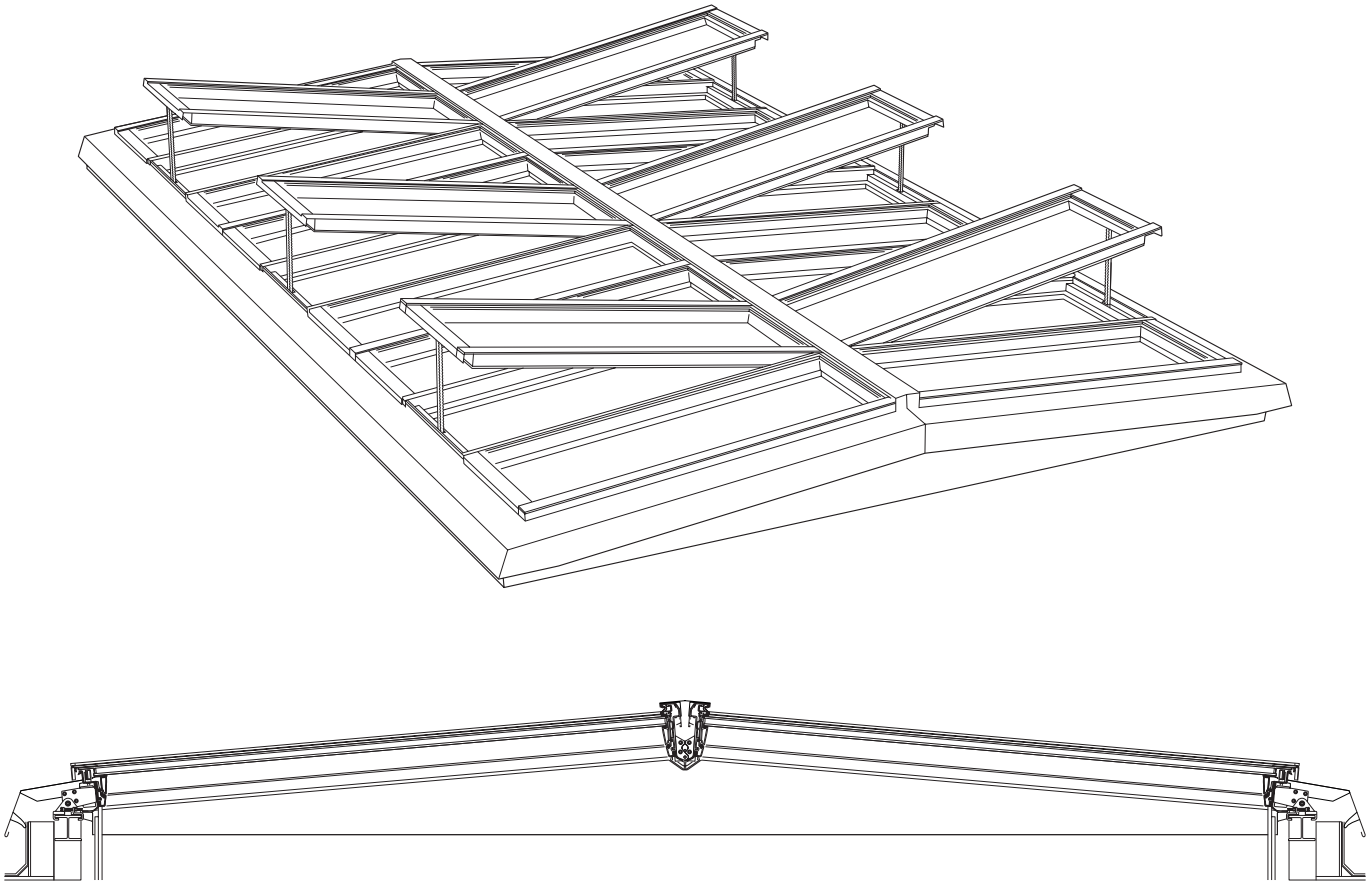
VELUX modular skylights

Sub-construction for ridgelight at 5° with beam



Sub-construction for ridgelight at 5° with beam

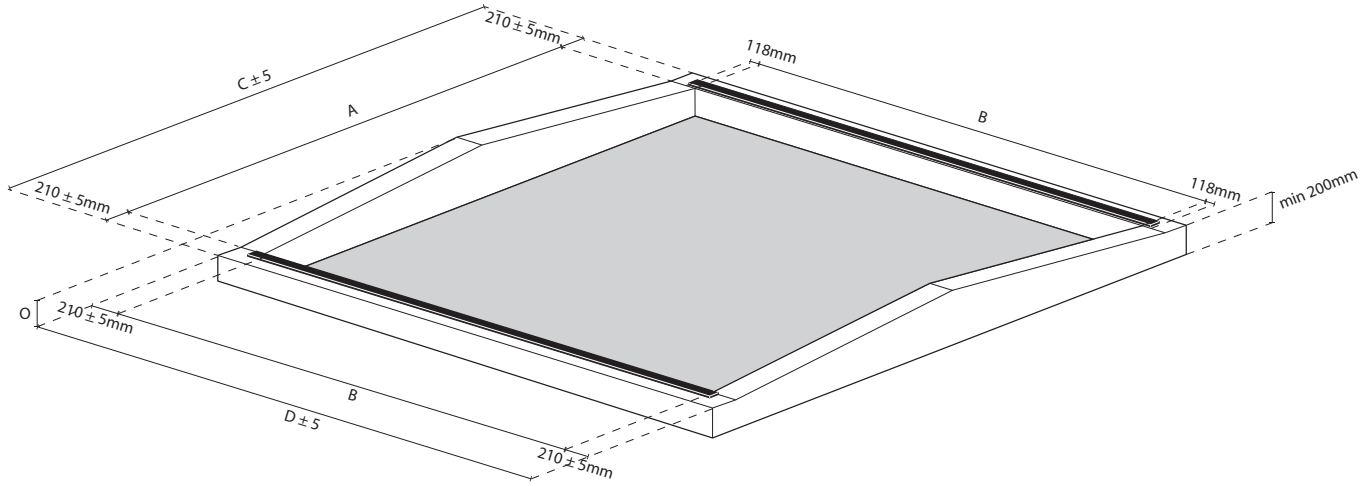
VELUX modular skylights installed in a ridgelight at 5° with beam are build on a sub-construction made of wood, steel or concrete. The sub-construction raises the modules above the roof surface, protecting the construction against water and drifting snow, and provides the supporting base for the modular skylights.

The sub-construction is not included in the VELUX delivery. The sub-construction as shown in the drawing only represents general principles and must be designed and dimensioned to fit the specific building project, local architectural style and practice, and the directions of other building suppliers.

Sub-construction for ridgelight at 5° with beam

Axonometric

A: Opening width
B: Opening lenght
C: Sub-construction width
D: Sub-construction length
O: Gable hight

