

Technical manual



ISOCLEAR 2550-10

**Polycarbonate façade construction systems
for seamless glazing**

System PC 2550-10 | PC 2550-10 AF 60 | PC 2550-10 AF 120



General information

on translucent building elements of Polycarbonate

The raw material

Polycarbonate (PC) is a crystal clear, high impact thermoplastic.

Advantages

- Temperature resistance between -40 to +115°C, temporarily up to +130 °C
- High impact resistance nearly unchanging within these temperatures
- Good long term performance through UV protection

UV co-extrusion

With this technique a high concentrated UV protection film is homogeneously melted onto the basis material while production process.

This offers the following advantages:

- No adhesion problems of UV protection film
- Same temperature behaviour of base and UV material
- No impairment of high impact (like e.g. with coated or painted surfaces)
- Makes small cold bending radiuses possible.
- Better resistance against environmental influences and ageing.
- The thickness of the Coextrusion layer may influence the colouring.

Outside Performance

Through the coextruded UV-protection film – which is always applied on the outer wall and if desired (surcharge) for some of the products is also available both-sided – our products offer best weather resistance and very good long term performance.

Warranty

Rodeca offers 10 years warranty (according to written warranty) to its uv-coextruded products regarding to **yellowing index – ageing – hail**

Light transmission

Customized on project demand Rodeca can produce products with light transmission from almost 0% up to 80% light transmission (depending on material thickness and number of layers). Due to in-house compounding and raw material refinement special requests and colours can be realized. Please inquire project demands which vary from our standards.

G-Value (Solar gain value, overall energy transmittance)

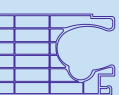
The overall energy transmittance indicates how much of external solar energy reaches the interior of the room. For optimum passive use of solar energy, the g-value should be as high as possible and as deep as possible for optimum sun protection.

Up-values and Uf-values (heat transmission coefficient - Up=U-value panel; Uf =U-value frame)

Throughout the multi-walled design of our translucent building elements translucent facades with thermally broken aluminium profiles can be designed very energy efficient.

UV transmission

UV-radiation is stopped almost to 100% up to 380 Nm because of high UV-stabilization with coextruded UV-protection. The remaining transmission in the area of UV radiation is less than 1%. This property can be very important for UV sensitive goods.



General information

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Ball rebound safety

Ball rebound safety was tested and passed according to DIN 18032 part 3. Please inquire the test report if required.

Fire resistance

Polycarbonate has a very high ignition temperature of approx. 450 °C and in case of fire the smoke development is very little. Rodeca products are classified according to the European standard DIN EN 13501 and are classified as hardly inflammable. Additionally the fire resistance of our products is classified according to various national standards. Please inquire the test certificates when needed.

Meltable area

In many fire protection concepts Rodeca panels are considered as melt-surface according to DIN 18230-1 because the softening point of PC is below 300°C.

Sound insulation

Polycarbonate panels have a sound insulation value up to 22 dB according to DIN EN ISO 10140-2. With a double wall construction a considerably higher value can be achieved. The value refers to the panel only and may differ due to structural conditions.

Chemical resistance

PC elements possess a very high resistance to chemicals but can be affected through some chemical bounds. Chemical resistance of polycarbonate against other used chemicals has to be checked by customer on site. This is especially important for cooling substances, lubricants, surfactants, sealants, ammonia, etc. A policy on the compatibility of polycarbonate with chemicals can be found i.a. at: <http://www.buerkle.de/en/knowhow/information/chemical-resistance.html>

Painting

In case that the polycarbonate panels for advertising reasons or similar will be painted or screen printed the compatibility of the painting system needs necessarily be tested from customer before use. The aluminium frame profiles can be powder coated according to the project needs. Additionally Rodeca offers the possibility to deliver TPE gaskets in custom made colours.

Vinyl wrap

For advertising purposes large scale letters can be glued onto the panels' surface. It is important that the foil and the glue doesn't contain substances which harm and affect polycarbonate. Please clarify before usage with the vinyl wrap supplier or the advertising company if the ingredients/glues of the foil intended to use are compatible with Polycarbonate.

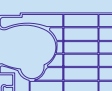
Cleaning/Maintenance

For durable maintenance of technical and visual properties a regular care, maintenance and cleaning of the translucent building elements is mandatory. The cycles of care, maintenance and cleaning depends on the particular building site and the usage conditions.

Cleaning of translucent building elements: Pure water cleaning systems (osmosis process) have proven themselves. In addition to surface cleaning with soft brushes, if dirt is present in the area of the coupling, the deposited dirt can be cleaned using a high-pressure cleaner in conjunction with the pure water method. Alternatively, water with a small percentage of neutral cleaning agents. No use of glass cleaner, rubbing agents or sharp edged subjects. No alkaline or tensile agents to be used.

