

**VELUX®**

Skylights

# Residential skylights

2010 edition



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**Where there is light, there is life.**

Natural light is fundamental to the quality of our lives and living environment.

More than any other element, light, with its many moods and variations, can help us make a house a home.

Not only does natural light create an atmosphere, it can actually alter the way we feel about living space in a positive way.

**A better product, better technology,  
a better warranty, better living.**





## Leadership

We have a long history of leading the window industry. As early as 1945 Villum Kann Rasmussen invented and patented the pivot-hinge, and thus the goal of "making a skylight which in every respect is just as good as the best vertical window" had moved a long way toward fulfillment.

This next generation of skylights is being developed not because we are pushed by our competition, but to continue our long history of leading the skylight industry. Many features of this next generation product are patented today, just like they were in 1945.

### Opposite page:

- 01 VKR supplies the first roof windows to a number of school buildings.
- 02 VKR inspects the installation of one of the first roof windows.
- 03 First assembly line in Denmark produced the first roof windows.
- 04 In 1945 VKR invents the pivot-hinge for the VELUX roof window which permits the window frame to be tilted around its own axis.

01



02



03



04





## Environmental responsibility

Throughout the years, we have been highly committed to reducing the environmental impact of the manufacture, use and disposal of our products, and to maintaining high standards of health and safety for our employees.

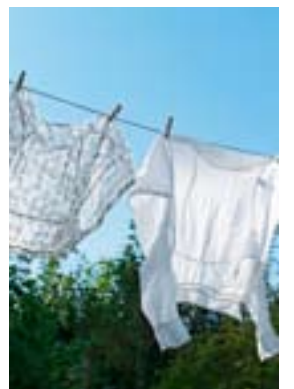
Our company develops, manufactures and markets products that provide and control daylight and fresh air in homes.

Our activities involve the procurement and processing of natural resources. This places upon us a direct obligation towards the environment.

While upholding our tradition of quality and craftsmanship, built over more than sixty years, and conducting our business in a profitable manner, we will continually assess and develop our environmental efforts.

### We will:

- Design our products so that their environmental impact during manufacture, use and disposal is diminished.
- Use raw materials, water and energy efficiently in order to diminish our effect on the environment.
- Reduce emissions, waste and discharges from our activities.
- Maintain high standards of safety at work for our employees and encourage sound attitudes toward the environment in our field of activities.
- Cooperate with our suppliers, customers and other business partners to achieve higher environmental standards.
- Remain alert to new opportunities enhancing the environmental soundness of our products and manufacturing methods beyond what is generally expected.



## Code compliance

Standard VELUX skylights\* meet the applicable requirements of the:

IBC (International Building Code)

IRC (International Residential Code)

IECC (International Energy Conservation Code)

In addition, VELUX electrical components are UL listed. VELUX skylights\* also meet or exceed the applicable requirements of Powersmart and the North American Fenestration Standards 101/I.S.2/NAFS-02 AAMA/WDMA/CSA 101/I.S. 2/A440-05, and AAMA/WDMA/CSA 101/I.S.2/A440-08 for windows, doors and skylights.

In addition, VELUX skylights\* are ENERGY STAR® qualified in every region of the country.

Qualified products are extensively labeled for site verification of compliance with requirements.

**Copper-clad products excluded.**

\* FS, VSE, VS, VCE, VCM, FCM, QPF skylights, and VELUX SUN TUNNEL™ skylights

## Energy efficiency

The no leak skylight will meet or exceed projected 2013 requirements.

Energy performance glazing with twelve layer patented coating.

LoE<sup>3</sup>-366 glass reduces window heat gain by 64% compared to ordinary glass, and 35% compared with LoE<sup>2</sup>.

Lower profile product.

Deck Seal is flush and tight to the roof for pressure stabilization.

Triple layer of insulation.

Better condensation protection.



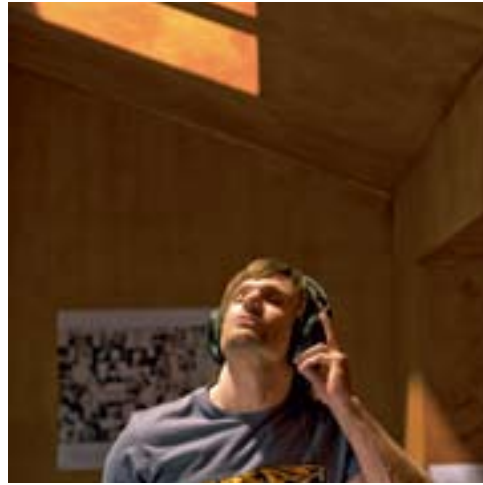
One of the most straightforward ways to meet the energy codes as a builder or as an architect while still designing bright, airy buildings is to use ENERGY STAR® qualified products. Most VELUX products are ENERGY STAR® qualified in all 50 states, which means that they meet strict energy efficiency standards set by the Department of Energy (DOE) and the Environmental Protection Agency (EPA). ENERGY STAR® fenestration products must have their U-factor and Solar Heat Gain Coefficient tested and certified by the National Fenestration Rating Council (NFRC) in order to qualify.

By specifying or using ENERGY STAR® products, architects and builders can use more windows and skylights, bring more daylight inside and create more attractive buildings and more livable spaces while still meeting the local energy codes economically.

In warmer climates, there is great potential for lighting energy savings using emerging control technologies in combination with more effective daylighting products like VELUX skylights and SUN TUNNEL™ skylights.

Visit [www.energystar.gov](http://www.energystar.gov) for more information.





## The possibilities of light

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### Function

Planning for enough natural light is important for the functionality of a home, but skylights offer many other benefits for our living spaces.

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### Drama

We all take great pride in our homes. We like to make sure they're well presented, functional, and comfortable to live in. That's where light can play such an important role.

Used properly, it can create drama in a space. This in turn helps to make property more desirable and can have a substantial impact in any room.

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### Balance

A perfect example is how carefully positioned skylights can help bring harmony to a home. Positioning skylights above windows opens up the space and reduces glare. The room is now functional, flexible and relaxing.

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### Ventilation

An electric venting skylight will open to produce a "passive air conditioner." Through the chimney or exhaust effect they create, the warm air is drawn up through the venting skylight, providing a cooling effect and fresh air throughout the house.

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### Privacy

Homes are being built closer to one another and the balance of providing sufficient natural light and privacy has become an issue. That's why 65% of homebuyers\* request light from above through skylights in their bathroom, a room where privacy and light is of the utmost importance.

\*NAHB National Home Shopper's Survey

(2) VSE M04 Electric venting skylights with venetian blinds



Why VELUX skylights  
The possibilities of light



## Technology leader



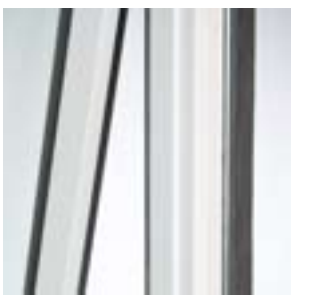
### 3 layers of protection

The patent-pending VELUX deck mounted skylight "Deck Seal", along with the flashing and adhesive skylight underlayment, provides an air and water barrier for a leak proof installation.



### Superior LoE3 glass

Advanced LoE3 coating provides more daylight and better heat control for year-round comfort and energy savings.



### Pre-finished frame and sashes

Factory pre-finished white frames and sashes provide for a high quality finish that eliminates the need for secondary high cost trips by a painter.



### Solar blinds

These unique blinds use the sun to recharge themselves, so that you can enjoy the convenience of an electric blind without any wiring to install.



### Electric skylights

Our premium electric skylights are packed with features that make them the most convenient skylight option.

With no additional wiring, an electric interior blind can be added to electric skylights. All controlled by a self programming RF remote.



### Pitch adapter

The patented adjustable pitch adapter eases installation and improves light output of the SUN TUNNEL™ skylight by providing straighter tunnel runs.







Since there is no need to build a drywall shaft, the VELUX SUN TUNNEL™ skylight easily and inexpensively delivers natural light to areas of the home you never thought possible.



Daylight is the essential element that transforms conventional rooms into the splendid spaces that add value and quality to your home and your life. And nothing brings in daylight like a VELUX skylight.

