

Lumon 5

Balcony Glazing



Balcony glazing – be inspired.



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Lumon 5 Balcony Glazing			
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Four seasons in balcony glazing



Lumon balcony glazing compliments a variety of furnishings and decor to complete a pleasant and functional leisure space. Lumon's quality materials will also ensure protection from nature's outside elements – plants will thrive in the spring sunshine as they start their growth season early.

Lumon balcony glazing is designed to work in harmony with your lifestyle. What could be more enjoyable than sitting with friends on your balcony enjoying a coffee and watching the sunset...



Lumon – style, useability and satisfaction



Lumon balcony glazing offers so much more. This is exemplified throughout the seasons, where our glazing prevents dirt, rain, snow, wind, flying debris and leaves in your balcony. Environmental noise is also dampened down. The warmer climate resulting from our glazing means spring starts early.

In the warmer months the glazing can be opened up completely so you can enjoy the fresh air and sunshine.

The clean, aesthetically pleasing Scandinavian design of Lumon balcony glazing combined with great useability forms the perfect balcony glazing solution.



Quality is in the smaller details



The finer technicalities and components of Lumon balcony glazing come together to maximise useability. Small profiles and design details create a stylish wholeness and a product that is easy and comfortable to use. Our balcony glazing can be completely opened aside, so cleaning is made safe and easy.

Whether you choose ventilation crack, partly open or whole view/wide open positions, Lumon balcony glazing satisfies the user's needs.

Technical Description

The balcony glazing system consists of two horizontal aluminium profiles which are attached to the balcony's ceiling and balustrade. Toughened glass panes are attached to the profiles through separate mechanisms which allow the panes to slide and turn.

The panes are made of 6 or 8 mm toughened glass. The table of recommended glass pane sizes shows the optimal glass thickness for various circumstances. Toughened glass is not easily broken and if it is, it shatters into small, blunt fragments that do not pose a serious risk of injury.

Aluminium glazing beads are attached to the upper and lower edges of the panes with the help of flanges which have been ground to the upper and lower edges of the pane. Fastening is secured by gluing. The upper and lower glazing beads are provided with components which enable sliding and opening of glasses.

The first pane is opened by unlocking the handle and it can also be locked in the ventilating position. The handle can be provided with a lock. The other panes can be moved by sliding and turning. When the panes are turned, their hinges lock to the chamfers in the profiles. The glazing can hence be opened completely. On L- and U-balconies, glass panes can slide round +90° ... +270° corners.

In Lumon 5 glazing system, the pane size has been modularized by scaling the width and height of the pane every 20 mm. Adaptation to the balcony structure is realized with edge seal, attachments and telescopic profile. Panes deviating from module size are available on special order.

The upper profile is attached to the ceiling through a telescopic profile or to the overhang with mounting brackets. The lower profile is attached with mountain brackets or through the bottom of the profile to the balustrade structure. Corrosion-resistant fasteners must be used to attach the system to the balcony structures.

Rainwater is drained off by using water sills made of plastic-coated steel sheet or aluminium sheet.

A seal is used to close the gap between the glass pane and the wall.

1. Aluminium profiles

The upper and lower profiles and the glazing beads are made of aluminium and are polyester powder-coated or anodised; anodising is available on special order.

The upper and lower profiles are selected on a case-by-case basis.

The standard colours are:

- RAL 9006 grey
- RAL 9010 white
- RAL 7024 dark grey

Other colours and anodised coatings are available on special order.

2. Glass panes

The balcony glazing panes are cut from 6 or 8 mm toughened glass (s. 4-14). For a more detailed specification, see the table of recommended glass pane sizes

10.1-10.6). The panes have ground edges. All the panes comply with the requirements of the EN 12150-1 and EN 572-8 standards. The ground flanges of the panes are attached to the glazing beads and secured with glue.

Fixed and hinged panes used to close openings on the balcony are made of 6 mm toughened glass.

The panes used in balcony glazing systems are usually transparent, so that the external appearance of the building remains virtually unchanged. Stained or sand-blasted panes can also be used.

3. Hinges and sliding parts

A hinge with rollers and an upper guide are attached to the upper glazing bead. The hinge and the lower guide are attached to the lower glazing bead. When the pane is open, it is attached to the profile of the upper and lower edges of one vertical side. All parts are made of aluminium, stainless steel or high quality plastic material. The visible plastic parts are light or dark grey, according to the order, while the plastic parts located inside the profiles are always dark grey.

4. Seals

There is a light or dark grey silicone seal between the lower profile and the glazing bead. A 20-30 mm silicone seal is provided between the side wall and the outermost pane. A transparent PVC seal can be used between the panes, if necessary. A ceiling seal of the telescopic profile is used between the telescopic profile and the ceiling.

5. Fasteners

The upper and lower profiles are attached to the concrete structures with corrosion-resistant wedges or expansion anchors or concrete screws. The screws are made of stainless steel, while the brackets are made of aluminium.

6. Flashings

All flashings, such as water sills and corner flashings are made of 0.5 mm plastic-coated steel sheet or aluminium sheet, depending on the project. The manufacturer's colour chart shows the colours available for the steel flashings. RR chart colours are used for deliveries from the factory. Aluminium flashings are painted according to the RAL colour chart.

General instructions

Ventilation

Ventilation on the balcony is provided through the 1-3 mm gaps between the panes. The first pane can also be locked in the ventilating position so that it remains slightly open. **IMPORTANT!** Ventilation of the balcony is necessary to prevent the condensation of moisture and to keep the balcony structures in good condition.

Sealing

Lumon balcony glazing provides protection from the elements. However, in certain conditions, rain or snow may enter the balcony through the gaps between the panes.

Thermal insulation

The Lumon balcony glazing system consists of uninsulated aluminium profiles and single glass panes. A glazed balcony is not a warm space and its characteristics are not comparable to those of normal warm living spaces. Even after the balcony has been glazed, heat insulation continues to be provided by the insulated wall of the building, the window facing the balcony or the balcony door.

Noise control

Lumon balcony glazing reduces traffic noise by 8-12 dB. This decrease is as much as half of heard noise.

Cleaning

Both the inner and outer surfaces of the panes can be washed from inside the balcony, as the panes can be turned inward for cleaning.

Manufacturing

Lumon balcony glazing systems are made to measure specifically for each balcony. All materials and components related to the basic product are supplied by the factory, while accessories are delivered to order. For a specification of the content of the delivery, see page 9-4.

Official regulations

Balcony glazing systems are subject to permission. The local official regulations relating to balcony glazing systems must be checked beforehand. Balcony glazing causes minimal changes to the visual appearance of the building, as the glazing system can be made of transparent glass and no vertical profiles are used.

Special cases

The solutions specified in the technical file may not be applicable in all circumstances. In these cases, the solutions to be applied must be planned on a case-by-case basis.

Specific instructions

Height of the balustrade

The total height of the balustrade must be more than 1.0 m; the protective section of the balustrade must be higher than 0.7 m. A separate handrail must be provided behind glass panes that can be opened if the upper surface of the lower profile is less than 1.0 m from the balcony floor. Should the lower profile double as a handrail, its attachment must be checked against loads specified in the Building Regulations.

Opening the panes / using the balcony

Corner and U-balconies have panes that are opened only for cleaning. On some balconies, the panes and the door may open in the same place. Drainage pipes, pillars and other structures must also be taken into account when designing balcony glazing systems.

Structures

Glazing causes vertical loads on the structures of the balcony ceiling. The maximum deflection a vertical load is allowed to cause is 3 mm. The maximum weight of an individual pane is 45 kg. At the end of the balcony where the panes are opened, one point, i.e. where the upper profile is attached to the ceiling, takes the weight of the entire system. Check the strength of the fastening and of the structure. The balustrade must be sufficiently strong at the point where the lower profile is attached, and this point must withstand the additional wind load caused by the glazing.

Opening rules

- it is possible to open up to 9 glass panes on your right and left side. (see measurement chart)
- it is possible to have one fixed glass pane on both sides
- maximum glass width is 960 mm
- minimum width for opening glass is 300 mm or 16 % of glass height
- minimum width for fixed glass is 200 mm or 14 % of glass height
- you can change hinge location maks. 300 mm or < 30% of glass width, see page 4
- if there is only one glass on side which opens, the edge can not be 90°-135° on a structure corner (corner joints can not be opened against each other), see page 3-5

Corners

- the angle between the left hand wall and the glazing, is called starting angle
- the angle between sides, is called structure angle
- the angle between right hand wall and the glazing, is called ending angle
- corners are measured from inside the balcony
- in case where a structure divides the glazing, you have to handle the glazings individually (against the structure it is either starting- or ending angle, not structure angle)
- the size for starting- and ending angle is 40°-140° (viewing inside)
- opening angle for the opening glass is 60°-130° (note obstacles)
- structure angles are 90°-270°

Over the corner glazings

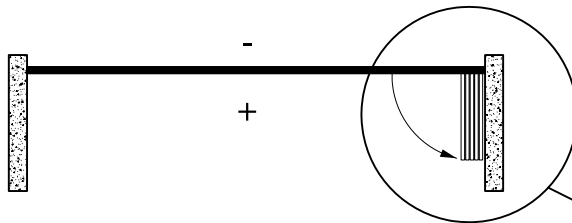
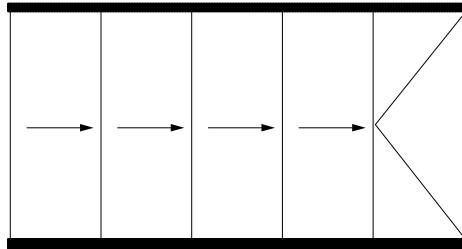
- 90°-270° angle is possible on over the corner glazings
- overall there can be 9 glass panes on one opening, includes both sides (= 9 glass / pack)
- there must be at least two glass panes on opening side, if over the corner angle is under 177° or over 183° , see page 3-7

Straight balcony:

Glass panes can be opened right, left or both ways

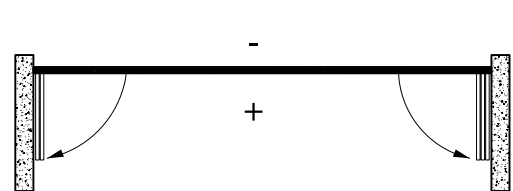
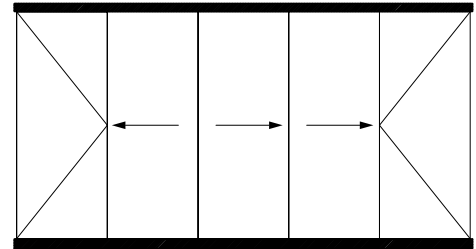
one way opening glazings

left 0 glass right 5 glass

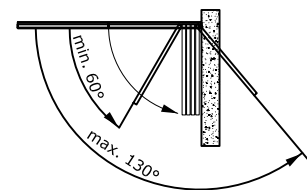


both ways opening glazings

left 2 glass right 3 glass

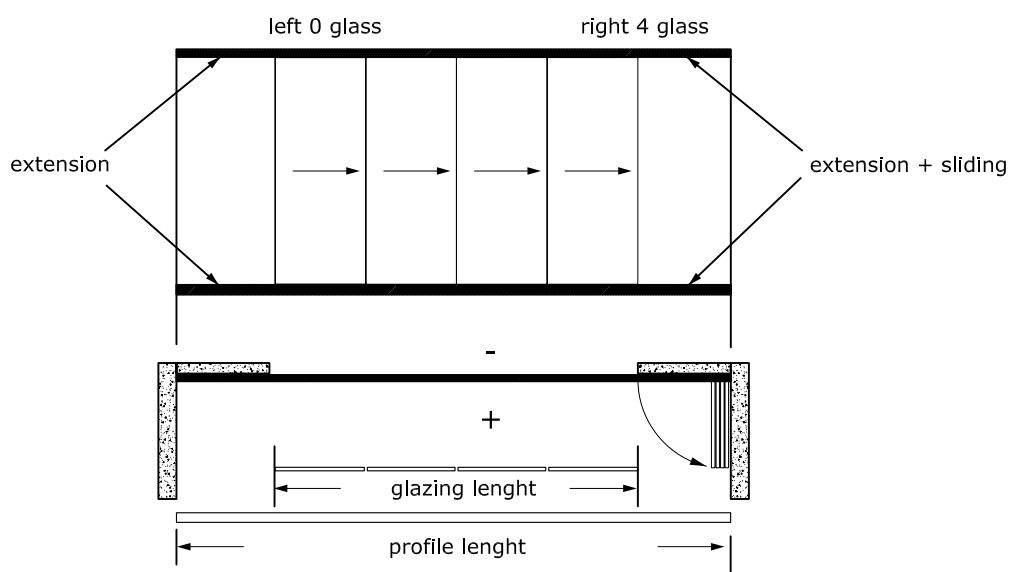


glass openings in pack:



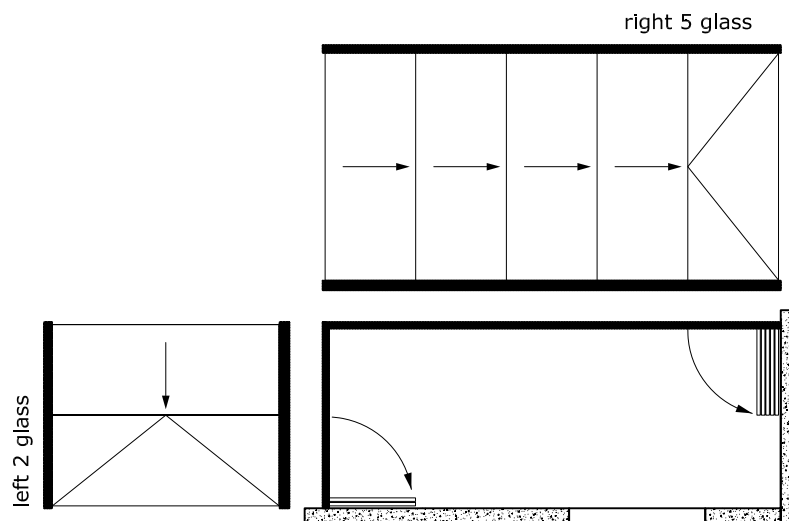
Extension and sliding:

Straight glazing opens to the right, which has a solid precast element



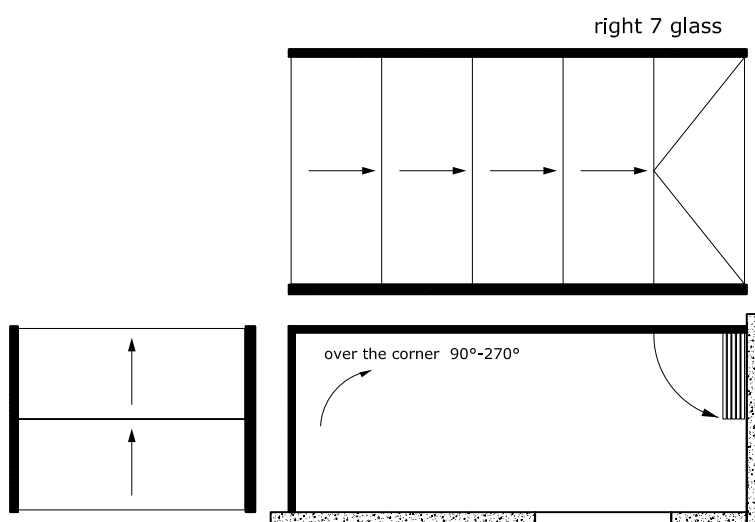
Glazing ends to precast element, yet opens in the far end of the profile.
Profile extension has to be at least 40 mm.
In this case you can not install the latch.