Storage/Transport

Rodeca panels made of polycarbonate have to be protected before sun and wet conditions before installation and must be stored on a plain and even underground. In case of non-observance stock damages may occur. The stacking height of translucent building elements shouldn't exceed 200 cm.



General information

on translucent building elements of Polycarbonate

Packaging

The translucent building elements are delivered – depending on the finish – with one-sided or both-sided protective foil. The delivery is carried out – depending on length – from one to four pieces for hand unloading in a recyclable plastic wrapping or on pallet (for forklift unloading). Please unpack briefly before installation to avoid contamination in the hollow chambers. The protective film must be removed after processing and installation. If the Translucent Building Elements are provided with both-side protective film, the protective film on the interior side is applied as transport protection.

Processing

The Polycarbonate Elements can be smoothly cut with common tools, e.g. pad saw (saw blade with fine indentation) Incidental shavings are to be removed with oil free and water free compressed air.

Expansion/Shrinking

The expansion coefficient of polycarbonate is 0,065 mm per °C and per m and hence three times as high as the expansion coefficient of aluminium.

Rule of thumb: 3mm per m for 50 °C difference in temperature. Due to temperature differences the length and width of the panel change. The changes in length of the panel need to be considered constructional. Rodeca has considered the length expansion in its system accessories. Thermally caused corrugations can not be excluded completely.

Sealing

Sealings and sealing tapes need to be polycarbonate compatible and approved for usage from respective producer otherwise damages on the panels are possible.

Silicone: Must be absolutely neutral and solvent free, e. g. Rodeca PC-Silicone 2001. The aluminium profiles need to be protected (according to state of the art technique) against galvanic corrosion and an adequate sealing of building has to be done.

Condensation

Polycarbonate is a material that is permeable for vapour diffusion so that condensation may occur. This is not a quality defect. Depending from weather/climate this appearance is of temporary nature which is directly linked to temperature and humidity. Condensation doesn't effect the quality of the panels.

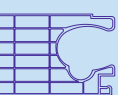
Formation of algae

Algae can just occur in connection of dirt and humidity. Taping of the polycarbonate panels prevents appearance of dirt while stocking and transport.

Sealing of panel ends

The ends of the panels must be closed before installation - directly after unpacking - with suitable sealing to avoid dust and dirt in the chambers.

With a sealing that is permeable for vapour diffusion (or permeable to water) you run risk that dust, diesel exhaust particulates, gases or other fine particles can diffuse into the panel chambers. For projects with increased particulate matter emission respectively environmental pollution are additionally precautions to be taken. With a joint sealing and additional sealing methods the optical properties of the translucent building materials can be maintained. Every element needs to be sealed singularly. A general recommendation for sealing of panel ends can't be given due to the different installation situations. The complete lack of panel ends sealing cannot be recommended from our experience.



General information

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Aluminium frame profiles

Aluminum frame profiles shall be treated in accordance with the unloading and storage regulations. Mill finish aluminium with oxidative staining is not accepted as reclamation reason. Due to production reasons, the end faces of thermally separated frame profiles are to be trimmed by the customer. Coated or anodised frame profiles can have bores or discolourations of the clamping points of the anodizing process at the lateral ends and are to be shortened if necessary on site. This is not accepted as reclamation reason. Coated profiles can have color deviations to other components in the same color. The chemical resistance of aluminum must be observed. Care and maintenance of aluminum profiles can preserve the optical properties and texture. **Safety** The regional building regulations as well as the general safety regulations for non supporting wall and roof coverings are effective. For a penetration (according to workplace ordinance (German „Arbeitsstättenrichtlinie“) it is mandatory to use a board of 50 cm width.

Tolerances according to EN 16153

Panels

Length + 12 mm (up to 3 m) / +0.40 % of panel length (above panel length of 3 m)

Thickness ± 0.5 mm

Width -2 mm / +6 mm

Weight - 5 %

Concavity length ± 5 mm per linear meter of panel length

Concavity width ± 5 mm per linear meter of panel width

Rectangularity < 5 mm per linear meter of panel length

All tolerances are based on room temperature of approx. 20 °C.

Variations in colour saturation and shade between several production batches cannot be precluded (production-related). Variations are always possible and will not be accepted as reason for complaint.

Disposal of waste/Environmental protection

Rodeca takes leftovers from off-cuts etc. back. Packaging is fully recyclable.

Joint permeability

Rodeca panels were tested on joint in terms of wind and driving rain. For complete constructions project specific blower door tests have been passed. .

System accessories

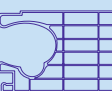
For almost all installation situations Rodeca supplies appropriate and well engineered accessories as well as ventilation flaps and windows in many different versions.