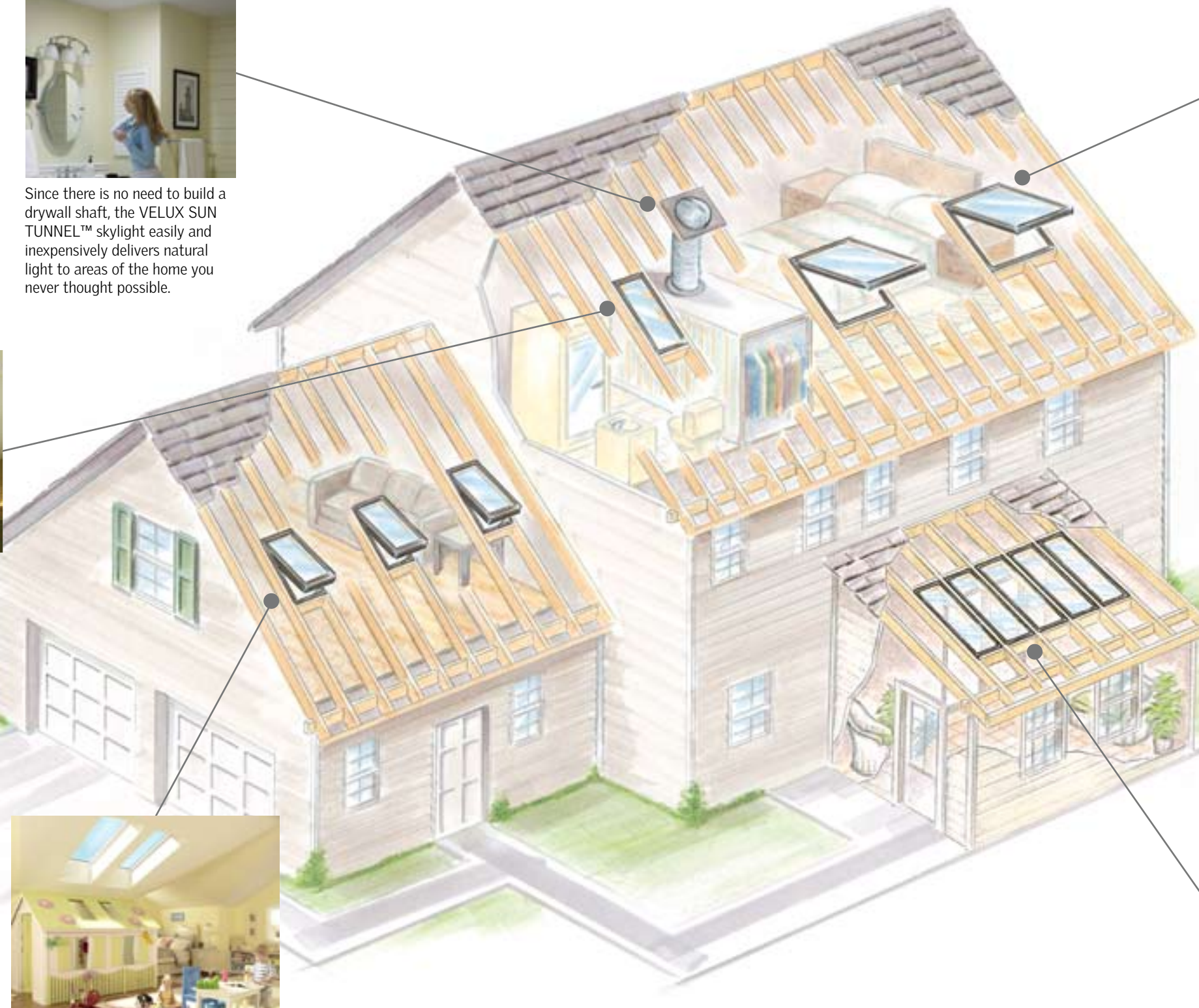


Homes are being built closer to one another and the balance of providing sufficient natural light and privacy has become an issue. That's why 65%\* of homebuyers request light from above through skylights in their bathroom, a room where privacy and light is of the utmost importance.

\* NAHB National Home Shopper's Survey



Skylights cut down the need for electric lighting naturally. Using daylight not only reduces energy costs and consumption, but also reduces the demand for unsustainable power that is currently challenging the health of the world's environment.



## See the potential for light possibilities

Most of us are looking for homes with a lot of light, because we require 2-3 times more light to see by age 60 as we did in our twenties. Skylights help balance the light in any room, reducing glare and transforming living areas into more open, safer spaces.

When choosing a skylight, consider the brand that delivers the best-engineered skylights and flashing in the building industry. Through rigorous research and testing, we have developed skylights that are engineered not to leak.









Whether it's in the privacy of a master bath or in a social area like the kitchen, VELUX skylights bring the best of the outdoors inside with you.

Daylighting basics  
See the potential



## How to choose

**1** Check your roof pitch and roof material to verify that it works with your intended products.

 <b>14° - 85°</b> 3:12 - 137:12 Deck mounted skylights* VSE, VS, FS	 <b>35.25° - 53°</b> 8.5:12 - 15:12 Roof window* GDL CABRIO™	 <b>18.5° - 55°</b> 4:12 - 17:12 Roof window* GPL
 <b>0° - 60°</b> 0:12 - 20:12 Curb mounted skylights* VCE, VCM, FCM	 <b>14° - 60°</b> 3:12 - 20:12 Pan-flashed skylight QPF	 <b>15° - 60°</b> 3:12 - 20:12 SUN TUNNEL™ skylights TGR, TMR, TMF, TGF

\*Separate flashing kits specified according to roof material.

**2** Choose the ideal product category.

<b>Electric venting skylights</b>	Overhead installations that need natural ventilation, especially kitchens and baths.
<b>Manual venting skylights</b>	In-reach or overhead installations, not requiring escape and rescue, where natural ventilation and manual operation is desired.
<b>Roof windows</b>	In-reach installations requiring emergency escape and rescue capabilities such as above-garage bonus rooms and finished attics.
<b>Fixed skylights</b>	Installations where ventilation is not desired, but where a view to the outside would still be beneficial.
<b>SUN TUNNEL™ skylights</b>	Small spaces where natural daylight is the only requirement, or where a traditional skylight shaft length would be more than 4 feet.

**3** Identify your ceiling style and optimal size and configuration.

Your ceiling style and framing configuration determines how your skylight shaft can be constructed. The skylight shaft can have a major impact on the way daylight is delivered and on the architectural drama of your room.

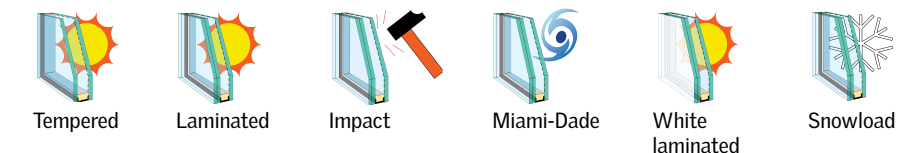
Several sizes are available that fit perfectly between trusses. Since trusses typically cannot be cut, the effect of a wider skylight can be achieved by combining two smaller skylights together using VELUX combi-flashing. (For flashing kits please refer to page 37.)



**4** Select your glazing type (traditional skylights only).

Most VELUX glass skylights are available in a variety of glazing options, each designed to meet the needs of specific building situations. **All VELUX skylight glazings are constructed using energy efficient, LoE3, argon-filled dual glass panes.**

	VSE	VS	FS	GDL CABRIO™	GPL	VCE	VCM	FCM	QPF
Tempered (XX05)		●	●				●	●	●
Laminated (XX04/XX73)	●	●	●	●	●	●	●	●	●
Impact (XX06)	●	●	●			●	●	●	●
Miami-Dade (XX07)								● (pending)	
White laminated (XX08)	●	●	●			●	●	●	●
Snowload (XX10)	●	●	●			●	●	●	



**5** Select your sunscreening accessories

We offer a variety of blind options for your new skylight. Everything from blackout blinds to stylish Venetian blinds. *Please refer to pages 48-53 for a complete showcase of all blinds offered.*

**6** Select your controls

We offer a variety of electric and manual controls to operate our venting skylights and blinds. *Please refer to pages 54-57.*

### Need an installer?

- Use our installer locator at [veluxusa.com/installer](http://veluxusa.com/installer).
- Check with your local VELUX skylight dealer.
- Contact VELUX Solutions at 866-358-3589.

We offer a Skylight Specialist program for local independent installers. A VELUX Skylight Specialist is:

- Carefully screened by us.
- Required to complete an extensive training program.
- Provides the best solutions for your daylighting needs.

## Installation methods

No leak skylight  
10-year installation warranty



### Deck mounted installation

Skylight with insulated glass lens, built-in wood frame combined with protective cladding mounts directly to the roof deck.

Matched engineered flashings integrate with roofing material to provide the most weathertight installation available (sold separately).



### Curb mounted installation

Skylight with insulated glass lens, combined with a durable metal frame; mounts directly to a site-built curb.

Engineered flashings are available for use with many typical site-built curbs to integrate with roofing material for a weathertight installation (sold separately).



### Pan-flashed installation

Skylight with insulated glass lens, wood frame and protective cladding, combined with factory installed flashing system that mounts directly to the roof deck and requires roofing sealant.

Asphalt shingles are installed over the flashing and sealant for a weathertight installation.



### VELUX SUN TUNNEL™ installation

VELUX SUN TUNNEL skylight with UV resistant dome and diffuser, reflective tunnel, and one-piece flashing system; mounts to the roof deck.

Patented design features make installation from roof to ceiling easier than ever before.



