



iDome & iWindow Flex 2.0

Mounting instructions

01-06-2022

EN

Art.N° 82671

Safety

Take the necessary and required safety precautions, such as safety nets and lifelines when installing from the outside, safety goggles, gloves, hard hat, etc.
Do not step on the glass.



Falling from height

- When using ladders to go on the roof:
 - Ladder in good condition?
 - Set up correctly at an angle of 75°?
 - Secured below and on top against moving?
 - Don't take heavy material with you on the ladder (3-point contact rule)! If possible, use a crane to lift the material.
- Do not lift material over the roof edge; use a crane to put the material on the roof.
- Roof zone: make sure the part of the roof where the skylight/barrel vault will be installed is safe enough, e.g. secure the edge (support system in the roof gutter that supports against the outer wall of the building, with suitable A B C categorie depending on the roof pitch) or use a scaffold so no one can fall off the roof. If the roof is not safe enough, always use a harness with lifeline (adapted to the fall height), attached to a suitable attachment point.
- Make sure the roof is stable and does not have dangerous openings or insufficient secure parts (e.g. corrugated sheets, ...). Take the necessary measures if this is not the case: strengthen, use suitable safety nets below the danger zones, ...
- Before making the roof opening for the skylight/barrel vault: make sure there are safety nets conform to the current legislation. The nets must be attached firmly and sufficiently to the building.
- When using an aerial work platform: always wear and secure your harness (mandatory)! Leaving the cage is forbidden.
- Never walk backwards on a roof, always walk forwards.
- Make sure there's enough light in the working zone.



Low-hanging obstacles and falling loads



- Forbidden to walk under or within a radius of 1 m of a hanging or lifted load.
- Demarcate the danger zone below the skylight/barrel vault, in the building as well as on the outside near the outer walls (in case material slides off the roof). If the zone is demarcated, people cannot be hit by any falling loads. It's prohibited to enter these danger zones during construction.

Crushing hazard



- All working tools are in good condition, provided with a valid CE label and all necessary safety regulations. These cannot be removed.
- People who use these working tools are educated for this purpose. Protections are always present on all working tools. They are in good condition and need to be set correctly.

Tripping/falling



- Safety is key and it begins with order and tidiness. Clean everything immediately, leave nothing lying around.
- Trash needs to be sorted.
- Be cautious with electric cables (danger of tripping/falling). Never walk backwards!
- Make sure there's enough light in the working zone.



Sharp objects

- Make sure your fingers/hands are not pinched and watch out for cuts while handling skylights or barrel vaults.
- Be careful where you put your hands during the installation.
- Wearing cut-resistant gloves is mandatory.



Ergonomics

- Always lift loads correctly: bend your knees, move your feet instead of forcing your spine, lift as close to your body as possible.
- Parts of more than 25 kg must be lifted with at least 2 persons.



Personal protective equipment



- Work clothes, safety shoes and helmet are mandatory for everyone.



- Lifeline and harness are mandatory if the edge is not secured enough or if there are no safety nets below the roof opening. They are also necessary when using an aerial working platform.



- Use gloves when handling skylight or barrel vault parts.



- Safety glasses and hearing protection are mandatory when using saws / grinders.

Always perform a Last Minute Risk Analysis!

If in doubt: STOP! Do not take unnecessary risks. Ask your supervisor if needed.

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3 General

The iDome Flex 2.0 or iWindow2-3 Flex 2.0 is the openable hybrid/flat glass skylight for applications in flat roofs with integrated 230 V chain actuator in the frame.

Flex 2.0 is available in 2 versions:


- Without rain sensor
- With rain sensor

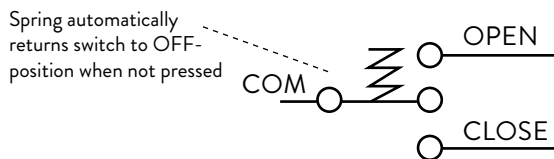
To prevent damage caused by rain or snowfall, we recommend the version with rain sensor.

This openable skylight is suited for fresh air ventilation.

Motor stroke length 25 cm.

4 Important information

- Read instructions carefully before installation. Keep these instructions for future reference.
- The operating voltage is 230 V AC.
- Make sure when establishing the connection that there is no voltage at the terminals! 
- Routing or installing of electrical cables and connections may only be performed by specialised companies.
- Your Flex 2.0 product is designed to be used with a **switch which automatically returns (spring loaded) to the OFF-position when not pressed!** Using a non-momentary switch which stays in either up or down position WILL cause damage to the chain actuator.



- To avoid crushing of body parts, the zone of the openable section must always be avoided during installation.

Version with rain sensor:

- Do not paint or lacquer the rain sensor.
- Dirt on the rain sensor may cause operating problems. Therefore, it is recommended to clean the rain sensor with a soft wet cloth once or twice a year or when required.

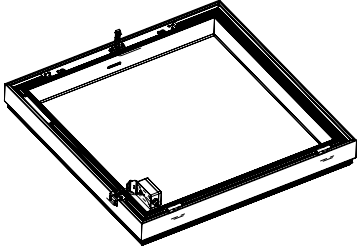

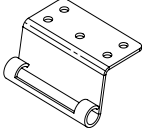

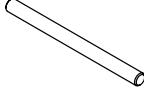





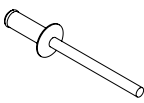




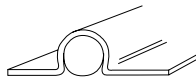
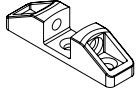
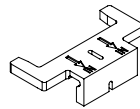
Before starting the installation or maintenance of the iWindow or iDome Flex 2.0, all necessary safety measures must be fulfilled. The iWindow2/3 Flex 2.0 or iDome Flex 2.0 needs to be installed by a professional.

Ask for the Declaration of performance (DoP).

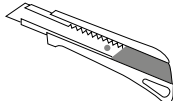

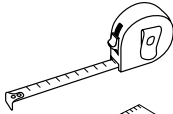

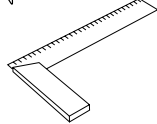

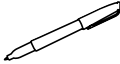

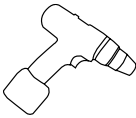


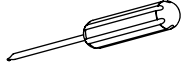

5 Before starting the installation of your Flex 2.0 product

- Check your roof inclination:
 - iDome Flex 2.0 : MIN. 0° - MAX. 25°
 - iWindow2/3 Flex 2.0: MIN. 5° - MAX. 25°
- A base curb is not included in your Flex 2.0 product. The base curb must comply to the requirements stated in point 8 of this manual: "Requirements base curb (not included in the Flex product)".
- An operating voltage of 230 V AC is necessary during installation.
- Provide suitable lifting gear or sufficient manpower (at least 2 persons) to install the heavy glass product.

6 Contents of delivery

	<p>PVC iOra frame with glass cover (iDome / iWindow) and rain sensor (*)</p> <p>(*) rain sensor optional</p>		<p>Chain bracket screw M6x30</p>
	<p>Bottom hinge stainless steel</p>		<p>Cross recessed screw with raised countersunk head Phillips DIN966 A-H Stainless steel A2 M5x20</p>
	<p>Threaded rod</p>		<p>Prevailing hexagon nut M5</p>
	<p>Hexagon socket mushroom head cap nut</p>		<p>Washer M5</p>
	<p>Hilo screw mushroom head / PH</p>		<p>Button head screw / hexagon socket M4x25</p>
	<p>Blind rivet</p>		<p>Hexagon lock nut M4</p>
	<p>Self-drilling hexagon washer head screw</p>		<p>Hilo screw countersunk head PH 4.8x25</p>
	<p>Cap nut M5 stainless steel</p>		<p>Rubber for cable</p>
	<p>Chain bracket</p>		<p>Chain bracket positioning tool</p>

7 Required tools

Utility knife		Drill bit diameter 12 mm	
Tape measure		Wrench SW 7	
Square		Wrench SW 8	
Marker		Allen wrench SW 5 for chain bracket screw M6 x 30	
Electric drill		Allen wrench SW 3 for screw M4	
Drill bit diameter 4.5 mm		Phillips screwdriver PH2	
Drill bit diameter 5.5 mm			

