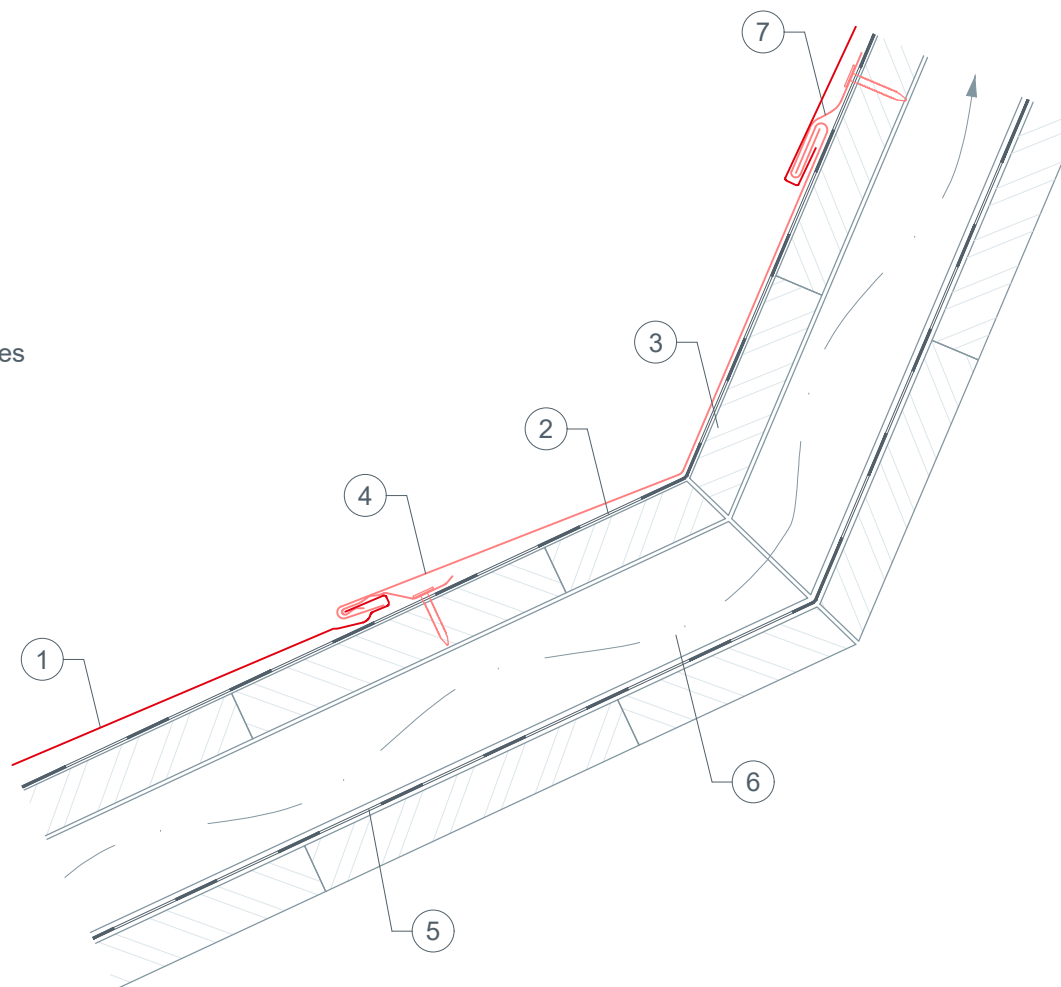


STARK WIE EIN STIER

construction of pitch transition DS.19 shingle

CAD DETAILS

- ① DS.19 shingle
- ② separation layer
- ③ Solid sheathing conforming to national guidelines
- ④ transition flashing
- ⑤ roof underlay
- ⑥ counter battens (8/5 cm)
- ⑦ clips