Daylighting basics  
Installation methods

(4) VSE C06 Electric venting skylights



Product  
Deck mounted skylights

No leak skylight  
10-year  
installation  
warranty\*

# The No Leak Skylight™

• No Leak Promise • No Worries



## 3 layers of water protection.

Now with the new Deck Seal technology

- 1 Introducing a third layer of water protection. The pre-attached deck seal on all deck mounted skylights provides a seal between the frame and roof deck for a leak-proof installation.
- 2 Adhesive underlayment for secondary water protection against the harshest weather conditions.
- 3 Engineered flashing for easy installation and primary water protection.

# No leak skylight features

## Models Fixed, Vented and Venting Electric

**No leak skylight**  
10-year installation warranty

**Superior LoE3 Glass**  
Advanced LoE3 coating provides more daylight and better heat control for year-round comfort and energy savings.

Patent-pending VELUX deck mounted skylight "Deck Seal" provides an air and water barrier for a leak proof installation. The 1 1/4" flange/bracket sits directly on the roof deck with no gaps, providing an air and water barrier around the skylight opening.

Pre-mounted **Pick&Click!**™ system brackets make the installation of sunscreen blinds a snap.

Factory pre-finished white frames and sashes provide for a high quality finish that eliminates the need for secondary high cost trips by a painter.

Factory installed operators for venting and venting electric skylights eliminate the need for field-installed operators and multiple wire connections.

Mortise and tenon joints for stability of the frame.

Venting electric skylights come with 20 feet of standard wire.



Externally mounted rain sensor.

Self programming RF remote with advanced control options.

### Other features:

The pre-attached perimeter flange with a durable, closed-cell foam gasket seals tight to the roof decking.

Tighter rough opening, for a warmer installation.

Advanced silicone glazing sealant around glass and frame connection is impervious to water and air and will last the life of the skylight.

Positioning notches built into the Deck Seal provide a simplified alignment method that can be performed on the roof.

Unique condensation gutters and gaskets are incorporated into the skylight to contain and channel condensation out of the home.



Blackout blind blocks the light

Roller blind diffuses the light

Venetian blind style and comfort

Full range of blinds, controls and accessories for easy installation and comfort.



Corner key design closes perceived water hazard.

No cladding screws and only one piece to remove during installation for less time and greater simplicity while installing the skylight on the roof.

Product Deck mounted skylights

No leak skylight  
10-year product and installation warranty



14° - 85°  
3:12 - 137:12



### Electric venting skylight - model VSE

The perfect daylighting solution for overhead applications. It brings in abundant natural light and opens to let in fresh air with the touch of a button. And it closes automatically in case of rain.

- Pre-mounted **Pick&Click!**™ system brackets make the installation of sunscreen blinds a snap.
- Self programming RF remote with advanced control options.
- Factory pre-finished white frames and sashes provide for a high quality finish that eliminates the need for secondary high cost trips by a painter.
- Single hard wire connects into a standard junction box.
- Wall mounted keypad and interface to home automation systems are available.

No leak skylight  
10-year product and installation warranty



14° - 85°  
3:12 - 137:12



### Manual venting skylight - model VS

An economical solution for bringing abundant natural light and fresh air into the home, the VS manual venting skylight also contributes to a home's proper moisture balance and comfort level by allowing stale, humid air to be released.

- Pre-mounted **Pick&Click!**™ system brackets make the installation of sunscreen blinds a snap.
- Factory pre-finished white frames and sashes provide for a high quality finish that eliminates the need for secondary high cost trips by a painter.
- Opened and closed manually with VELUX control rods when out of reach.
- Smooth-turning handle for when the skylight is installed within reach.



Product  
Deck mounted skylights



**No leak skylight**  
10-year product and installation warranty



14° - 85°  
3:12 - 137:12



### Fixed skylight - model FS

An economical choice for visually expanding areas such as hallways, stairwells, and other closed-in, dark spaces that can be transformed with daylight and sky views.

- Features pre-finished white wood frame and protective aluminum or copper cladding.
- Integrated gaskets drain condensation to the outside.
- Streamlined exterior profile does not obstruct your roofline.
- Pre-mounted **Pick&Click!**™ system brackets make the installation of sunscreen blinds a snap.



### ZZZ 213 Trim kit

The VELUX skylight trim kit provides a clean interior finish with no trim work required when replacing older style roof windows and skylights.



Product  
Deck mounted skylights



### Balcony roof window model GDL CABRIO™

- Dual-sash operation: Top opens for ventilation and bottom opens outward to create a roof balcony.
- Top sash rotates inward for easy glass cleaning from inside.
- Features a select wood frame and sash coated with a clear finish and exterior aluminum or copper.
- Includes a ventilation flap that allows fresh air circulation when window is closed.
- Can provide emergency escape and rescue capabilities.

Sizes and product info. on page 58.

*Note: Roof windows are not designed to be used in close combination with skylights.*



### Top hinged roof window model GPL

- Features a select wood frame and sash coated with a clear finish and exterior aluminum or copper.
- Includes a ventilation flap that allows fresh air circulation when window is closed.
- Opens to a 45° angle to satisfy current requirements for emergency escape and rescue.
- Sash rotates inward for easy glass cleaning from inside.
- Optional insect screen available.

Sizes and product info. on page 58.

*Note: Roof windows are not designed to be used in close combination with skylights.*



## Deck flashing systems



### Shingles/shakes - EDL

- Step flashing pieces interweave with roofing material for proper water drainage.
- Additional step pieces (ZZZ 200) are required for shakes and other thick roofing materials.



### Tile roofing - EDW

- Patented sill flashing features pliable pleats that form to most types of tile.
- Side and head flashing pieces form a gutter to direct water away from the skylight.



### Metal roofing - EDM

- Flashing pieces interlock with roofing material for a fast, weathertight installation.
- Sill apron features pliable pleats that form to the roof.



### Copper cladding and flashing

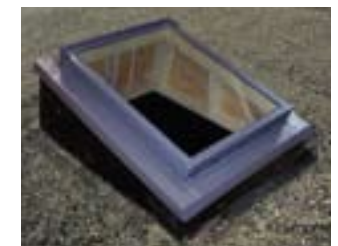
- Available for select deck mounted VELUX roof windows and skylights.
- Copper products are special order items and require varying lead-times. Call for more information.



### For combi applications\*

Type EKL works with groupings on low-profile roofing materials such as shingles and shakes.

Type EKW works with groupings on high-profile roofing materials such as Spanish tile or corrugated metal roofing.



### Biopak flashing - Type ECB

- Used with site-built curb on low-sloped roofs.
- No bending of flashing required.
- Applied to 2x4 lumber and plywood.
- Download curb construction guidelines at: [www.veluxusa.com](http://www.veluxusa.com).

*\*EKL applications require 4" over-and-under spacing and 2.5" - 12" side-by-side spacing in ½" increments.*

*EKW applications require 4" over-and-under and side by side.*

*Roof window combi-flashing is available as a special order with varying lead-times. 4" spacing is required for both over-and-under and side-by-side spacing.*





### Electric venting skylight - model VCE

Brings in abundant natural light and opens with the touch of a button to let in fresh air. And it closes automatically in case of rain.

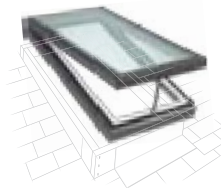
- Pre-mounted **Pick&Click!**™ system brackets make the installation of sunscreen blinds a snap.
- Self programming RF remote with advanced control options.
- Maintenance free white frames and sashes.
- Single hard wire connects into a standard junction box.
- Wall mounted keypad and interface to home automation systems are available.



### Manual venting skylight - model VCM

An economical solution for bringing natural light and fresh air into the home.

- Pre-mounted **Pick&Click!**™ system brackets make the installation of sunscreen blinds a snap.
- Opened and closed manually with VELUX control rods when out of reach.
- Smooth-turning handle for when the skylight is installed within reach.
- Maintenance free white frames and sashes.



All VELUX curb mounted venting skylights are designed for simple and weathertight installation on a site-built curb.



Product  
Curb mounted skylights

(4) VCE 2246 Electric venting skylights



(3) FCM 3046 Fixed skylights

## Curb mounted skylights



### Fixed skylight - model FCM

The FCM curb mounted fixed skylight is sized to work with most types of site-built curbs, whether they're slightly out-of-square, pre-existing, or surrounded by unusually thick flashing and roofing material. Heavy-duty materials ensure the FCM skylight is built to withstand the installation process, as well as anything Mother Nature throws its way.

- Maintenance free exterior and interior.
- Integrated gasket provides a thermal break for energy efficiency and seals out water, wind and hassles for years.
- Wide range of custom sizes available.
- Optional sunscreen accessory tray for standard site-built curbs allows for installation of VELUX **Pick&Click!**™ blinds. (see page 52).

### Curb flashing systems



#### Shingles/shakes - ECL

- Step flashing pieces interweave with roofing material for proper water drainage.
- Additional step pieces (ZZZ 200) are required for shakes and other thick roofing materials.