ETA (European Technical Assessment)

Rodeca panel (LBE) systems are CE marked as specified by the European directive No. 305/2011 and according to ETA 19/0452. The European Technical Assessment - ETA for short - is a European product certification. It is requested in particular for construction products for which there is no harmonized standard. At the same time, ETA authorizes a CE marking. It is mandatory that usability of single certificates is checked in advance from planner /client.

Environmental Product Declaration (EPD)

To enable qualified building certification, we provide an EPD for our light building elements. The Type III declaration according to ISO 14025 and EN 15804 provides reliable data on the environmental characteristics of the products and thus facilitates the sustainability assessment of buildings. Among other things, it contains important information on the life cycle of the products. This includes, in particular, the environmental key figures required for a certification scheme of buildings. These were calculated for all tongue and groove panels and shown from the cradle to the grave.



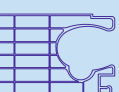
General information

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Miscellaneous

Data subject to technical change.

The aforesaid information and our application technological advice in words, written and through tries, are carried out to best of one's knowledge. This information is non-binding advice even in regards to property rights of third parties. Our advice does not release you from your responsibility to proof self dependently our current advices - especially our safety data sheets and technical information - and to test if our products in regards to applicability for the intended system and use. Application, use and handling of our products – produced from you based on our application technological advice - take place out of our control and therefore you are solely responsible. The sale of our products is carried out according to our current general terms and conditions. Please check before handling if our products are applicable for the intended purpose.

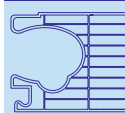


Content

Technical manual LBE 50 mm

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- Technical information non-thermally broken frame system 1.1.4.0 to 1.1.4.5
- Technical information thermally broken frame system 1.1.5.0 to 1.1.5.6
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Product range

Translucent Building Elements

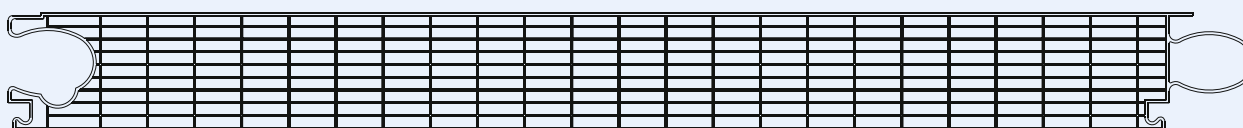
Standard and Design Series



Standard - crystal and opal

PC 2550-10 ISOCLEAR

Up-Value 0.90 W/m²K**



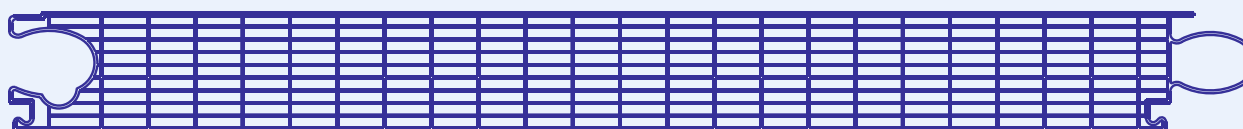
ETA -19/0452

Building width 495 mm*

Design Series - Color

PC 2550-10 ISOCLEAR

Up-Value 0.90 W/m²K**



ETA -19/0452

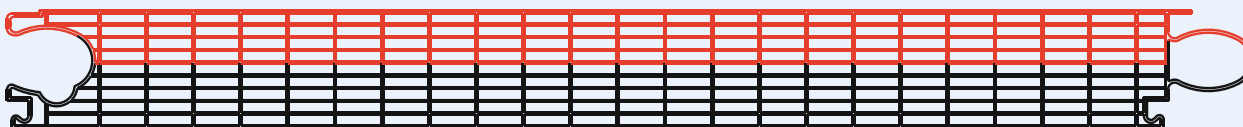
Minimum quantity of 300 m²

Building width 495 mm*

Design Series - DuoColor

PC 2550-10 ISOCLEAR

Up-Value 0.90 W/m²K**



ETA -19/0452

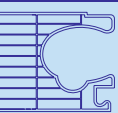
Minimum quantity of 300 m²

Building width 495 mm*

Rodeca panels are CE marked as specified by the European directive No. 305/2011 and according to the requirements of EN 16153. Beyond the performance of EN 16153 our products are certified according to several European and national standards. Such as other national fire certifications, proof of joint tightness, certified resistance against ball and puck impact as well as hail resistance etc. corresponding to testing reports. As necessary please contact us for further certifications.

* Please note our general information regarding production tolerances

** The Up-values depend on the installation situation, for further details please check our technical manuals and the structural-physical values. It is mandatory to consider the technical datasheets to this.



Product range

Rodeca world of colours

Translucent Building Elements

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Rodeca colour sample boxes

Since many years our Rodeca colour sample box is a proven and popular resource to showcase colouring of translucent building materials. This box contains 30 different colours and is frequently used to make a preselection for coloured translucent building materials. The new supplementary colour sample box contains a completely new range of 20 colours in frosted and pastel tones.

