

## skylights

### FS – fixed skylight (Installed pitch 15°– 90°)

SIZE CODES	FS C01	FS C04	FS M04	FS M08	FS S01	FS S06
External frame dimensions mm (wxh)	550 x 700	550 x 980	780 x 980	780 x 1400	1140 x 700	1140 x 1180
R-value complete unit incl frame (m <sup>2</sup> K/W) 1	0.53	0.53	0.53	0.53	0.53	0.53
Solar Heat reduction in % 2	74%	74%	74%	74%	74%	74%
UV light reduction in % 3	95%	95%	95%	95%	95%	95%
Sound reduction in db	29 db	29 db	29 db	29 db	29 db	29 db
Daylight area in m <sup>2</sup>	0.28m <sup>2</sup>	0.41m <sup>2</sup>	0.62m <sup>2</sup>	0.91m <sup>2</sup>	0.64m <sup>2</sup>	1.15m <sup>2</sup>

### VS – opening skylight (Installed pitch 15°– 90°)

SIZE CODES	VS C04	VS M04	VS M08	VS S01	VS S06
External frame dimensions mm (wxh)	550 x 980	780 x 980	780 x 1400	1140 x 700	1140 x 1180
R-value complete unit incl frame (m <sup>2</sup> K/W) 1	0.53	0.53	0.53	0.53	0.53
Solar Heat reduction in % 2	77%	77%	77%	77%	77%
UV light reduction in % 3	95%	95%	95%	95%	95%
Sound reduction in db	29 db	29 db	29 db	29 db	29 db
Daylight area in m <sup>2</sup>	0.33 m <sup>2</sup>	0.51 m <sup>2</sup>	0.78 m <sup>2</sup>	0.52 m <sup>2</sup>	1.00 m <sup>2</sup>
Ventilation with open sash in m <sup>2</sup>	0.33 m <sup>2</sup>	0.39 m <sup>2</sup>	0.49 m <sup>2</sup>	0.40 m <sup>2</sup>	0.54 m <sup>2</sup>

### VSE – INTEGRA® electric skylight / VSS – INTEGRA® SOLAR skylight (VSE Installed pitch 15°– 90°, VSS Installed pitch 15°– 60°)

SIZE CODES	VSE/S C04	VSE/S M04	VSE/S M08	VSE/S S01	VSE/S S06
External frame dimensions mm (wxh)	550 x 980	780 x 980	780 x 1400	1140 x 700	1140 x 1180
R-value complete unit incl frame (m <sup>2</sup> K/W) 1	0.50	0.50	0.50	0.50	0.50
Solar Heat reduction in % 2	77%	77%	77%	77%	77%
UV light reduction in % 3	99%	99%	99%	99%	99%
Sound reduction in db	29 db	29 db	29 db	29 db	29 db
Daylight area in m <sup>2</sup>	0.33 m <sup>2</sup>	0.51 m <sup>2</sup>	0.78 m <sup>2</sup>	0.52 m <sup>2</sup>	1.00 m <sup>2</sup>
Ventilation with open sash in m <sup>2</sup>	0.33 m <sup>2</sup>	0.39 m <sup>2</sup>	0.49 m <sup>2</sup>	0.40 m <sup>2</sup>	0.54 m <sup>2</sup>

## low-pitch skylights

### FCM – low-pitch fixed skylight (Installed pitch 0°– 60°)

SIZE CODES	FCM 2222	FCM 2246	FCM 2270	FCM 3030	FCM 3434	FCM 4646
Actual Skylight dimensions mm	692 x 692	692 x 1302	692 x 1911	895 x 895	997 x 997	1302 x 1302
Outside Curb dimensions mm	648 x 648	648 x 1257	648 x 1867	851 x 851	952 x 952	1257 x 1257
Finished Inside Curb dimensions mm	572 x 572	572 x 1181	572 x 1791	775 x 775	876 x 876	1181 x 1181
R-value complete unit incl frame (m <sup>2</sup> K/W) 1	0.45	0.45	0.45	0.45	0.45	0.45
Solar Heat reduction in % 2	74%	74%	74%	74%	74%	74%
UV light reduction in % 3	95%	95%	95%	95%	95%	95%
Sound reduction in db	29 db	29 db	29 db	29 db	29 db	29 db
Daylight area in m <sup>2</sup>	0.33 m <sup>2</sup>	0.67 m <sup>2</sup>	1.02 m <sup>2</sup>	0.60 m <sup>2</sup>	0.77 m <sup>2</sup>	1.39 m <sup>2</sup>