Corner balcony:
On two sides opening balcony



To one side opening glazing, where the glasses slides over the corner.

NOTE! There must at least two glasses on the opening side.



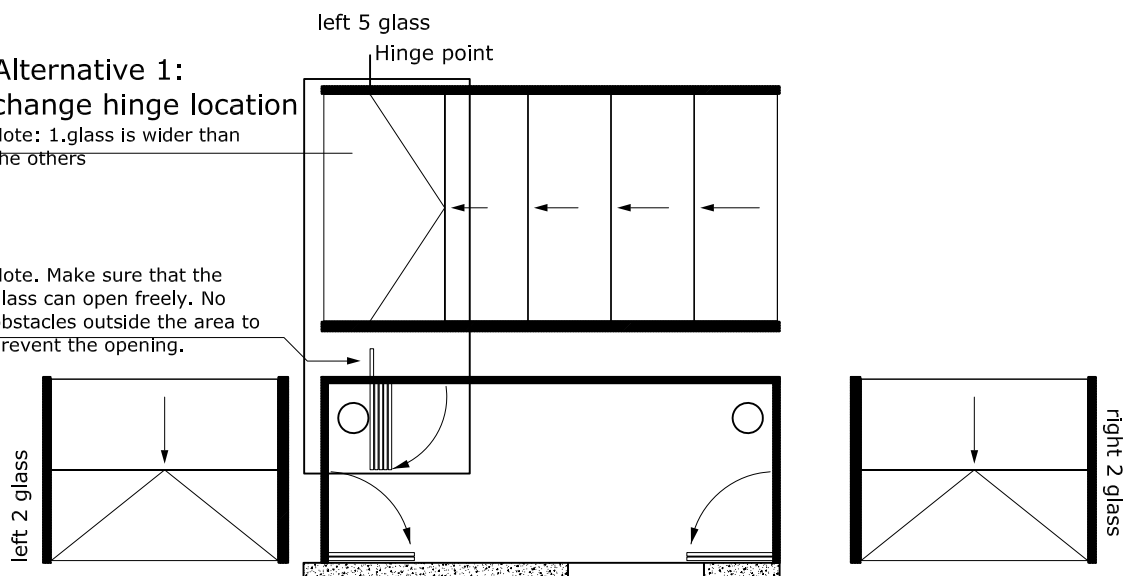
Balconies, which has an obstacle, for example a waterpipe or a column.

On three sides open out corner balcony
90 degree

Alternative 1: change hinge location

Note: 1.glass is wider than the others

Note. Make sure that the glass can open freely. No obstacles outside the area to prevent the opening.



In case there is an obstacle on the opening end, which prevent the normal opening, you have to change the hinge location on the first glass.

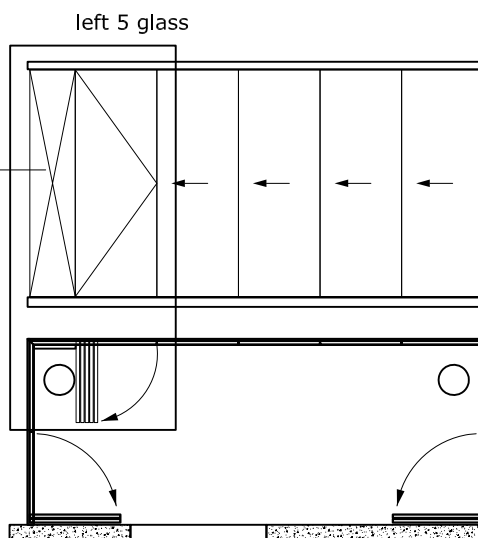
To change the hinge distance is max. 30% from the glass width or 300 mm most.

NOTE! You must order the glass that much wider, how much is the change.

Otherwise you take alternative 2. where you put a fixed glass pane on front of the obstacle.

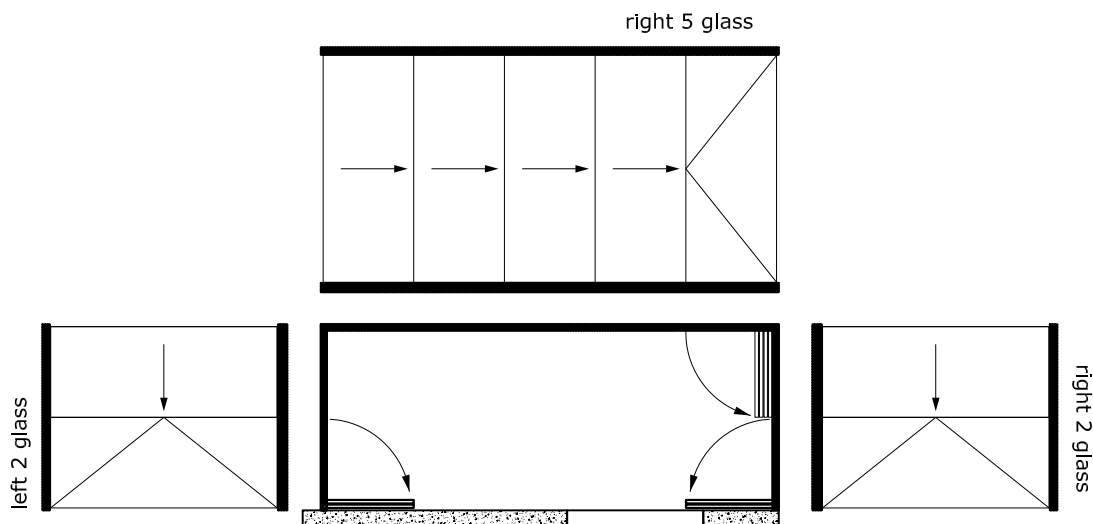
Alternative 2: Fixed glass pane

fixed glass pane min. 200mm width,
at least 14 % from the height
- if the glass width is 10-14% from the height you must support the glass on one side. Example with an F-list.



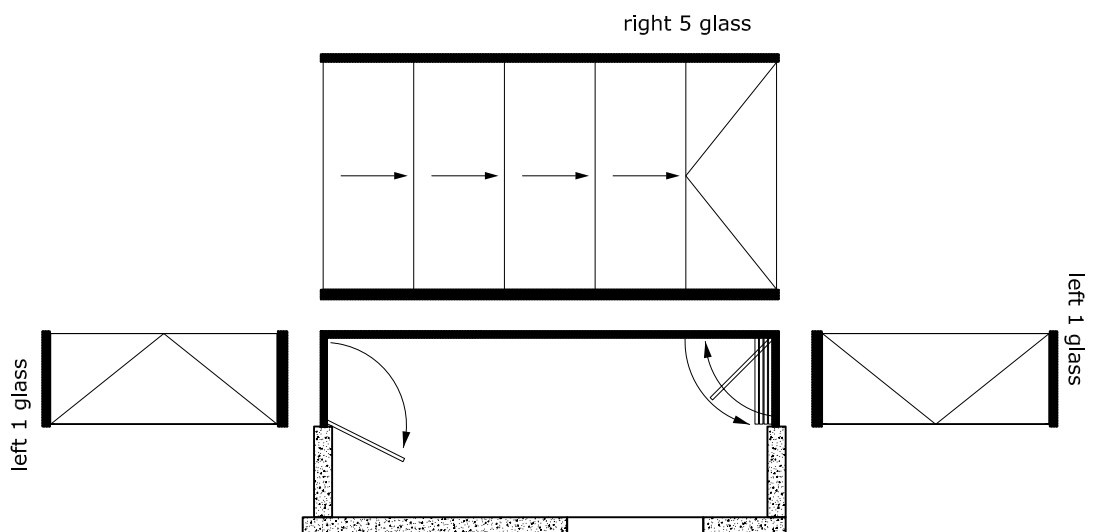
Corner balcony which opens on three sides

90 degree



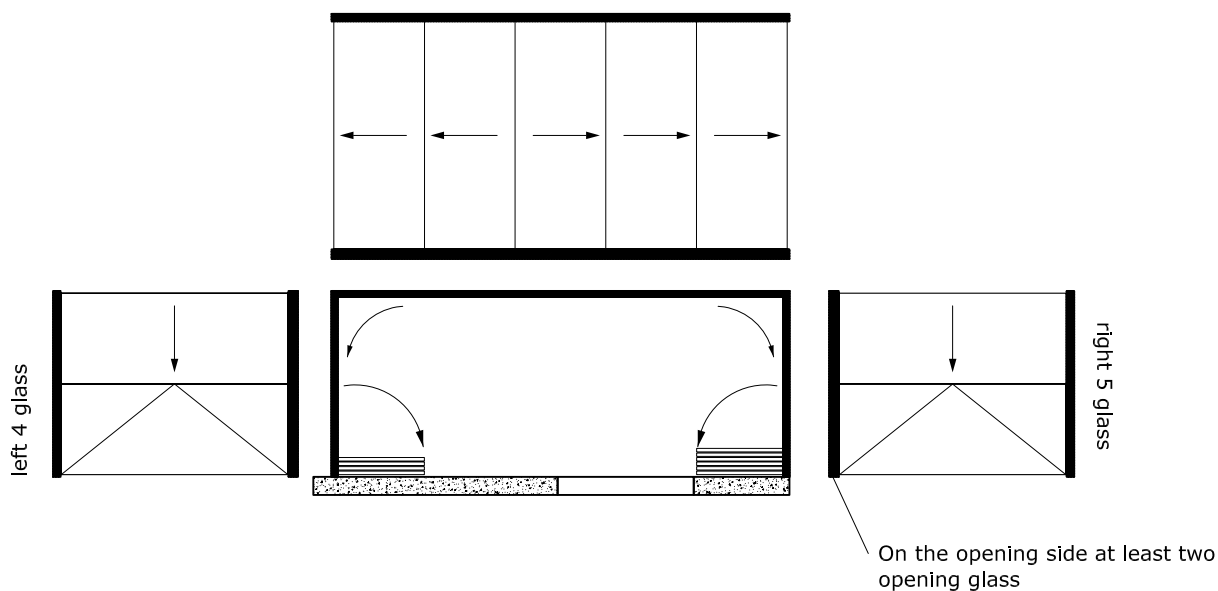
Corner balcony which opens on three sides

90 degree

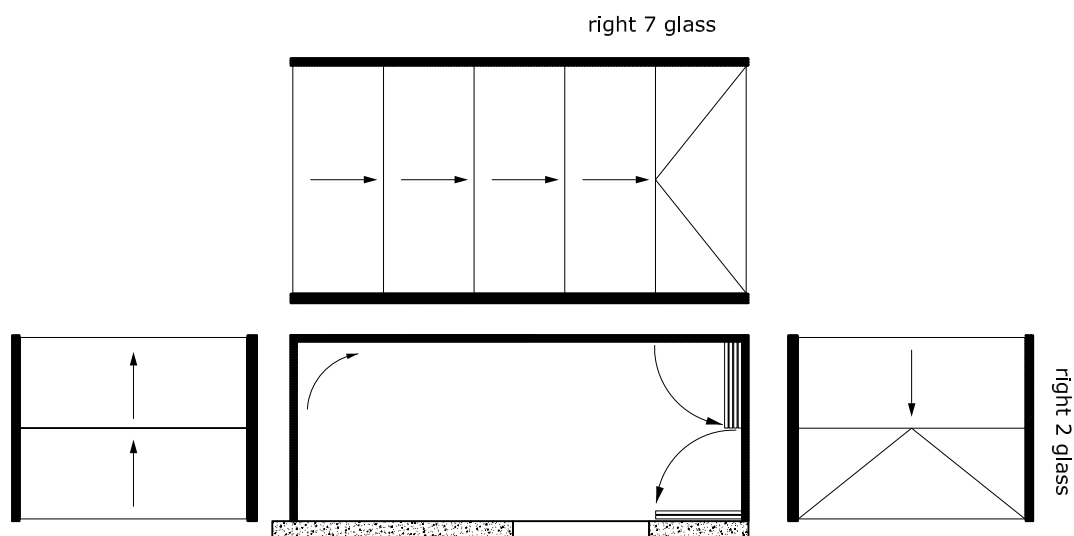


NOTE! This side glass cant open before the the front glazing has been opened.
Dont influence 135°-270° angles.
You can also put the hinges other way round.