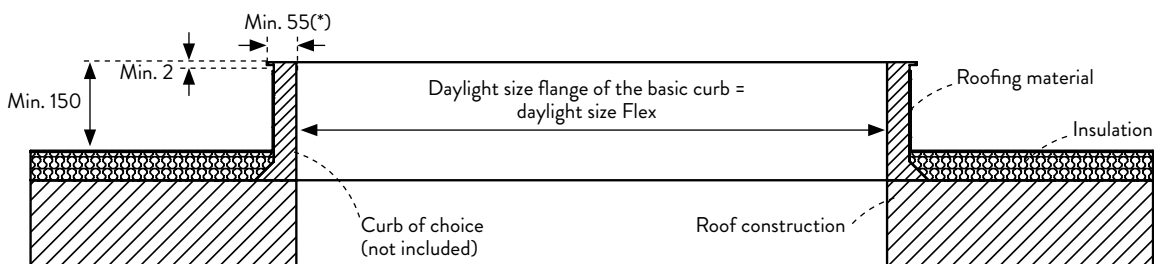
8 Requirements base curb (not included in the Flex product)

Your Flex 2.0 product does NOT come with a base curb.
 The Flex 2.0 skylight is optimized to use with a GRP curb.
 The Flex 2.0 skylight can also be used with a PVC curb.
 For a curb construction other than GRP or PVC: other mounting hardware may be necessary.

8.1 Curb construction

The curb (not included) must comply with the following conditions:

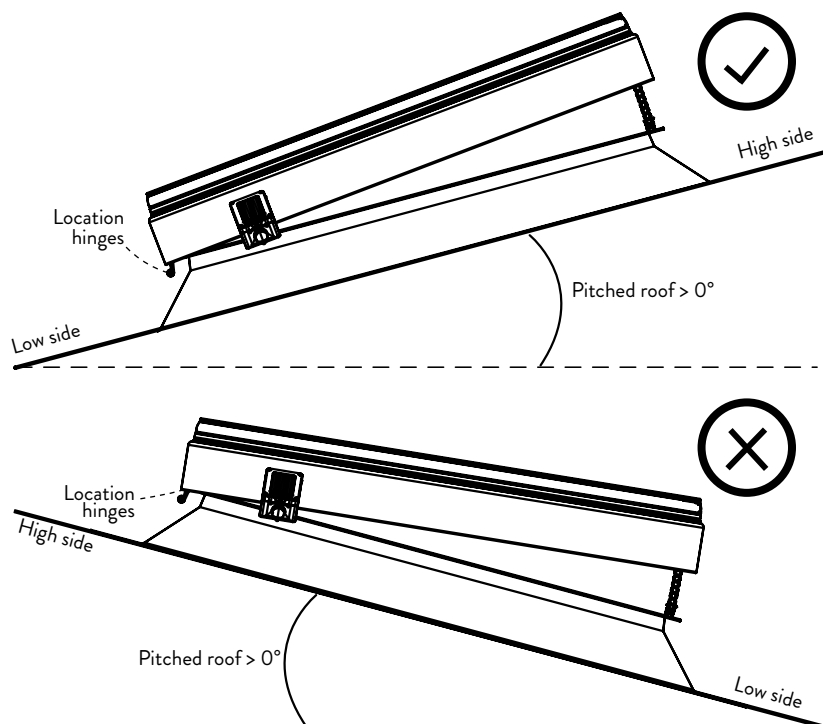
- Upper surface of curb: min. 15 cm above the roof insulation/roofing material
- The curb has a flange at the top of which the inside is equal to the daylight opening. The width of the top flange is at least 55 mm and max. 60 mm
- The thickness of the top flange is at least 2 mm and strong enough over the entire width of 55 mm
- The roofing material is pulled up to the top flange of the upper curb



9 Pitched roof & location of the hinges

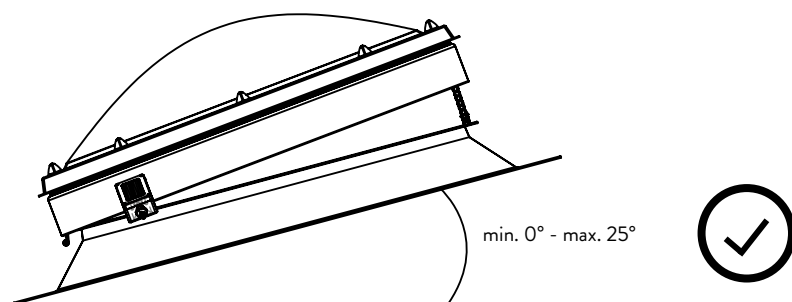
9.1 Pitched roof: location of the hinges

The hinges should always be located on the lowest side of the roof!



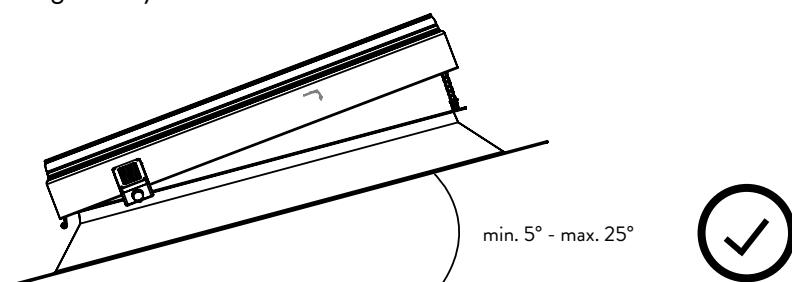
9.2 Minimum roof inclination: iDome

Pitched roof: iDome: roof inclination between 0° & max. 25°
Hinges always on low side.



9.3 Minimum roof inclination: iWindow2 & iWindow3

Pitched roof: iWindow: roof inclination between min. 5° & max. 25°
Hinges always on low side.

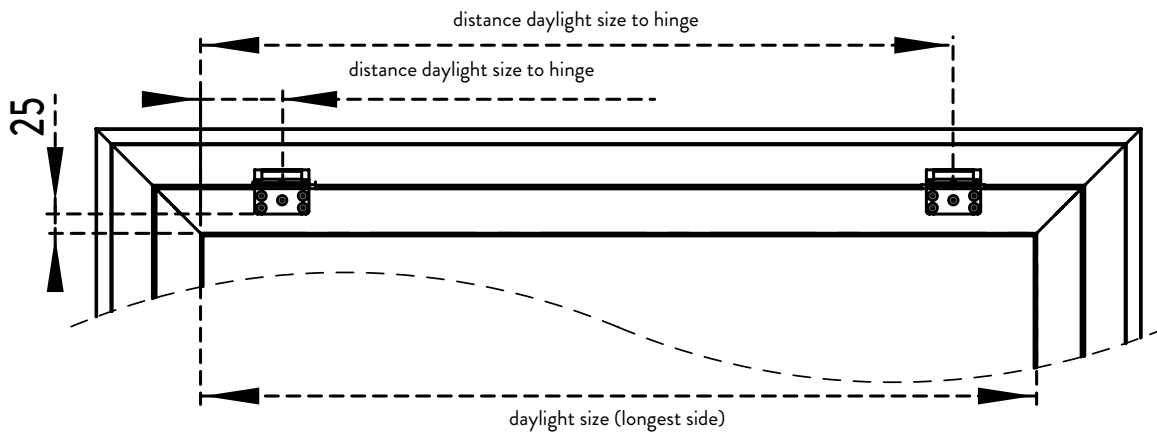


10 Mounting the hinges on the curb

10.1 Location of the hinges

Install the bottom hinges on the curb. Measure the distance from the daylight size to the middle of the hinges.

 It's important the hinges are positioned correctly!