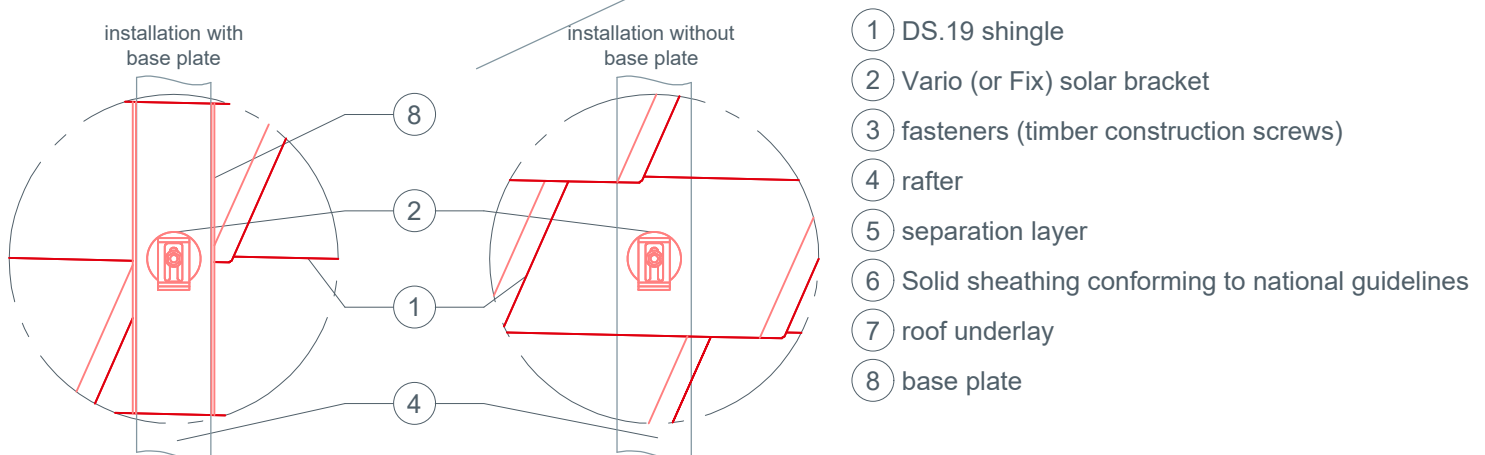
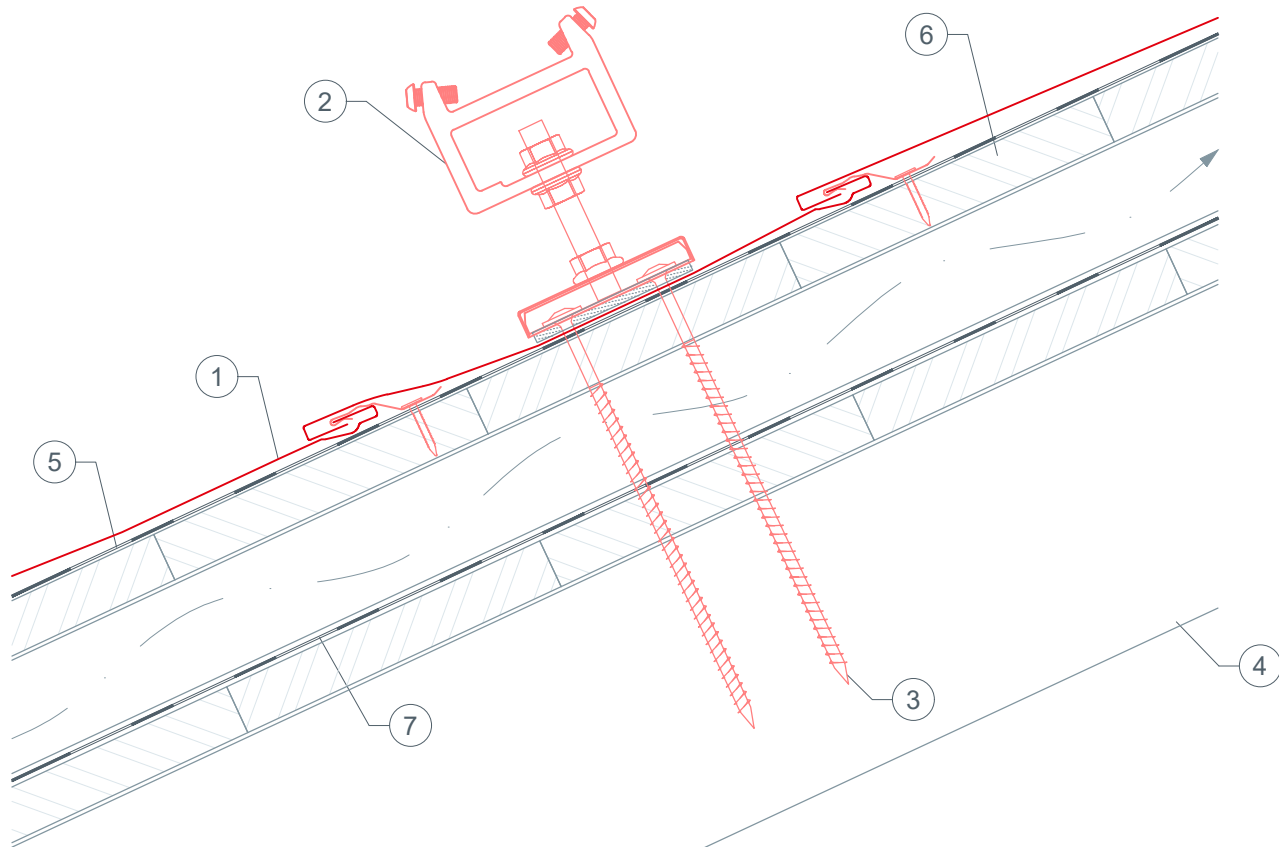