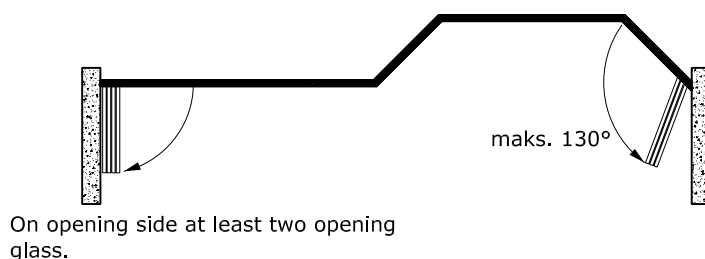
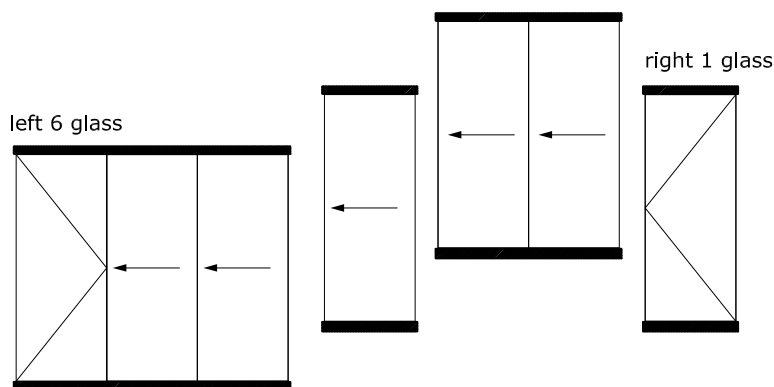
Corner balcony which opens on two sides. The glasses slides over 90 degree corner.



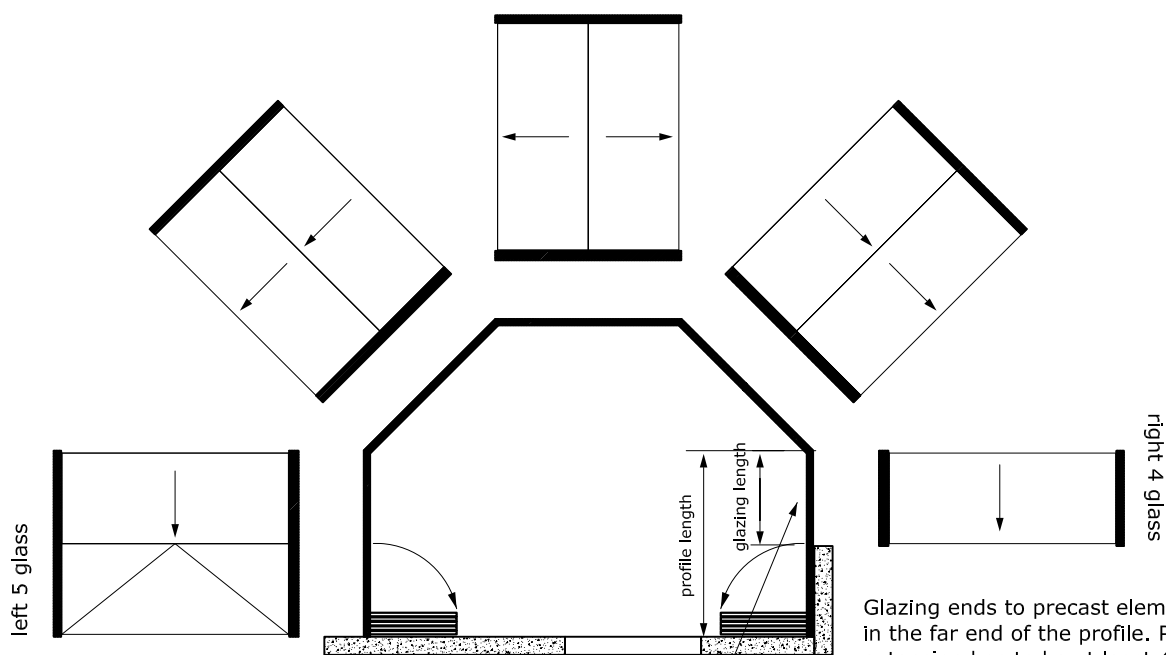
Corner balcony which opens on two sides. The glasses slides over 90 degree corner.



Corner balcony which opens on two sides and have four different sides. Glasses slides over 135 degree corner.

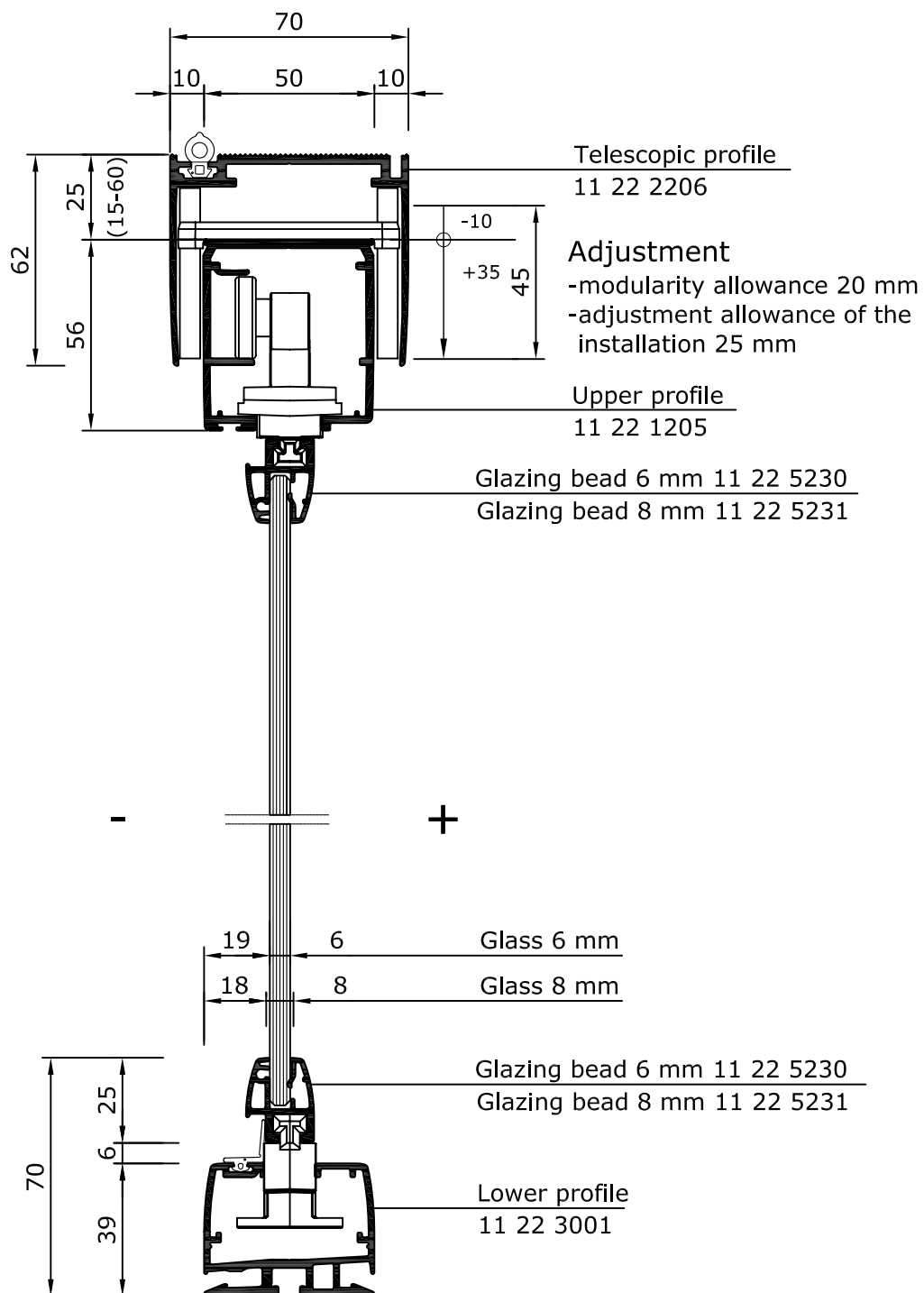


Corner balcony which opens on two sides and have five different sides. Glasses slides over 135 degree corner.



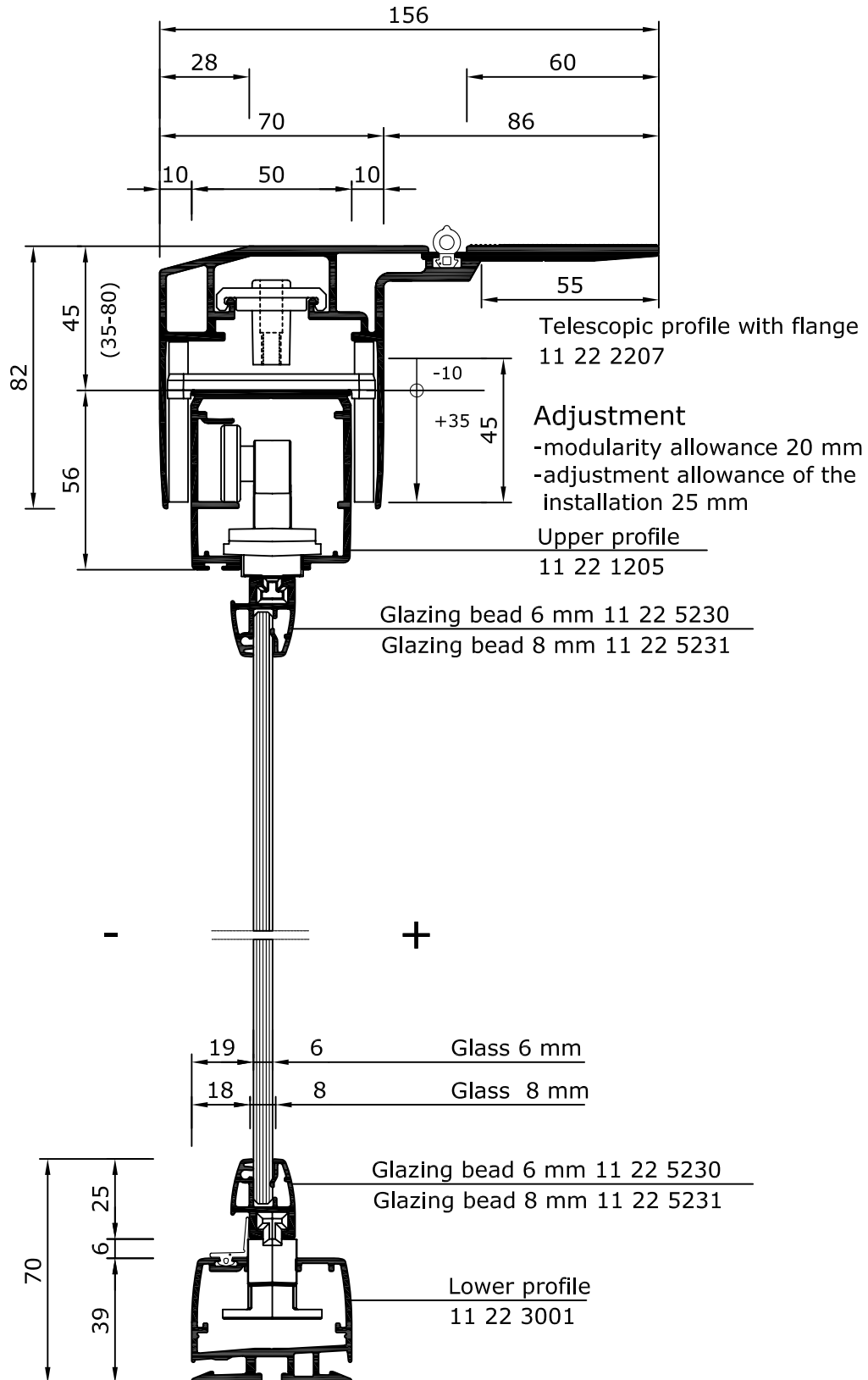
On one glass side, sliding distance must be longer than the width of the opening glass.

Glazing ends to precast element, yet opens in the far end of the profile. Profile extension has to be at least 40 mm. In this case you can not install the latch.