Daylight size of the longest side (centre of the hinges) (mm)	Hinge 1	Hinge 2	Hinge 3	Hinge 4
400	50	350		
500	50	450		
550	50	500		
600	50	550		
700	50	650		
750	50	700		
800	75	725		
850	75	775		
900	100	800		
1000	100	900		
1050	100	950		
1100	125	550	975	
1200	150	600	1050	
1250	150	625	1100	
1300	150	650	1150	
1400	150	700	1250	
1500	100	750	1400	
1600	100	800	1500	
1650	100	825	1550	
1700	100	850	1600	
1750	100	875	1650	
1800	100	633	1167	1700
1900	100	667	1233	1800
2000	100	700	1300	1900
2100	100	733	1367	2000
2200	100	767	1433	2100
2250	100	783	1467	2150
2300	100	800	1500	2200

10.2 Mounting hardware for the hinges

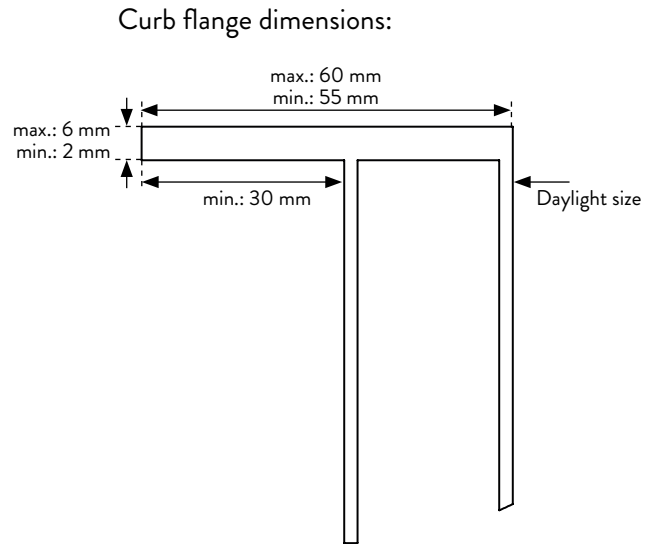
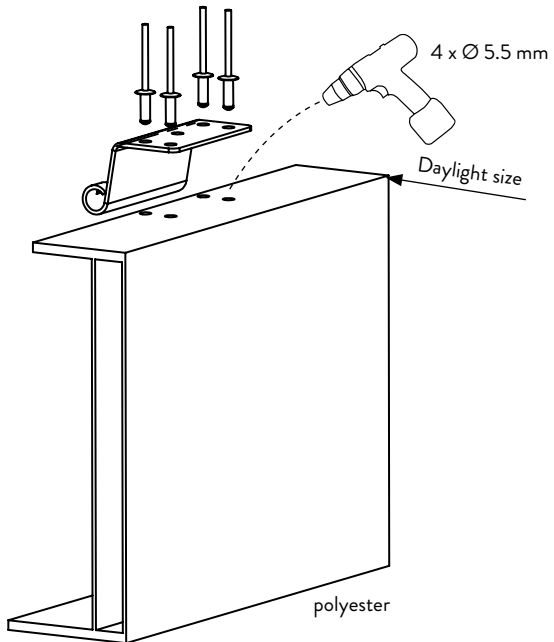
Use the appropriate hardware to mount the hinges on the curb!

Your Flex 2.0-product includes mounting hardware for **polyester**, **metal** or **PVC** curbs.

For other types of curbs or curbs with different flange dimensions: Use suitable mounting hardware to attach the hinges.

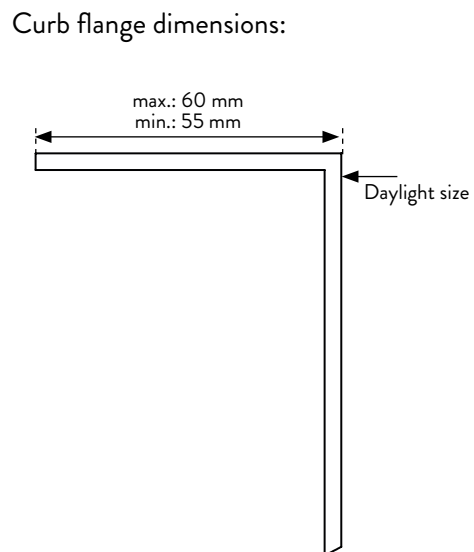
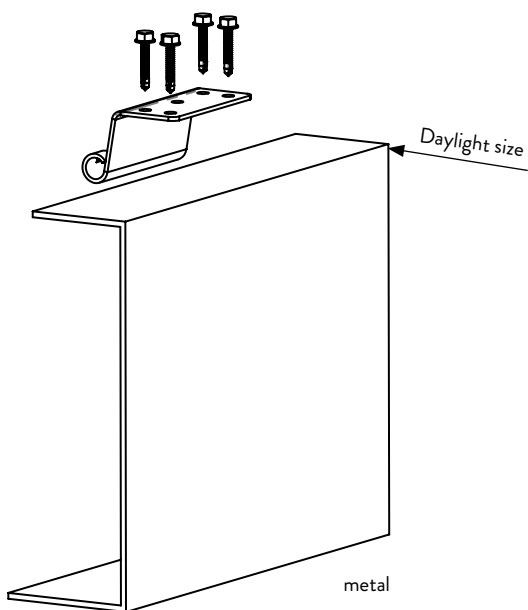
10.2.1 Polyester curb

Use the supplied rivets.
Pre-drill the holes with a 5.5 mm drill bit.



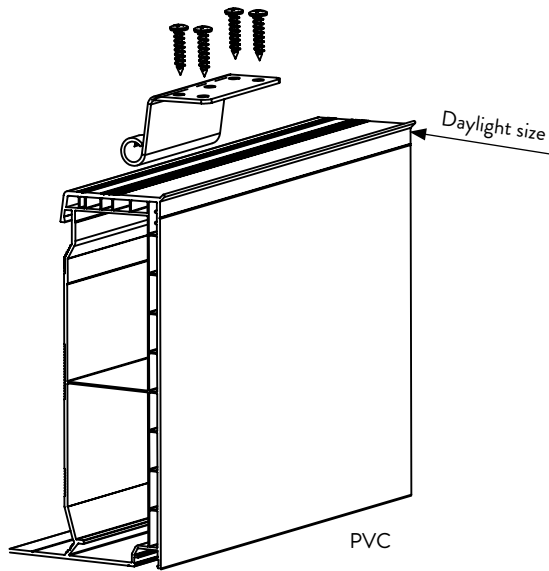
10.2.2 Metal curb

Use the supplied self-drilling hexagon washer head screws 4.8 x 25.

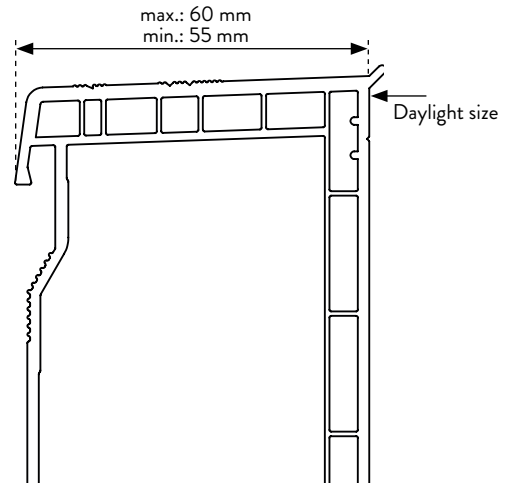


10.2.3 PVC curb

Use the included HILO screws mushroom head/PH.



Curb dimensions:



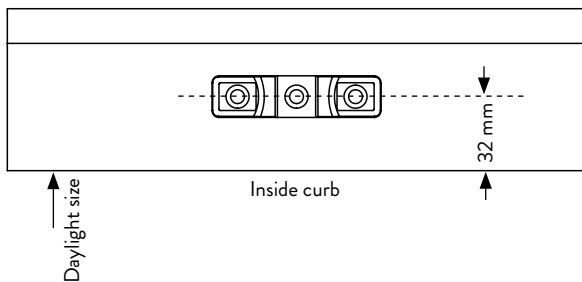
11 Mounting the chain bracket on the curb

11.1 Location of the bracket

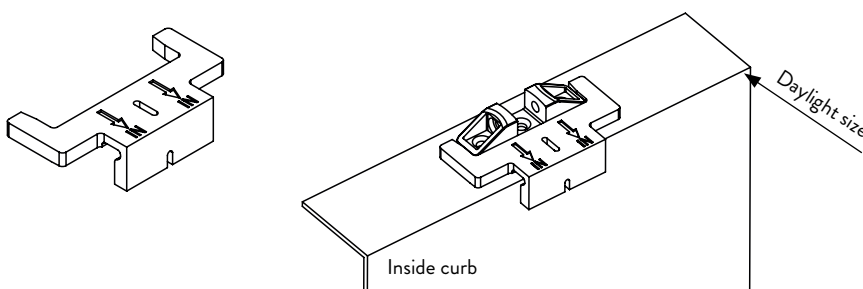


Important notice:

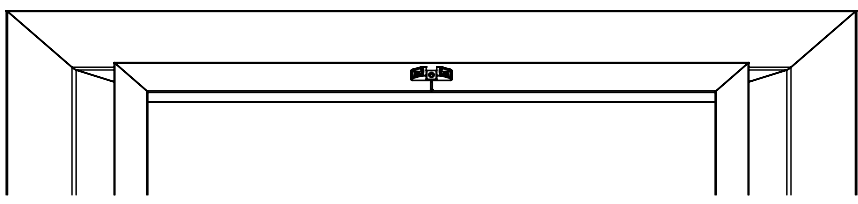
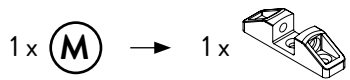
The middle of the chain bracket must be placed 32 mm from the daylight size (longest side).