#### Tile roofing - ECW

- Patented sill flashing features pliable pleats that form to most types of tile.
- Side and head flashing pieces form a gutter to direct water away from the skylight.



## Pan-flashed skylight



### Pan-flashed skylight - model QPF

- Factory pre-finished white frames provide for a high quality finish that eliminates the need for secondary high cost trips by a painter.
- Integrated gaskets drain condensation to the outside.
- Streamlined exterior profile does not obstruct your roofline.
- Welded and painted pan-flashing for use with roofing sealant based installation.
- Pre-mounted **Pick&Click!**™ system brackets make the installation of sunscreen blinds a snap.
- Rectangular sizes can be installed horizontally.



Product  
VELUX SUN TUNNEL™ skylights



**Pitched - model TMR**

The rigid SUN TUNNEL™ skylight features a highly reflective tunnel that provides brighter, whiter natural light output in any application. This makes the rigid SUN TUNNEL™ skylight great for most applications, even those with long tunnel runs or those in areas with less sunlight.

- Pitched flashing provides optimum angle for gathering light from all directions.
- Tile flashing available.
- Impact models available for hurricane prone areas.

- Superior weatherability
- Easy and fast installation
- Bright white daylight



**Low profile - model TGR**

- Low profile flashing provides an integrated look with the roofline.
- Impact models available for hurricane prone areas.



**ZTL Light kit**

Allows you to use the SUN TUNNEL™ skylight as an extra light source even at night.  
**Available for all models.**

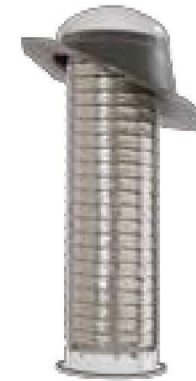


Product  
 VELUX SUN TUNNEL™ skylights





## SUN TUNNEL™ skylights



The flexible SUN TUNNEL™ skylight can be installed quickly around attic obstructions, making it the easiest tubular product to install.

### Pitched - model TMF

- Pitched flashing provides optimum angle for gathering light from all directions.
- Tile flashing available.
- Impact models available for hurricane prone areas.



### Low profile - model TGF

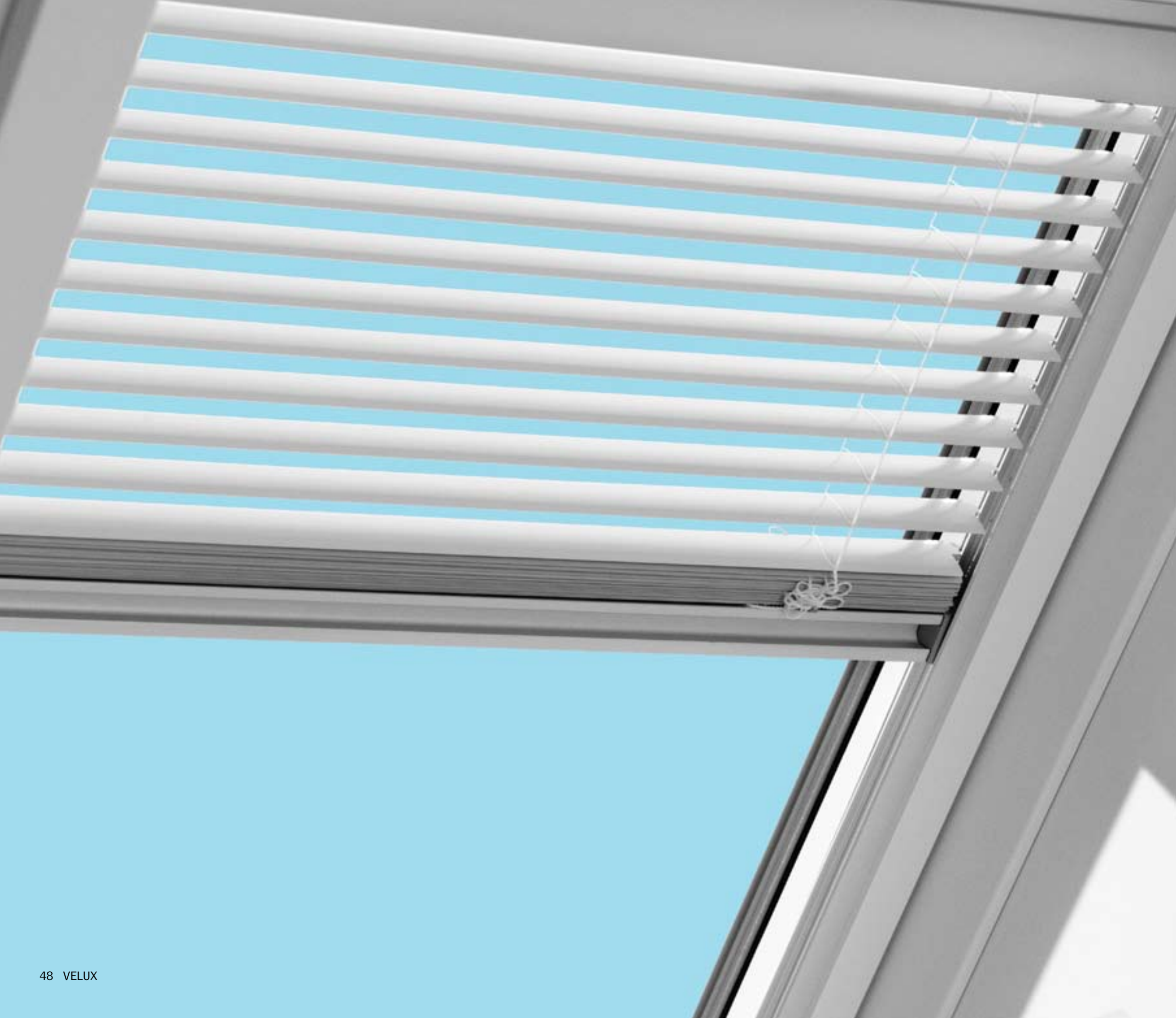
- Low profile flashing provides an integrated look with the roofline.
- Tile flashing available for 21" units only.
- Impact models available for hurricane prone areas.

Product  
VELUX SUN TUNNEL™ skylights



### ZTL Light kit

Allows you to use the SUN TUNNEL™ skylight as an extra light source even at night.  
**Available for all models.**



Blinds & accessories

**30%\***  
Federal tax  
credit



\* 30% federal tax credit applies to the cost of product and installation of VELUX solar powered blinds installed between January 1, 2009 and December 31, 2016. For complete information on how to qualify visit [www.veluxusa.com](http://www.veluxusa.com).

01



03

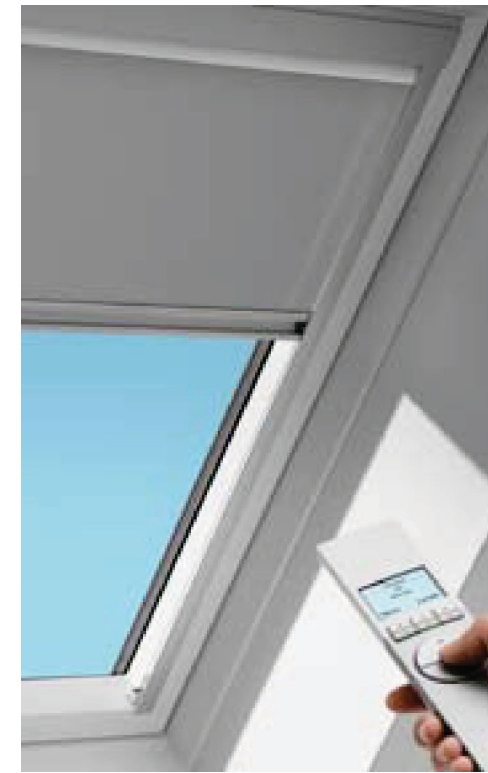
**01 Solar blind.** Blinds are powered by the sun and no wiring is required.

**02 Blackout blind.** Blocks the light. Less than 2% of light enters the room.

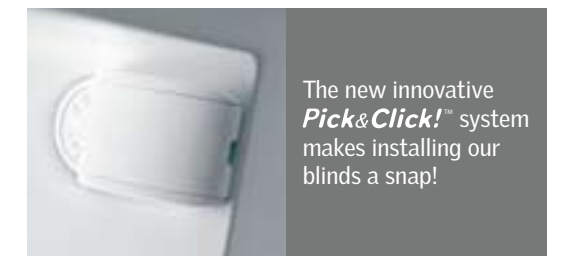
**03 Venetian blind.** Adjusts the light. Reduces light by 74%. Adjust direct light in any direction. Maintain view to the outdoors.

**Blinds are available across all traditional skylight families — deck mounted, curb mounted and pan-flashed skylights.**

02



04



The new innovative **Pick&Click!**™ system makes installing our blinds a snap!