Our frosted colours

The special surface of the frosted colours gives the translucent building elements an extremely elegant appearance and the colours are rich and vibrant. At the same time, the frosted colours - in comparison to the standard - are characterized by a lower surface reflection. Frosted colours are available for **PC 2540-7 in DecoColor version, PC 2550-10 and PC 2560-12 in DuoColor version.**

Pastel tones for discreet colour accents

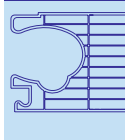
Especially for our Design Series pastel shades are a very good choice. You get delicate colour accents without having to worry too much about the colour impact. The influence of colour to the day light quality is minimized.

Frosted or pastel tones?

The difference between the two types becomes very clear in below picture. Despite the less intense colours of pastel tone samples the material reflects due to its nature. The matt/frosted colours, on the other hand, have hardly any reflection.

Our well-known sample box with 30 different colours are brilliant and inspired by the colours of a rainbow.

You do not know yet our colour sample boxes? No problem, just contact us and we will send you one.



1.1.1.1

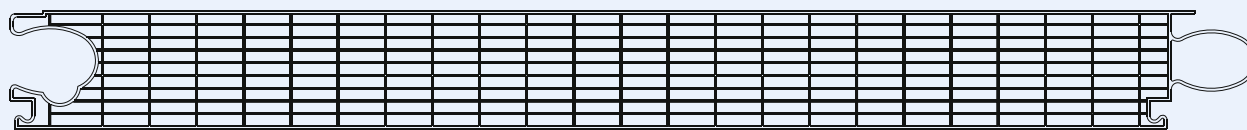
Translucent Building Elements

Product properties

System PC 2550-10

Up-Value 0.90 W/m²K

in vertical installation situation according to EN ISO 10077-1



ETA - 19/0452

Building width 495 mm

Flammability classification:

fire class B-s1, d0 according to EN 13501

Product properties:

Building width:	495 mm
Thickness:	50 mm
Weight:	approx. 5.0 kg/m²
Number of layers:	10 layers / 9 chambers
Modulus of elasticity:	2,400 N/mm²
Coefficient of linear expansion:	0.065 mm/m/°C
UV admission:	< 1 %, wavelength until 380 nm stopped almost a 100 %
Production tolerances:	s. General information

Versions:

Standard: Colours: crystal, opal, petrol and pacific blue

Color: Available in any solid colour similar to RAL. The Color version can be delivered with a minimum quantity of 300 m² without separate surcharges for colour change.

DuoColor:



Two coloured version of the panels combinable with Heatbloc / frosted colours / pastel colour. The DuoColor version can be delivered with a minimum quantity of 300 m² without separate surcharges for colour change.

More information about our world of colours in product range.

Up-Values in installation situation:

0.90 W/m²K vertical / 0.92 W/m²K horizontal

Light transmission values :

Standard:	Colour: crystal	approx. 48 %
	Colour: opal	approx. 21 %
Color*:	e. g. Colour: petrol	approx. 38 %
DuoColor*:	e. g. Heatbloc S / opal	approx. 19 %

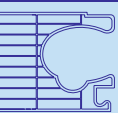
Solar gain values g

Standard:	Colour: crystal	approx. 50 %
	Colour: opal	approx. 38 %
Color*:	e. g. Colour: petrol	approx. 45 %
DuoColor*:	e. g. Heatbloc S / opal	approx. 25 %

Sound insulation value:

R_w = 22 db

* The value depends from colour respectively from the colour combination.



1.1.1.2

Translucent Building Elements

Product version DuoColor

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Design Series - DuoColor

DuoColor means:

Approx. 1/2 of the panel seen from outside view in Colour 1

Approx. 1/2 of the panel seen from outside view in Colour 2

The separation of the colours is not guaranteed exactly in the middle of the panel but may vary slightly in between the single production charges, due to that differences in transmission can be possible.

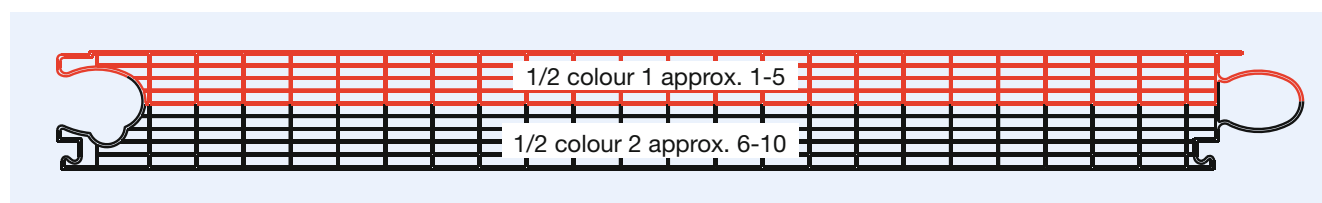
For the indication of the colours always the outside view from the panel is taken as basis!