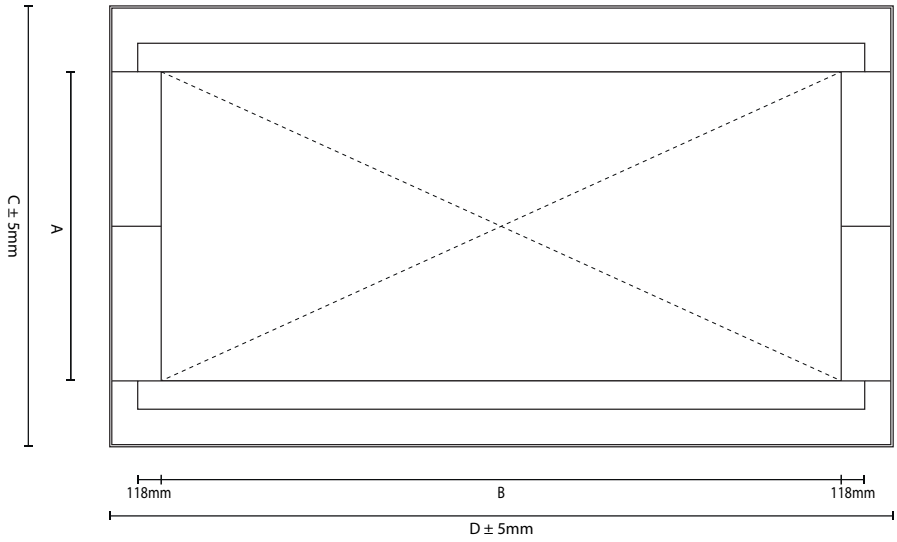


Sub-construction for ridgelight at 5° with beam

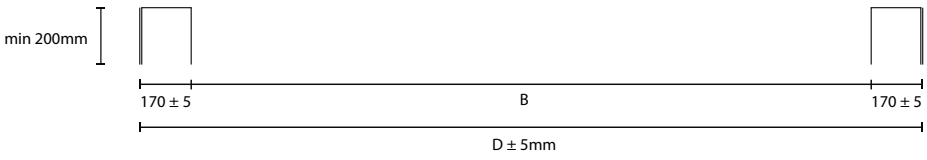
Building site measurements

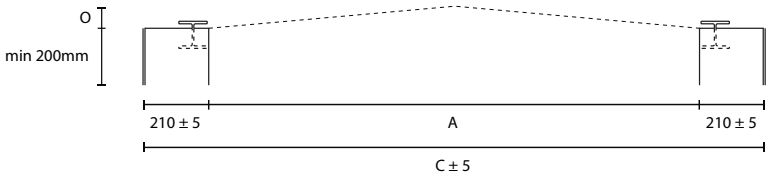
Plan

A: Opening width
B: Opening lenght
C: Sub-construction width
D: Sub-construction length
O: Gable hight
Lenght of steel profiles is B + (2 x 118mm)



Cross section

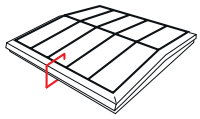




Sub-construction for ridgelight at 5° with beam

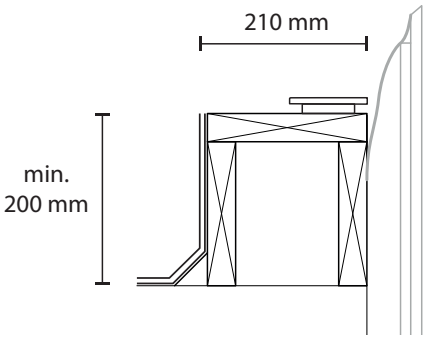
Sub-construction variants

Cross section

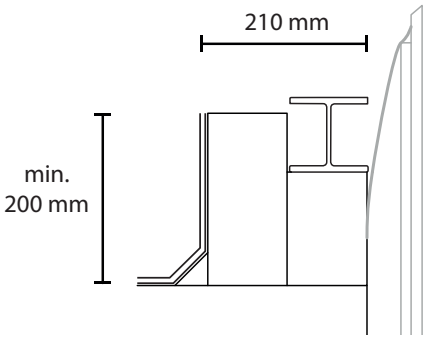


Options of sub-constructions for ridgelight at 5° with beam. Please note that the width stated indicates the distance from the exterior of the roofing material to the interior edge of the steel profile.