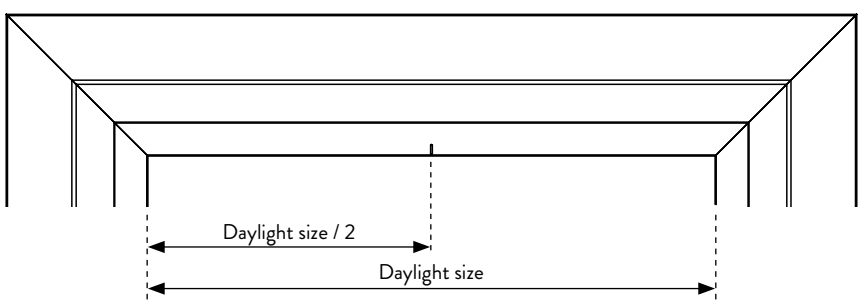
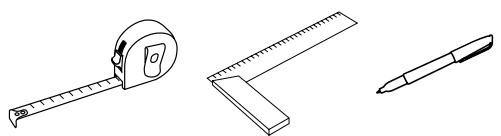
Your Flex 2.0 product includes a "chain bracket positioning tool" which can be used to obtain the correct position for the chain bracket:



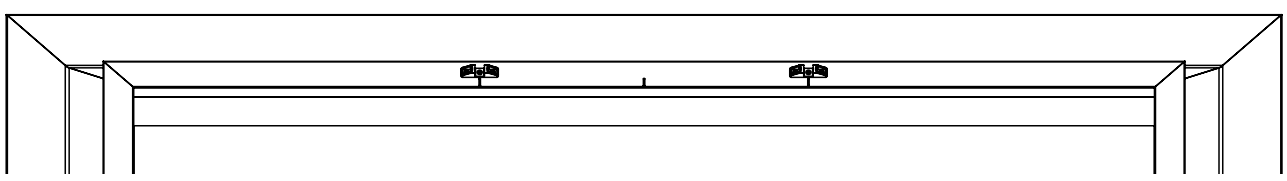
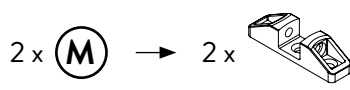
11.1.1 Single actuator: the chain bracket is positioned in the middle of the curb



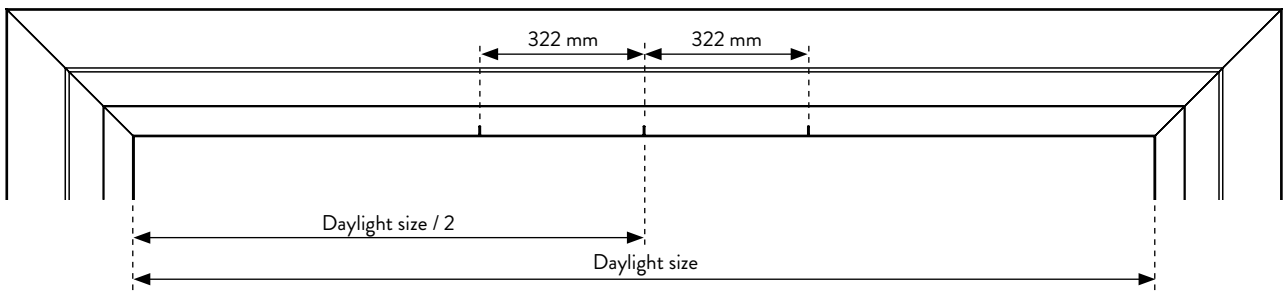
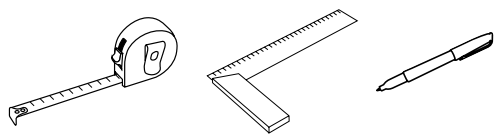
Accurately mark the position with a marker:




11.1.2 Double actuator: the middle of the chain bracket is positioned 322 mm from the middle of the curb



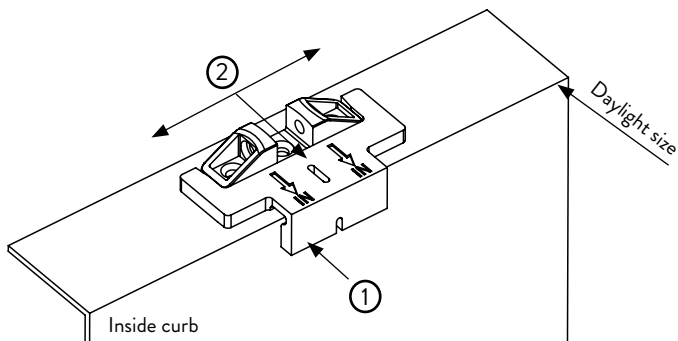
Accurately mark the 2 positions with a marker:



 It is important the chain bracket is positioned correctly!

11.2 Mounting the chain bracket to the curb

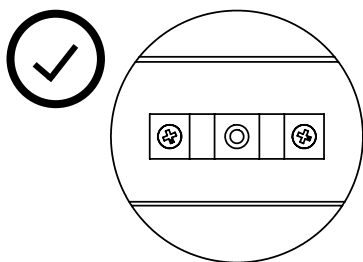
- ① Press the positioning tool against the inside of the curb.
- ② Align the slot in the positioning tool with the marking on the curb.



Use the appropriate hardware to mount the hinges on the curb!

Your Flex 2.0-product includes mounting hardware for **polyester**, **metal** or **PVC** curbs.

For different types of curbs or curbs with different flange dimensions: use suitable mounting hardware to attach the hinges.

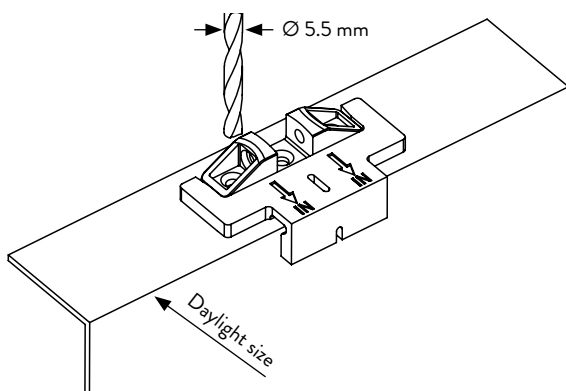


Only use the two outer holes!