STARK WIE EIN STIER

Vario (or Fix) solar bracket DS.19 shingle

CAD DETAILS



- ① DS.19 shingle
- ② Vario (or Fix) solar bracket
- ③ fasteners (timber construction screws)
- ④ rafter
- ⑤ separation layer
- ⑥ Solid sheathing conforming to national guidelines
- ⑦ roof underlay
- ⑧ base plate

With small-format shingles, it may be necessary to install a base plate in order to mount the Vario or Fix solar bracket (e.g. if a seam is lying above a rafter in the installation area).

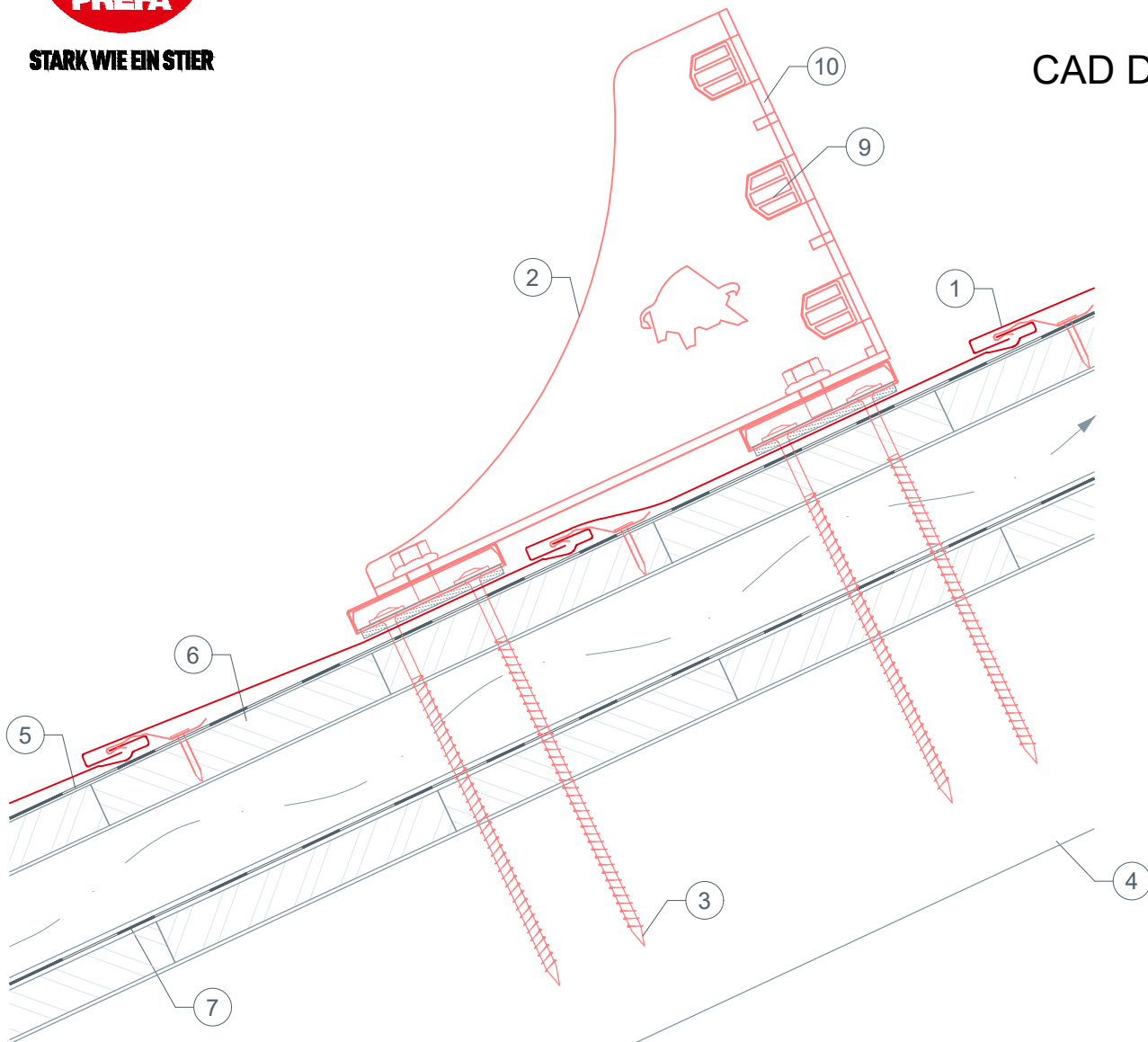
Double-skin roof structure: 2 fixing screws 8 × 220 mm.
Single-skin roof structure: 2 fixing screws 8 × 120 mm.



