

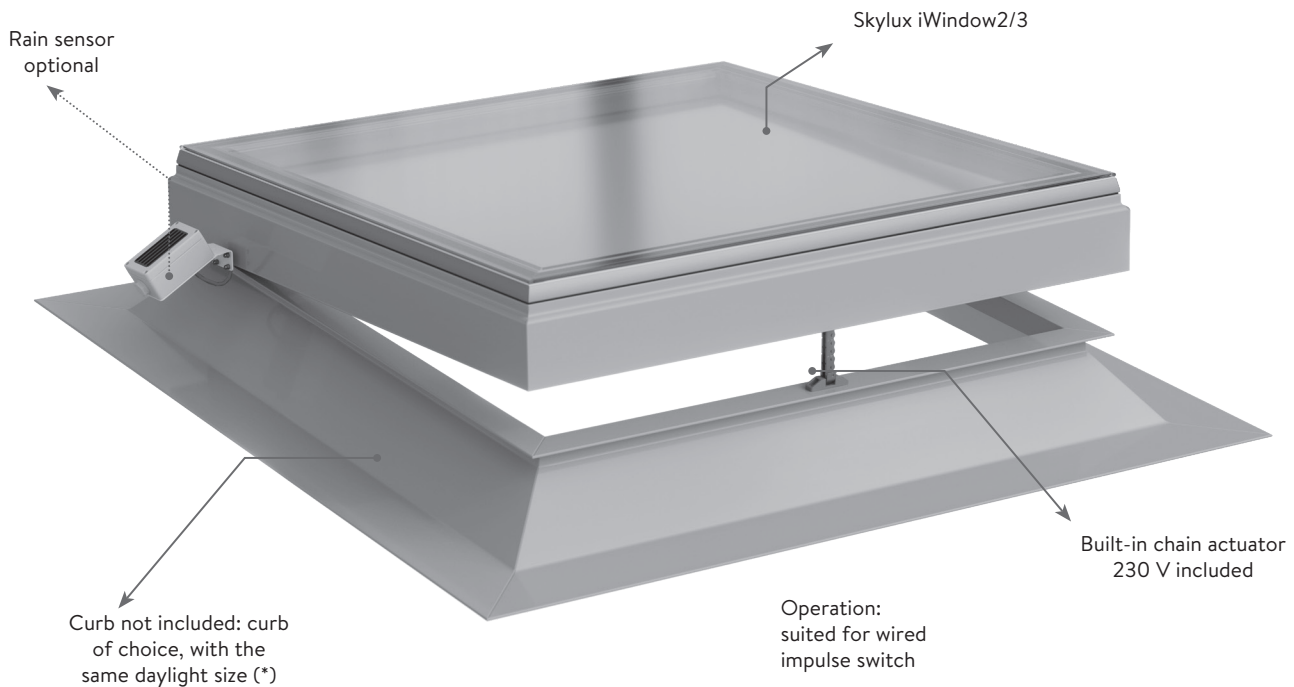


TECHNICAL FILE

# Skylux iWindow2 iWindow3 Flex 2.0

Electrically opening glass daylight  
element for wired switch

  
*Hello daylight!*



## General product description

The Skylux® iWindow2/3 Flex 2.0 is the new Skylux® openable (O) glass daylight element with a built-in 230 V chain actuator for ventilation purposes in flat roofs. It combines an optimal light incidence with excellent insulation values (low U values). The chain actuator(s) is (are) built into an insulating PVC frame, padded with EPS. Rain detection can be provided as an option, closing the daylight element automatically in case of precipitation. The openable skylight is operated by a wired impulse switch.

The Skylux® iWindow2/3 Flex 2.0 can be installed on a curb (\*) of choice (polyester, PVC or metal) that meets certain basic requirements.

The glass cover is available in different versions. The Skylux® iWindow2™ is provided with double glazing HR++, the Skylux® iWindow3™ with triple glazing HR+++ . Both models come with a sleek frame made of anodised aluminium. The glass is tempered and layered, featuring a ceramic edge that allows for an aesthetic visual integration in the roof.