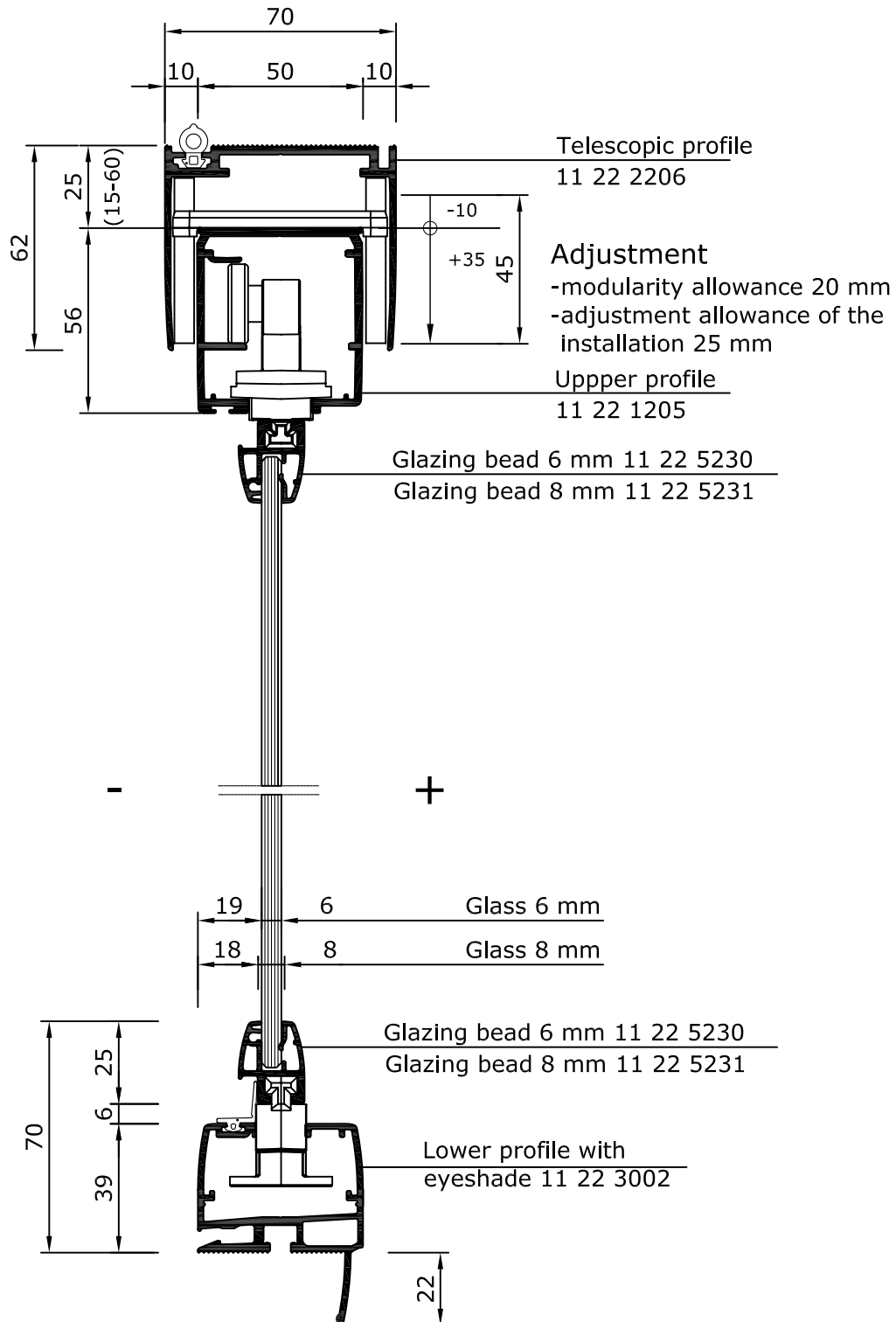


11 22 3002

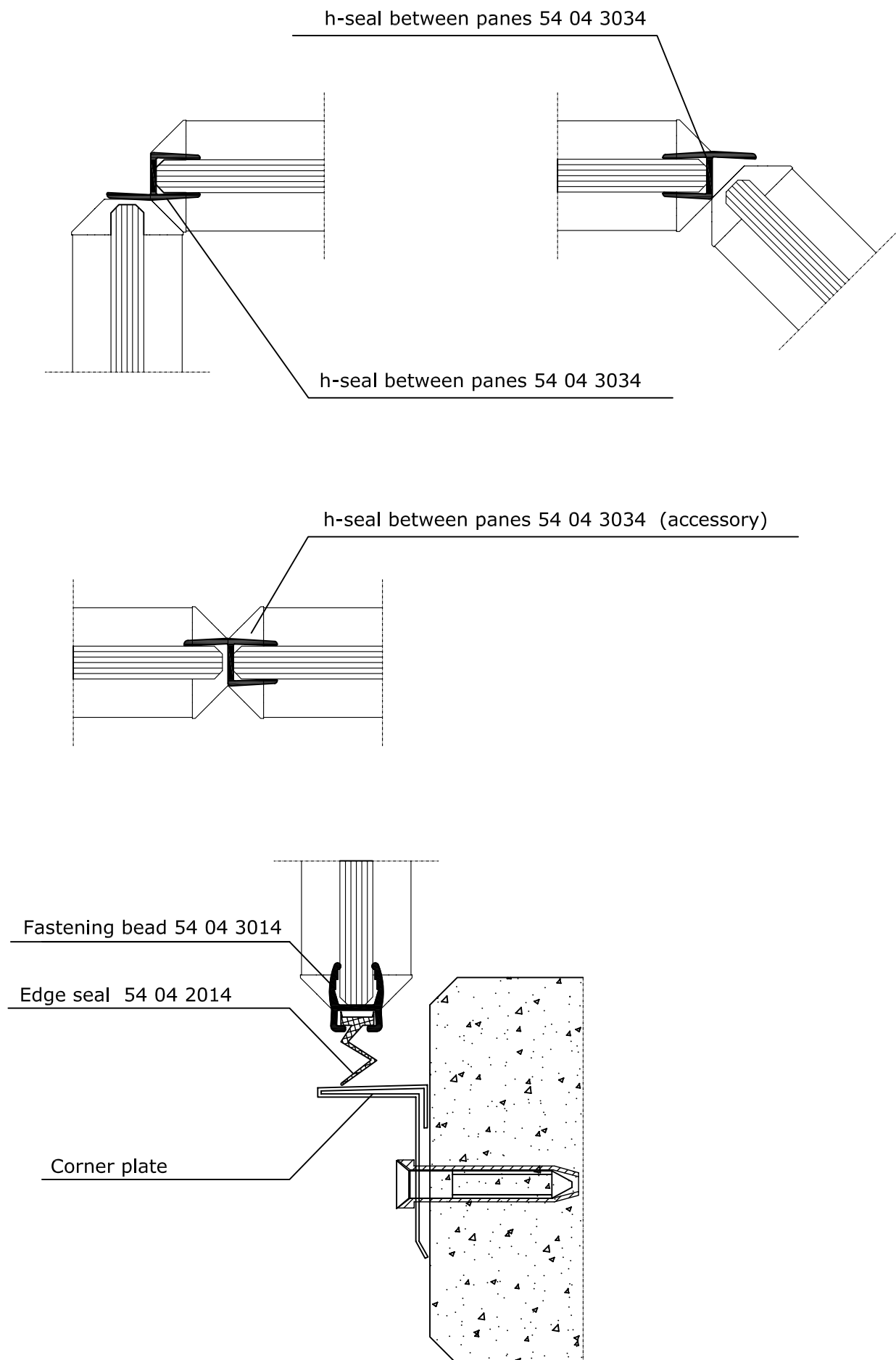
1:2



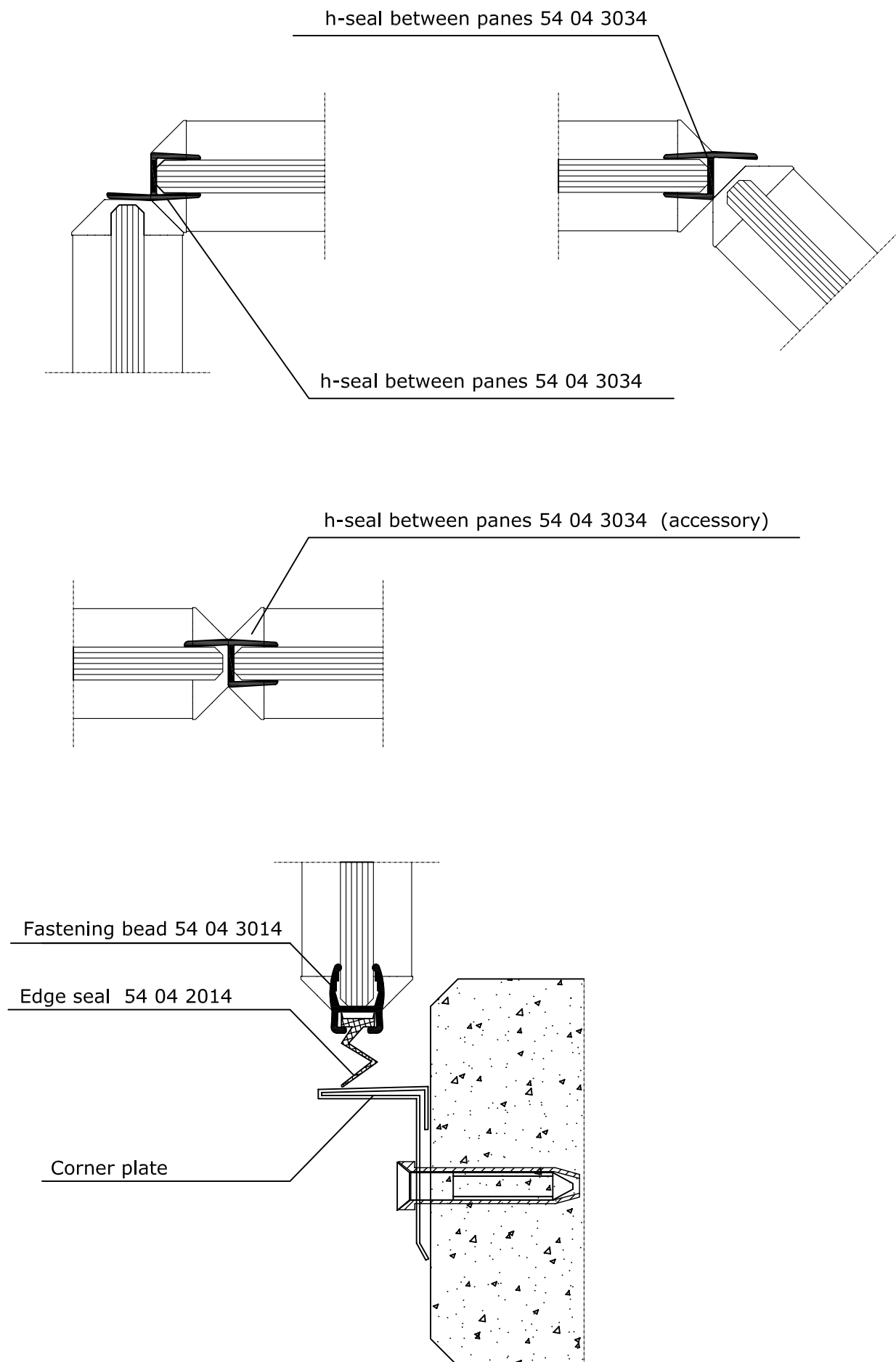
1:2



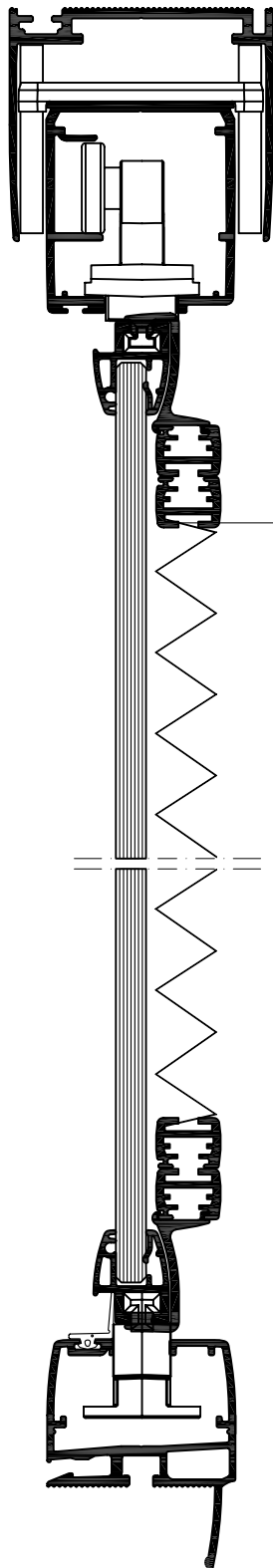
1:1



1:1



1:2



NOTE! Available only for 6 mm glass pane.

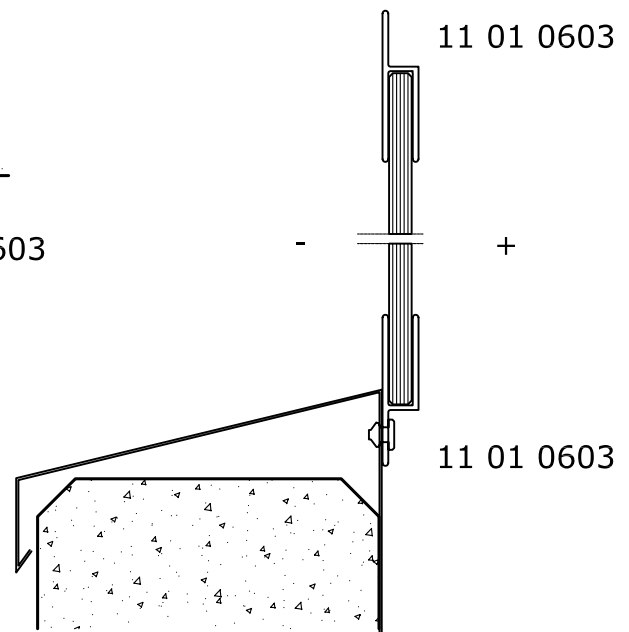
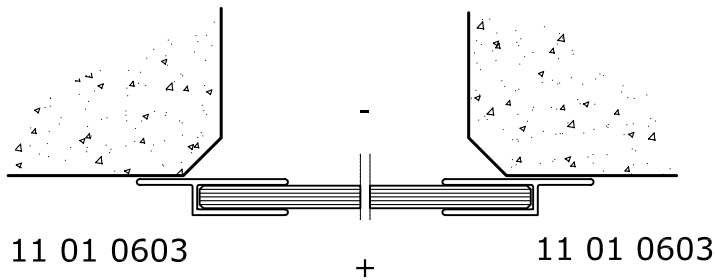
Sun protective curtain

Can be opened and closed from below and from above

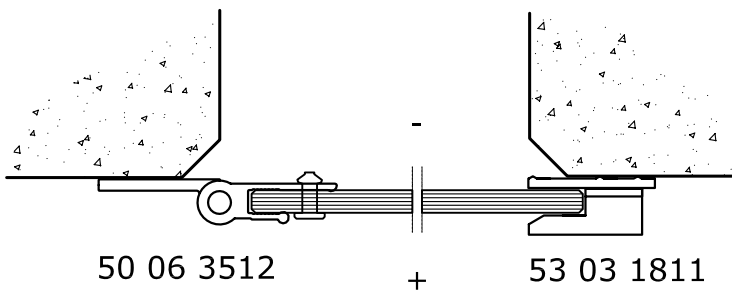
1:2

Fixed pane for closing an opening, horizontal section

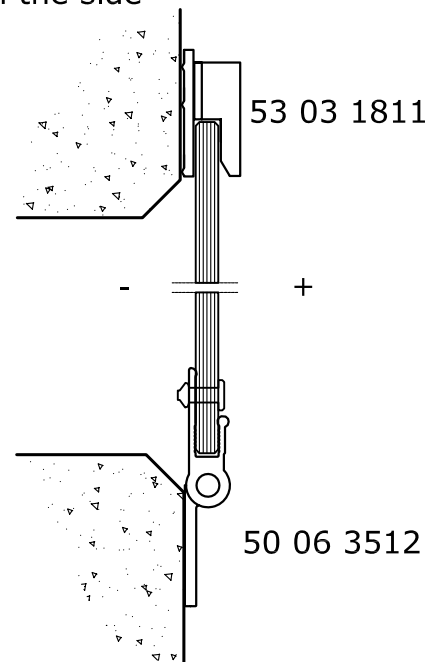
Fixed pane for closing an opening, vertical section