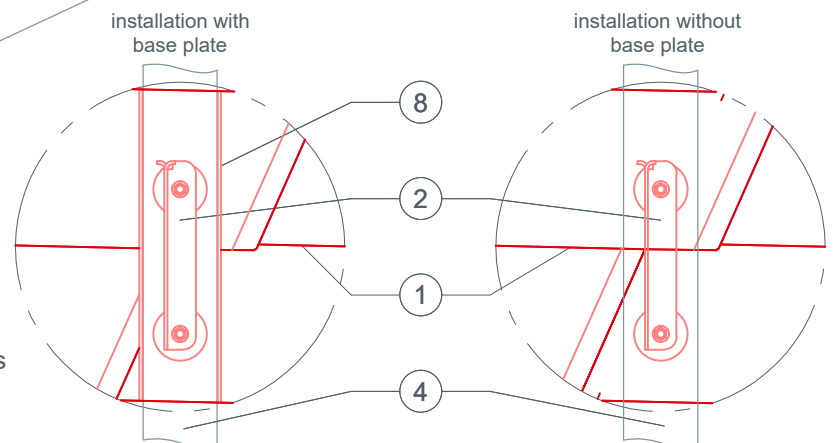
STARK WIE EIN STIER

pipe-style snow guard system DS.19 shingle

CAD DETAILS



- ① DS.19 shingle
- ② pipe-style snow guard system
- ③ fasteners (timber construction screws)
- ④ rafter
- ⑤ separation layer
- ⑥ Solid sheathing conforming to national guidelines
- ⑦ roof underlay
- ⑧ base plate
- ⑨ removable pipe for pipe-style snow guard system
- ⑩ fixing slide



With small-format roof elements, it may be necessary to install a base plate in order to mount the pipe-style snow guard system (e.g. if a seam is lying above a rafter in the installation area).