**04 Roller blind.** Diffuses the light. Controls direct sunlight and glare. Provides basic privacy.

# ZZZ 199

## Sunscreening accessory tray

for fixed curb mounted skylights

The sunscreening accessory tray combined with the revolutionary **Pick&Click!**™ system makes blind installation quick and easy for VELUX fixed curb mounted skylights. It has everything built-in.



01 ZZZ 199 Sunscreen accessory tray with pre-installed brackets for easy and simple mounting of VELUX **Pick&Click!**™ blinds.



02 Foam gasket provided to seal tray to curb.



Blackout blind blocks the light

Roller blind diffuses the light

Venetian blind style and comfort

03 Full range of blinds, controls and brackets for easy installation.

(2) VSE M04 Electric venting skylights with venetian blinds



**KLR 100 US Programmable RF Remote**

The most advanced skylight remote on the market. It can operate skylights and blinds individually or as part of a group.

Create programs to control the skylight and blind automatically based on time of day, day of the week, or month of the year.

Advanced RF technology allows the user to operate skylights and blinds from anywhere within the house.

Can set the skylight to close automatically after a certain period of time after opening.



**KLI 110 US Wall mounted keypad**

Simple operation of skylights and blinds. RF technology allows the user to operate skylights and blinds from anywhere in the room.



**ZZZ 201 Crank handle**

Optional handles are available to operate manual venting skylights in within-reach applications.

**ZZZ 202 for VS and ZZZ 211 for VCM Replacement hook (Left)**

Available for manual venting skylights.

**ZZZ 203**

Angle adaptor for chain operator.

**ZZZ 208**

Extension for chain operator.



**ZCT 300**

6' - 10' rod for operation of manual skylights. (Models VS, VCM)



**ZMT 300**

6' - 10' motorized rod for manual skylights. (Models VS, VCM)



**ZCT 100**

3' extension for ZCT 300 and ZMT 300. (Models VS, VCM)



**ZXT 200**

"7 hook" rod for new manual blinds. (Models FS, FCM, QPF)



**KLB 100**

Battery backup.

**KLC 160 US**

Power supply kit.

**KLF 100 US**

Home automation integration kit.

## Deck mounted skylights and roof windows

No leak skylight  
10-year installation warranty



### Model VSE Electric venting skylight

- Package includes remote KLR 100 and insect screen.
- Concealed motor, control system and rain sensor.
- Pre-installed Pick & Click™ brackets for blinds.
- Single hard wire connects into a standard junction box.

No leak skylight  
10-year installation warranty

### Model VS Manual venting skylight

- Package includes the operator hook and insect screen.
- Pre-installed Pick & Click™ brackets for blinds.
- Optional VELUX control rods available for out-of-reach manual operation.
- Optional smooth turning handle for within-reach installation.



New size code (Old size code)		C01 (101)	C04 (104)	C06 (106)	C08 (108)	M04 (304)	M06 (306)	M08 (308)	S01 (601)	S06 (606)
Outside frame	in.	21 1/2 x 27 3/8	21 1/2 x 38 3/8	21 1/2 x 46 1/4	21 1/2 x 54 15/16	30 9/16 x 38 3/8	30 9/16 x 46 1/4	30 9/16 x 54 15/16	44 3/4 x 27 3/8	44 3/4 x 46 1/4
Rough opening	in.	21 x 26 7/8	21 x 37 7/8	21 x 45 3/4	21 x 54 7/16	30 1/16 x 37 7/8	30 1/16 x 45 3/4	30 1/16 x 54 7/16	44 1/4 x 26 7/8	44 1/4 x 45 3/4
Daylight Area	in.	16 x 20.44	16 x 31.5	16 x 39.38	16 x 48	25 x 31.5	25 x 39.38	25 x 48	39.25 x 20.44	39.25 x 39.38
Ventilation Area	sq. ft.	2.60	3.56	4.14	4.71	4.17	4.75	5.32	4.31	5.84

No leak skylight  
10-year installation warranty



### Model FS Fixed skylight

- Features a pre-finished white wood frame and protective aluminum or copper cladding.
- Integrated gaskets drain condensation to the outside.
- Streamlined exterior profile does not obstruct your roofline.
- Pre-installed Pick & Click™ brackets for blinds.



New size code (Old size code)		A06 (056)	C01 (101)	C04 (104)	C06 (106)	C08 (108)	C12 (112)	D26 (150)	D06 (156)	M02 (302)	M04 (304)	M06 (306)	M08 (308)	S01 (601)	S06 (606)
Outside frame	in.	15 1/4 x 46 1/4	21 1/2 x 27 3/8	21 1/2 x 38 3/8	21 1/2 x 46 1/4	21 1/2 x 54 15/16	21 1/2 x 70 3/4	23 3/4 x 23 3/16	23 3/4 x 46 1/4	30 9/16 x 30 1/2	30 9/16 x 38 3/8	30 9/16 x 46 1/4	30 9/16 x 54 15/16	44 3/4 x 27 3/8	44 3/4 x 46 1/4
Rough opening	in.	14 1/2 x 45 3/4	21 x 26 7/8	21 x 37 7/8	21 x 45 3/4	21 x 54 7/16	21 x 70 1/4	22 1/2 x 22 15/16	22 1/2 x 45 3/4	30 1/16 x 30	30 1/16 x 37 7/8	30 1/16 x 45 3/4	30 1/16 x 54 7/16	44 1/4 x 26 7/8	44 1/4 x 45 3/4
Daylight Area	in.	11.94 x 42.94	18.19 x 24.06	18.19 x 35.06	18.19 x 42.94	18.19 x 51.63	18.19 x 67.44	19.94 x 20.13	19.94 x 42.94	27.25 x 27.19	27.25 x 35.06	27.25 x 42.94	27.25 x 51.63	41.44 x 24.06	41.44 x 42.94

Model FS sizes D26 and D06 fit perfectly between roof trusses.



### Model GDL CABRIO™

- Dual-sash operation: Top opens for ventilation and bottom opens outward to create a roof balcony.
- Top sash rotates inward for easy glass cleaning from inside.
- Optional insect screens available.



### Model GPL

- Opens to a 45° angle to satisfy egress requirements for emergency escape.
- Sash rotates inward for easy glass cleaning from inside.
- Optional insect screen available.



Size code		P19
Outside frame	in.	37 1/16 x 99 1/4
Rough opening	in.	39 3/8 x 101
Daylight area (upper section)	in.	30 x 53 1/4
Daylight area (lower section)	in.	30 x 28 3/4
Ventilation area (upper section)	sq. ft.	22.5
Ventilation area (flap)	sq. in.	36.7
Net wt (w/ Lam. glass)	lbs.	160

Size code		M08	S06
Outside frame	in.	30 9/8 x 55	44 3/4 x 46 3/8
Rough opening	in.	31 1/4 x 55 1/2	45 1/4 x 46 7/8
Daylight area (glass)	in.	23 3/4 x 45 1/4	37 15/16 x 36 5/8
Ventilation area (opening)	sq. ft.	11.34	11.64
Ventilation area (flap)	sq. in.	30.00	47.81
Net wt. (w/ Lam. glass)	lbs.	111	123

## Curb mounted skylights

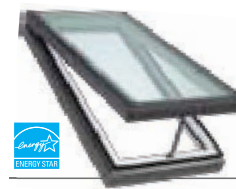


### Model VCE Electric venting skylight

- Package includes the remote KLR 100 and insect screen.
- White maintenance free frame and sash.
- Single hard wire connects into a standard junction box.
- VCE can be installed flat at a 0° roof pitch.



Size code		2222	2234	2246	3030	3046	3434	4646
Inside curb	in.	22 1/2 x 22 1/2	22 1/2 x 34 1/2	22 1/2 x 46 1/2	30 1/2 x 30 1/2	30 1/2 x 46 1/2	34 1/2 x 34 1/2	46 1/2 x 46 1/2
Outside curb	in.	25 1/2 x 25 1/2	25 1/2 x 37 1/2	25 1/2 x 49 1/2	33 1/2 x 33 1/2	33 1/2 x 49 1/2	37 1/2 x 37 1/2	49 1/2 x 49 1/2
Max. skylight clearance	in.	26 9/16 x 26 9/16	26 9/16 x 38 9/16	26 9/16 x 50 9/16	34 9/16 x 34 9/16	34 9/16 x 50 9/16	38 9/16 x 38 9/16	50 9/16 x 50 9/16
Daylight area	in.	19.47 x 19.47	19.47 x 31.44	19.47 x 43.44	27.46 x 27.46	27.46 x 43.44	31.44 x 31.44	43.44 x 43.44
Ventilation area	sq. ft.	3.17	4.16	5.15	4.49	5.81	5.15	7.13

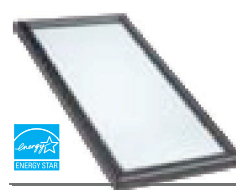


### Model VCM Manual venting skylight

- Package includes the operator hook and insect screen.
- White maintenance free frame and sash.
- Optional VELUX control rods available for out-of-reach manual operation.
- VCM can be installed flat at a 0° roof pitch.



