

STEP SOLUTION

A NEW VELUX MODULAR
SKYLIGHT SOLUTION

VELUX®

Commercial



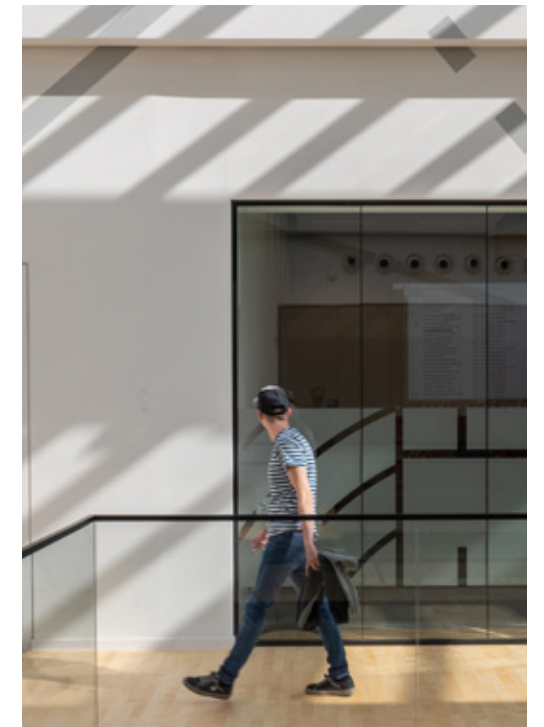
MORE DAYLIGHT ENHANCED WELL-BEING

Healthy indoor climate

Design with maximum daylight to optimise well-being and productivity. The new VELUX Step solution is a modular skylight system for large atriums that provides maximum daylight and enhances building aesthetics and quality.

By letting in more daylight and fresh air, the Step solution facilitates the design of healthier, more sustainable buildings that promote well-being and greater performance, for the people within them.

**When you design for daylight,
you design for well-being.**



THE STEP SOLUTION
DESIGN WITH MAXIMUM DAYLIGHT



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STEP SOLUTION



CREATE HEALTHY, COMFORTABLE SPACES INSIDE BUILDINGS



HEAT CONTROL AND INDOOR COMFORT



SEALING OFF THE BUILDING ENVELOPE FASTER



PREFABRICATION LEADS TO HIGHER DURABILITY



SUSTAINABILITY AND CERTIFICATIONS



STEP SOLUTION

Let there be light

MAXIMUM DAYLIGHT, MINIMALIST DESIGN

The VELUX Step solution lets you design with daylight in three new ways and offers several benefits for atrium design.

Maximum daylight

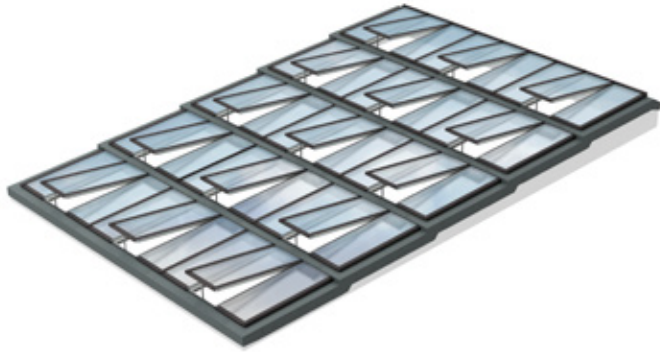
The VELUX Step solution is specifically designed to support rows of skylights, without the need for thick, unsightly beams. In this way, the complete system offers an even better view to the outside, without compromising on aesthetics or quality.

Coherent and elegant design

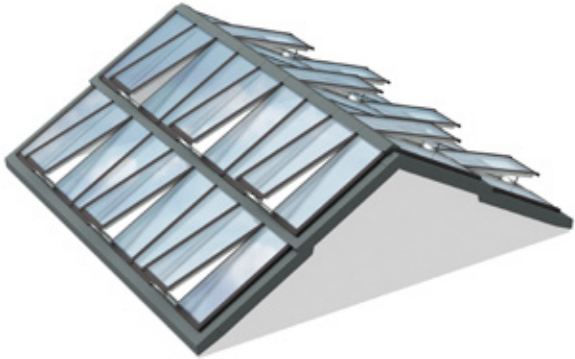
With thin supporting beams, designed by the architect, the VELUX Step solution combines maximum daylight with minimalist design. Due to hidden actuators, our venting modules appear identical to fixed modules when closed, creating a sleek and uniform aesthetic.