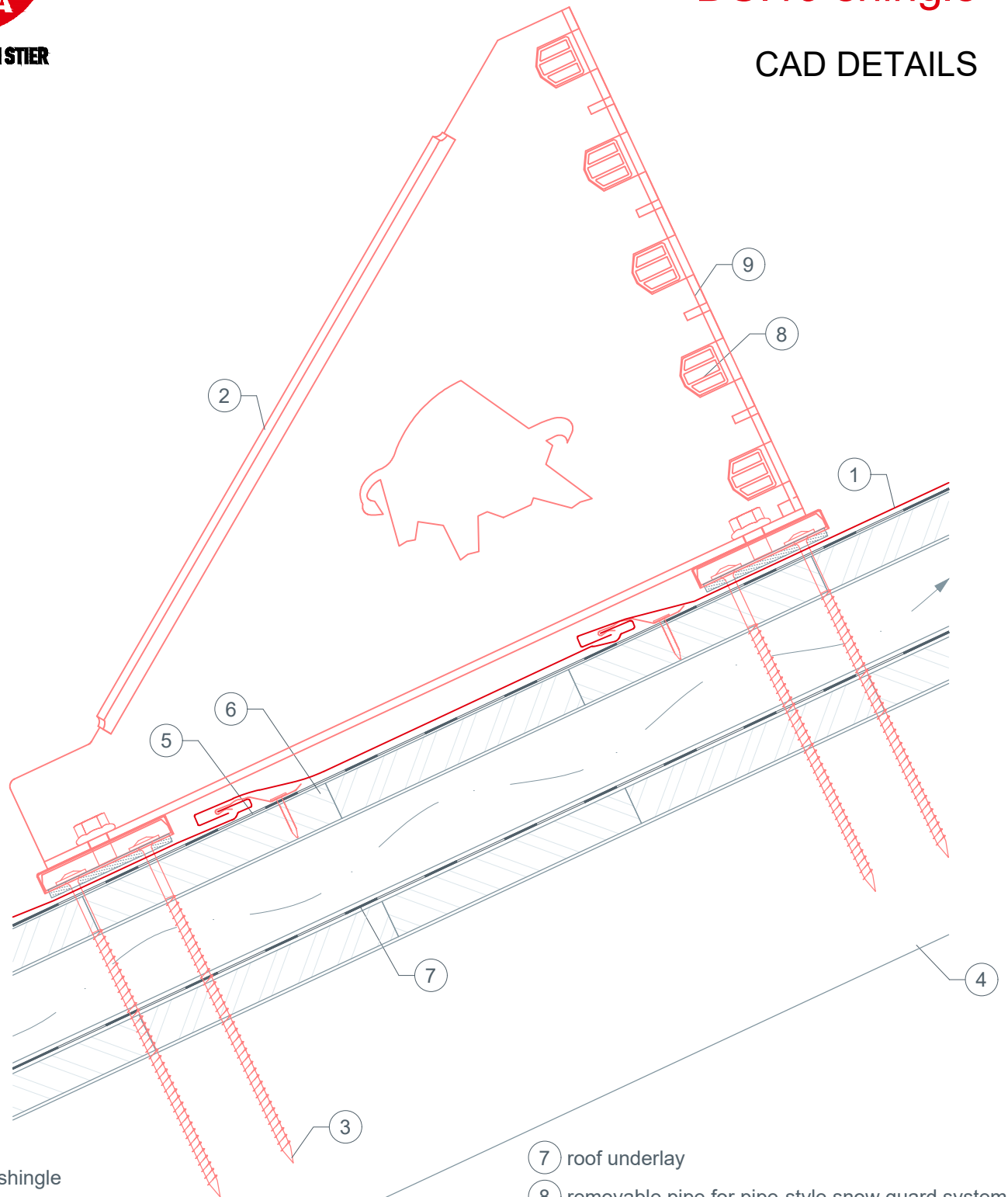
Double-skin roof structure: 2 fixing screws 8 × 220 mm.
Single-skin roof structure: 2 fixing screws 8 × 120 mm.



STARK WIE EIN STIER

pipe-style snow guard system XL DS.19 shingle

CAD DETAILS



- ① DS.19 shingle
- ② pipe-style snow guard system
- ③ fasteners (timber construction screws)
- ④ rafter
- ⑤ separation layer
- ⑥ Solid sheathing conforming to national guidelines

- ⑦ roof underlay
- ⑧ removable pipe for pipe-style snow guard system
- ⑨ fixing slide

With small-format roof elements, it may be necessary to install a base plate in order to mount the pipe-style snow guard system (e.g. if a seam is lying above a rafter in the installation area).

