Electronically tintable glass for light control and energy savings

Tintable glass off

Tintable glass on

Exclusive technology

The revolutionary new technology called electrochromic glass, in VELUX electronically tintable skylights, allows for control of the amount of light and heat that enters a room.

Benefits

The benefits of solar control through electrochromic glass include:

- Light control at the touch of a button without losing a view to the sky... even in the darkened state.

- Energy savings and elimination of uncomfortable heat gain, even on the brightest and hottest days.

- Maximum protection from fading of furniture or artwork.

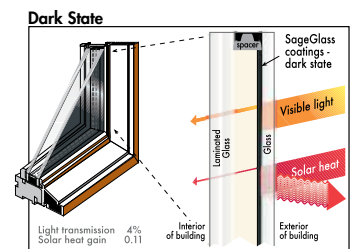- An Automatic Timer Mode can be set to darken the glass at a specified time each day.

Why SageGlass® glazing
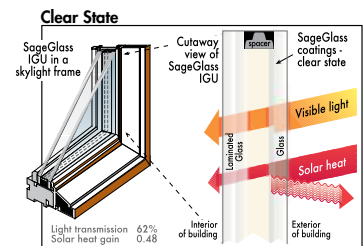

Tintable glass off

Tintable glass on

VELUX, the world leader in skylights and roof windows, has for more than 60 years placed the highest value on product quality and durability. That is why we have chosen SageGlass electrochromic technology for our revolutionary electronically tintable skylights. After more than 15 years of thorough research and development by SAGE Electrochromics, Inc., this glass technology is the only one to have conclusively passed extensive testing by the US Government, some of the world's largest glass companies and market leading fenestration companies – including VELUX.

How SageGlass glazing works

SageGlass glazing is produced by coating glass at the factory with multiple layers of thin ceramic films that in total are less than 1/50th the thickness of a human hair. Applying a low DC voltage causes the active electrochromic layers to darken.

Dark State

spacer

SageGlass coatings - dark state

Visible light

Laminated Glass

Glass

Solar heat

Light transmission 4%
Solar heat gain 0.11

Interior of building

Exterior of building

Reversing the voltage polarity causes the layers to lighten. It takes less energy to operate a house full of SageGlass® products than it does to run a single 40-watt incandescent light bulb.

Clear State

SageGlass IGU in a skylight frame

Cutaway view of SageGlass IGU

spacer

SageGlass coatings - clear state

Visible light

Laminated Glass

Glass

Solar heat

Light transmission 62%
Solar heat gain 0.48
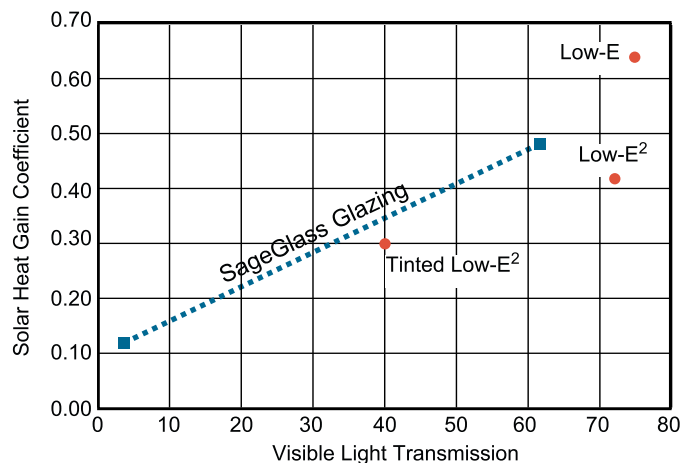
Interior of building

Exterior of building

SageGlass® glazing vs. today's glazings

This chart compares the visible light and solar heat gain performance of SageGlass glazing in its clear and dark states with that of today's best glazings.

Warranties you can trust

VELUX offers a 10 year warranty on the skylight and the seal of SageGlass IGU's and a 5 year warranty on all electronic functions of the skylight and SageGlass IGU's. For more information on this warranty and electronically tintable skylights from VELUX, please call 1-800-888-3589.