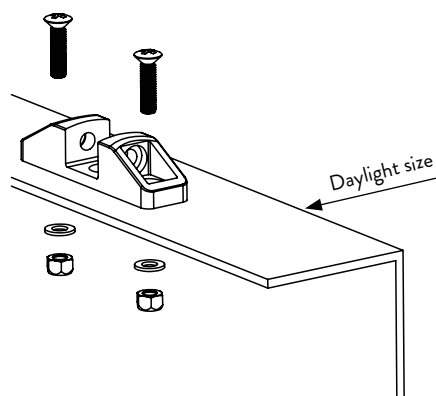
11.2.1 Polyester & metal curbs

Position the bracket correctly

Pre-drill with a $\varnothing 5.5$ mm drill bit

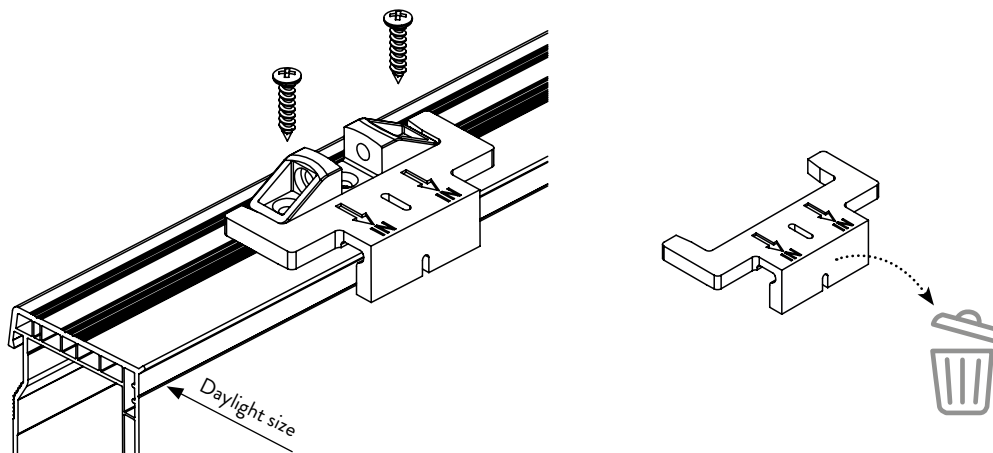


Fix the bracket with the included bolts, washers and nuts M5



11.2.2 PVC curb

Position the bracket correctly using the positioning tool.
Use the included hilo screws to fix the bracket.



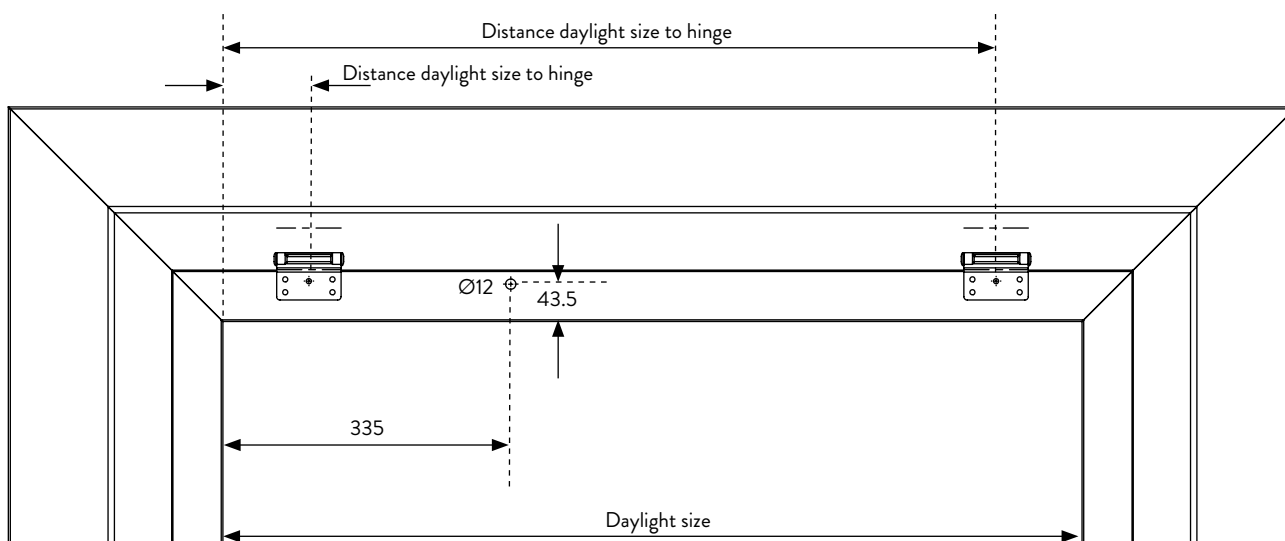
12 Preparation of the curb for cable

Your Flex 2.0 product is equipped with 1 electrical cable containing 6 cores.
This cable serves 2 purposes:

- Providing 230 V AC power
- Connection to a switch to operate your Flex 2.0 product

The cable comes out of the frame on the hinge side of the setup.
Drill a hole $\varnothing 12$ mm in the upper flange of the curb for the electrical cable.

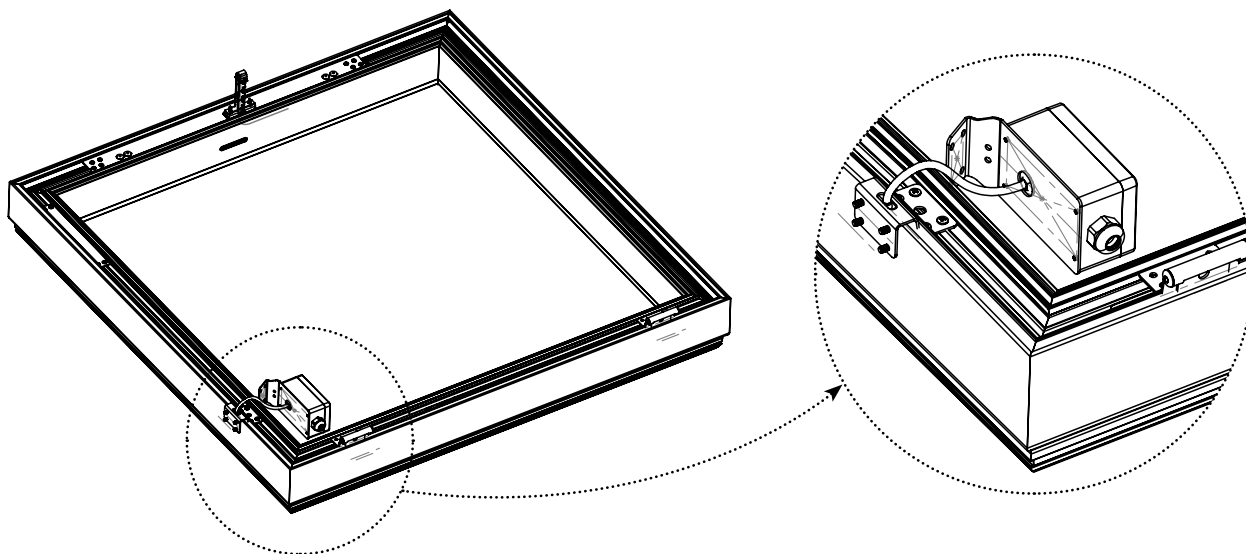
Top view



13 Pre-installing the rain sensor on skylight

Only if equipped with rain sensor.

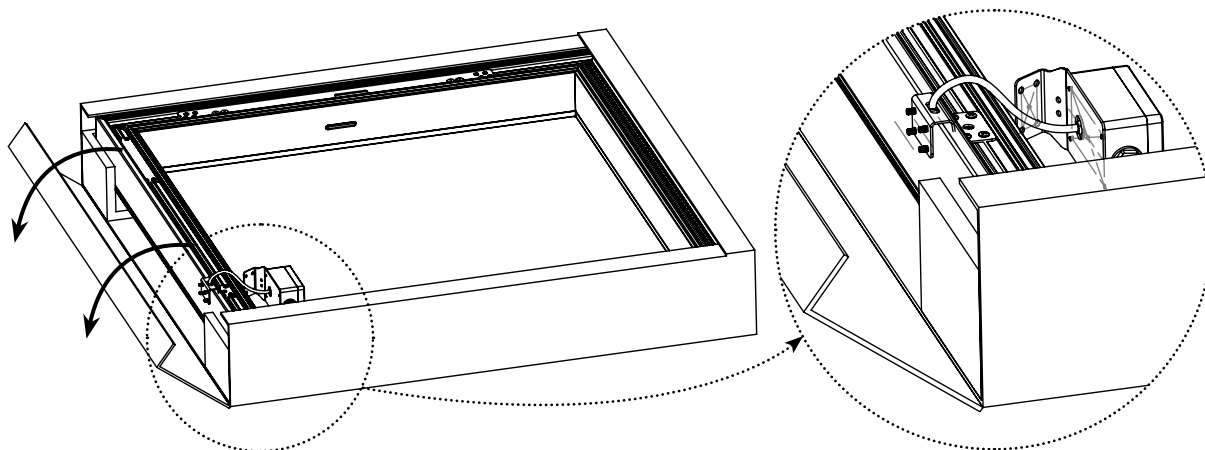
For transport, the rain sensor is stowed inside the skylight.