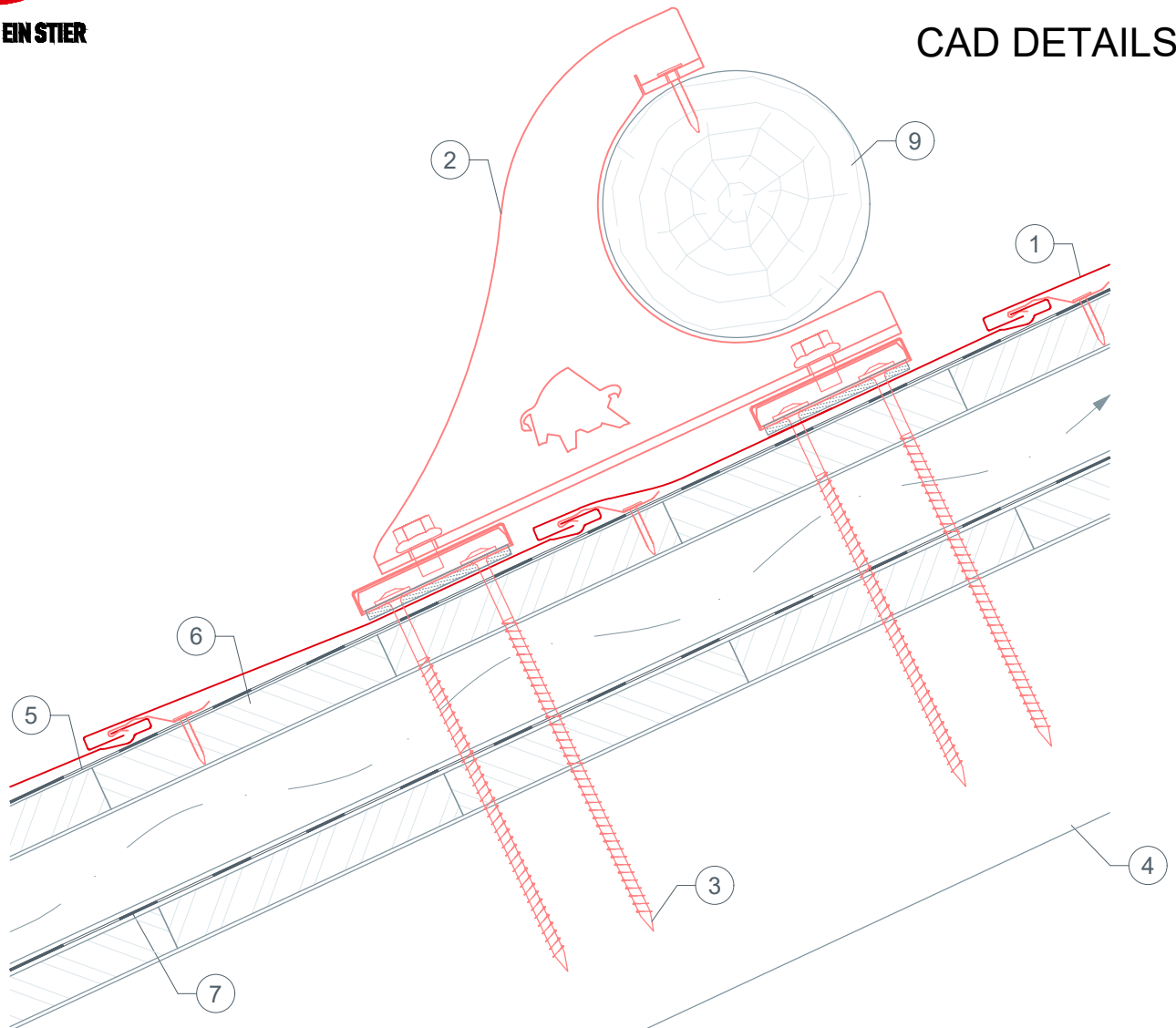
Double-skin roof structure: 2 fixing screws 8 × 220 mm.
Single-skin roof structure: 2 fixing screws 8 × 120 mm.



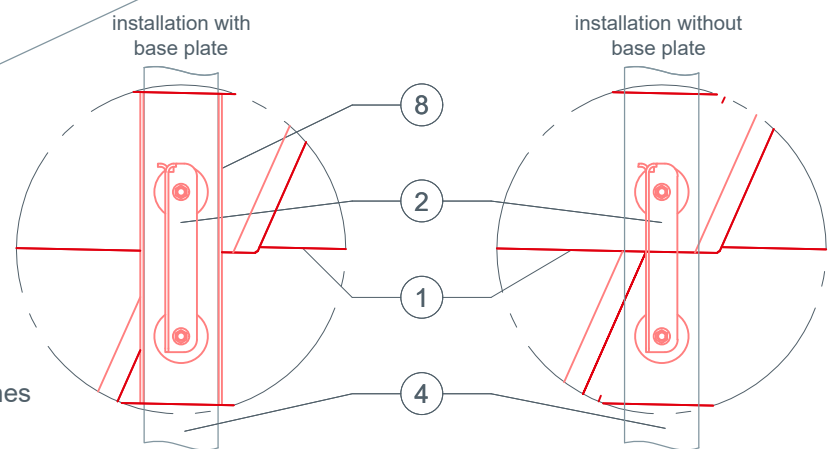
STARK WIE EIN STIER

mountain snow-guard bracket DS.19 shingle

CAD DETAILS



- ① DS.19 shingle
- ② mountain snow-guard bracket
- ③ fasteners (timber construction screws)
- ④ rafter
- ⑤ separation layer
- ⑥ Solid sheathing conforming to national guidelines
- ⑦ roof underlay
- ⑧ base plate
- ⑨ log (diameter 140 mm)



With small-format roof elements, it may be necessary to install a base plate in order to mount the mountain snow guard bracket (e.g. if a seam is lying above a rafter in the installation area).