Example:

The version DuoColor red ~RAL 3020 / crystal means:

Approx. Layers 1-5 in colour red~RAL 3020

Approx. Layers 6-10 in crystal



Please note that in your inquiry that the version DuoColor always has the correct sequence of the colour description from outside view to inside view.

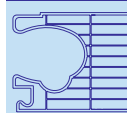
In order to avoid mistakes you can attach this data sheet with the description of your desired colour combination to your order.

Please use this data sheet as well as basis for your project orders:

Ordering information DuoColor:

Approx. layers 1 - 5 from outside view in Colour 1 Colour 1 _____

Approx. layers 6 -10 from outside view in Colour 2 Colour 2 _____



1.1.2.0

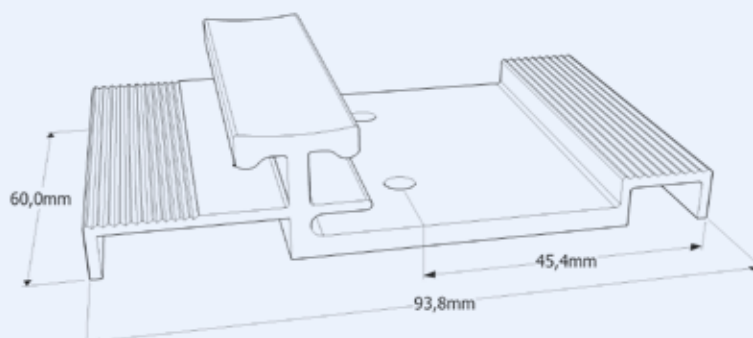
Translucent Building Elements

System PC 2550-10 AF 60 | System PC 2550-10 AF 120
Fastener

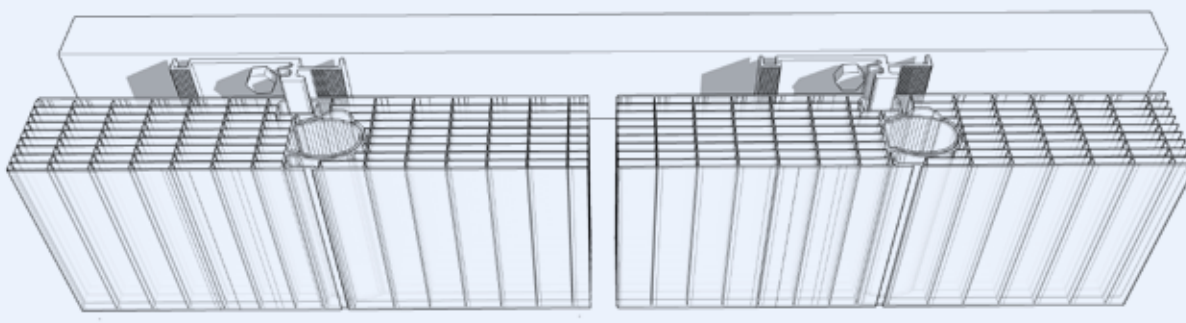
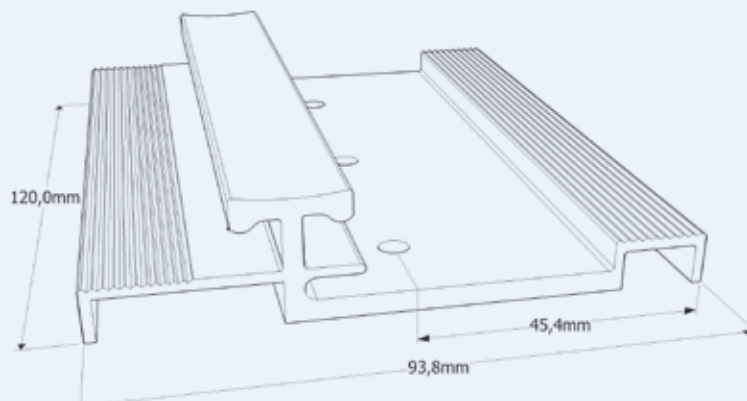
General

The Rodeca flat fasteners are made of extruded aluminium profiles, afterwards cut, pierced and trovalised. We recommend to fix the flat aluminium fasteners with stainless steel screws without sealing discs. The fixing materials need to be chosen in type and finish adequately to substructure. The height of substructure should be not smaller than the height of the fastener.