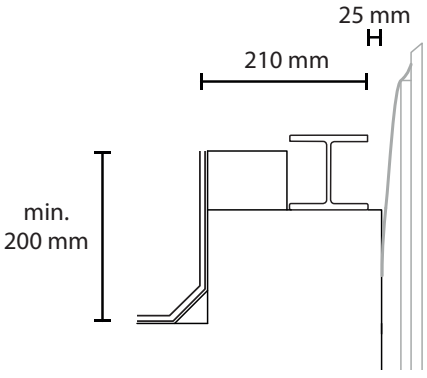
Wood with flat steel



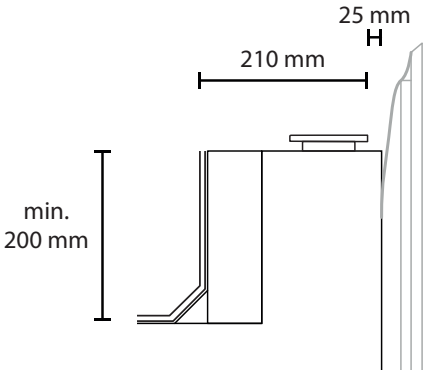
Steel with steel profile



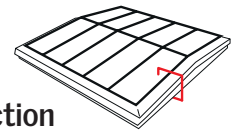
Concrete with steel profile



Concrete with flat steel

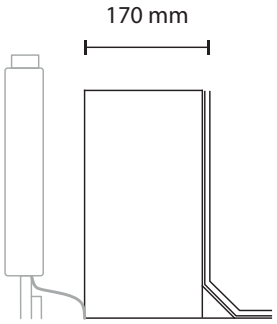


Sub-construction for ridgelight at 5° with beam



Longitudinal section

In the gable construction for ridgelight at 5° with beam, the height of the sub-construction must be at least 200 mm at the front of the skylight modules.



Securing modular skylights to the sub-construction

Using steel profile

The sub-construction can be finished at the top with steel profile or steel flat bar, which provides a level and stable surface for the skylight modules and forms a base for fitting installation brackets with clamps.

The number and size of fixings for securing the steel profile to the sub-construction must be dimensioned by others to fit each project.

The following standard steel profiles are suited for installation of VELUX modular skylights in longlight solutions:

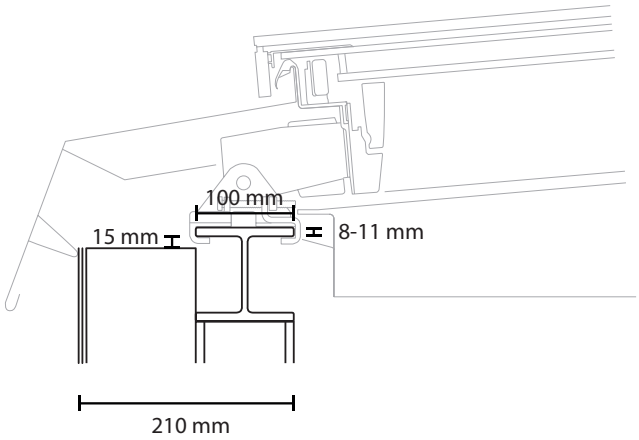
EU steel beams:
INP 220
IPE 200
HE100A
HE100B

British steel beams:
UB 178 x 102 x 19
UB 203 x 102 x 23
UB 254 x 102 x 22
UB 254 x 102 x 25
UB 305 x 102 x 25
UB 305 x 102 x 28
UB 305 x 102 x 33

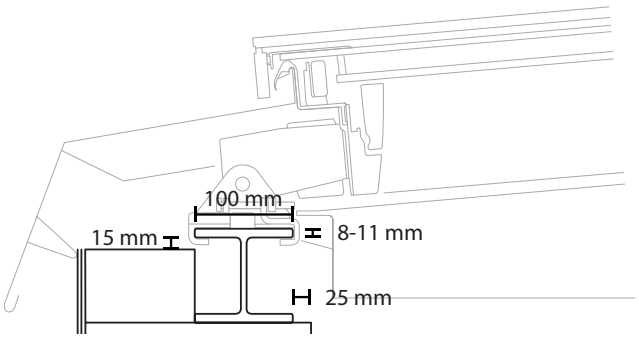
In case a stronger construction is needed, the steel profile can be replaced with a stronger profile. In this case, a different size installation bolt must be ordered separately from VELUX Company Ltd. The following profiles can be used:

EU steel beams:
INP 240, 260, 280
IPE 220, 240
HE120A
HE120B

British steel beams:
UB 305 x 127 x 37
UB 305 x 127 x 42
UB 356 x 127 x 33



Wood or steel construction with steel profile

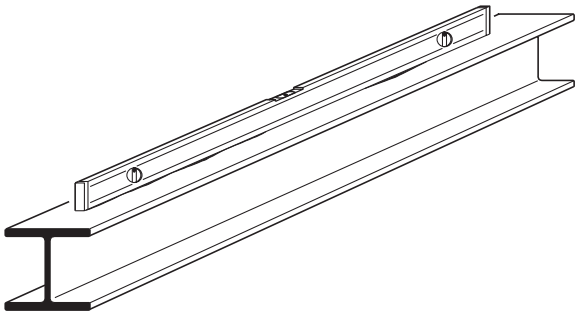


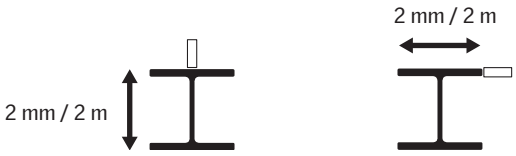
Concrete construction with steel profile

Sub-construction for ridgelight at 5° with beam

Straightness of steel profile

Requirements as to the straightness of the steel profile are 2 mm per 2 meters.



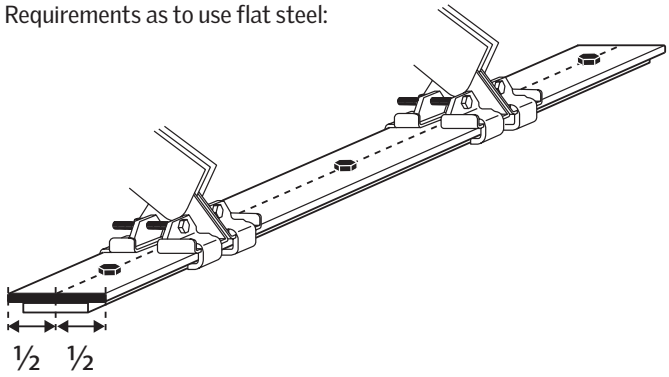


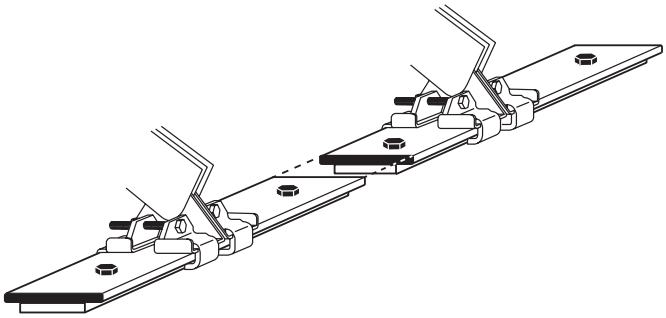
Using flat steel

When mounting the modular skylights on flat steel, the steel must be 100 mm in width and 8-11 mm in height. In addition there must be at least 15 mm free space underneath the steel both vertically and horizontally to give room for the clamps.

The number and size of fixings for securing the steel profile to the building must be dimensioned by others to fit each project.