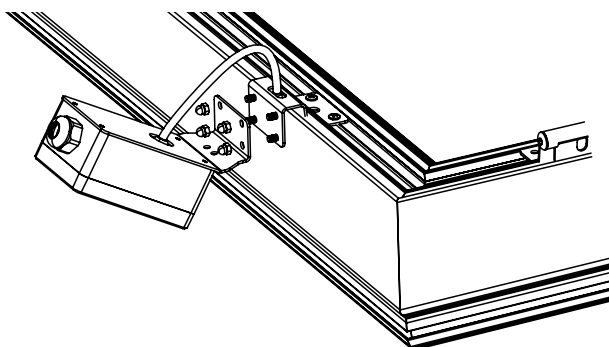
13.1 Mounting rain sensor on bracket

Before removing the skylight from the packaging:

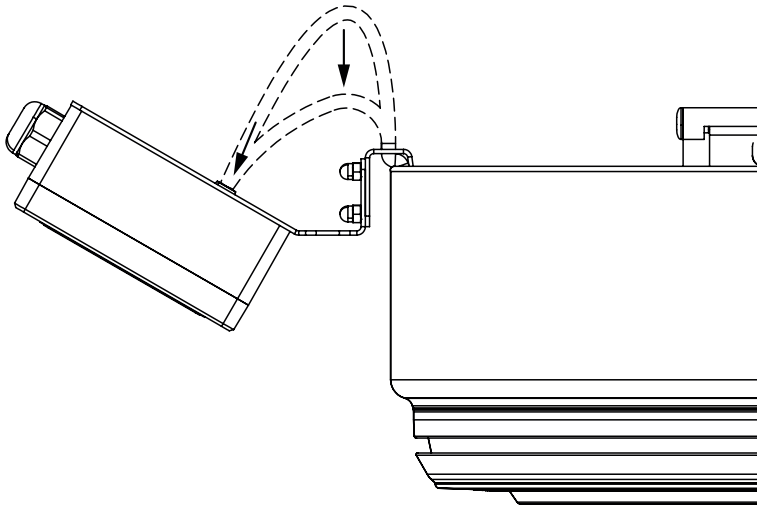
Open up the side where the rain sensor is located in order to have easy access to the rain sensor bracket.



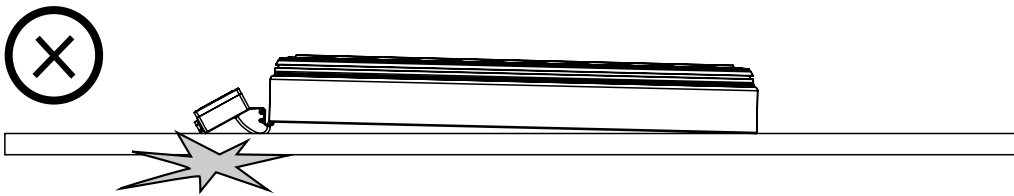
Use the 4 included hexagon domed cap nuts. Tighten with a wrench 8 mm.



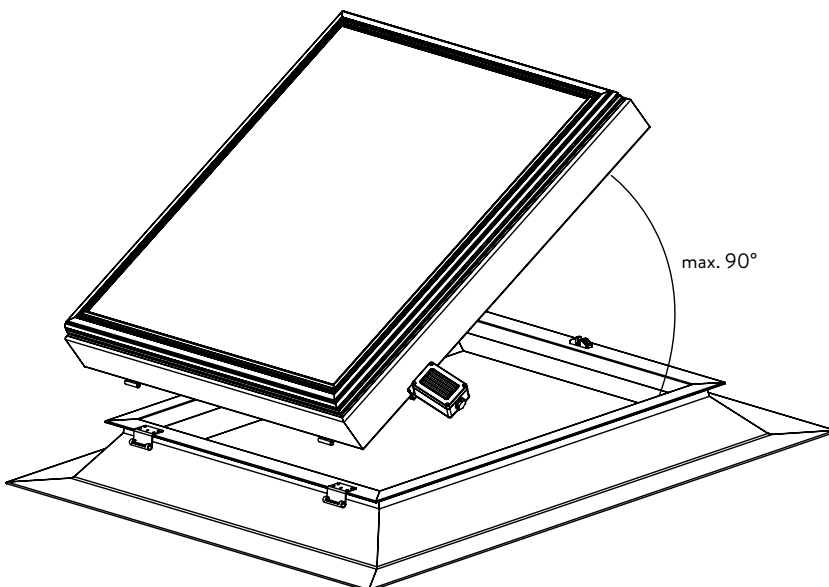
Slide excess cable into sensor.



Do not place the skylight with mounted rain sensor on the ground! This can cause damage to the bracket and or rain sensor! Keep the skylight with mounted rain sensor in the box until mounting on curb.

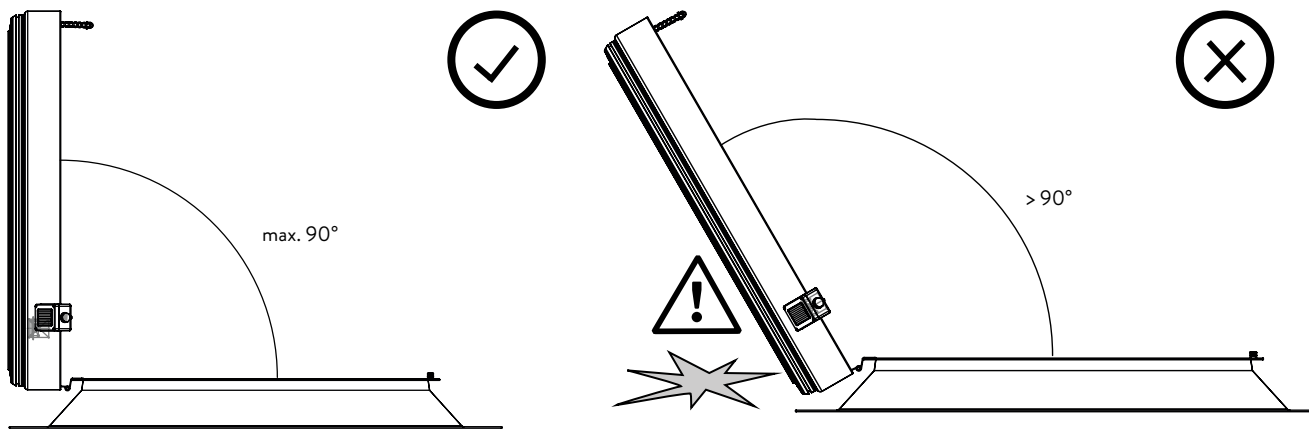


14 Assembly window with curb

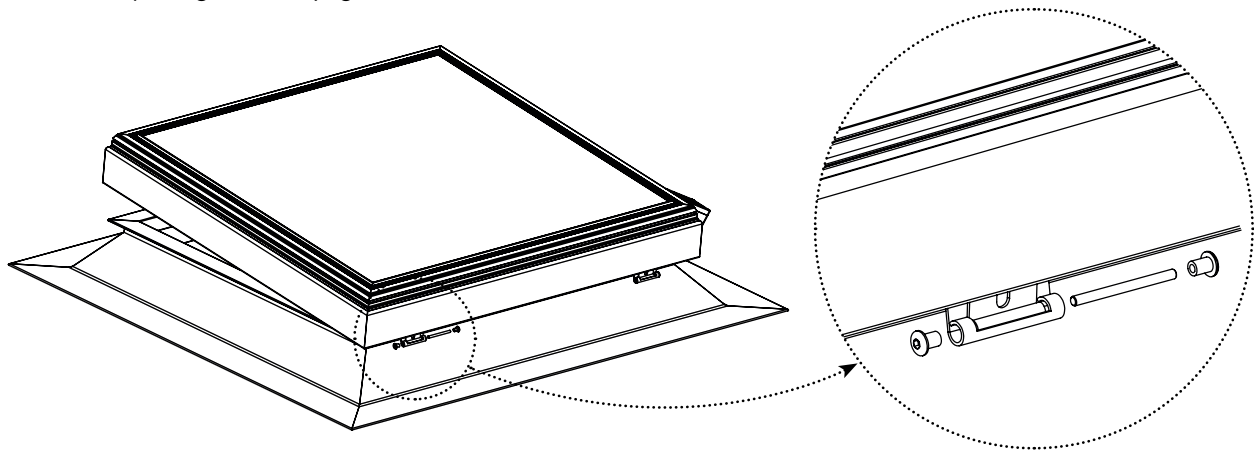


Lift and open the frame with glass cover at max. 90° and hold the frame in this position.