### VCM – low-pitch opening skylight (Installed pitch 0°– 60°)

SIZE CODES	VCM 2222	VCM 2246	VCM 3030	VCM 4646
Actual Skylight dimensions mm	692 x 692	692 x 1302	895 x 895	1302 x 1302
Outside Curb dimensions mm	648 x 648	648 x 1257	851 x 851	1257 x 1257
Finished Inside Curb dimensions mm	572 x 572	572 x 1181	775 x 775	1181 x 1181
R-value complete unit incl frame (m <sup>2</sup> K/W) 1	0.42	0.42	0.42	0.42
Solar Heat reduction in % 2	76%	76%	76%	76%
UV light reduction in % 3	95%	95%	95%	95%
Sound reduction in db	29 db	29 db	29 db	29 db
Daylight area in m <sup>2</sup>	0.24 m <sup>2</sup>	0.55 m <sup>2</sup>	0.49 m <sup>2</sup>	1.22 m <sup>2</sup>
Ventilation with open sash in m <sup>2</sup>	0.30 m <sup>2</sup>	0.48 m <sup>2</sup>	0.42 m <sup>2</sup>	0.66 m <sup>2</sup>

NOTE: INTEGRA® Skylights, Blinds and Controls operate at radio frequency of 2.4GHz

## low-pitch skylights

VCS – low-pitch INTEGRA® SOLAR skylight		(Installed pitch 0°– 60°)			
SIZE CODES		VCS 2222	VCS 2246	VCS 3030	VCS 4646
Actual Skylight dimensions mm		692 x 692	692 x 1302	895 x 895	1302 x 1302
Outside Curb dimensions mm		648 x 648	648 x 1257	851 x 851	1257 x 1257
Finished Inside Curb dimensions mm		572 x 572	572 x 1181	775 x 775	1181 x 1181
R-value complete unit incl frame (m <sup>2</sup> K/W) 1		0.40	0.40	0.40	0.40
Solar Heat reduction in % 2		76%	76%	76%	76%
UV light reduction in % 3		99%	99%	99%	99%
Sound reduction in db		29 db	29 db	29 db	29 db
Daylight area in m <sup>2</sup>		0.24 m <sup>2</sup>	0.55 m <sup>2</sup>	0.49 m <sup>2</sup>	1.22 m <sup>2</sup>
Ventilation with open sash in m <sup>2</sup>		0.30 m <sup>2</sup>	0.48 m <sup>2</sup>	0.42 m <sup>2</sup>	0.66 m <sup>2</sup>

## roof windows

GGU – roof window, EVERFINISH		(Installed pitch 15°– 90°)						
SIZE CODES		GGU CK02	GGU CK04	GGU MK04	GGU MK06	GGU MK08	GGU SK06	GGU SK08
External frame dimensions mm (wxh)		550 x 780	550 x 980	780 x 980	780 x 1180	780 x 1400	1140 x 1180	1140 x 1400
R-value complete unit incl frame (m <sup>2</sup> K/W) 1		0.83	0.83	0.83	0.83	0.83	0.83	0.83
Solar Heat reduction in % 2		70%	70%	70%	70%	70%	70%	70%
UV light reduction in % 3		95%	95%	95%	95%	95%	95%	95%
Sound reduction in db 4		35 db	35 db	35 db	35 db	35 db	35 db	35 db
Daylight area in m <sup>2</sup>		0.21 m <sup>2</sup>	0.29 m <sup>2</sup>	0.47 m <sup>2</sup>	0.59 m <sup>2</sup>	0.72 m <sup>2</sup>	0.94 m <sup>2</sup>	1.15 m <sup>2</sup>
Ventilation with open sash in m <sup>2</sup>		0.32 m <sup>2</sup>	0.38 m <sup>2</sup>	0.57 m <sup>2</sup>	0.72 m <sup>2</sup>	0.86 m <sup>2</sup>	1.08 m <sup>2</sup>	1.36 m <sup>2</sup>
Ventilation through vent-flap in m <sup>2</sup>		0.004 m <sup>2</sup>	0.004 m <sup>2</sup>	0.007 m <sup>2</sup>	0.007 m <sup>2</sup>	0.007 m <sup>2</sup>	0.010 m <sup>2</sup>	0.010 m <sup>2</sup>