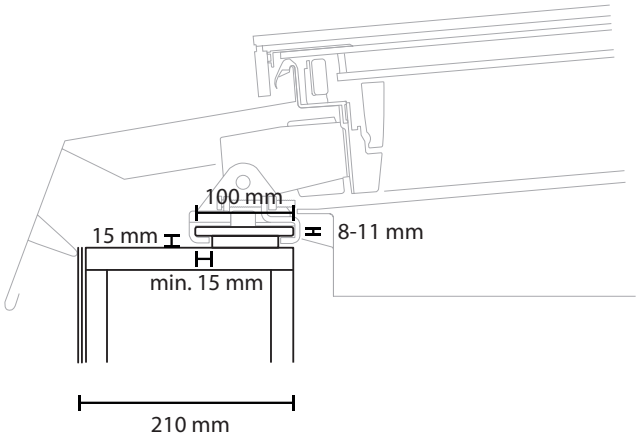
Requirements as to use flat steel:



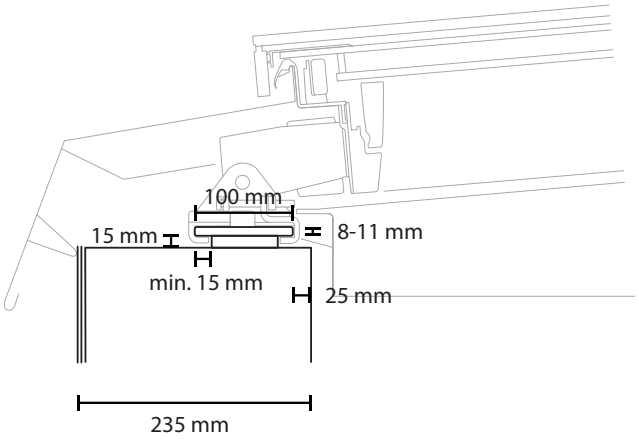


- The blocking-up of the steel must be for the full length of the flat steel profile
- The steel can be secured using screws along the middle of the profile

- Connection of steel profiles must not collide with clamps



Steel or wood construction with flat steel

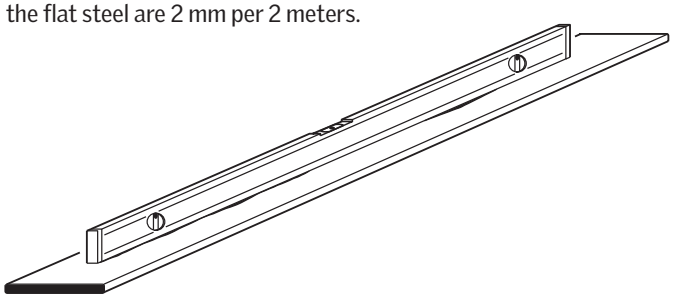


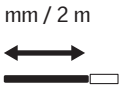
Concrete construction with flat steel

Sub-construction for ridgelight at 5° with beam

Straightness of flat steel

Requirements as to the straightness of the flat steel are 2 mm per 2 meters.