Integrated drainage

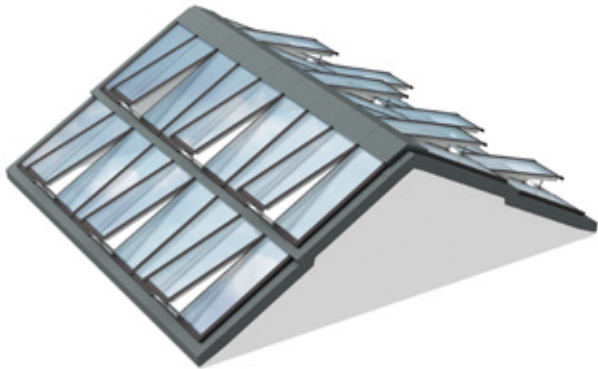
The solution is complete with factory-finished flashings, which connect the rows of skylights and ensure drainage of water between rows.



Step Longlight 5 - 25°



Step Ridgelight 25°



Step Ridgelight 5 - 25° on Girder



Minimalistic and clean design



Fully integrated chain actuator in the frame.
There is no visual difference between a fixed and a venting module, in closed position.

Customised flashing

Our Step solution comes with factory-finished flashing, providing a watertight connection between roof, sub-construction and the modules. The customised Step flashing ensures drainage of water between rows.

Rigorous testing

Because our products are prefabricated, we're able to test them against extreme conditions. The Step solution is tested in storm-strength rain and wind, in the largest wind tunnel in Northern Europe.

Unique joint bracket

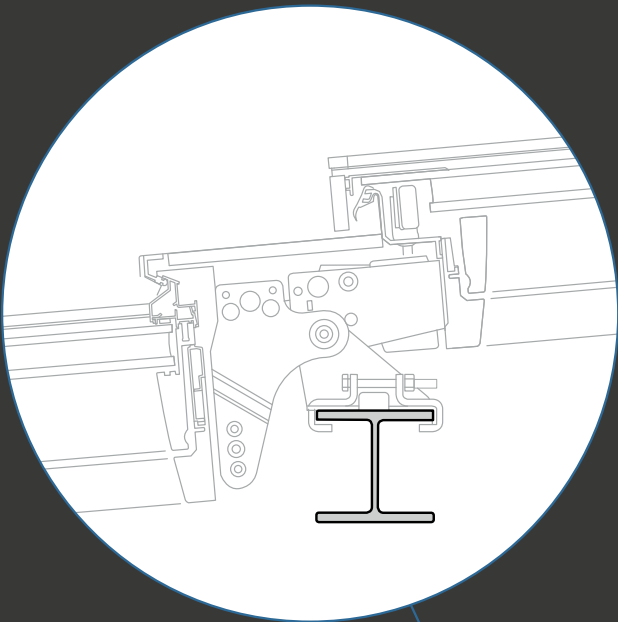
The multiple rows are installed together using a unique joint bracket and clamping system that guarantee a fast and secure installation.

Supporting beams

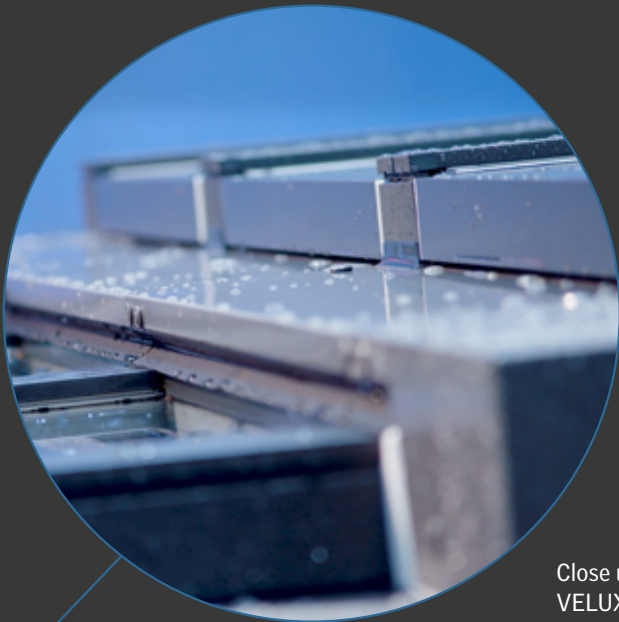
The supporting beams between the rows are not supplied by VELUX Commercial. The support structure must be designed by a structural engineer. Thanks to the unique bracket system, the Step solution facilitates designs with thinner beams, when the structural design allows. This promotes greater flexibility in architectural expression, enabling designs with maximum daylight.