Size code		2222	2234	2246	3030	3046	3434	4646
Inside curb	in.	22 1/2 x 22 1/2	22 1/2 x 34 1/2	22 1/2 x 46 1/2	30 1/2 x 30 1/2	30 1/2 x 46 1/2	34 1/2 x 34 1/2	46 1/2 x 46 1/2
Outside curb	in.	25 1/2 x 25 1/2	25 1/2 x 37 1/2	25 1/2 x 49 1/2	33 1/2 x 33 1/2	33 1/2 x 49 1/2	37 1/2 x 37 1/2	49 1/2 x 49 1/2
Max. skylight clearance	in.	26 9/16 x 26 9/16	26 9/16 x 38 9/16	26 9/16 x 50 9/16	34 9/16 x 34 9/16	34 9/16 x 50 9/16	38 9/16 x 38 9/16	50 9/16 x 50 9/16
Daylight area	in.	19.47 x 19.47	19.47 x 31.44	19.47 x 43.44	27.46 x 27.46	27.46 x 43.44	31.44 x 31.44	43.44 x 43.44
Ventilation area	sq. ft.	3.17	4.16	5.15	4.49	5.81	5.15	7.13



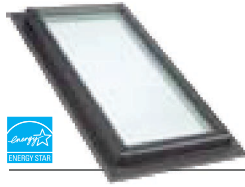
### Model FCM Fixed skylight

- No designated top, bottom or sides to allow installation in any direction.
- Wide range of custom sizes available.
- Impact and Miami-Dade variants are available for hurricane prone areas.
- White laminated glass available for applications where diffused lighting is required.



Size code		1430	1446	2222	2230	2234	2246	2270	3030	3046	3434	4646
Inside curb	in.	14 1/2 x 30 1/2	14 1/2 x 46 1/2	22 1/2 x 22 1/2	22 1/2 x 30 1/2	22 1/2 x 34 1/2	22 1/2 x 46 1/2	22 1/2 x 70 1/2	30 1/2 x 30 1/2	30 1/2 x 46 1/2	34 1/2 x 34 1/2	46 1/2 x 46 1/2
Outside curb	in.	17 1/2 x 33 1/2	17 1/2 x 49 1/2	25 1/2 x 25 1/2	25 1/2 x 33 1/2	25 1/2 x 37 1/2	25 1/2 x 49 1/2	25 1/2 x 73 1/2	33 1/2 x 33 1/2	33 1/2 x 49 1/2	37 1/2 x 37 1/2	49 1/2 x 49 1/2
Max. skylight clearance	in.	18 5/8 x 34 5/8	18 5/8 x 50 5/8	26 5/8 x 26 5/8	26 5/8 x 34 5/8	26 5/8 x 38 5/8	26 5/8 x 50 5/8	26 5/8 x 74 5/8	34 5/8 x 34 5/8	34 5/8 x 50 5/8	38 5/8 x 38 5/8	50 5/8 x 50 5/8
Daylight area	in.	14.5 x 30.5	14.5 x 46.5	22.5 x 22.5	22.5 x 30.5	22.5 x 34.5	22.5 x 46.5	22.5 x 70.5	30.5 x 30.5	30.5 x 46.5	34.5 x 34.5	46.5 x 46.5

## Pan-flashed skylights



### Model QPF Fixed skylight

- Pre-installed metal pan-flashed designed for use with roofing sealant based installation.
- Pre-finished white frames for faster installation.
- Pre-installed Pick & Click™ brackets for blinds.
- Welded and painted flashing joints for strength and durability.
- Rectangular sizes can be installed horizontally.



Size code		2222	2230	2246	3030	3046	4646
Outside frame	in.	24 3/16 x 24 3/16	24 3/16 x 32 3/16	24 3/16 x 48 3/16	32 3/16 x 32 3/16	32 3/16 x 48 3/16	48 3/16 x 48 3/16
Rough opening	in.	22 1/2 x 22 1/2	22 1/2 x 30 1/2	22 1/2 x 46 1/2	30 1/2 x 30 1/2	30 1/2 x 46 1/2	46 1/2 x 46 1/2
Daylight area	in.	19.5 x 19.5	19.5 x 27.5	19.5 x 43.5	27.5 x 27.5	27.5 x 43.5	43.5 x 43.5

## SUN TUNNEL™ skylights



### Models TMR Pitched rigid

- Package includes dome, shingle/shake roof flashing, tunnel, two adjustable elbows, ceiling ring and diffuser.
- Flashings for tile roofs are optional.
- Light kit allows you to use the skylight as an extra light source even at night.



### Models TGR Low profile rigid

- Package includes dome, shingle/shake roof flashing, tunnel, two adjustable elbows, ceiling ring and diffuser.
- Light kit allows you to use the skylight as an extra light source even at night.



Size code		010	014
Outside flashing	in.	27 x 27	29 x 30 1/2
Rough opening (ceiling)	in.	10 1/2	14 1/2
Rough opening (roof deck)	in.	14 1/2 x 16	14 1/2 x 20
Daylight area	sq. in.	65.29	137.82
Net wt (w/ acrylic)	lbs.	20	29
Standard tubing kit length	in.	48*	48*
Maximum recommended install length	ft.	20	20

Size code		010	014
Outside flashing	in.	24 3/4 x 24 3/4	29 x 29
Rough opening (ceiling)	in.	10 1/2	14 1/2
Rough opening (roof deck)	in.	14 1/2 x 14 1/2	14 1/2 x 18
Daylight area	sq. in.	65.29	137.82
Net wt (w/ acrylic)	lbs.	19	28
Standard tubing kit length	in.	48*	48*
Maximum recommended install length	ft.	20	20

\*Subtract approximately 6" for flashing when comparing to attic depth at point of installation.



### Model TMF Pitched flex

- Package includes dome, shingle/shake roof flashing, flexible tunnel, ceiling ring and diffuser.
- Flashings for tile roofs are optional.
- Light kit allows you to use the skylight as an extra light source even at night.



### Model TGF Low profile flex

- Package includes dome, shingle/shake roof flashing, flexible tunnel, ceiling ring and diffuser.
- Flashings for tile roofs are optional.
- Light kit allows you to use the skylight as an extra light source even at night.



Size code		014
Outside flashing	in.	29 x 30 1/2
Rough opening (ceiling)	in.	14 1/2
Rough opening (roof deck)	in.	14 1/2 x 20
Daylight area	sq. in.	137.82
Net wt (w/ acrylic)	lbs.	26
Standard tubing kit length	in.	96
Maximum recommended install length	ft.	8

Size code		014	021
Outside flashing	in.	29 x 29	37 x 37
Rough opening (ceiling)	in.	14 1/2	21 1/2
Rough opening (roof deck)	in.	14 1/2 x 18	22 1/2 x 26
Daylight area	sq. in.	137.82	314.00
Net wt (w/ acrylic)	lbs.	24	36
Standard tubing kit length	in.	96	72
Maximum recommended install length	ft.	8	12

## Testing data

For more detailed product information and for data updates visit our website at [www.veluxusa.com](http://www.veluxusa.com). (User is advised to verify critical values have not changed since publication.)

VSE Technical Information				
Glass	04	06**	08	10
Air infiltration/exfiltration* [max. @ 75 Pa (1.57 lbs/ft²) differential pressure]				
l/s/m²	0.7	0.5	0.7	0.7
cfm/ft	0.13	0.09	0.13	0.13
Water resistance @ 3.4 L/m²/min (5 USgal/ft²/hr) * [max. tested differential pressure with no leakage]				
Pascals	720	720	720	720
lbs/ft²	15	15	15	15
Thermal performance (Certified, complete unit values)				
(VELUX Glass Skylights are rated at 20° slope and labeled with NFRC-certified U-Factor, SHGC, and VT ratings listed in the NFRC Certified Products Directory)				
U-Factor	0.42	0.41	0.42	0.41
SHGC	0.23	0.23	0.22	0.23
VT	0.53	0.52	0.39	0.52
UV protection, % (300-380 nm)	99.9	99.9	99.9	99.9
Fading protection, % (Krochmann damage function) (300-600 nm)	83.1	84.6	88.4	83.2
Structural Performance [Performance Grade or DP] *				
Tested Size	Uplift (lbs/ft²)			
S06	50	55	50	60
M08	70	75	70	65
C06	n.r.	n.r.	n.r.	70
Tested Size	Download (lbs/ft²)			
S06	235	175	235	365
M08	270	230	270	270
C06	n.r.	n.r.	n.r.	605
* Tested in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-08 and -05. VSE skylights are WDMA Hallmark certified. See <a href="http://www.wdma.com">www.wdma.com</a> , Hallmark No. 426-H (not applicable to copper-clad variants)				
** 06 variant is tested and WDMA Hallmark certified for Wind-borne debris impact, in accordance with ASTM E1886 and ASTM E1996. Rated for Wind Zone 3, Missile Level C, Cycle Pressure +50/-50				
04 glass: Tempered over laminated HS (0.030" interlayer)				
06 glass: Tempered over laminated HS (0.090" interlayer)				
08 glass: Same as 04, with white interlayer				
10 glass: Tempered over laminated Tempered (0.030" interlayer)				