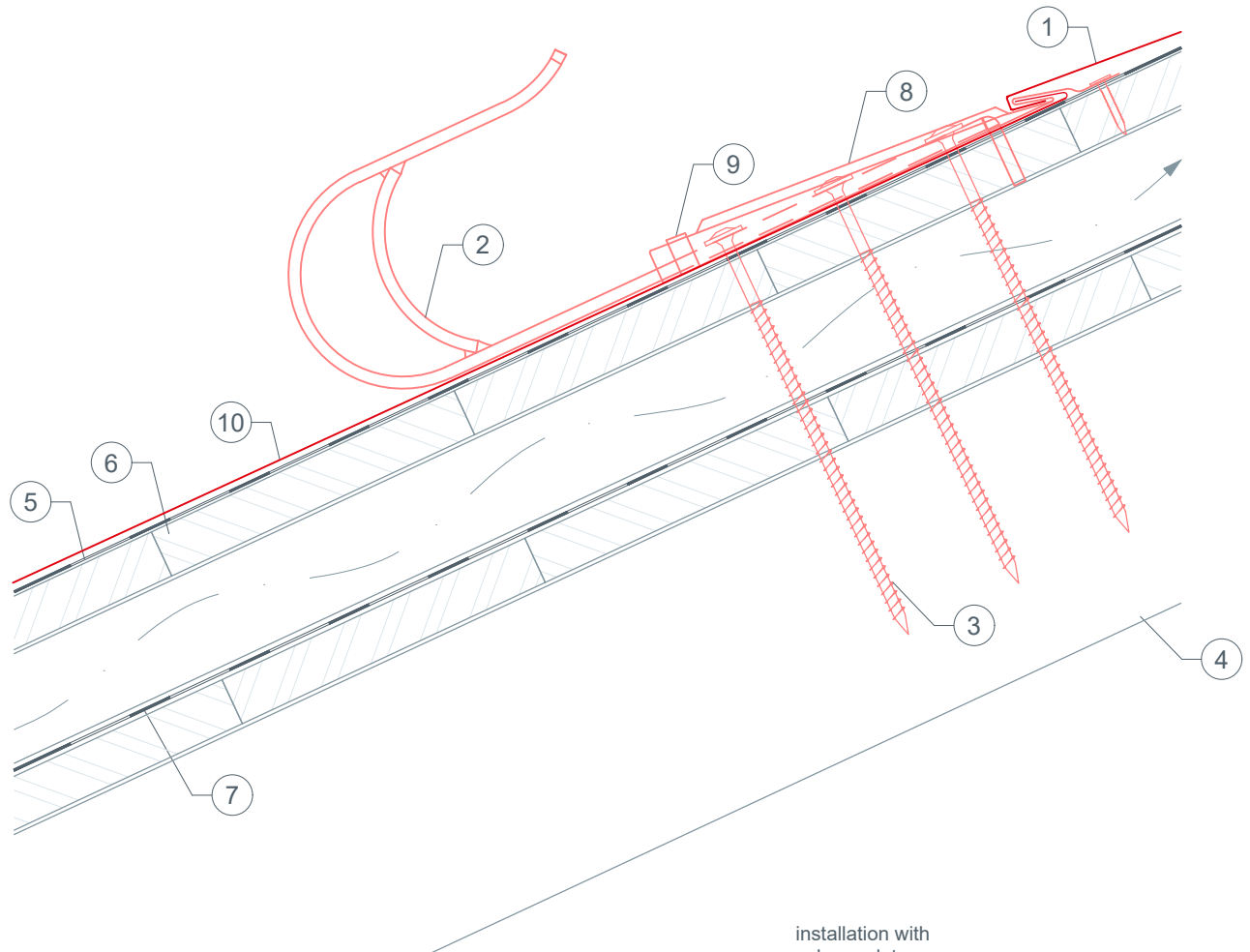
Double-skin roof structure: 2 fixing screws 8 × 220 mm.
Single-skin roof structure: 2 fixing screws 8 × 120 mm.



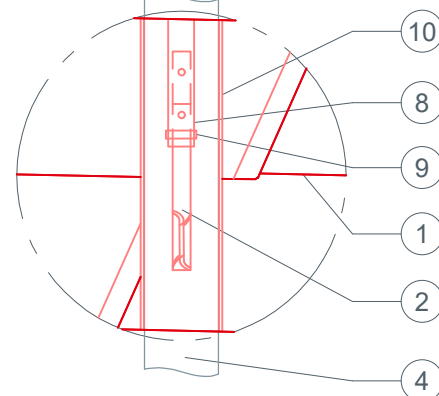
STARK WIE EIN STIER

roof anchor hook DS.19 shingle

CAD DETAILS



installation with
base plate



- ① DS.19 shingle
- ② roof anchor hook
- ③ fasteners (timber construction screws)
- ④ rafter
- ⑤ separation layer
- ⑥ Solid sheathing conforming to national guidelines
- ⑦ roof underlay
- ⑧ protective cap
- ⑨ fixing strip
- ⑩ base plate

With small-format shingles, it may be necessary to install a base plate in order to mount the roof anchor hook (e.g. if a seam is lying above a rafter in the installation area).