Solar Heat Gain Coefficient (y-axis: 0.00 to 0.70)

Visible Light Transmission (x-axis: 0 to 80)

SageGlass Glazing

Low-E^2

Tinted Low-E^2

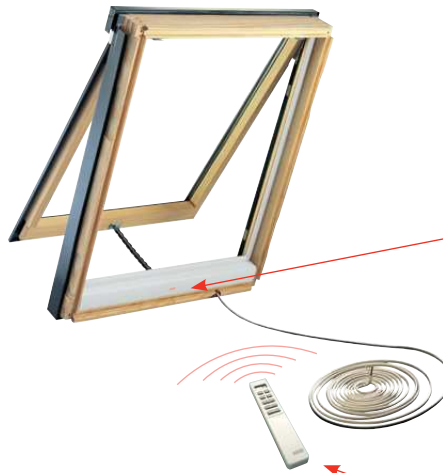# Venting skylights with SageGlass

Models

Electric venting deck mounted - VSE

Electric venting curb mounted - VCE

Controls

When the M2 function on the remote control is selected, pressing the down button begins the darkening process and is indicated by a red LED on the skylight. Pressing the up button begins the clearing process and is indicated by a green LED on the skylight.

VELUX electric venting skylights with SageGlass are controlled by the remote control included with each skylight.

Fixed skylights with SageGlass

Models

Fixed deck mounted - FS

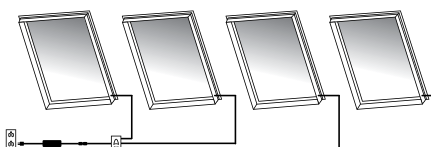**Fixed curb mounted - FCM**

Controls

Each fixed (non-venting) model comes with approximately 50 feet of wire to run to the control switch.

The SageGlass control system includes power supply, 50 feet power connector wire, control switch and a white trim plate for a standard single gang box.

Up to four SageGlass fixed skylights of the same size can be operated simultaneously from one control switch.

Other information about electrochromic technology

Transition time

The amount of time it takes for electrochromic glazing to switch from one state to another depends upon several factors such as glazing size and temperature. Generally, the smaller the glazing and the warmer the temperature of the glass, the faster the transition time will be. Average transition times are 5-10 minutes.

Perceived "pin holes"

When electrochromic glazing is in its darkest state, very small apparent voids or pin holes in the coating may be visible when looking through the glass. These sporadic pin holes are not a defect and do not affect the overall performance of the glazing. They are a normal aspect of any coated glass, but become more visible because of the large contrast between the bright sun against the dark tinted glazing.

Automatic clearing function

In its default setting, the control system will automatically clear the glass after eight hours of being continuously in the darkened state and the skylight will remain clear until commanded to tint again by activation of the control. This function can be customized by switching the unit to Automatic Timer Mode. In Automatic Timer Mode the controller automatically tints the panes at the same time every day for an 8 hour period, eliminating the need to manually activate tinting every day. The Timer Mode must be activated at the time of day that tinting is desired to occur. For example, if you want tinting to start every day at 9:00am, the Timer Mode must be initially activated at 9:00am on the first day. Instructions for how to activate the mode are included with the product.

Center line conductor on size 606 skylights

The VSE and FS 606 skylights with SageGlass® Product incorporate a thin, center line conductor. This thin line is visible in both the clear and tinted states and is designed to minimize transition time and maximize overall performance of the glass.