VS Technical Information					
Glass	04	05	06**	08	10
Air infiltration/exfiltration* [max. @ 75 Pa (1.57 lbs/ft²) differential pressure]					
l/s/m²	0.7	0.5	0.5	0.7	0.7
cfm/ft	0.13	0.09	0.09	0.13	0.13
Water resistance @ 3.4 L/m²/min (5 USgal/ft²/hr) * [max. tested differential pressure with no leakage]					
Pascals	720	720	720	720	720
lbs/ft²	15	15	15	15	15
Thermal performance (Certified, complete unit values)					
(VELUX Glass Skylights are rated at 20° slope and labeled with NFRC-certified U-Factor, SHGC, and VT ratings listed in the NFRC Certified Products Directory)					
U-Factor	0.42	0.43	0.41	0.42	0.41
SHGC	0.23	0.23	0.23	0.22	0.23
VT	0.53	0.54	0.52	0.39	0.52
UV protection, % (300-380 nm)	99.9	95.2	99.9	99.9	99.9
Fading protection, % (Krochmann damage function) (300-600 nm)	83.1	79.2	84.6	88.4	83.2
Structural Performance [Performance Grade or DP] *					
Tested Size	Uplift (lbs/ft²)				
S06	50	50	55	50	60
M08	70	75	75	75	65
C06	n.r.	n.r.	n.r.	n.r.	70
Tested Size	Download (lbs/ft²)				
S06	235	370	175	235	365
M08	270	550	230	270	270
C06	n.r.	n.r.	n.r.	n.r.	605
* Tested in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-08 and -05. VS skylights are WDMA Hallmark certified. See <a href="http://www.wdma.com">www.wdma.com</a> , Hallmark No. 426-H (not applicable to copper-clad variants)					
** 06 variant is tested and WDMA Hallmark certified for Wind-borne debris impact, in accordance with ASTM E1886 and ASTM E1996. Rated for Wind Zone 3, Missile Level C, Cycle Pressure +50/-50					
04 glass: Tempered over laminated HS (0.030" interlayer)					
05 glass: Tempered over tempered					
06 glass: Tempered over laminated HS (0.090" interlayer)					
08 glass: Same as 04, with white interlayer					
10 glass: Tempered over laminated Tempered (0.030" interlayer)					





FS Technical Information					
Glass	04	05	06**	08	10
Air infiltration/exfiltration* [max. @ 75 Pa (1.57 lbs/ft <sup>2</sup> ) differential pressure]					
l/s/m <sup>2</sup>	0.4	0.2	0.3	0.4	0.2
cfm/ft	0.08	0.03	0.05	0.08	0.04
Water resistance @ 3.4 L/m <sup>2</sup> /min (5 USgal/ft <sup>2</sup> /hr) * [max. tested differential pressure with no leakage]					
Pascals	720	720	720	720	720
lbs/ft <sup>2</sup>	15	15	15	15	15
Thermal performance (Certified, complete unit values)					
(VELUX Glass Skylights are rated at 20° slope and labeled with NFRC-certified U-Factor, SHGC, and VT ratings listed in the NFRC Certified Products Directory)					
U-Factor	0.44	0.45	0.42	0.44	0.43
SHGC	0.26	0.26	0.26	0.25	0.26
VT	0.60	0.61	0.60	0.44	0.60
UV protection, %					
(300-380 nm)	99.9	95.2	99.9	99.9	99.9
Fading protection, % (Krochmann damage function)					
(300-600 nm)	83.1	79.2	84.6	88.4	83.2
Structural Performance [Performance Grade or DP] *					
Tested Size	Uplift (lbs/ft <sup>2</sup> )				
S06	55	35	50	55	50
M08	80	85	70	80	80
C06	n.r.	n.r.	n.r.	n.r.	TBD
Tested Size	Download (lbs/ft <sup>2</sup> )				
S06	100	300	210	100	390
M08	285	385	245	285	615
C06	n.r.	n.r.	n.r.	n.r.	TBD
* Tested in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-08 and -05. FS skylights are WDMA Hallmark certified. See www.wdma.com, Hallmark No. 426-H (not applicable to copper-clad variants)					
** 06 variant is tested and WDMA Hallmark certified for Wind-borne debris impact, in accordance with ASTM E1886 and ASTM E1996. Rated for Wind Zone 3, Missile Level C, Cycle Pressure +50/-50					
04 glass: Tempered over laminated HS (0.030" interlayer)					
05 glass: Tempered over tempered					
06 glass: Tempered over laminated HS (0.090" interlayer)					
08 glass: Same as 04, with white interlayer					
10 glass: Tempered over laminated Tempered (0.030" interlayer)					

QPF Technical Information					
Glass	04	05	06**	08	
Air infiltration/exfiltration* [max. @ 75 Pa (1.57 lbs/ft <sup>2</sup> ) differential pressure]					
l/s/m <sup>2</sup>	0.8	0.9	0.9	0.8	
cfm/ft	0.15	0.17	0.17	0.15	
Water resistance @ 3.4 L/m <sup>2</sup> /min (5 USgal/ft <sup>2</sup> /hr) * [max. tested differential pressure with no leakage]					
Pascals	720	720	720	720	
lbs/ft <sup>2</sup>	15	15	15	15	
Thermal performance (Certified, complete unit values)					
(VELUX Glass Skylights are rated at 20° slope and labeled with NFRC-certified U-Factor, SHGC, and VT ratings listed in the NFRC Certified Products Directory)					
U-Factor	0.43	0.44	0.41	0.43	
SHGC	0.24	0.24	0.24	0.24	
VT	0.56	0.57	0.55	0.41	
UV protection, %					
(300-380 nm)	99.9	95.2	99.9	99.9	
Fading protection, % (Krochmann damage function)					
(300-600 nm)	83.1	79.2	84.6	88.4	
Structural Performance [Performance Grade or DP] *					
Tested Size	Uplift (lbs/ft <sup>2</sup> )				
4646	105	55	55	105	
Tested Size	Download (lbs/ft <sup>2</sup> )				
4646	210	295	215	210	
* Tested in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-08 and -05. QPF skylights are WDMA Hallmark certified. See www.wdma.com, Hallmark No. 426-H					
** 06 variant is tested and WDMA Hallmark certified for Wind-borne debris impact, in accordance with ASTM E1886 and ASTM E1996. Rated for Wind Zone 3, Missile Level C, Cycle Pressure +50/-50					
04 glass: Tempered over laminated HS (0.030" interlayer)					
05 glass: Tempered over tempered					
06 glass: Tempered over laminated HS (0.090" interlayer)					
08 glass: Same as 04, with white interlayer					

VCE Technical Information					
Glass	04	06**	08	10	
Air infiltration/exfiltration* [max. @ 75 Pa (1.57 lbs/ft <sup>2</sup> ) differential pressure]					
l/s/m <sup>2</sup>	0.6	TBD	0.6	1.1	
cfm/ft	0.11	TBD	0.11	0.21	
Water resistance @ 3.4 L/m <sup>2</sup> /min (5 USgal/ft <sup>2</sup> /hr) * [max. tested differential pressure with no leakage]					
Pascals	720	TBD	720	720	
lbs/ft <sup>2</sup>	15	TBD	15	15	
Thermal performance (Certified, complete unit values)					
(VELUX Glass Skylights are rated at 20° slope and labeled with NFRC-certified U-Factor, SHGC, and VT ratings listed in the NFRC Certified Products Directory)					
U-Factor	0.53	0.51	0.53	0.51	
SHGC	0.24	0.24	0.23	0.24	
VT	0.55	0.54	0.40	0.54	
UV protection, %					
(300-380 nm)	99.9	99.9	99.9	99.9	
Fading protection, % (Krochmann damage function)					
(300-600 nm)	83.1	84.6	88.4	83.2	
Structural Performance [Performance Grade or DP] *					
Tested Size	Uplift (lbs/ft <sup>2</sup> )				
4646	40	TBD	40	40	
2246	n.r.	n.r.	n.r.	75	
Tested Size	Download (lbs/ft <sup>2</sup> )				
4646	165	TBD	165	350	
2246	n.r.	n.r.	n.r.	550	
* Tested in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-08 and -05. VCE skylights are WDMA Hallmark certified. See www.wdma.com, Hallmark No. 426-H					
** 06 variant is tested and WDMA Hallmark certified for Wind-borne debris impact, in accordance with ASTM E1886 and ASTM E1996. Rated for Wind Zone 3, Missile Level C, Cycle Pressure +50/-50					
04 glass: Tempered over laminated HS (0.030" interlayer)					
06 glass: Tempered over laminated HS (0.090" interlayer)					
08 glass: Same as 04, with white interlayer					
10 glass: Tempered over laminated Tempered (0.030" interlayer)					