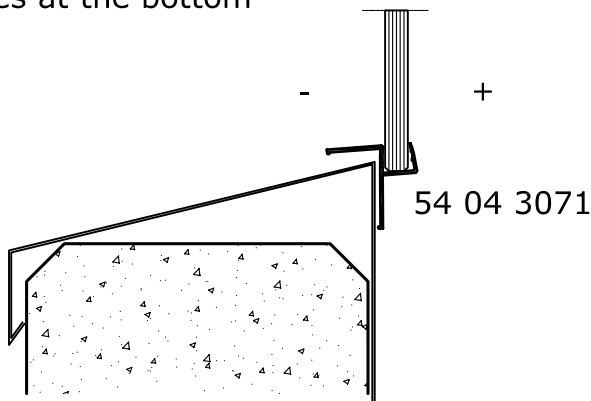
Pane that closes an opening, with hinges on the side



Bottom edge of a pane that closes an opening, with hinges on the side

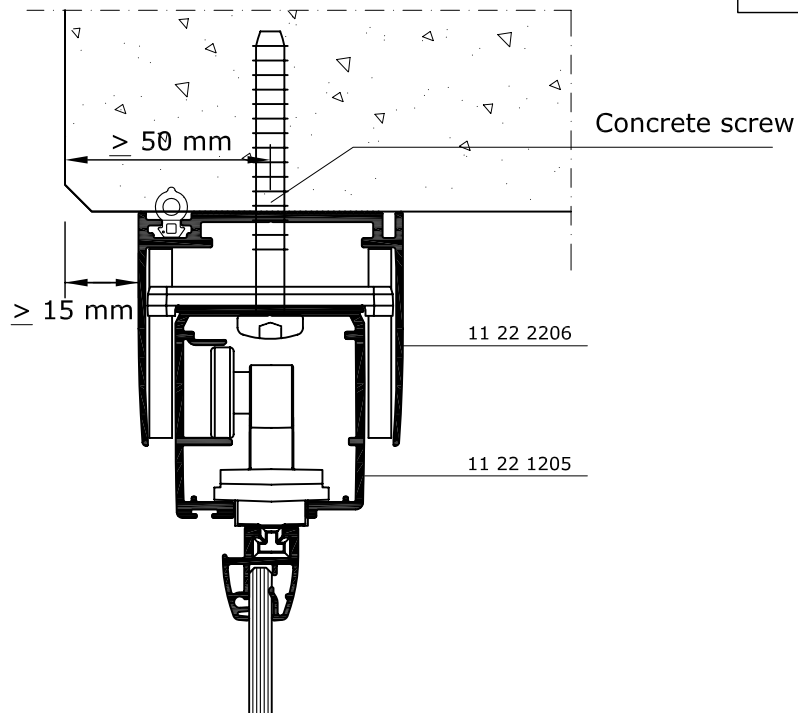


Pane that closes an opening, with hinges at the bottom



1:2

Fastening the telescopic profile 11 22 2206

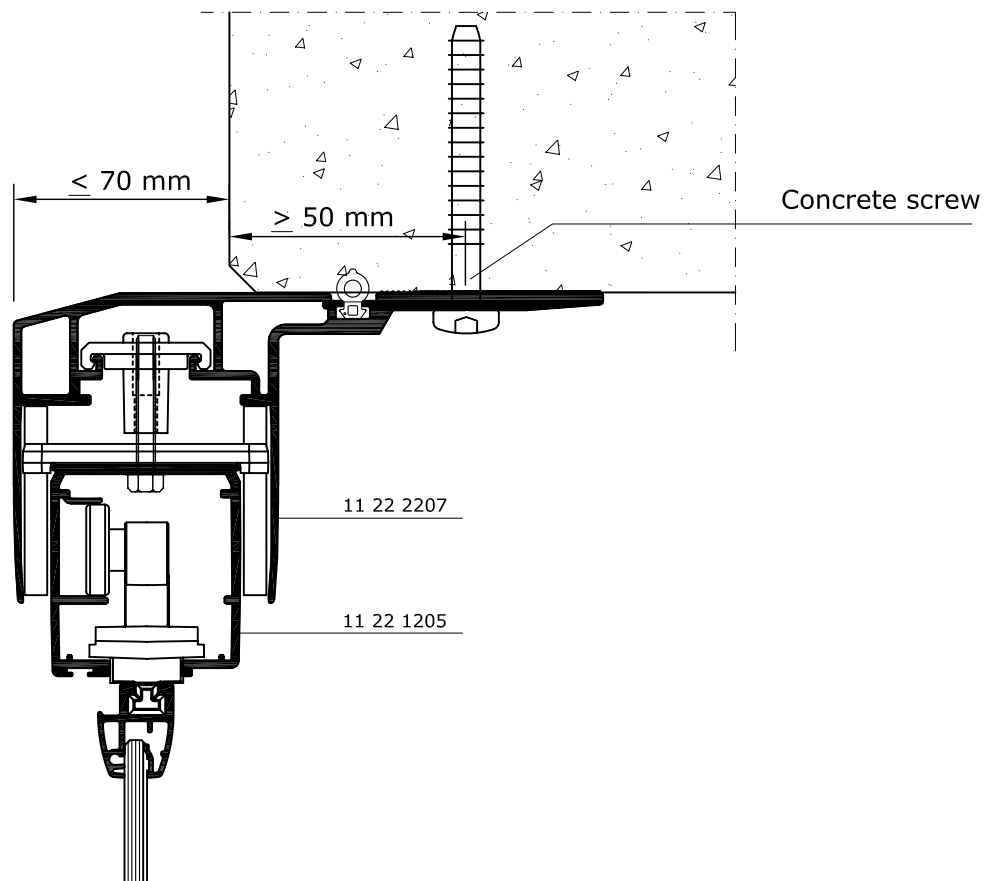


Distances between fastening points:

For 6 ja 8 mm glass:

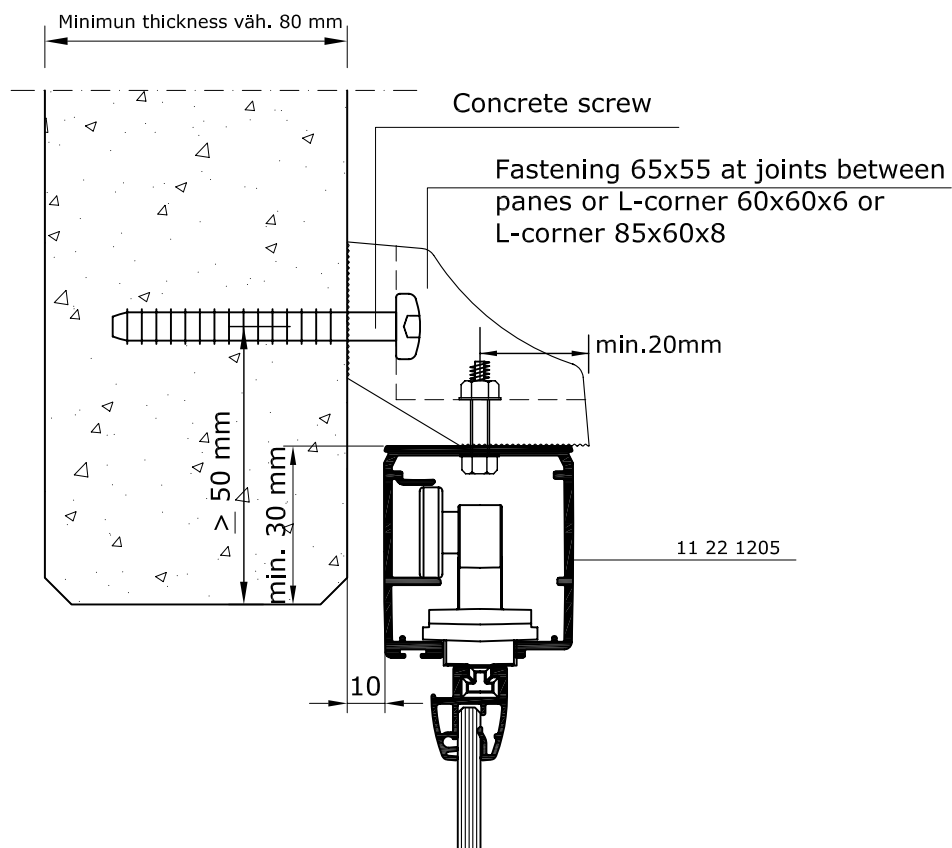
- fastening at all joints between panes

Fastening the telescopic profile 11 22 2207

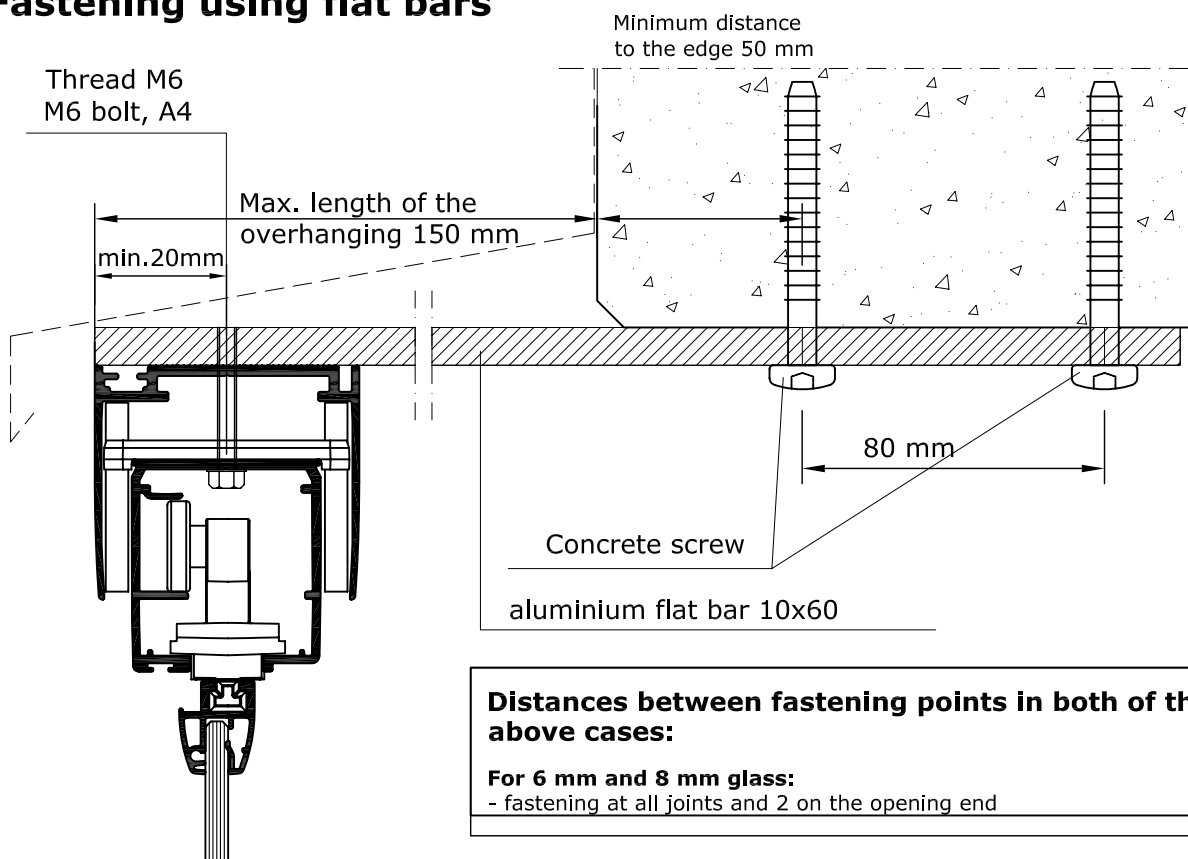


1:2

Fastening to the overhang

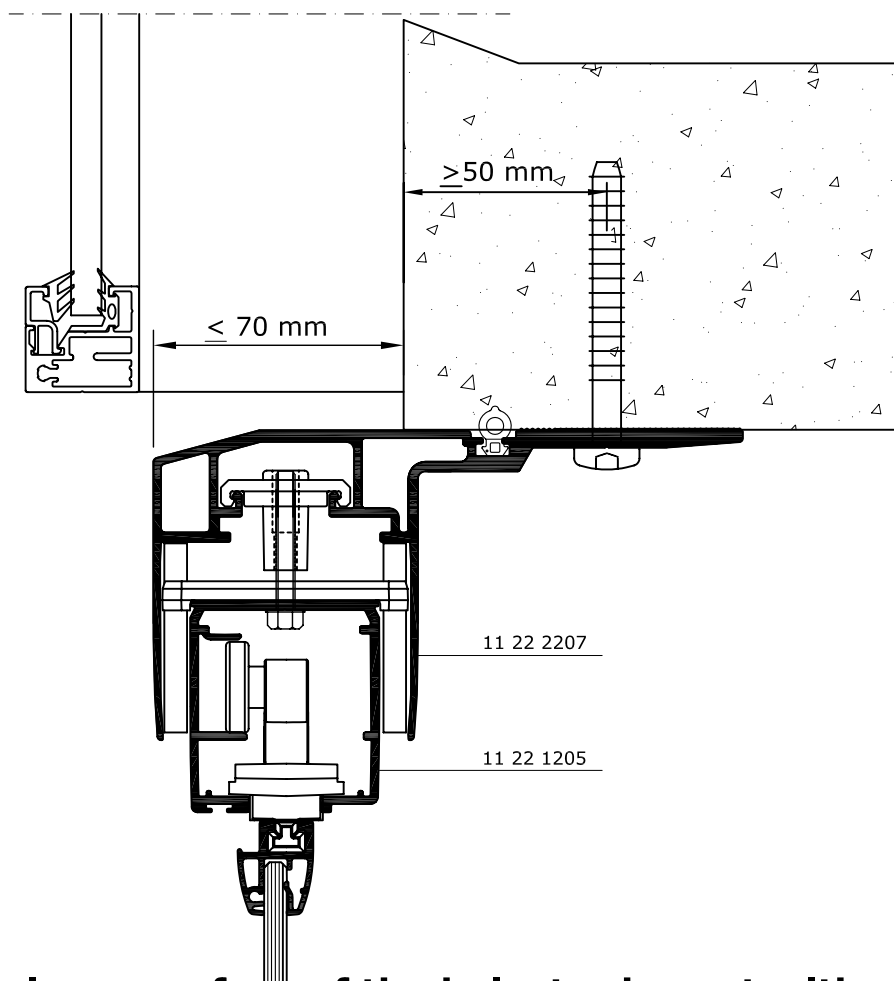


Fastening using flat bars

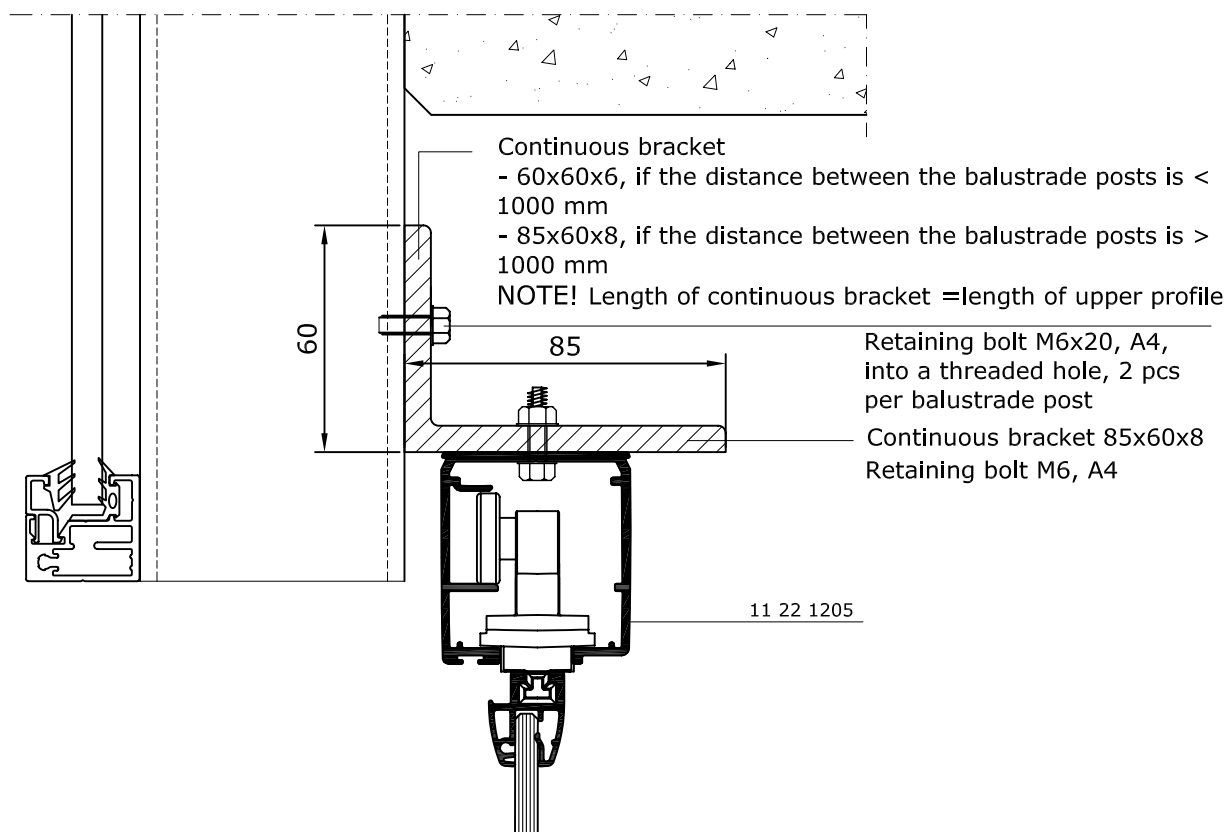


1:2

Integrated Lumon balustrade

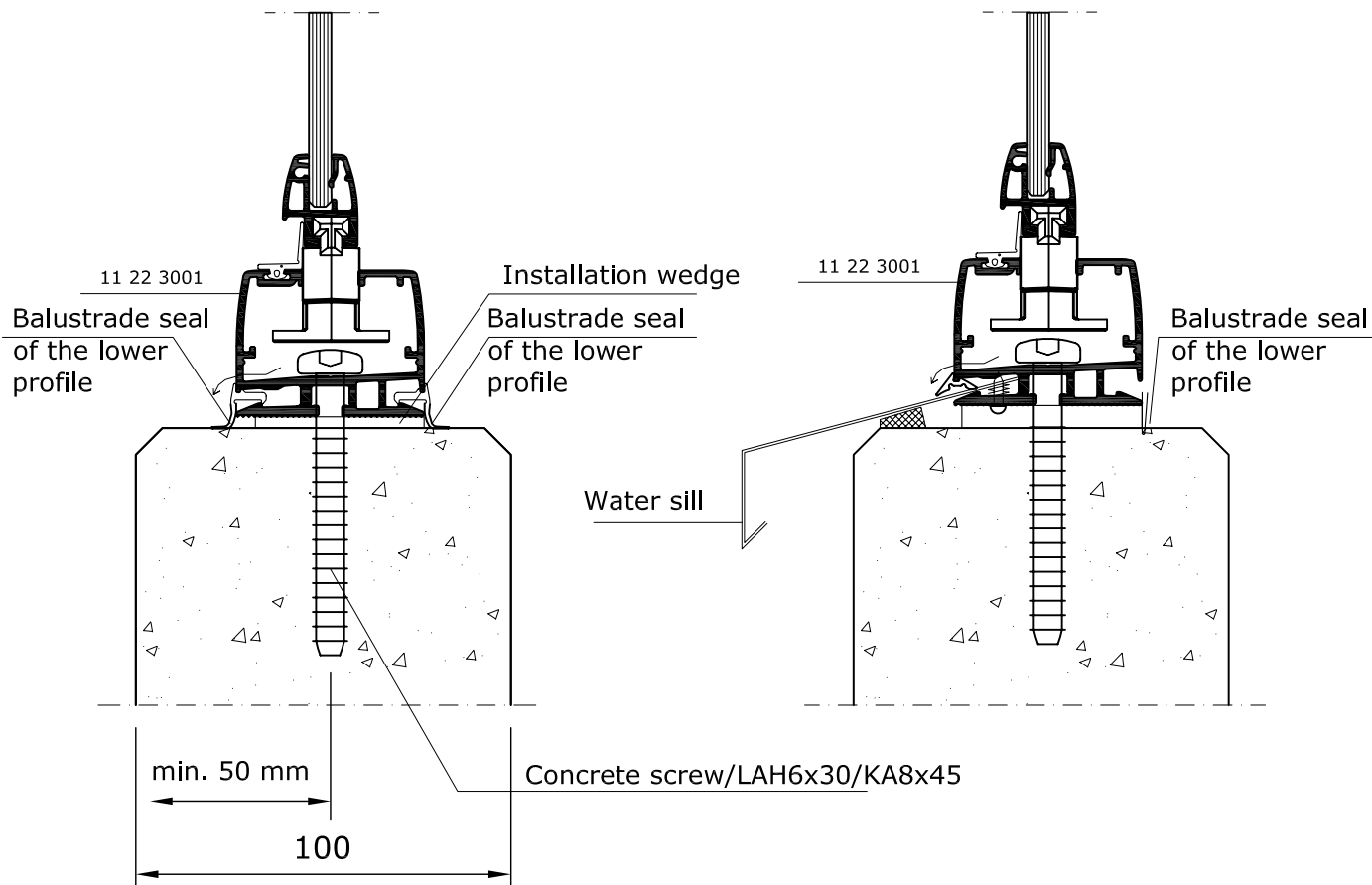


Fastening to the inner surface of the balustrade post with a continuous bracket



1:2

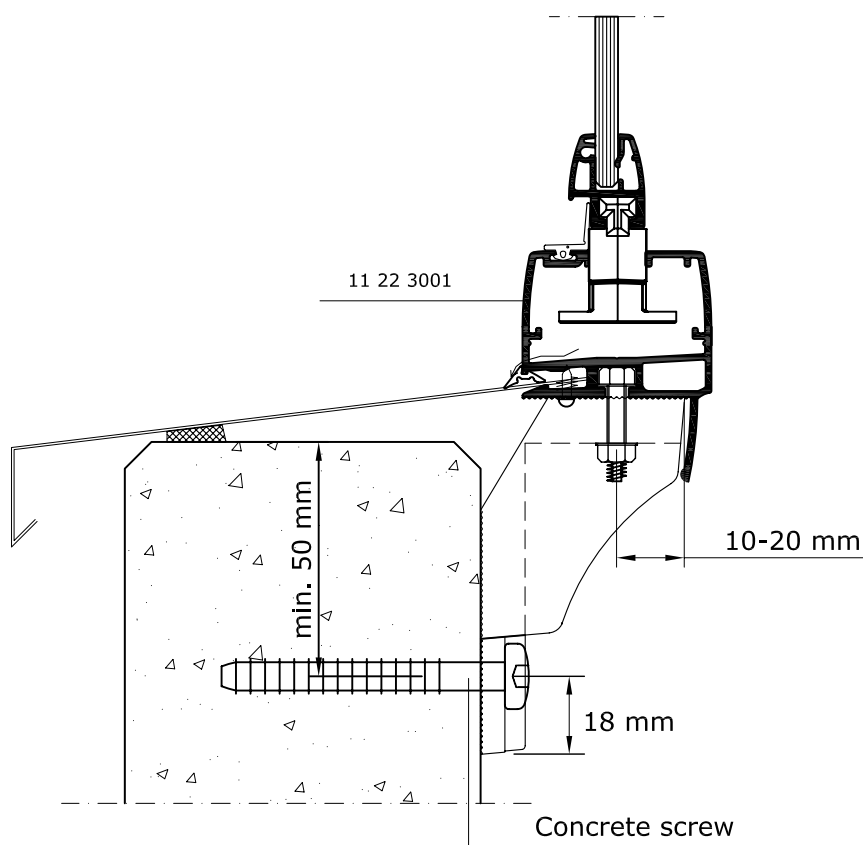
Fastening the lower profile to the balustrade



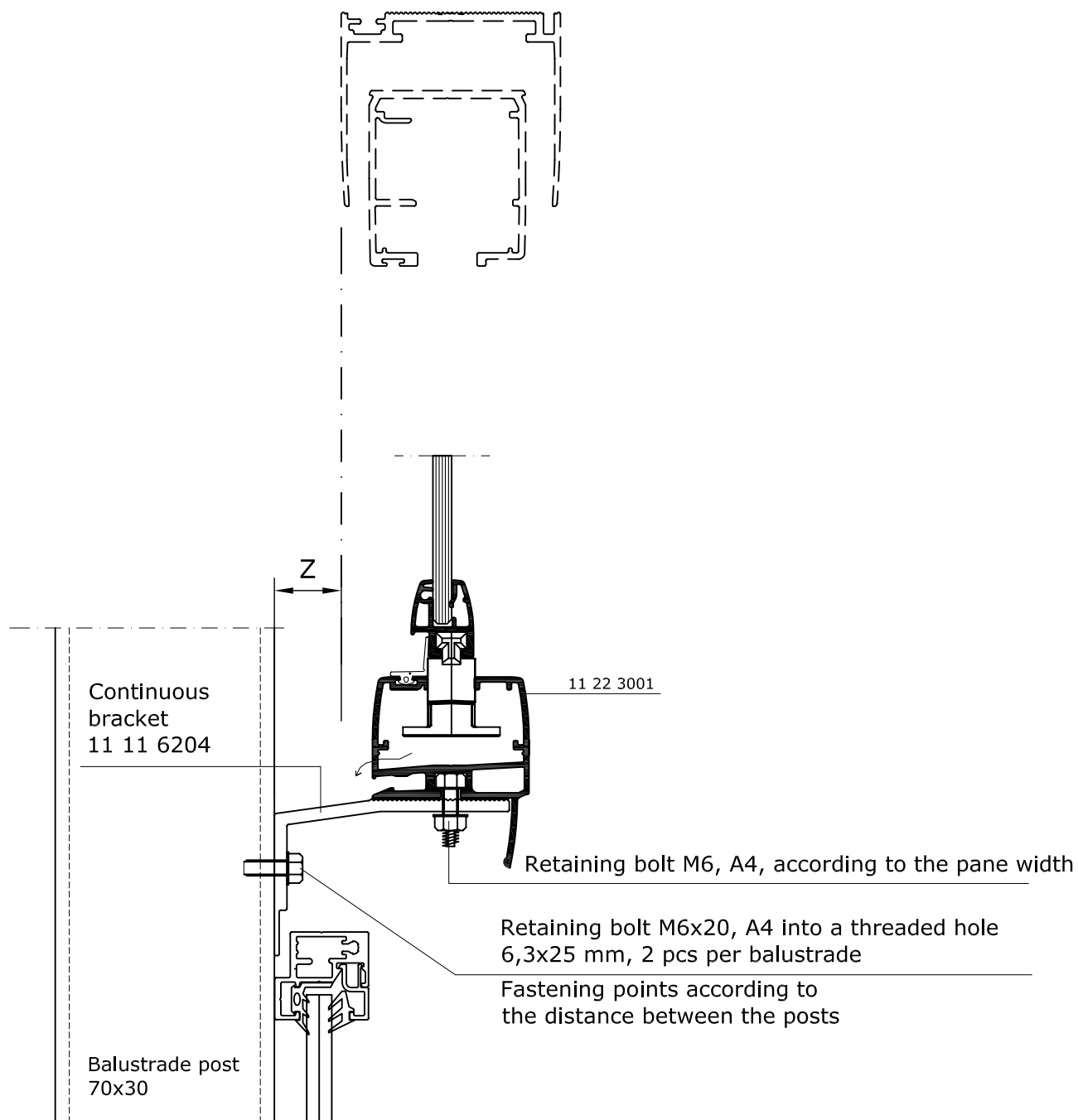
Minimum thickness of the concrete balustrade