The iWindow2/3 Flex 2.0 is suited for flat roofs with a slope between 4° (we recommend 5°) and 25°. The hinge side must always face the lowest side of the roof slope. The hinges on rectangular models can be found on the long side. The wire necessary for the 230 V power supply and the switch comes out of the bottom side of the frame, on the hinge side.

One or two synchronised chain actuators are used, depending on the daylight sizes. The chain actuators are always built into the long side. They are also easily accessible from the inside of the skylight, allowing you to disconnect the skylight during a technical intervention in case of any malfunctions.

The Skylux iWindow2/3 Flex 2.0 is not suited for installation above extremely damp environments (e.g. swimming pools) or environments affected by chemical influences (e.g. chlorine fumes).

(\*) Detailed requirements are further documented in the characteristics of a basic curb.

## Features

- Suited for fresh air ventilation, opens up to 25 cm
- Ideal for refurbishments and compatible with numerous curb types
- Simple and fast installation on a curb of choice (basic requirements: (°))
- Maximum light incidence equal to the daylight surface
- Exceptional insulation values (up to  $U_g = 0.50 \text{ W/m}^2\text{K}$ )
- Easy connection to 230 V
- Simple operation, connection to wired impulse switch
- Large sizes are also available: 1500 x 1500 mm or 1000 x 2000 mm
- Different accessories are possible:
  - Rain detection
  - Fixed outer sunblind for high frames
  - Electric inner sunblind / blackout blind / insect screen
- Actuator can easily be disconnected from the inside of the skylight, which allows for an easy technical intervention
- Good sound insulation
- Excellent air- and watertightness
- Sleek and elegant interior and exterior design

## Possibilities

A version with rain sensor is available on request.

Rain detection is strongly recommended to e.g. prevent any water damage caused by downpours or and/or snow.

## Options

- Rain sensor
- Fixed outer sunblind possible for iWindow2/iWindow3
- Electric inner screen 230 V (with choice of: sunblind, blackout blind or insect screen): possible to install in the daylight size, at the top of the curb
- Electric inner screen on solar energy (with choice of: sunblind or blackout blind): possible to install at the top of the frame (cannot be installed in the daylight size of the curb)

## Specific characteristics: Skylux iOra PVC frame

Mechanical characteristics .....	Impact-resistant PVC, frame quality, type Benvic S white
$U_e^*$ value .....	0.49 $\text{W/m}^2\text{K}$ (separate EPS insulation with $\lambda = 0.035 \text{ W/mK}$ )
Specific mass according to ISO 1183 .....	PVC: 1500 $\text{kg/m}^3$ (EPS insulation: 28 $\text{kg/m}^3$ )
Fire classification according to EN 13501-1 .....	PVC: E (EPS insulation: B-s1,d0)
Dimensions .....	Thickness: 76 mm Height: 140 mm Daylight size frame = daylight size curb

\*  $U_e$ : U value (edge) or insulation value of the frame in accordance with EN 1873:2014+A1:2016

## Specific characteristics: Skylux glass

	<b>Skylux® iWindow2™</b>	<b>Skylux® iWindow3™</b>
Mechanical characteristics	HR++ double glazing	HR+++ triple glazing
Type	layered (inner pane) tempered (outer pane)	layered (inner pane) tempered (outer and middle pane)
Thickness	± 39 mm	± 61 mm
Weight	± 35 to 44 kg/m <sup>2</sup>	± 55 to 60 kg/m <sup>2</sup>
Light transmission according to EN 410	clear...opal...heat-reflective 75%...72%...53%	clear...opal...heat-reflective 63%...61%...46%
Solar factor g (ZTA) according to EN 410	0,52...0,50...0,40	0,42...0,41...0,33
Sound insulation Rw according to EN 717-1	39 (-3, -7) dB	41 (-2, -5) dB
U <sub>g</sub> value according to EN 673	1,0 W/m <sup>2</sup> K	0,5 W/m <sup>2</sup> K
Safety glass NBN EN 356	min. type P2A (44.2) type P4A (44.4) for 1000x3000mm	min. type P2A (44.2)

## Specific characteristics: assembled unit

	<b>Skylux iWindow2 Flex 2.0</b>	<b>Skylux iWindow3 Flex 2.0</b>
Impact-resistance according to EN 1873:2014+A1:2016	SB 1200*	SB 1200*
Airtightness according to EN 1873:2014+A1:2016	Ap 1,3	Ap 1,3

\* The Skylux® iWindow complies with the highest class in impact-resistance, but the glass is not accessible to walk on.