VCM Technical Information					
Glass	04	05	06**	08	10
Air infiltration/exfiltration* [max. @ 75 Pa (1.57 lbs/ft <sup>2</sup> ) differential pressure]					
l/s/m <sup>2</sup>	0.6	1.2	TBD	0.6	1.1
cfm/ft	0.11	0.23	TBD	0.11	0.21
Water resistance @ 3.4 L/m <sup>2</sup> /min (5 USgal/ft <sup>2</sup> /hr) * [max. tested differential pressure with no leakage]					
Pascals	720	720	TBD	720	720
lbs/ft <sup>2</sup>	15	15	TBD	15	15
Thermal performance (Certified, complete unit values)					
(VELUX Glass Skylights are rated at 20° slope and labeled with NFRC-certified U-Factor, SHGC, and VT ratings listed in the NFRC Certified Products Directory)					
U-Factor	0.53	0.54	0.51	0.53	0.51
SHGC	0.24	0.24	0.24	0.23	0.24
VT	0.55	0.55	0.54	0.40	0.54
UV protection, %					
(300-380 nm)	99.9	95.2	99.9	99.9	99.9
Fading protection, % (Krochmann damage function)					
(300-600 nm)	83.1	79.2	84.6	88.4	83.2
Structural Performance [Performance Grade or DP] *					
Tested Size	Uplift (lbs/ft <sup>2</sup> )				
4646	40	40	TBD	40	40
2246	n.r.	n.r.	n.r.	n.r.	75
Tested Size	Download (lbs/ft <sup>2</sup> )				
4646	165	150	TBD	165	350
2246	n.r.	n.r.	n.r.	n.r.	550
* Tested in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-08 and -05. VCM skylights are WDMA Hallmark certified. See www.wdma.com, Hallmark No. 426-H					
** 06 variant is tested and WDMA Hallmark certified for Wind-borne debris impact, in accordance with ASTM E1886 and ASTM E1996. Rated for Wind Zone 3, Missile Level C, Cycle Pressure +50/-50					
04 glass: Tempered over laminated HS (0.030" interlayer)					
05 glass: Tempered over tempered					
06 glass: Tempered over laminated HS (0.090" interlayer)					
08 glass: Same as 04, with white interlayer					
10 glass: Tempered over laminated Tempered (0.030" interlayer)					

FCM Technical Information					
Glass	04	05	06**	08	10
Air infiltration/exfiltration* [max. @ 75 Pa (1.57 lbf/ft <sup>2</sup> ) differential pressure]					
l/s/m <sup>2</sup>	<.1	0.2	0.2	<.1	<.1
cfm/ft	<0.01	0.04	0.03	<0.01	<0.01
Water resistance @ 3.4 L/m <sup>2</sup> /min (5 USgal/ft <sup>2</sup> /hr) * [max. tested differential pressure with no leakage]					
Pascals	720	720	720	720	720
lbs/ft <sup>2</sup>	15	15	15	15	15
Thermal performance (Certified, complete unit values)					
(VELUX Glass Skylights are rated at 20° slope and labeled with NFRC-certified U-Factor, SHGC, and VT ratings listed in the NFRC Certified Products Directory)					
U-Factor	0.50	0.51	0.48	0.50	0.48
SHGC	0.26	0.26	0.26	0.26	0.27
VT	0.61	0.61	0.60	0.44	0.60
UV protection, % (300-380 nm)					
	99.9	95.2	99.9	99.9	99.9
Fading protection, % (Krochmann damage function) (300-600 nm)					
	83.1	79.2	84.6	88.4	83.2
Structural Performance [Performance Grade or DP] *					
Tested Size	Uplift (lbs/ft <sup>2</sup> )				
4646	175	90	70	175	160
2270	95	n.r.	n.r.	95	n.r.
2246	n.r.	n.r.	n.r.	n.r.	TBD
Tested Size	Download (lbs/ft <sup>2</sup> )				
4646	170	370	225	170	430
2270	110	n.r.	n.r.	110	n.r.
2246	n.r.	n.r.	n.r.	n.r.	TBD
* Tested in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-08 and -05. FCM skylights are WDMA Hallmark certified. See www.wdma.com, Hallmark No. 426-H					
** 06 variant is tested and WDMA Hallmark certified for Wind-borne debris impact, in accordance with ASTM E1886 and ASTM E1996. Rated for Wind Zone 3, Missile Level D, Cycle Pressure +50/-50					
04 glass: Tempered over laminated HS (0.030" interlayer) 05 glass: Tempered over tempered 06 glass: Tempered over laminated HS (0.090" interlayer) 08 glass: Same as 04, with white interlayer 10 glass: Temp. over laminated Tempered (0.030" interlayer)					

SUN TUNNEL™ skylights Technical Information*				
Glazing option	TGR	TGF	TMR	TMF
Air infiltration, l/s/m <sup>2</sup> (cfm/ft <sup>2</sup> ) at 75 Pa (1.57 lbf/ft <sup>2</sup> ) air pressure				
All glazings	<0.05 (<0.01)	<0.05 (<0.01)	<0.05 (<0.01)	<0.05 (<0.01)
Water penetration "No entry" pressure, Pa (lbf/ft <sup>2</sup> ) at 3.4 l/m/min (5 US gal/ft <sup>2</sup> /hr) water flow				
All glazings	720 (15)	720 (15)	720 (15)	720 (15)
U-factor, (Btu/hr/ft <sup>2</sup> /°F)				
Acrylic	0.42	0.43	0.42	0.43
Polycarbonate	0.42	0.43	0.42	0.43
Solar heat gain, SHGC, %				
Acrylic	0.40	0.35	0.40	0.35
Polycarbonate	0.40	0.35	0.40	0.35
Downward load, lbf/ft <sup>2</sup>				
Acrylic	200	200	220	220
Polycarbonate	210	210	210	210
Uplift load, lbf/ft <sup>2</sup>				
Acrylic	85	85	140	140
Polycarbonate	90	90	105	105

\*New testing available first quarter of 2010.

#### Testing data notes

a) Production samples structurally tested and labeled in accordance with one or more of: AAMA/WDMA/CSA 101/I.S.2/A440, ICC-ES Acceptance Criteria AC16 or AC17, TAS201, 202, and 203; OSHA regulations; various ASTM methods.

b) Thermal and optical performance data are determined for skylights at 20 degree slope, and verified in accordance with NFRC procedures (where applicable) by accredited entities.

Most VELUX products are listed in the NFRC Certified Products Directory, and carry appropriate labels in accordance with NFRC's certification program. NFRC ID: VEL-N-xxx

c) Most variants have achieved WDMA Hallmark certification under No. 426-H, and/or ATI-ES recognition under report CCRR-0104, and CCRR-0134.

In addition, Florida and TDI have listed most variants in their product evaluation/approval systems, and the FCM is pending Miami-Dade approval.

**NOTICE: ALL GLASS MAY BE SUBJECT TO UNEXPECTED AND SPONTANEOUS BREAKAGE** in rare circumstances due to imperfections in the glass that are undetectable during the manufacturing and inspection process by the manufacturer of the glass and VELUX.

VELUX America Inc. offers the choice of laminated or tempered glass skylights. Miami-Dade glass, impact glass and comfortplus glass are all types of laminated glass. Comfort glass is a type of tempered glass. Laminated glass is a combination of two or more glass sheets with one or more interlayers of plastic (PVB). In case of breakage, the interlayer is designed to hold the fragments together. Tempered glass does not contain an interlayer to hold the fragments together. Instead, tempered glass is designed to break into small, pebble-like pieces. When tempered glass breaks, pieces of glass come loose and may strike an individual.

CONSULT LOCAL REGULATIONS AND/OR BUILDING MATERIAL CONSULTANTS TO DETERMINE WHICH TYPE OF GLASS IS RIGHT FOR YOU OR IF LAMINATED GLASS OR GLASS RETENTION SCREENING IS REQUIRED IN YOUR APPLICATION.

## Additional resources

In addition to our residential product catalog, you may find the following resources to be helpful. These and other resources are available on our web site, [www.veluxusa.com](http://www.veluxusa.com), or call customer service at 1-800-888-3589 for help.



Find a local dealer to purchase VELUX products.

[www.veluxusa.com/dealer](http://www.veluxusa.com/dealer)



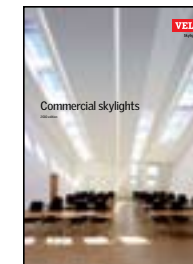
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## VELUX commercial skylights

We offer a full line of commercial skylights. For more in-depth information on our full line of commercial skylights. Commercial skylights catalog XUS 20023



## VELUX solar water heating

Using the sun to heat the water in your home will reduce your monthly utility bill, and your family's carbon footprint on the world. Solar water heating brochure XUS 20147

(1) 10" VELUX SUN TUNNEL™ skylights



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