Sub-construction

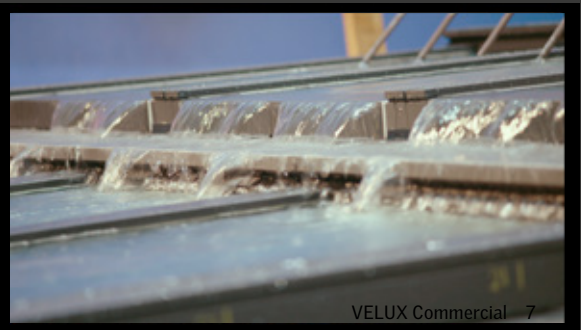
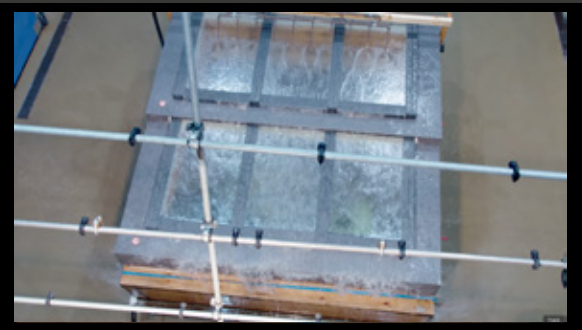
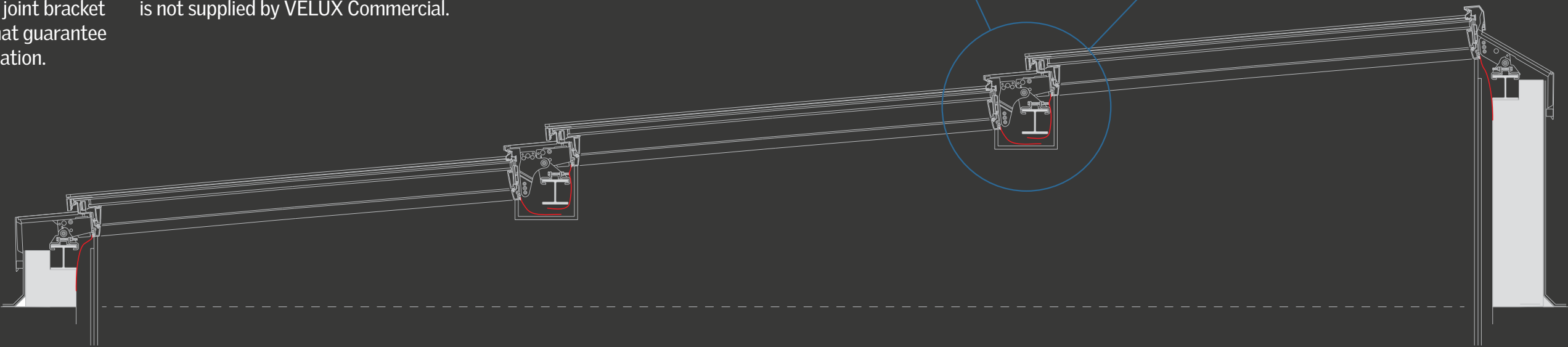
The Step solution requires an accurate, fixed and dimensioned substructure. The sub-construction is not supplied by VELUX Commercial.



Close up of the Step and mounting brackets



Close up of the Step in VELUX testing facilities





Step Longlight seen from the outside (photo and digital artwork)



Step Longlight seen from the inside (digital artwork)



“VELUX modular skylights are the only product that's suitable for what we're doing here and the only ones we could find on the market that could give us the length of skylight that we required.”

Pamela O'Conner
Senior Architect
Dún Laoghaire–Rathdown County Council



“It's a way forward in technology. I will predict, that in the next 10 to 15 years, most projects will be using panels like the VELUX modular skylights system in their constructions.”

Mick Murphy
Contracts Manager, Moston Construction

Dún Laoghaire–Rathdown County Council

CREATE HEALTHY,
COMFORTABLE SPACES
INSIDE BUILDINGS





University of Southern Denmark, Odense, Denmark



Roskilde Katedralskole, Roskilde, Denmark



University of Southern Denmark, Odense, Denmark

BOOST COMFORT AND PRODUCTIVITY WITH DAYLIGHT AND FRESH AIR

Sustainable design for greater well-being

VELUX modular skylights can help contribute to a healthier indoor climate. This is paramount for the productivity and performance of the building and those who use it.