## Specific characteristics: Skylux built-in chain actuator(s)

Opening height (stroke)	Max. 25 cm and can be controlled as required
Voltage	230 V AC ± 10% / 50 Hz
Main actuator (Master)	230 V AC
2 <sup>nd</sup> actuator (Slave)(*)	24 V DC
Synchronisation	2 <sup>de</sup> actuator follows the 1st actuator, by synchronous connection
Power	230 V AC ± 10% / 50 Hz
Main actuator (Master)	46 W
2 <sup>nd</sup> actuator (Slave)(*)	22 W
Operating temperature	-10°C to +60°C
Actuator power during opening	600 N
during closing	600 N
Chain material	Stainless steel
Nominal speed	8 mm/s
“Sound pressure level A”	≤ 70 dB (A)
Guarantee	2 years
Chain bracket colour	RAL 9006

(\*) for version with two built-in actuators

## Specific characteristics: Skylux mounted rain sensor - optional

Operation .....	Capacitive sensors
Voltage .....	12 V DC
Dimensions .....	80 x ± 160 x 55 mm
Colour .....	Light grey
Bracket colour .....	White
	Pre-mounted on the openable PVC frame

## Specific characteristics: assembled unit Skylux iWindow Flex 2.0 with curb

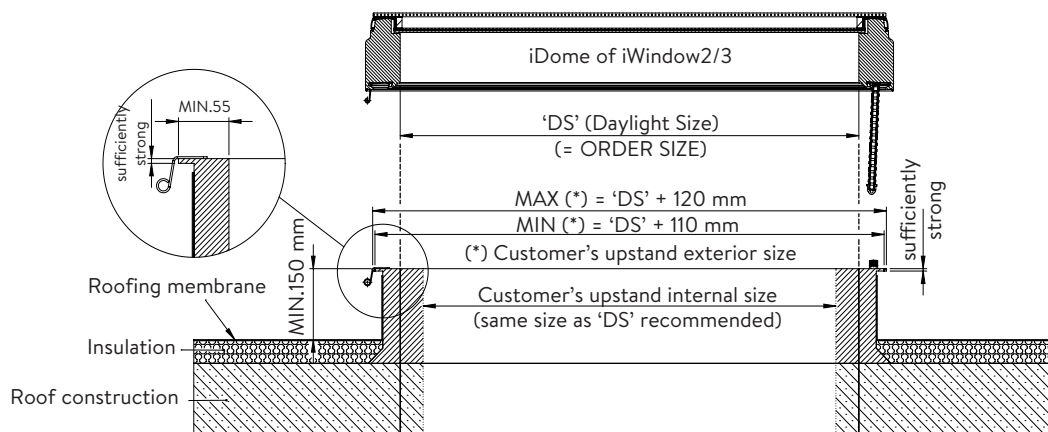
iWindow type/curb type		iWindow2 Flex 2.0	iWindow3 Flex 2.0
PVC 20/00 EP	Urc*** (W/m <sup>2</sup> K)	0.82	0.59
	Arc**** (m <sup>2</sup> )	3.47	3.40
PO 30/20	Urc*** (W/m <sup>2</sup> K)	0.87	0.67
	Arc**** (m <sup>2</sup> )	4.05	3.98

\*\*\* Urc = U value of the whole unit (=glass, frame and curb) defined for daylight size 120 x 120 cm, according to EN 1873:2014+A1:2016

\*\*\*\* Arc = surface of the skylight with curb, defined for daylight size 120 x 120 cm, according to EN 1873:2014+A1:2016