Distance between fastening points:

For 6 mm and 8 mm glass:
- fastening at all joints between panes



1:2

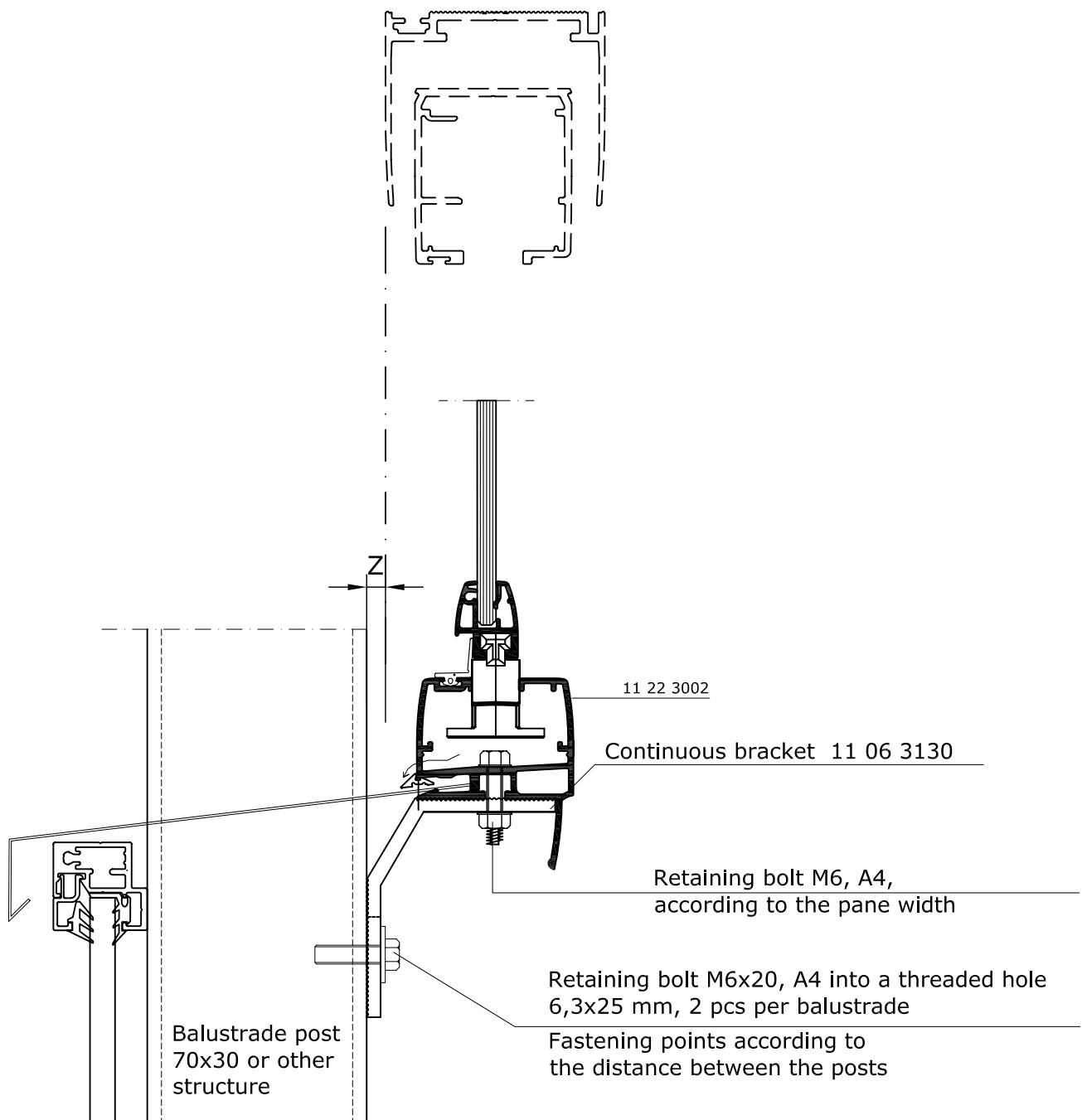


1:2

Fastening to the Lumon balustrade

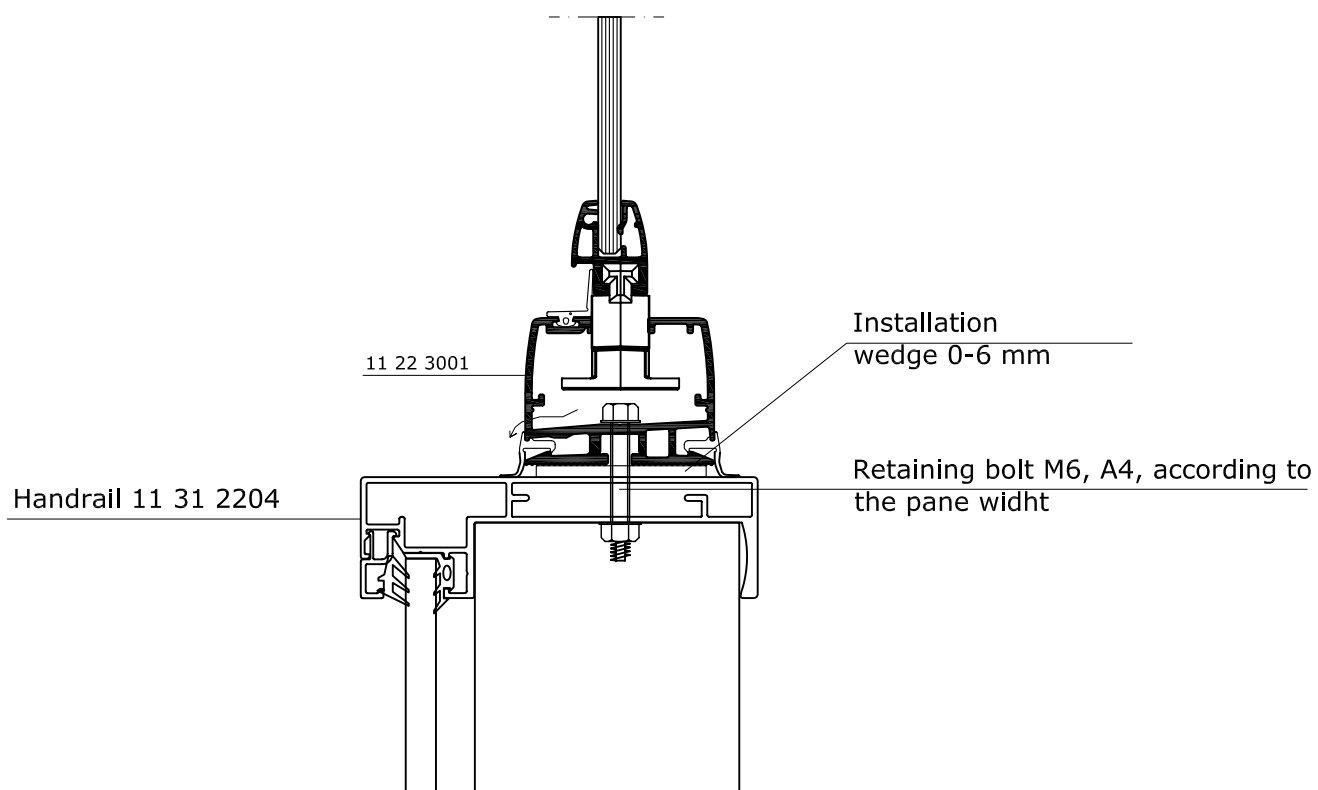
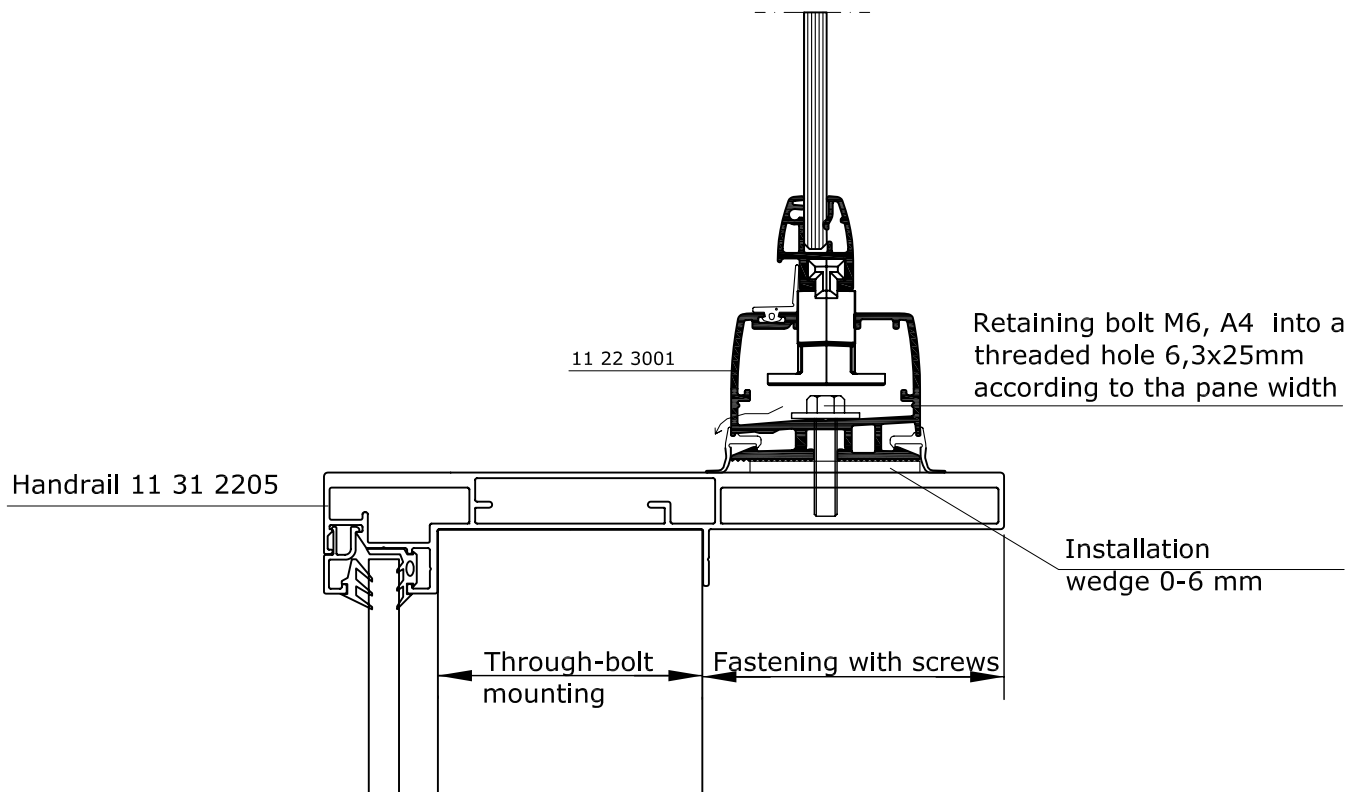
Balcony glazing is attached to the balustrade posts with lower fastenings or with a continuous standard installation brackets (e.g. 11 06 3130, L = length of the lower profile) **if the distance between the balustrade posts exceeds 1000 mm.**

A continuous additional bracket is used also for balustrades other than Lumon where the distance between balustrade posts exceeds 1000 mm.

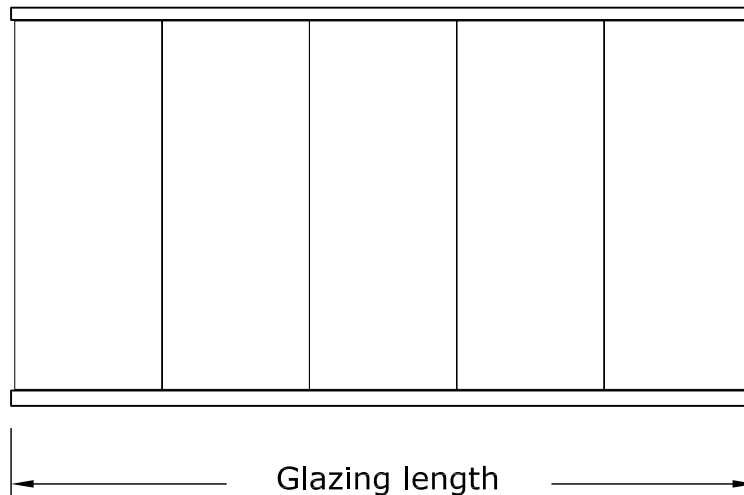


1:2

Fastening to various Lumon handrails



The recommended pane width is 600 - 800 mm. The pane width can be calculated according to the following example.



Example: Glazing length 3550 mm

$$\text{Number of panes} = \frac{3550}{800} = 4,4 \Rightarrow 5 \text{ pcs}$$

The number of panes is rounded to an integer number. In this example the pane width is 710 mm. There are 2 panes of 720 mm and 3 panes of 700 mm.

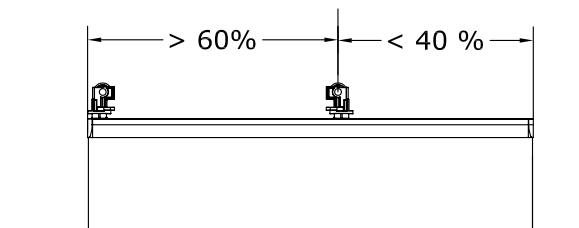
Record the number of panes on each side of the balcony.

IN THE EXAMPLE, NEITHER REDUCTIONS NOR THE GAPS BETWEEN PANES HAVE BEEN TAKEN INTO ACCOUNT.

Maximum number and width of panes : the maximum number and width of panes that can be gathered at the same parking end is indicated in the **table of recommended glass pane sizes**, which is in Chapter 10.

60% principle

The distance between the upper rail guide and the upper hinge must be at least 60% of the pane width.



Things to consider for corner bypasses:

The location of vertical poles, handrail or drainage pipes may prevent panes from sliding round the corner.