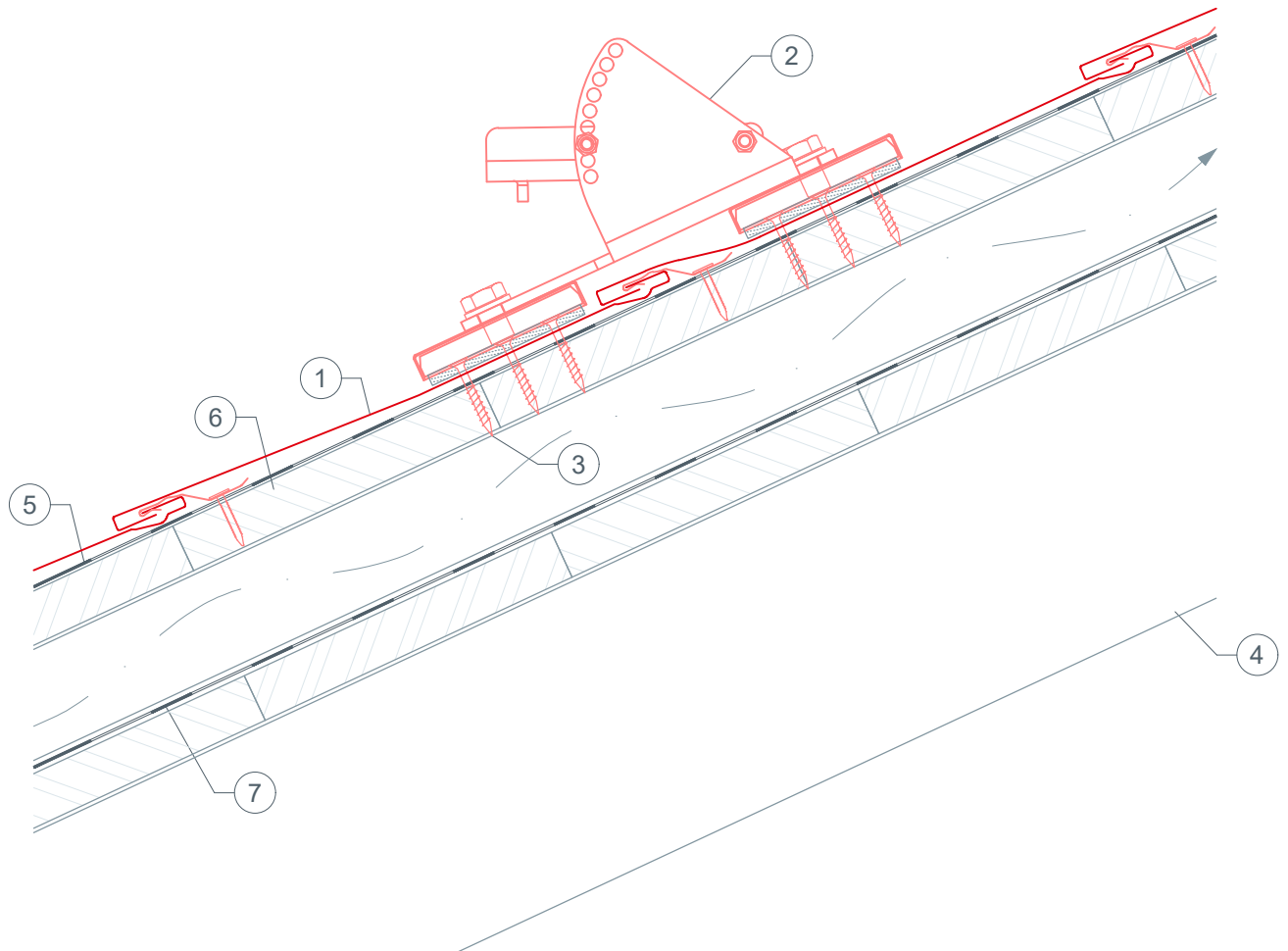
Double-skin roof structure: 2 fixing screws 8 × 220 mm.
Single-skin roof structure: 2 fixing screws 8 × 120 mm.



STARK WIE EIN STIER

safety tread DS.19 shingle

CAD DETAILS



- ① DS.19 shingle
- ② safety tread
- ③ fixing material
- ④ rafter
- ⑤ separation layer
- ⑥ Solid sheathing conforming to national guidelines
- ⑦ roof underlay