## GGL – roof window, timber-finish

GGL – roof window, timber-finish		(Installed pitch 15°– 90°)				
SIZE CODES		GGL CK04	GGL MK04	GGL MK06	GGL MK08	GGL SK06
External frame dimensions mm (wxh)		550 x 980	780 x 980	780 x 1180	780 x 1400	1140 x 1180
R-value complete unit incl frame (m <sup>2</sup> K/W) 1		0.83	0.83	0.83	0.83	0.83
Solar Heat reduction in % 2		70%	70%	70%	70%	70%
UV light reduction in % 3		95%	95%	95%	95%	95%
Sound reduction in db 4		35 db	35 db	35 db	35 db	35 db
Daylight area in m <sup>2</sup>		0.29 m <sup>2</sup>	0.47 m <sup>2</sup>	0.59 m <sup>2</sup>	0.72 m <sup>2</sup>	0.94 m <sup>2</sup>
Ventilation with open sash in m <sup>2</sup>		0.38 m <sup>2</sup>	0.57 m <sup>2</sup>	0.72 m <sup>2</sup>	0.86 m <sup>2</sup>	1.08 m <sup>2</sup>
Ventilation through vent-flap in m <sup>2</sup>		0.004 m <sup>2</sup>	0.007 m <sup>2</sup>	0.007 m <sup>2</sup>	0.007 m <sup>2</sup>	0.010 m <sup>2</sup>

## sun tunnels

TWF/TWR/TLR – sun tunnel		(Installed pitch 15°– 60°), TCR (Installed pitch 0°– 60°)	
SIZE CODES		OK10	OK14
Internal diameter dimensions in mm		250	350
R-value complete unit (m <sup>2</sup> K/W) 1		0.45	0.45
UV light reduction in % 3		95%	95%

Values are determined according to the following standards:

MODELS	roof windows	skylights	sun tunnels
1 Thermal resistance of complete unit	EN ISO 12567-2	NFRC 100	NFRC 100
2 Solar Heat reduction in %	EN 410	NFRC 200	
3 UV light reduction	EN 410	NFRC 300	VELUX internal tests
4 Sound reduction of complete unit in dB	EN ISO 10140-2		
5 Air tightness	EN 1026		

## Shading Coefficient (SC)

	FS	VS	VSE	VSS
Solar Heat Reduction%	74%	77%	77%	77%
SHGC	0.26	0.23	0.23	0.23
SC	0.30	0.27	0.27	0.27

	FCM	VCM	VCS
Solar Heat Reduction%	74%	76%	76%
SHGC	0.26	0.24	0.24
SC	0.30	0.28	0.28

	GGU	GGL
Solar Heat Reduction%	70%	70%
SHGC	0.3	0.3
SC	0.35	0.35

Worked Example:

Solar Heat Reduction % for FCM is listed at 74%. (Technical Data)

This is simply the inverse of the SHGC value of 0.26.

- using formula we have  $SC = 0.26 / 0.86 = 0.30$

### SHGC Solar Heat Gain Coefficient

The measure of the total solar energy transmittance entering a building through the glazing as heat gain. It is the total heat transmission of direct solar transmission and that proportion of absorbed radiation that is re-radiated into the building from the action of heat absorbing glass. The lower the SHGC the better the glass restricts heat energy transmission. The SHGC is also known as the Solar Factor (SF) or g.

### SC Shading Coefficient

The ratio of the total solar heat gain through a particular glass compared to the total solar heat gain through 3mm clear float glass. (86%) The shading coefficient of 3mm clear float is by definition 1.0 and represents a base glass performance. The lower the shading coefficient the less heat gain and thus more shading is provided by the glass. The shading coefficient is calculated as  $SC = SHGC / 0.86$ .