Turning over without support can cause damage!

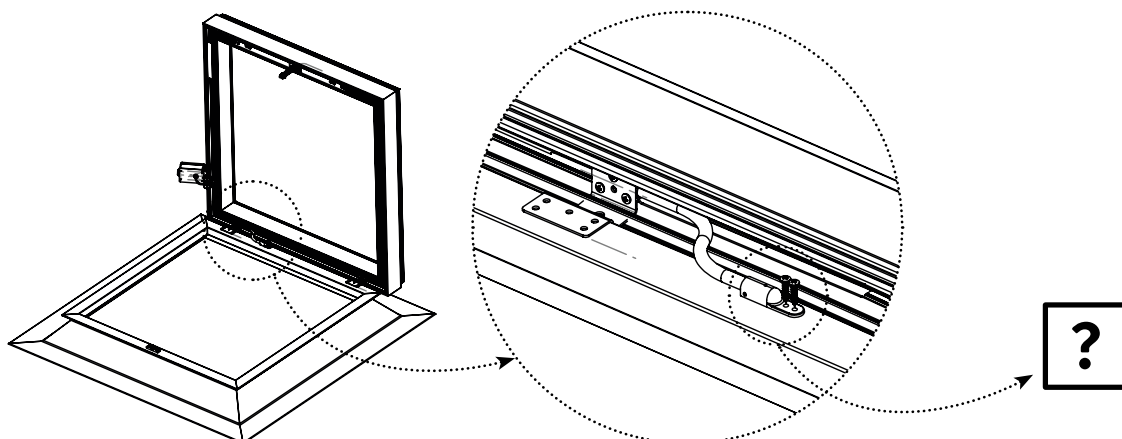


The hinge brackets are then permanently secured with the supplied threaded rod and two cap nuts. These can be made burglar-proof by adding a drop of Loctite to the cap nuts. This glue application may also help to prevent incorrect opening of the skylight after installation.



15 Electrical cable through the curb

Take the outgoing electrical cable and put it through the drilled hole in the curb. Fix the cable routing with the appropriate hardware.

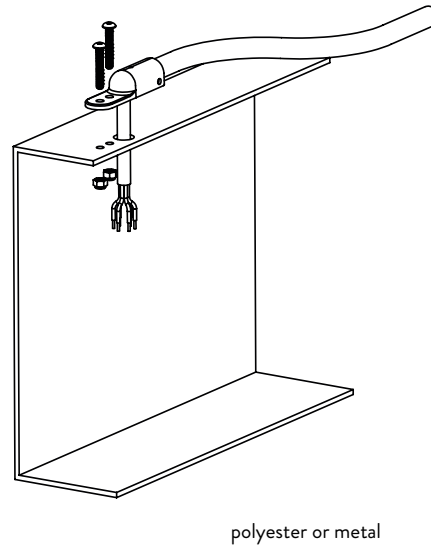
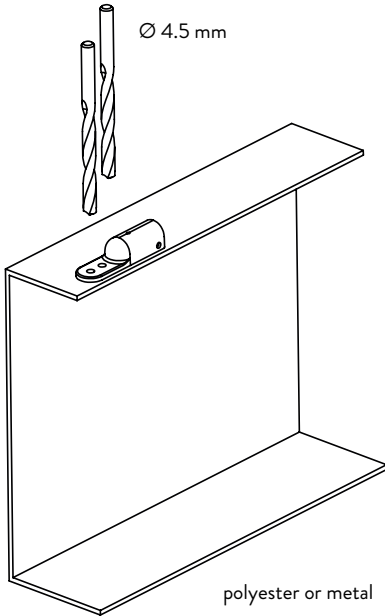




Polyester or metal curb?

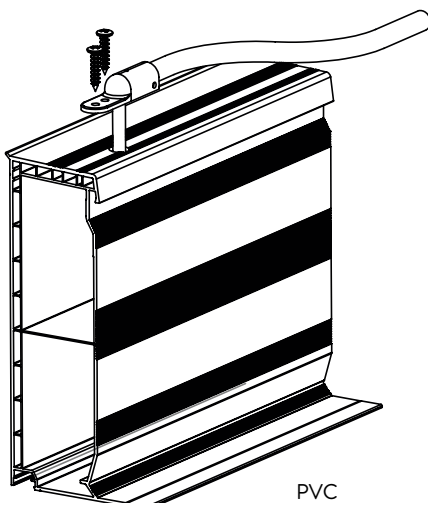
Use the cable routing as a guide to drill 2 holes in the curb.

Use the included M4 bolts and nuts to fix the cable routing.



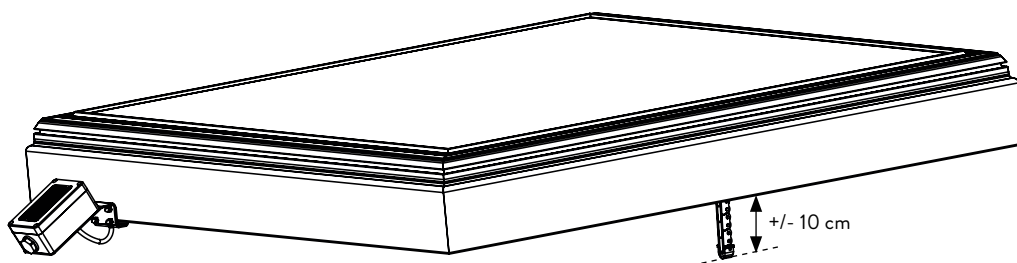
PVC curb?

No pre-drilling needed. Use the included screws to fix the cable routing.

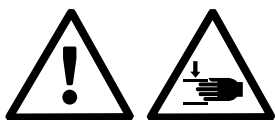


16 Actuator connection to chain bracket

Right out of the box, the chain length of your Flex 2.0 product sticks out approximately 10 cm. This is done so you do not need to have mains power to mount the chain to the bracket.

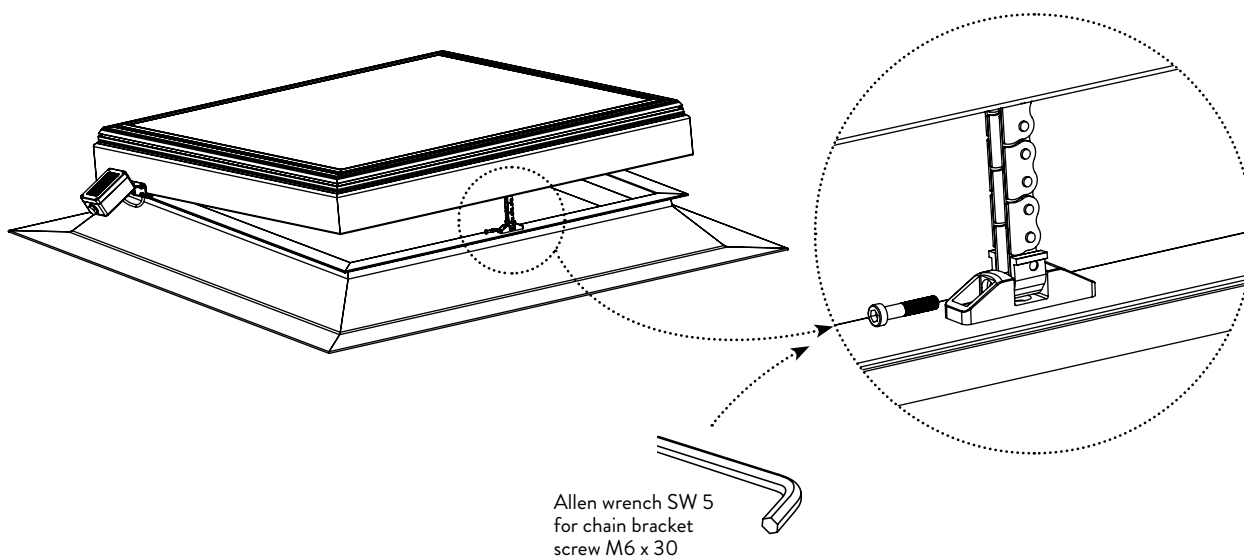


Remove any protection foam from the chain.