Venting sizes and pricing

Deck mounted		VSE 101	VSE 104	VSE 106	VSE 306	VSE 601	VSE 606
Outside frame	(W" x H")	$21\frac{1}{2}$ x $27\frac{3}{8}$	$21\frac{1}{2}$ x $38\frac{3}{8}$	$21\frac{1}{2}$ x $46\frac{1}{4}$	$30\frac{9}{16}$ x $46\frac{1}{4}$	$44\frac{3}{4}$ x $27\frac{3}{8}$	$44\frac{3}{4}$ x $46\frac{1}{4}$
Rough opening	(W" x H")	$21\frac{1}{2}$ x $27\frac{7}{8}$	$21\frac{1}{2}$ x $38\frac{7}{8}$	$21\frac{1}{2}$ x $46\frac{3}{4}$	$30\frac{9}{16}$ x $46\frac{3}{4}$	$44\frac{3}{4}$ x $27\frac{7}{8}$	$44\frac{3}{4}$ x $46\frac{3}{4}$
Finished framing	(W" x H")	$20\frac{3}{8}$ x $26\frac{3}{16}$	$20\frac{3}{8}$ x $37\frac{3}{16}$	$20\frac{3}{8}$ x $45\frac{1}{16}$	$29\frac{7}{16}$ x $45\frac{1}{16}$	$43\frac{5}{8}$ x $26\frac{3}{16}$	$43\frac{5}{8}$ x $45\frac{1}{16}$
Model / Part		$	$	$	$	$	$
VSE SageGlass® price		Call for pricing					
VSE SageGlass® with copper cladding price		Call for pricing					
Sash replacement kit* price		Call for pricing					

Curb mounted		VCE 2222	VCE 2246
Inside curb	(W" x H")	$22\frac{1}{2}$ x $22\frac{1}{2}$	$22\frac{1}{2}$ x $46\frac{1}{2}$
Outside curb	(W" x H")	$25\frac{1}{2}$ x $25\frac{1}{2}$	$25\frac{1}{2}$ x $49\frac{1}{2}$
Maximum skylight clearance	(W" x H")	$26\frac{1}{4}$ x $26\frac{1}{4}$	$26\frac{1}{4}$ x $50\frac{1}{4}$
Model / Part		$	$
VCE SageGlass® price		Call for pricing	
Sash replacement kit* price		N/A	N/A

* This kit converts an installed VSE into one with electronically tintable glass. Kit includes (1) VSE sash with SageGlass laminated IGU and wire for connecting into existing VSE operator and (1) control board and LED that installs directly into existing VSE control system. Once installed, this kit allows the SageGlass IGU to be switched from clear to dark or back to clear using the M2 function on the existing VSE remote control.

Please call for delivery lead-times. Most units are stocked in the Greenwood, SC distribution center.

Fixed sizes and pricing

Deck mounted		FS 106	FS 306	FS 606
Outside frame	(W" x H")	$21\frac{1}{2}$ x $46\frac{1}{4}$	$30\frac{9}{16}$ x $46\frac{1}{4}$	$44\frac{3}{4}$ x $46\frac{1}{4}$
Rough opening	(W" x H")	$21\frac{1}{2}$ x $46\frac{3}{4}$	$30\frac{9}{16}$ x $46\frac{3}{4}$	$44\frac{3}{4}$ x $46\frac{3}{4}$
Finished framing	(W" x H")	$20\frac{3}{8}$ x $45\frac{1}{16}$	$29\frac{7}{16}$ x $45\frac{1}{16}$	$43\frac{5}{8}$ x $45\frac{1}{16}$
Model / Part		$	$	$
FS SageGlass® price		Call for pricing		
FS SageGlass® with copper cladding price		Call for pricing		
Control system for FS price		Call for pricing		

Please call for delivery lead-times. Most units are stocked in the Greenwood, SC distribution center.

Curb mounted		FCM 2222	FCM 2246
Inside curb	(W" x H")	$22\frac{1}{2}$ x $22\frac{1}{2}$	$22\frac{1}{2}$ x $46\frac{1}{2}$
Outside curb	(W" x H")	$25\frac{1}{2}$ x $25\frac{1}{2}$	$25\frac{1}{2}$ x $49\frac{1}{2}$
Maximum skylight clearance	(W" x H")	$26\frac{1}{4}$ x $26\frac{1}{4}$	$26\frac{1}{4}$ x $50\frac{1}{4}$
Model / Part		$	$
FCM SageGlass® price		Call for pricing	
Control system for FCM price		Call for pricing	