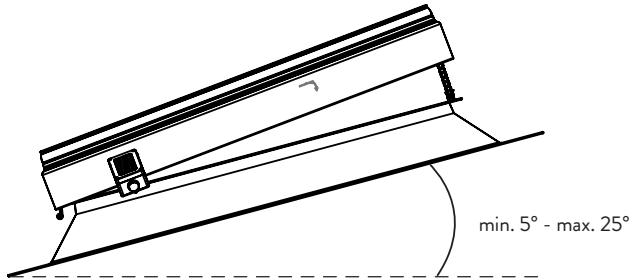
## Suited for installation on curbs with the following characteristics:

- The upper surface is at least 15 cm above the roofing
- Maximum overall size of curb = daylight size Flex 2.0 + 12 cm
- Minimum overall size of curb = daylight size Flex 2.0 + 11 cm
- Width top flange of curb: minimum 55 mm
- Daylight size curb and daylight size Flex 2.0 are preferably equal
- The curb must be strong enough to bear the full weight of the Flex 2.0
- Only suitable for polyester, metal or PVC curbs. Not allowed on wooden curbs.



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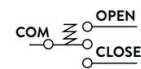
- Curb slope or roof slope:  
Skylux iWindow2 /3 Flex 2.0: min. 4° (5° is recommended) – 25°





- Hinges of the Flex 2.0 are always located on the long side of the skylight
- The hinge side must always face the lowest side of the roof slope


## Electric wiring and operation

- Wires come out of the bottom side of the frame, on the hinge side
- Operation: connection to 230 V AC (L / N / PE) must be provided
- Control: connection to impulse switch must be provided (which automatically returns to the off-position when not pressed)



## Available daylight sizes and versions

	Light incidence (m <sup>2</sup> )	Daylight size (cm) iWindow2	Weight (kg)		Daylight size (cm) iWindow3	Weight (kg)	
Square 	0,49	70 x 70	39	↑	70 x 70	46	↑
	0,56	75 x 75	43	↑	-	-	-
	0,64	80 x 80	46	↑	80 x 80	55	↑
	0,72	85 x 85	50	↑	-	-	-
	0,81	90 x 90	55	↑	90 x 90	65	↑
	1,00	100 x 100	63	↑	100 x 100	82	↑
	1,10	105 x 105	68	↑	105 x 105	88	↑
	1,21	110 x 110	73	↑	-	-	-
	1,44	120 x 120	92	↑	-	-	-
	1,96	140 x 140	123	↑↑	-	-	-
	2,25	150 x 150	137	↑↑	-	-	-
Rectangular 	0,28	40 x 70	29	↑	40 x 70	33	↑
	0,40	40 x 100	36	↑	-	-	-
	0,52	40 x 130	43	↑	-	-	-
	0,56	40 x 140	46	↑	-	-	-
	0,64	40 x 160	51	↑	-	-	-
	0,76	40 x 190	58	↑	-	-	-
	0,88	40 x 220	71	↑↑	-	-	-
	1,12	40 x 280	88	↑↑	-	-	-
	0,47	45 x 105	39	↑	-	-	-
	0,35	50 x 70	32	↑	-	-	-
	0,40	50 x 80	35	↑	-	-	-
	0,50	50 x 100	40	↑	-	-	-