Article no.: 49405060



Article no.: 494050120



The Rodeca translucent building elements in use with thermally broken or non-thermally broken frame systems have the following system names:

PC 2550-10

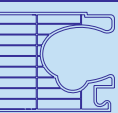
For single field constructions

PC 2550-10 AF 60

For two or multi field constructions with aluminium flat frame fastener in length 60 mm

PC 2550-10 AF 120

For two or multi field constructions with aluminium flat frame fastener in length 120 mm



1.1.2.1

Translucent Building Elements

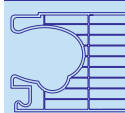
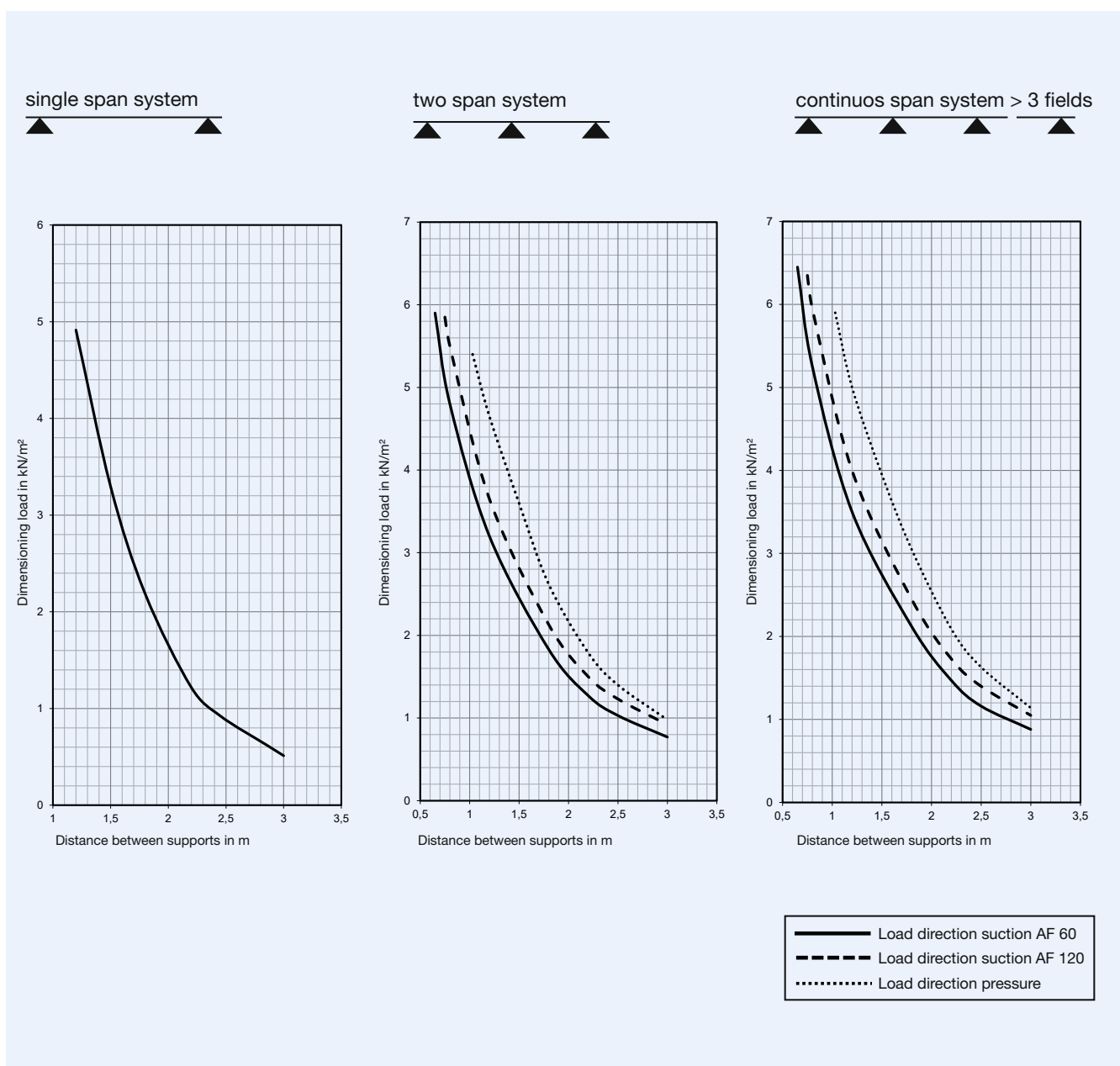
Span width | System PC 2550-10

Stand: 08/19

The below diagrams show the span widths recommendations referring to dimensioning loads. The values are based on ETA-19/0452 and are only valid in conjunction with the Rodeca systems accessories.

Please note that for the structural design of the valid spans to the influencing loads the correspondent national partial safety factors γ_f must be added.

The structural analysis of the span widths must be proven project-related based on ETA-19/0452.