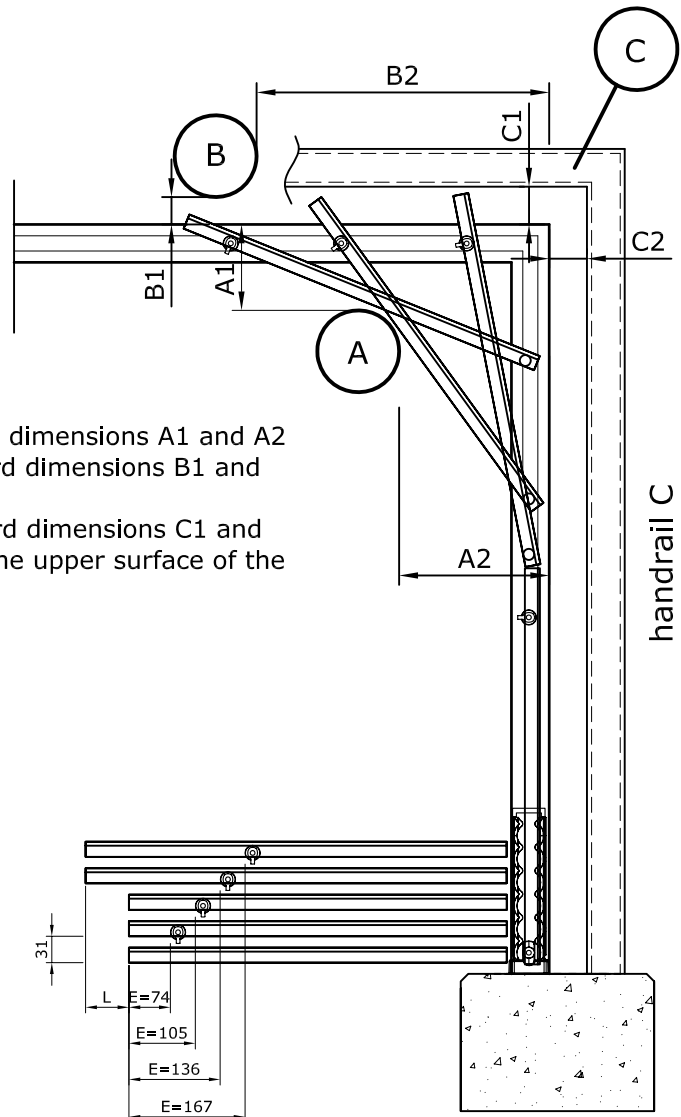
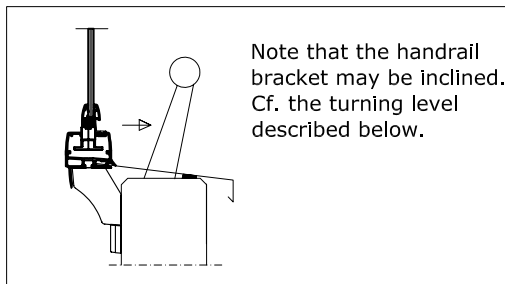
A separate drawing of the balcony, including all relevant measures, must be provided with the order, in case the functionality of the glazing has to be examined. The drawing must include the dimensions from the outer edge of the profile to the obstacle and all angles other than 90°.

In the figure:

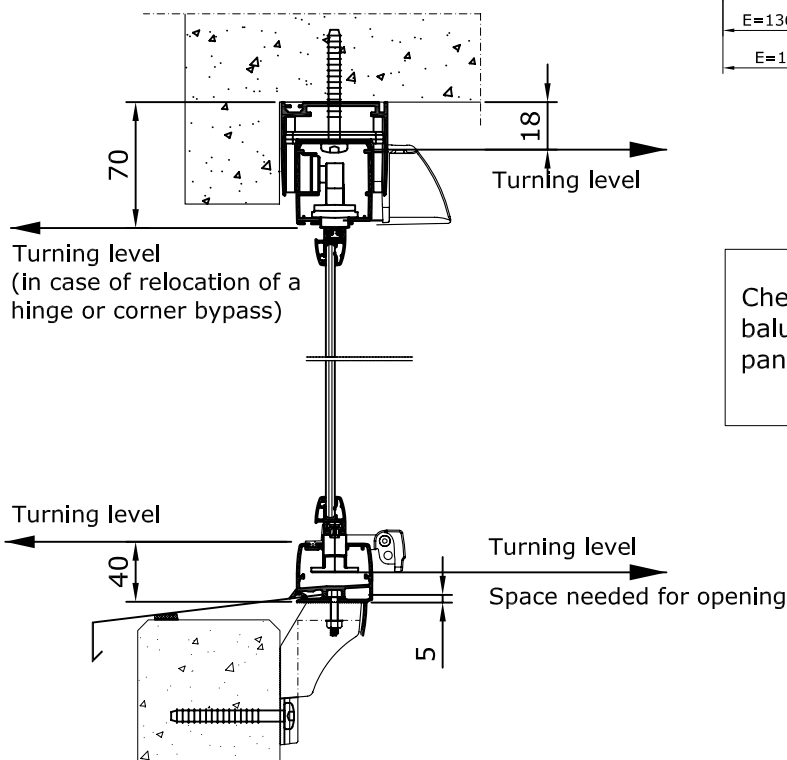
A: obstacle inside the balcony -> record dimensions A1 and A2

B: obstacle outside the balcony -> record dimensions B1 and B2

C: obstacle outside the balcony -> record dimensions C1 and C2 and the height of the balustrade to the upper surface of the handrails



handrail C



Check that there is nothing on top of the balustrade or at the ceiling to prevent the panes from turning.

Warranty Clauses for Lumon Balcony Glazing System**Scope of Warranty**

The warranty includes repair of defects caused by material and workmanship and the materials used in the repair.

Warranty Preconditions

The warranty is valid provided that the customer approves the delivery. If the customer is not present at the time of installing and does not make a complaint within seven (7) days of the installation, the delivery is considered as accepted and the warranty period begins.

Warranty Period

The warranty period begins once the warranty preconditions are fulfilled. The warranty period is five (5) years for materials, workmanship and two (2) years for installation (installation only by Lumon Companies) starting from the product acceptance or introduction.

The manufacturer guarantees availability of spare parts for 10 years after having stopped producing the product.

Restrictions of Warranty

Warranty does not cover

- cleaning after delivery of work results or actual introduction
- work resulting from the balcony glazing and the associated structures getting dirty in course of time
- breaking caused by incorrect use or malicious damage
- adjustments, repair and replacement of parts due to normal wear and tear, negligence on behalf of the customer or the resident, or incompliance with the user instructions.
- damage due to subsidence of structures, abnormal load to the glazing, a sudden non-predictable event effecting the product, or a natural catastrophe.
- alterations, repair or re-installation unapproved by the manufacturer or the retailer
- sun screens or other accessories, or separate complementing structures
- patterns that may occur in the surface of toughened glass
- solutions that do not comply with Lumon technical file

Glass has been toughened according to standards EN 12150-1 and EN 572-8.

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Manufacturer's Warranty Clauses for Lumon Balcony Glazing System**Scope of Warranty**

Warranty covers defects resulting from the materials and manufacturing of Lumon balcony glazing system. A compensatory components will be shipped free of charge and carriage through standard delivery channels without delay.

Lumon reserves the right to

- inspect the faulty components at the installation site, in the retailer's premises
- send the components on request to the manufacturing plant, carriage forward
- get involved into repair work, product replacement or other related decisions
- charge the costs of any groundless complaints

Warranty Preconditions

The warranty is valid provided that the retailer approves the delivery. The delivery is considered as accepted if a complaint report has not been submitted in writing in seven (7) days of the acceptance of the product.

Warranty Period

The warranty period begins once the warranty preconditions are fulfilled. The warranty period is five (5) years for materials and workmanship.

The manufacturer guarantees availability of spare parts for 10 years after having stopped producing the product.

Restrictions of Warranty

Warranty does not cover

- damages to the product after the delivery
- original installing work
- breaking or malfunction of components as a result of incorrect installation
- alterations unapproved by the manufacturer
- damage due to subsidence or shifting of structures, abnormal strain to the glazing, a sudden non-predictable event effecting the product, or a natural catastrophe.
- damages due to negligent or incorrect use of the product
- warranty repair work or the related travel costs or other indirect costs
- solutions that do not comply with Lumon technical file
- patterns that occur in the surface of toughened glass

Glass has been toughened according to standards EN 12150-1 and EN 572-8.

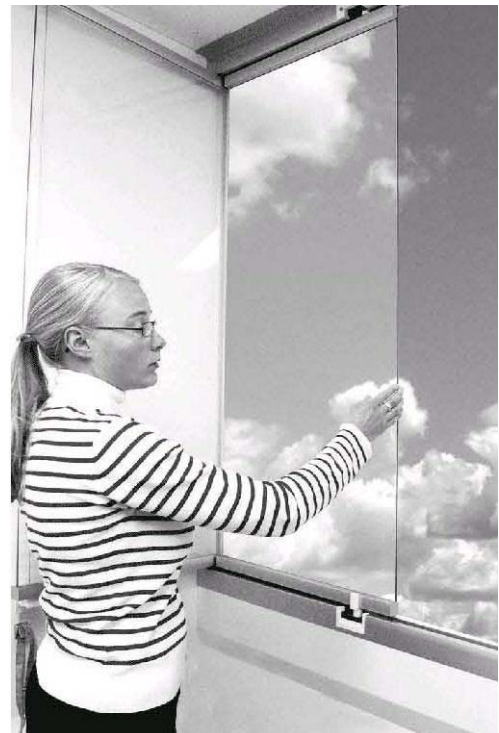
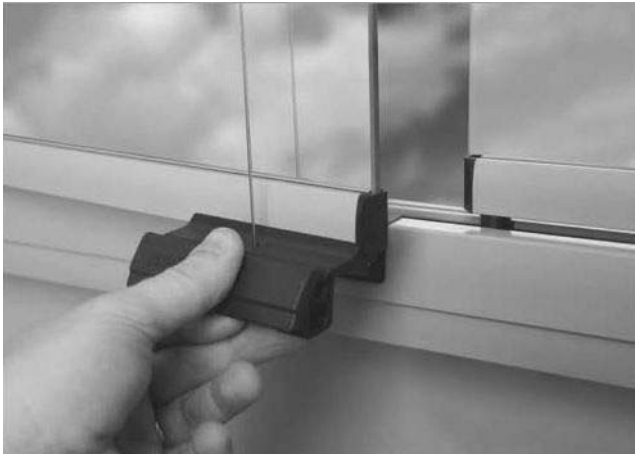
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User instructions for the balcony glazing system

New Lumon balcony glazings extend the use of balcony and giving more variations and confort. Read the instuctions and take full benefit from your balcony glazings. We wish you pleasent times in all seasons.

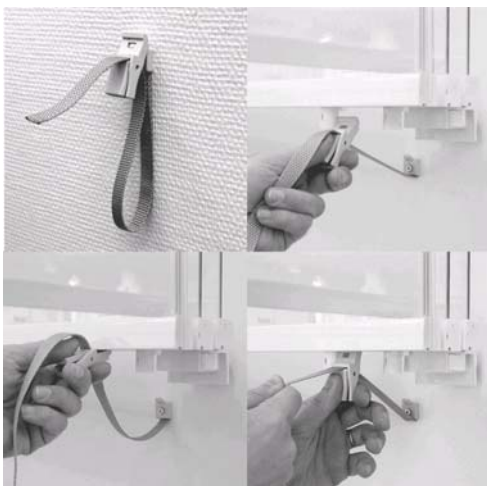
Opening

Lift the handle and open the first glass. Slide other glasses to the opening and turn the glasses one by one.



Stacking the panes

Insert the strap to the bottom of the last glass pane and tighten to lock glazing.



Closing the glazing

Release the glazing from the strap. Turn each glass inside the profiles and slide them to their position. Adjust the gaps between the glasses.



Latch lock (accessory)

Lower latch is available with a lock.

Ventilation

Lock the 1. glass to first ventilation position. Expand the gap between the other glasses to increase even more ventilation.



washing and maintance

Both the inside and the outside of the Lumon panes can be cleaned safely from inside the balcony. Use water and normal window cleaners. The aluminium parts can be wiped with a damp cloth; use normal domestic detergents if necessary. Lubricate the plastic parts once or twice a year to ensure that they move freely.

NOTE! Don't scratch any surfaces with sharp items.

NOTE! Any type of films glued to the glass is forbidden.

The sun protective curtain

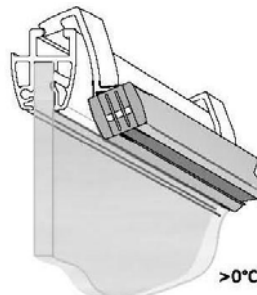
Wash

Blinds are 100% polyester. You can wash them by hand using mild usual home cleaning liquide.

1.- 2.

1. Lift blind upright position

2. Blind is loosend from the upper and lower clamp. Slide the blind sideways when it releases.



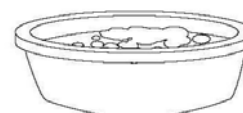
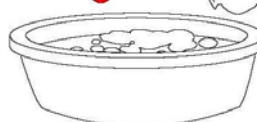
3.1



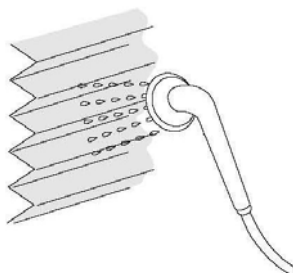
3.2



3. wash the blind in lukewarm 30 degree water and flush it carefully.



3.3



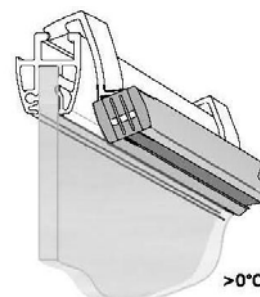
4.

4. Lift the blind in closed position.



5. Replace the blind back to the upper clamp.

5.



6.

6. Open and close the blind for drying it. Leave it for 12 hours before fasten it to the lower clamp.



**Invest in quality.
Invest in the future.**



Installation of Lumon balcony glazing couldn't be easier. Your local Lumon expert offers the best solution for installation and advice. Everything is outlined in one contract and guaranteed. Full instructions are provided.

Be part of tens of thousands of satisfied Lumon customers and enjoy many seasons of quality balcony glazing.



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