	Light incidence (m <sup>2</sup> )	Daylight size (cm) iWindow2	Weight (kg)		Daylight size (cm) iWindow3	Weight (kg)	
Rectangular	0,55	50 x 110	43	↑	-	-	
	0,70	50 x 140	52	↑	-	-	
	0,85	50 x 170	60	↑	-	-	
	1,00	50 x 200	69	↑	-	-	
	1,15	50 x 230	84	↑↑	-	-	
	0,48	60 x 80	39	↑	-	-	
	0,54	60 x 90	42	↑	60 x 90	49	↑
	0,72	60 x 120	52	↑	-	-	
	0,78	60 x 130	55	↑	-	-	
	0,90	60 x 150	61	↑	-	-	
	1,08	60 x 180	71	↑	-	-	
	1,20	60 x 200	84	↑	-	-	
	0,70	70 x 100	50	↑	70 x 100	59	↑
	0,91	70 x 130	60	↑	-	-	
	1,05	70 x 150	67	↑	-	-	
	1,12	70 x 160	71	↑	-	-	
	1,40	70 x 200	85	↑↑	-	-	
	1,54	70 x 220	97	↑↑	-	-	
	0,79	75 x 105	54	↑	-	-	
	0,94	75 x 125	61	↑	-	-	
	1,24	75 x 165	76	↑	-	-	
	1,31	75 x 175	80	↑	-	-	
	1,69	75 x 225	114	↑↑	-	-	
	0,88	80 x 110	58	↑	-	-	
	1,04	80 x 130	66	↑	80 x 130	91	↑
	1,12	80 x 140	70	↑	-	-	
	1,28	80 x 160	78	↑	-	-	
	1,36	80 x 170	81	↑	-	-	
	1,44	80 x 180	86	↑↑	80 x 180	124	↑↑
	1,60	80 x 200	108	↑↑	-	-	
	1,76	80 x 220	117	↑↑	-	-	
	1,84	80 x 230	121	↑↑	-	-	
	2,00	80 x 250	149	↑↑	-	-	
	2,24	80 x 280	165	↑↑	-	-	
	1,08	90 x 120	67	↑	90 x 120	93	↑
	1,35	90 x 150	80	↑	-	-	
	1,62	90 x 180	98	↑↑	-	-	
	1,89	90 x 210	111	↑↑	-	-	
	1,30	100 x 130	77	↑	-	-	
	1,50	100 x 150	87	↑	-	-	
	1,60	100 x 160	106	↑↑	100 x 150	135	↑↑
	1,80	100 x 180	117	↑↑	-	-	
	2,00	100 x 200	127	↑↑	-	-	
	2,20	100 x 220	150	↑↑	-	-	
	2,30	100 x 230	145	↑↑	-	-	
	2,50	100 x 250	176	↑↑	-	-	
	1,73	105 x 165	112	↑↑	-	-	
	2,36	105 x 225	153	↑↑	-	-	
	1,54	110 x 140	108	↑↑	-	-	
	1,87	110 x 170	126	↑↑	-	-	
	2,53	110 x 230	162	↑↑	-	-	
	1,68	120 x 140	115	↑↑	-	-	
	1,80	120 x 150	122	↑↑	-	-	
	2,16	120 x 180	133	↑↑	-	-	
	2,52	120 x 210	151	↑↑	-	-	
	2,08	130 x 160	136	↑↑	-	-	

↑ with 1 built-in actuator

↑↑ with 2 built-in actuators

weight (±5%) = weight of the product, without packaging

## Remarks

Depending on the size and weight of the glass skylight, we recommend to use appropriate lifting equipment for transport and installation.

To avoid heat build-up under the transparent skylight (plastic, hybrid, glass) and therefore possible deformation or damage to the PVC curb, frame, skylight dome or electrical components, it is recommended that no closed surface (e.g. black closed attic hatch) is installed under the skylights. A reflective (e.g. white) surface and/or ventilation is recommended.

Rain detectetion is strongly recommended to e.g. prevent any water damage caused by downpours or and/or snow.

Flat glass skylight:

Maintenance: regular cleaning of the flat glass on the outside is necessary to avoid dirt accumulation and water stagnation (flat glass always slightly bends (up to  $\pm 5$  mm at 20°C), even when placed at a minimum slope of 4°).

## Attestations, certificates and documentation

- Fall-through-safety certificate DIN 18008- for Skylux iWindow2 or iWindow3 in combination with all Skylux PVC curbs or all Polyester curbs, namely for all dimensions. For sizes  $\leq 120 \times 120$  cm and  $\leq 100 \times 300$  cm, he residual load-bearing capacity after breakage remains valid according to the DIN 18008-6 certificate.
- According to performances of EN 1873:2014+A1:2016, but no CE, as there is no specific norm for glass skylights.

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