Several studies point to the positive effect of daylight and fresh air on productivity and performance inside buildings.¹ According to one study, 63% of respondents found daylight to have a significant effect on productivity.² Another study showed that even a view to the outside can boost productivity by up to 6% and mental performance by up to 15%.³

1. Galasiu, AD, Veitch, JA. Occupant preferences and satisfaction with the luminous environment and control systems in daylit offices: a literature review. *Energy Build* 2006; 38: 728–742.
2. 2018 YouGov study
3. 5 Heschong Mahone Group (2003) *Windows and Offices: A Study of Office Worker Performance and the Indoor Environment*: http://h-m-g.com/downloads/Daylighting/A-9_Windows_Offices_2.6.10.pdf

EXPOSURE TO DAYLIGHT ALSO
ENHANCES THE EFFECTIVENESS
OF THE WORKING, LEARNING AND
RECOVERING PROCESSES.

Our modular skylight system supports
the design of buildings which aim to
promote productive minds and
healthy bodies. Proper ventilation can
reduce the risk of allergies, while the
correct levels of daylight and fresh air
help improve the ability to learn and
perform.

DAYLIGHT FOR
WORKING



DSV Headquarters, Hedehusene, Denmark

DAYLIGHT FOR
LEARNING



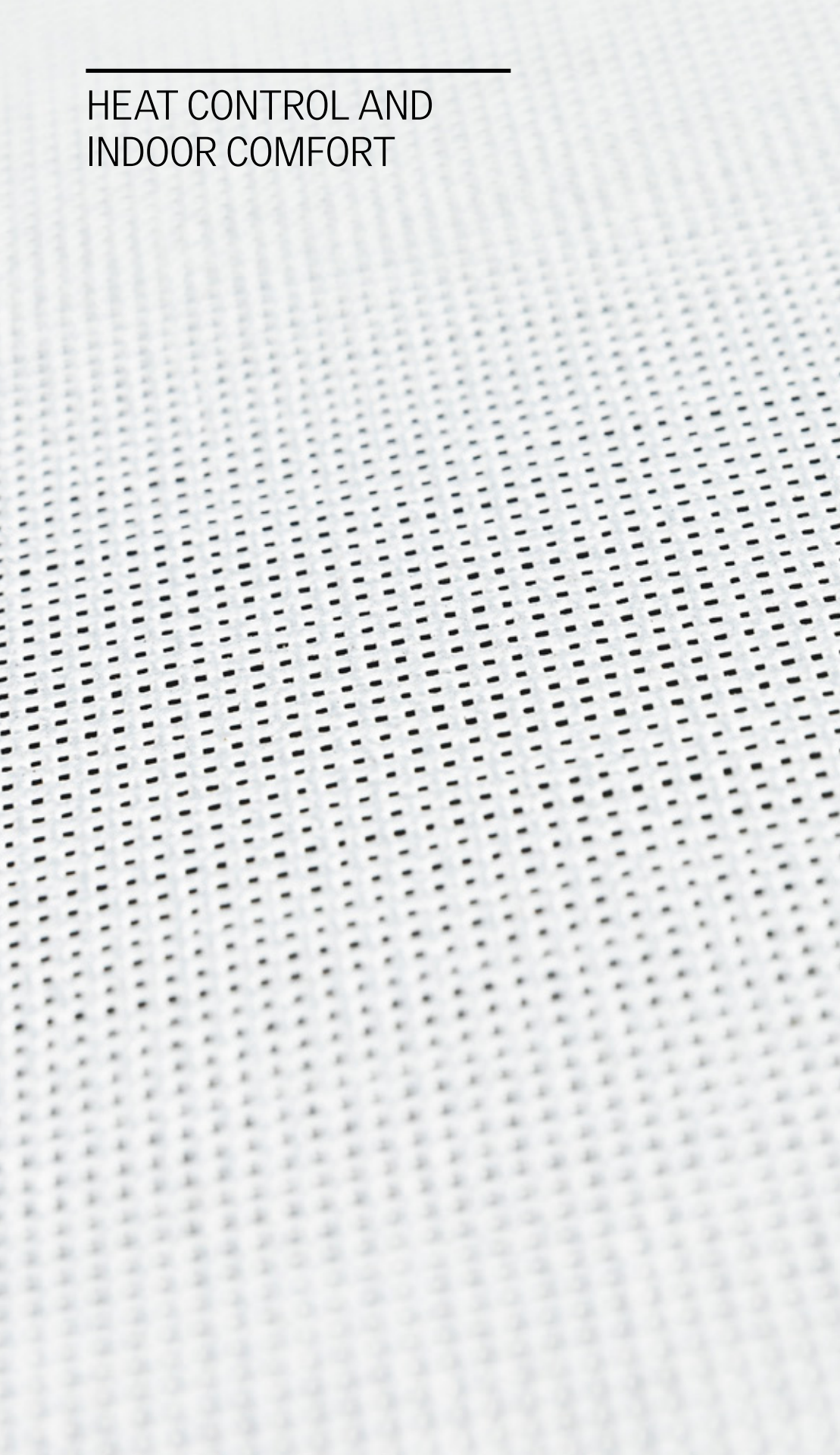
Roskilde Katedralskole, Roskilde, Denmark