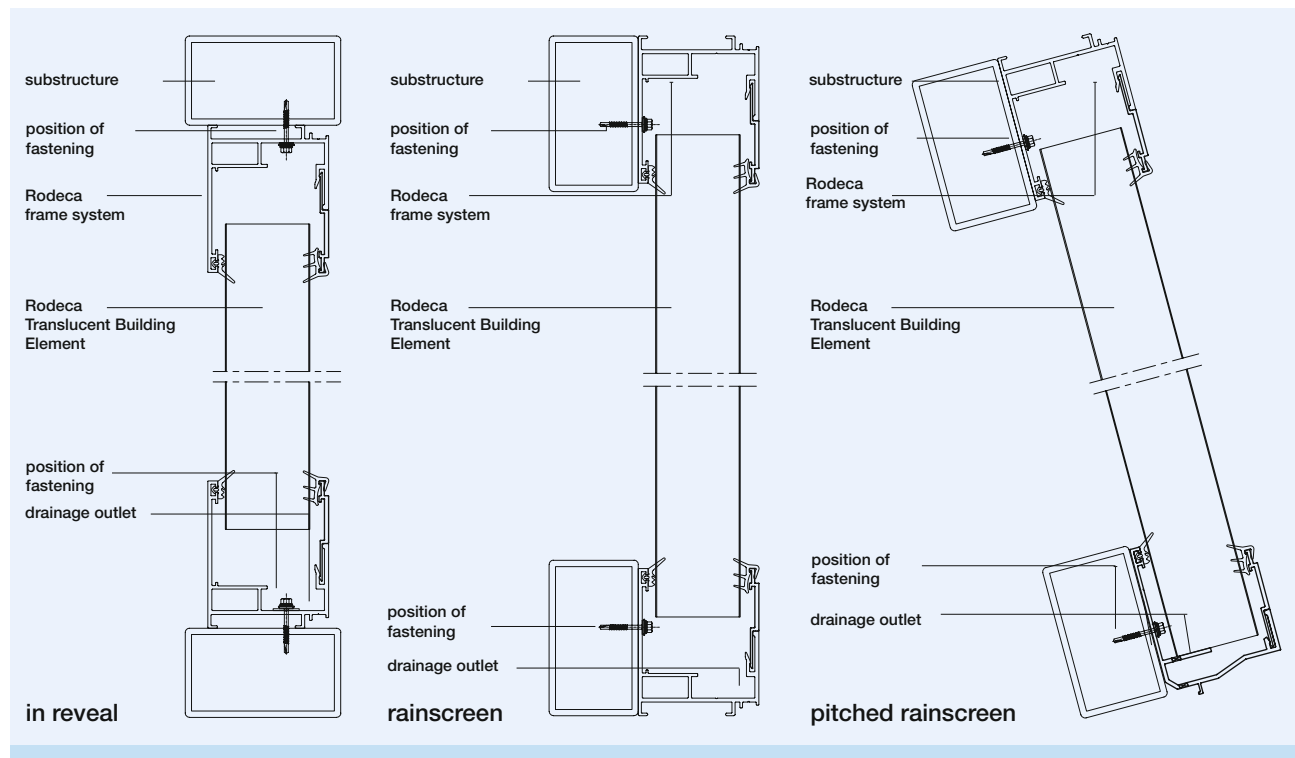
1.1.3.0

Translucent Building Elements

Frame system thermally and non-thermally broken

General Information

Mounting situation



General

The examples shown above illustrate the use of Rodeca frame profiles for mounting in reveal, as rainscreen or as a pitched rainscreen construction.

In all cases the sealing between frame sections, frame profile and substructure should be adapted to local conditions. The proof of aluminium profiles, their fixings and the fixing of Rodeca fasteners must be kept in an individual case. Installation of the aluminium profiles with **stainless steel screws** and sealing disc. Dimensions and size according to substructure and extract values of fixing materials. Rodeca assembly instructions must be observed.

Rodeca frame systems are made of extruded Aluminium profiles consisting of aluminium EN AW-6060, status T 66 according to DIN EN 755-2. The ribs are made of fiber glass reinforced polyamide PA 66 with fiber glass part of 25%. The gaskets are made of TPE.

Please note:

The coefficient of linear expansion for Aluminium profiles = 0.023 mm/m°C. Polycarbonate panels = 0.065 mm/m°C.

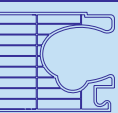
Initial lengths/-units

Aluminium profiles	6.00 m
Front plate	2.0 und 3.0 m
TPE gaskets, grey or black or special colour on request	50 m rolls
Profile connector	10 cm PU* 4pcs.