CAUTION: crushing hazard!

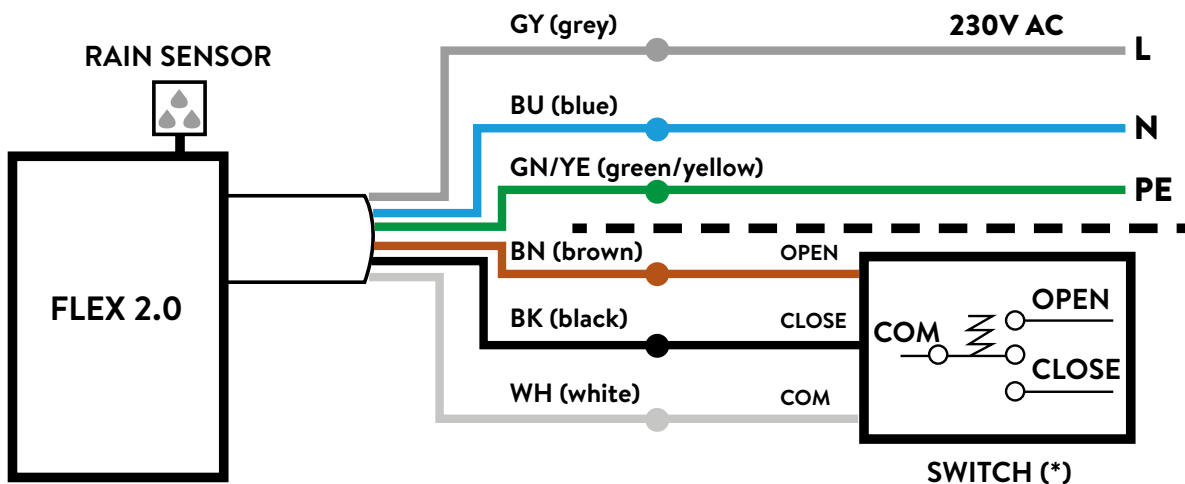
Safely place temporary spacer elements (e.g. wooden blocks) between the frame and the curb as assistance during the installation.



16.1 Electrical connection WITH rain sensor

In case your Flex 2.0 product is equipped with the optional rain sensor:

Wiring diagram for connection of single or double actuator. Both versions have the same cable output. Use this diagram if your Flex 2.0 product is equipped with a rain sensor:



(*) WARNING

Only use a switch which automatically returns (spring loaded) to the OFF position when not pressed!

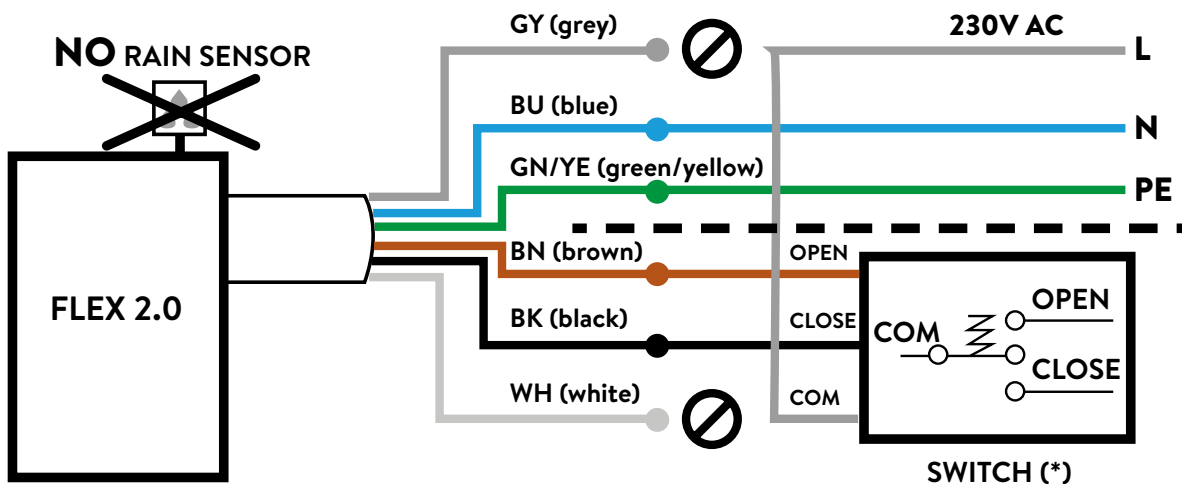


Make sure when establishing the connection that there is no voltage at the terminals!

Connect the grey (GY) wire to the live wire of your 230 V mains power.
Connect the blue (BU) wire to the neutral wire of your 230 V mains power.
Connect the green/yellow (GN/YE) wire to the ground of your mains power.
Connect the white wire to the common contact of your switch.
Connect the brown wire to the “open” contact of your switch.
Connect the black wire to the “close” contact of your switch.

16.2 Electrical connection WITHOUT rain sensor

Only if your Flex 2.0 is delivered WITHOUT rain sensor.



Not connected



(*) WARNING

Only use a switch which automatically returns (spring loaded) to the OFF position when not pressed!



Make sure when establishing the connection that there is no voltage at the terminals!

Leave the grey (GY) and white wire as open ends.

Connect the live wire of your 230 V mains power to the COM contact of your switch.

Connect the blue (BU) wire to the neutral wire of your 230 V mains power.

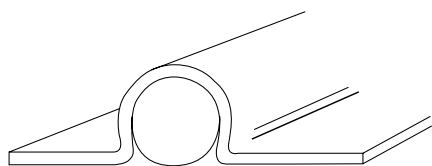
Connect the green/yellow (GN/YE) wire to the ground of your mains power.

Connect the brown wire to the “open” contact of your switch.

Connect the black wire to the “close” contact of your switch.

Setup cable passage can be used:

If the installation of the cable towards the inside of the new or existing curb is difficult, then the cable can also be laid on the outside of the roof structure by using the **supplied rubber cable passage**.



17 Disassembly

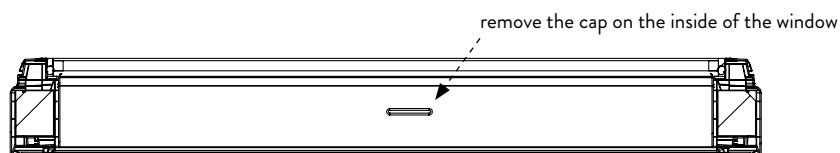
(When having problems with the power supply or actuator.)

Remove the small white cap on the inside of the window (on the side of the actuator).

Use two small objects to push in both holes of the actuator.

The window can now be opened manually.

WARNING: the Flex 2.0 is not suited for frequent roof access!



iWindow2/3 Flex glass skylight

Remove all protective foil and stickers with tips (maintenance tips and tips for the installer). When finished, the product is ready to use.

iDome Flex hybrid skylight

The hybrid skylight must always immediately be provided with a single- or double-walled plastic skylight of choice. There cannot be any damp or dirt between the glass cover and the plastic dome. Remove all protective foil and stickers with tips (maintenance tips and tips for the installer) and mount the skylight according to the mounting instructions of the skylight. When finished, the product is ready to use.

18 Technical information

Version	Voltage	Pushing force	Pulling force	Stroke	Velocity
Single actuator	230 V AC	600 N	600 N	250 mm	12.5 mm/s
Second actuator (*)	24 V DC	600 N	600 N	250 mm	12.5 mm/s

(*) For Flex 2.0 with 2 actuators

- Voltage: 230 V AC \pm 10% / 50 H
- Leakage current: < 2 mA / 240 V AC
- Open / close velocity: \pm 40 s
- Life cycle: > 10,000 activations
- Work cycle: 10% max. 2 min / 18 min
- Temperature range: (-10°C to + 60°C)
- Rain sensor: 12 V DC