DAYLIGHT FOR
PLAYING



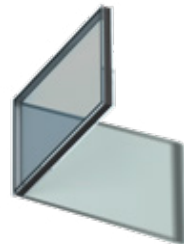
Drømmebakken Kindergarten, Aarup, Denmark

HEAT CONTROL AND INDOOR COMFORT



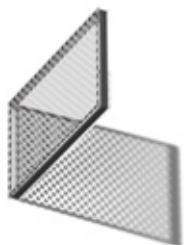
THE SUN IS THE BASIS OF ALL LIFE,
BUT TOO MUCH SUN – IS JUST TOO MUCH.

While it’s hard to ignore the merits of abundant daylight, taking measures to prevent too much direct sunlight is equally important. When sunrays shine through glass panes in the roof - without any form of shading - it can lead to an uncomfortable indoor environment and cause distracting solar glare.



Each skylight module is available with various glazing coatings or surfaces to manage the effects of the sun, ensuring that you have absolute control over the comfort of the indoor environment.

Fitting our Step solution with an optional, fully-integrated roller blind will protect against solar glare and excessive heating. The blinds employ thin wires to hover beneath the pane, creating the sensation of a free-floating window shade. They are automatic and can be programmed to respond to luminosity and temperature.



GLAZING WITH ADVANCED SUN PROTECTION COATING

Coating efficiently blocks the sun and prevents overheating. The glazing comes with three types of coating: LowE, Sun1 and Sun2.

Note: The human eye can easily compensate for the darker luminance, but colour reproduction will desaturate significantly.



Amagerskolen, Skjern, Denmark
Glazing with advanced sun protection coating (Sun2)

FRITTED OR OPAL SURFACE

Reduces heavy dark/light contrast for a more pleasant work environment. It also reduces heat absorption and preserves the luminance of internal light.

Note: Opal surface preserves colour and luminance, while removing contrasts. This is ideal lighting for schools and offices.

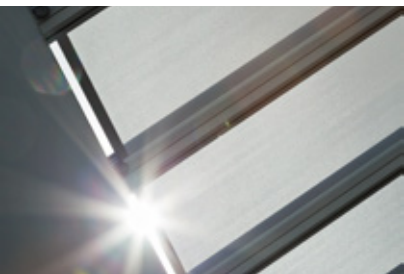


Trumpington Community College, Cambridge, United Kingdom
Glazing with low emissivity coating and opal surface

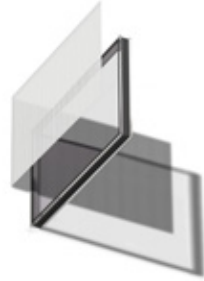
GLAZING WITH LOW EMISSIVITY COATING AND ROLLER BLINDS

Efficiently blocks light and heat and is easy to regulate.

Note: A white roller blind creates diffuse light with low contrast and high luminance, which is great for studying, computer work and typical office tasks. Roller blinds are available in white, grey or black, fire-retardant cloth.



Siemens Head Office, Ballerup, Denmark
Glazing with low emissivity coating and Roller Blind RMM 8806, White



GLAZING WITH LOW EMISSIVITY COATING
AND EXTERNAL AWNING BLINDS

Efficiently blocks light and heat and is easy to regulate.

Note: An awning blind creates diffuse light with low contrast and high luminance, which is great for studying, computer work and typical office tasks.



RENSON inside

**Wortmann Schuh-Holding KG,
Detmold, Germany.**
Glazing with low emissivity coating and
external awning blinds, Grey cloth



COMFORT VENTILATION

Ventilated skylight modules create a better indoor climate, while regulating temperature, preventing overheating and removing CO₂, VOC, odours and other allergens.



Hidden actuators inside the frame.
There is no visual difference between a
fixed and a vented skylight, when
closed.

**German Center for Neurodegenerative
Diseases, DZNE, Bonn, Germany**
Comfort Ventilation



SMOKE VENTILATION

Smoke venting skylight modules provide smoke ventilation in
accordance with EN 12101-2.