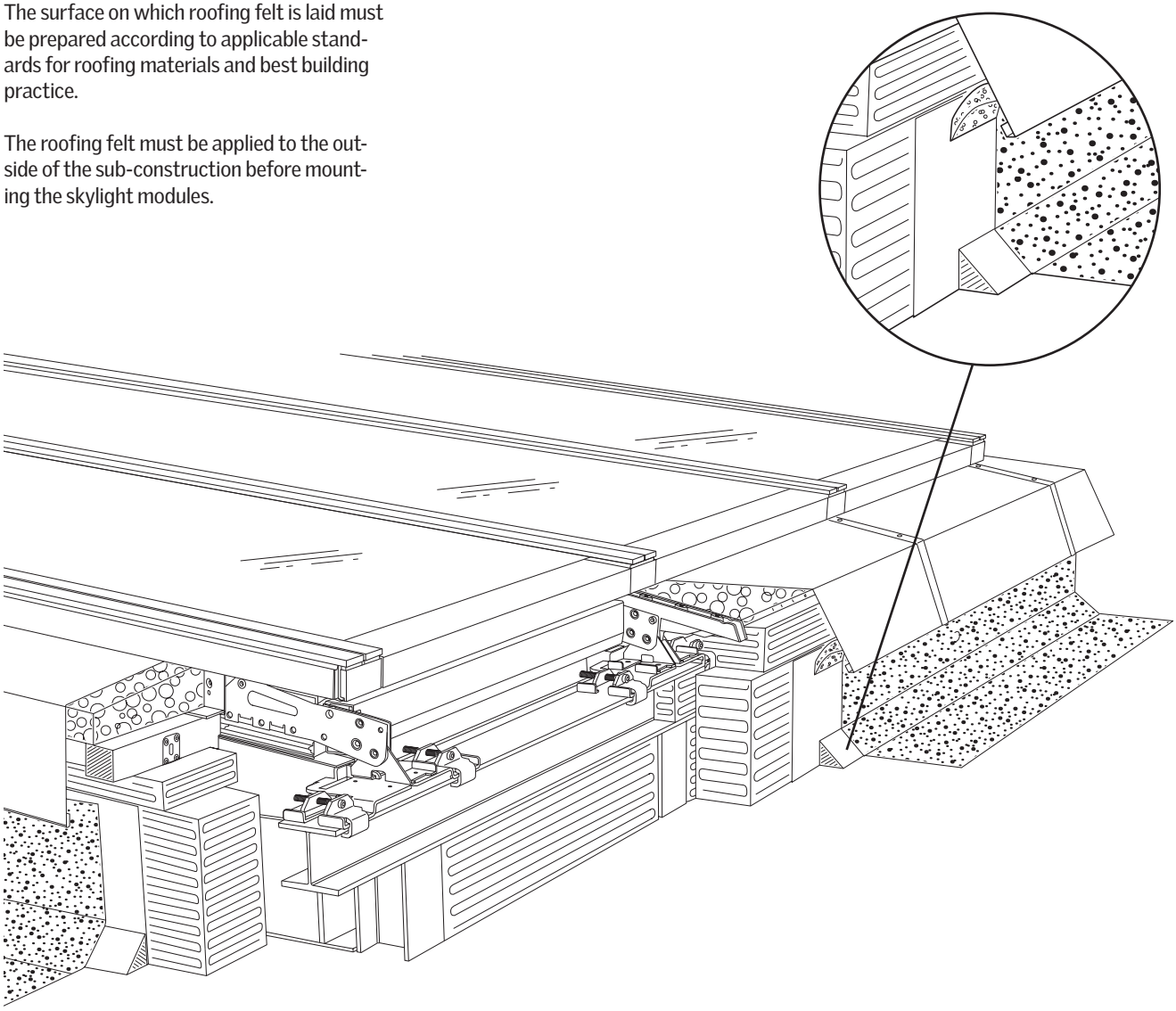




Connecting to the roof

The surface on which roofing felt is laid must be prepared according to applicable standards for roofing materials and best building practice.

The roofing felt must be applied to the outside of the sub-construction before mounting the skylight modules.



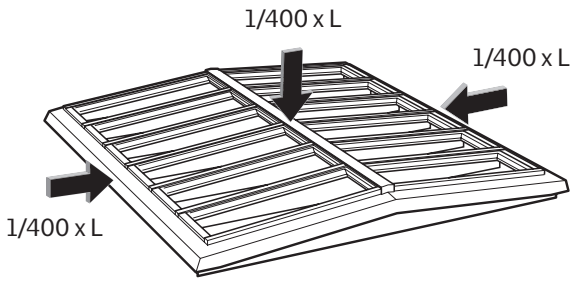
Sub-construction for ridgelight at 5° with beam

Sub-construction dimensioning requirements

The roof construction is exposed to deformations after installation of the skylight modules. These deformations include subsequent roof covering, various building installations and external loads such as snow and wind etc. The sub-construction must be designed to withstand all these loads and the deformations must be limited to 1/400 x the full length of the sub-construction in downward and outward directions.

After completing the sub-construction, it must be secured against water penetrating the roof construction and insulation.

For load capacities of the skylight modules, please refer to http://modularskylights.velux.co.uk/.



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