**JTJ – VELUX production facility
Sonneborn, Germany**
Smoke Ventilation

SEALING OFF THE BUILDING
ENVELOPE FASTER





DESIGNED FOR EASY INSTALLATION

Regardless of the weather outside, it's essential that the building is sealed off and made watertight as soon as possible so that site works can progress inside.

Due to its prefabricated nature, the VELUX Modular Skylight system can be installed all year round, in any weather condition and supports a fast installation process, starting from delivery to the construction site, all the way to the fastening of the final screw.

Easy installation process

All components are designed in accordance with the overall system. In our controlled facilities, we monitor all aspects of production to ensure a perfect fit and assembly. A unique bracket system with a simple clamp design guarantees a predictable installation process, which makes it possible to fit an entire module within minutes with no silicone sealing.



John Wulff

Tømrerfirmaet John Wulff A/S

Installer on Siemens Head Office, Denmark and DSV Headquarters, Denmark

“ It probably takes about 2 to 3 times longer with a traditional installation.



Jørgen Wulff

Tømrerfirmaet John Wulff A/S

Installer on Siemens Head Office, Denmark, DSV Headquarters, Denmark, Friheden housing estates, Denmark and many more construction sites.

“ Everything fits, if it doesn't you have mounted it wrong. You just click on the cladding and flashing. This means that we can close the roof quickly so that everybody can get on with the indoor works.

PREFABRICATION LEADS
TO HIGHER DURABILITY



PREFABRICATION & AUTOMATION

Automation is an essential factor in enabling and maintaining a uniformly high level of quality.

When we use the word "automation", we do not mean we have replaced the value of highly skilled production-workers with simple robots. On the contrary, we have integrated the use of robotics into our staff's knowledge set. By blending robotic technology with human ingenuity, we optimise the value chain and increase the output at a reduced cost.

This fusion of automation with human expertise allows us to scale the volume of the production up or down to fit demands.



PREFABRICATION, PERFORMANCE AND DURABILITY

Our skylights are fabricated offsite, enabling complete control of every aspect over production and testing. The result is a consistently high-quality product that provides optimum performance, thermal stability and long-term durability once installed.

Because the modules are prefabricated and all come from the same heavily-controlled production line, we can offer adequately high classifications for the most common use cases in commercial buildings.

Only well-documented classifications ensure a functional and correct specification for your buildings.

The main structural profiles consist of pultruded composite material (80% fibreglass and 20% polyurethane). The composite guarantees high energy performance and thermal stability as well as excellent flexural strength. The strength of the composite profiles allows roof installations of considerable size and weight.

- Thermal transmittance per sqm module:
Modules with triple glazing (down to):
 $U_w = 0.86-1.1 \text{ W/(m}^2\text{K)}$



Aging



Fall-through safety impact and load test



Reaction to fire



Strength



Resistance to fire

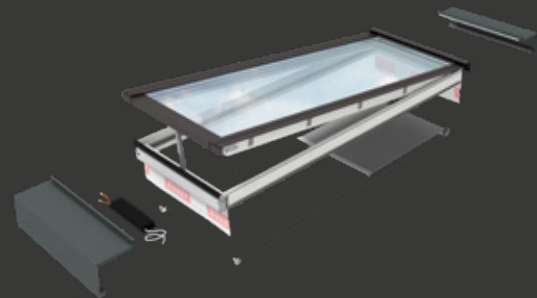
PREFABRICATION
AND THE MODULAR SYSTEM

From a single module to a highly scalable skylight solution
VELUX modular skylights deliver all the benefits of modularity to rooflights and glazing. From glass quality to power motors and integrated blinds, the skylight modules are designed to work as one single system from the moment they're made.

1 The Module

All modules are produced off-site at our factory, meaning every single component is rigorously tested and integrated in a controlled environment. Each component is also constructed using the highest premium quality material and is built to stand the test of time.

All prefabricated modules are CE marked and delivered with customised flashings.

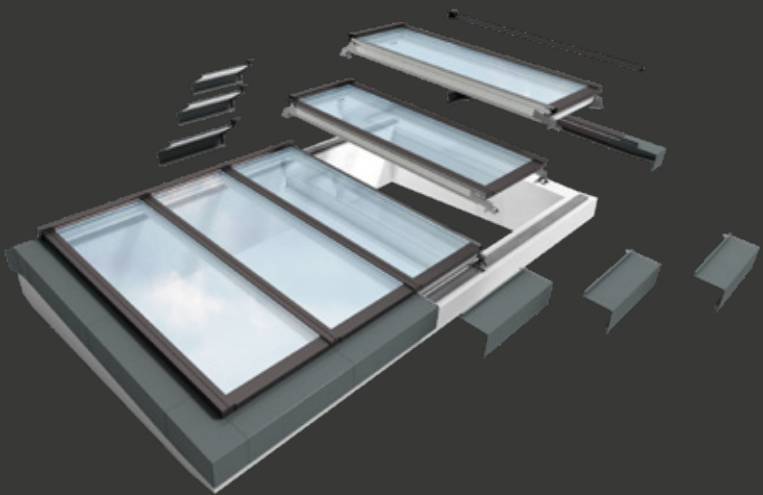


2 The System

The modules fit perfectly together to create a seamless watertight system - a glass roof that lets in plenty of daylight.

Every skylight solution is configured from the same standard module and follows the same fast installation process, enabling you to seal the roof quicker against adverse weather conditions and get on with the internal build.

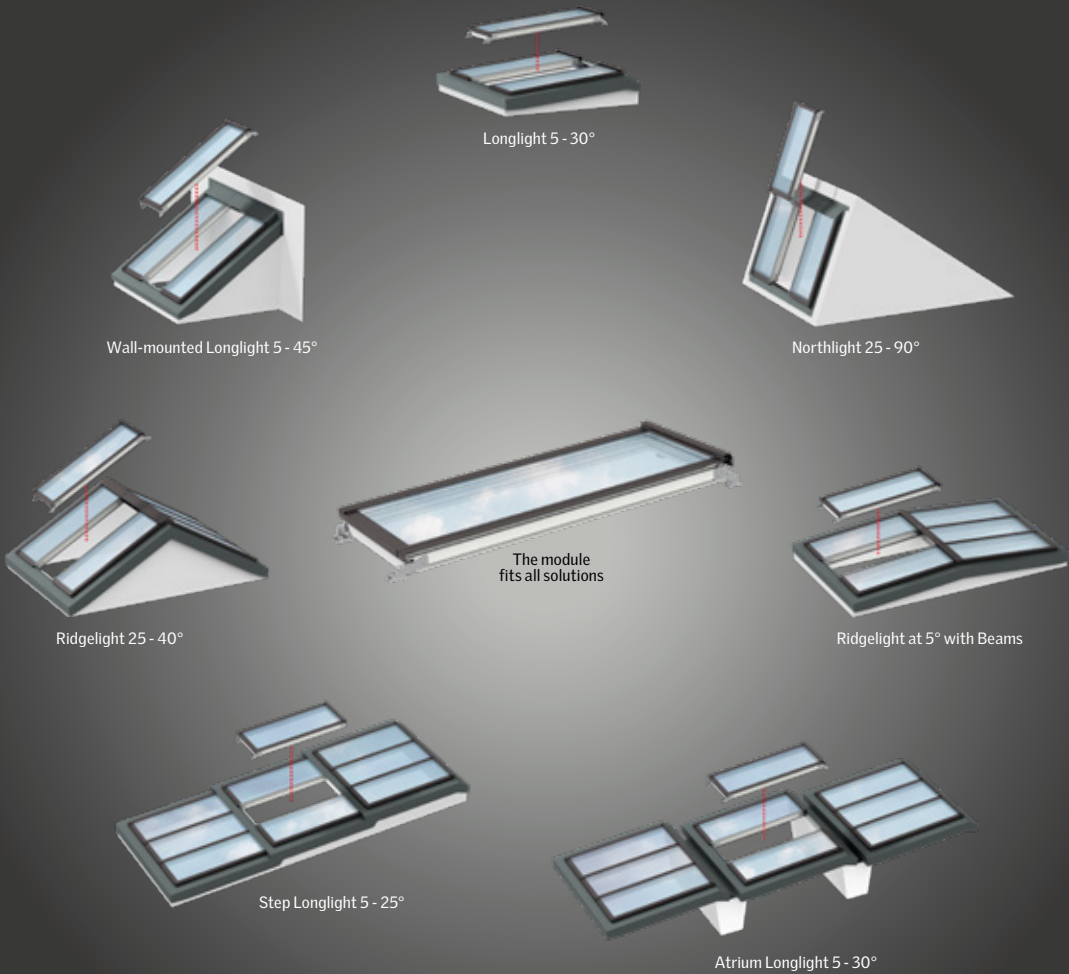
In our quality-controlled facilities, we monitor all aspects of production to ensure a perfect fit, and the result is our watertight, airtight, durable modular skylights.



3 The Solution

The versatile skylight system allows you to create a range of different designs for a variety of commercial buildings such as shopping malls, offices, cultural buildings, public spaces and healthcare buildings.

All modular skylight configurations are based on the same single module and the same basic installation process. You don't need to specify different modules for different solutions.



PREFABRICATION ENABLES
A SMOOTH DESIGN PROCESS

The minimalist design of VELUX modular skylights enables fast and intuitive design in your drawing program.

VELUX BIM Objects allow you to ideate, plan, draw and model until your grand ideas have achieved perfection. Use drag, drop and multiply functions – quickly, easily and accurately.

CAD/BIM tools are available for download to your favourite software so that you can start designing the glass roof right away.

Try for yourself, go to:
commercial.velux.co.uk/specification/modular-skylights/cad-bim

VELUX
BIM Objects

Quick, Easy
and Accurate

BIM

AUTODESK®
REVIT®

AUTODESK®
3DS MAX®

BIM

GRAPHISOFT
ARCHICAD

SketchUp

BIM

VECTORWORKS®
A HEMETECH COMPANY

AUTODESK
AUTOCAD 3D

WHAT YOU DRAW IS WHAT YOU GET



SUSTAINABILITY AND CERTIFICATIONS



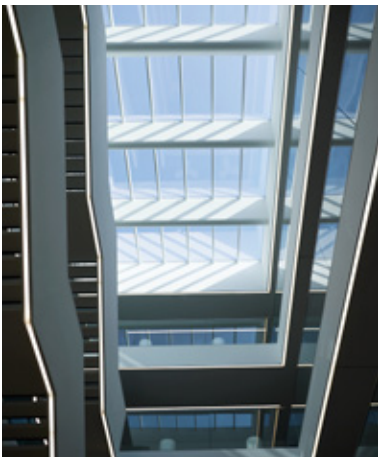


THE HOLISTIC APPROACH TO SUSTAINABILITY

Sustainable buildings create a sense of well-being and productivity for the people working, learning and recovering in them.

Obtaining sustainable building certifications are tools we can use to measure and document sustainability as well as support an industry culture of forward-thinking design and creativity.

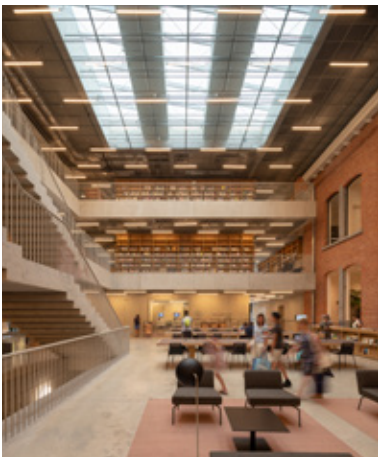
VELUX modular skylights can be applied to any certification scheme, and contribute to a healthy indoor climate, which is paramount for enhancing the productivity and performance of both a building and its users. Sustainable design involves more than just building performance; it must also account for human well-being.



DZNE
GERMANY
(BNB GOLD)



GENMAB
THE NETHERLANDS
(BREEAM EXCELLENT)



BIBLIOTHEEK UTOPIA
BELGIUM
(BREEAM EXCELLENT)



GREEN SOLUTION HOUSE
DENMARK
(DGNB GOLD & ACTIVE HOUSE)



SIEMENS HEAD OFFICE
DENMARK
(LEED GOLD)



ENERGY TRANSITION COMPANY
THE NETHERLANDS
(BREEAM EXCELLENT)

SPECIFICATION AND SUPPORT



DESIGN PHASE

Consultancy

To help you get started, we offer expert guidance even before your project gets approved.

Technical documentation

All technical documents are available for download on our websites.

Specification

Our experienced building consultants stand ready to help you specify your projects.



INSTALLATION PHASE

On-site support

Once your project is underway, we will help you track your progress and offer on-site consulting on projects and critical issues.

Instruction

To ensure high safety and efficiency on the construction site, we offer various forms of training for all installers involved. Training can take place directly on site.



DAILY OPERATION

After sale

A number of tools and accessories are available to help optimise your solution, if and when requirements evolve.

User guidance

To maximise performance output, it is sometimes necessary to educate users on the different components of the solution and train elected employees to operate the skylights.

Product service

Should the system, for some reason, require professional service, our team of VELUX service technicians will do all they can to solve the problem to everyone's satisfaction.



GET IN TOUCH

Technical Support or Price Estimate

commercial.velux.co.uk/support

Download Technical Handbook

commercial.velux.co.uk/support/brochures-and-guides

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Bringing light to life™