Versions

Aluminium - mill finish
Aluminium - anodized E6/C0
Aluminium - powder coated according to RAL

*PU = Packing unit



1.1.4.0

Translucent Building Elements

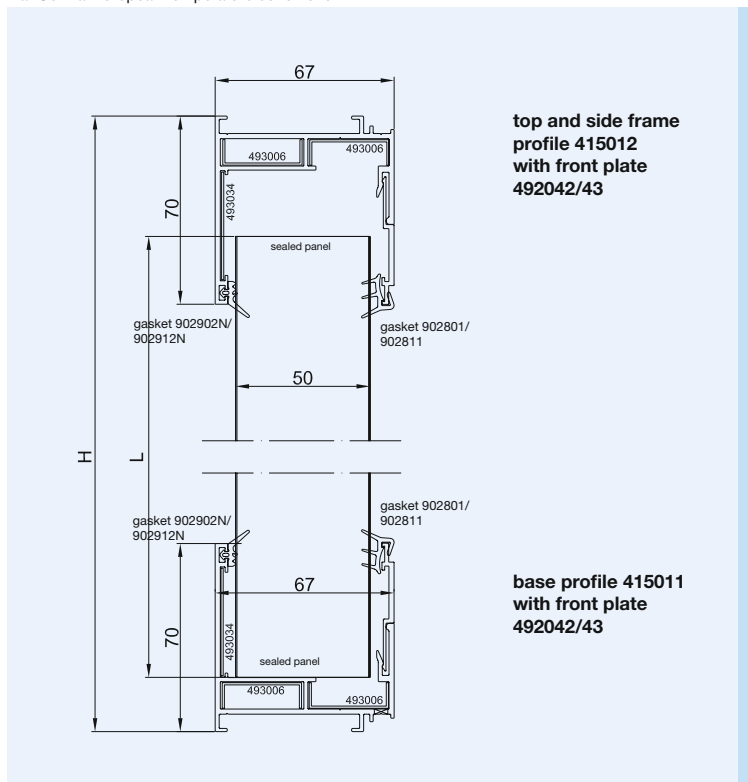
Frame system non-thermally broken

Top and base framing

Stand: 08/19

Facade 90° up to 4.5 m panel length*

* at Central European temperature conditions



Top profile 415012
Base profile 415011

Article numbers

415012 = Top and side frame profile
493034 = Profile connector for 415012
493006 = Profile connector 2x for 415012

415011 = Base profile
493034 = Profile connector for 415011
493006 = Profile connector 2x for 415011

492042 = Front plate in L = 2.0 m

492043 = Front plate in L = 3.0 m

902801 = Outer plug gasket TPE grey

902811 = Outer plug gasket TPE black

902902N = Inner lip gasket TPE grey

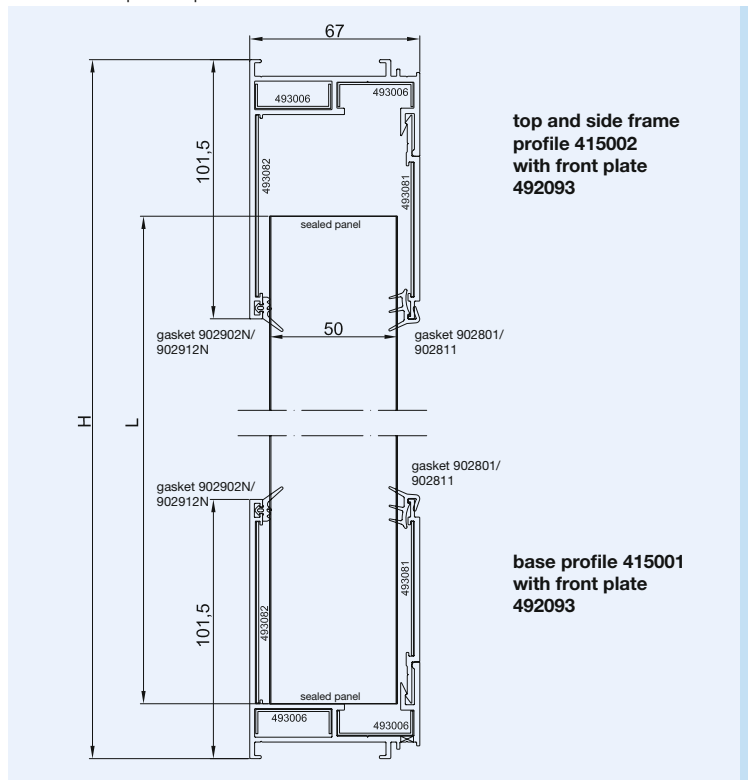
902912N = Inner lip gasket TPE black

Calculation of panel length:

L in mm = Height H in mm
less 65 mm at H > 1,500 mm
less 70 mm at H < 1,500 mm

Facade 90° up to 12 m panel length*

* at Central European temperature conditions



Top profile 415002
Base profile 415001

Article numbers

415002 = Top and side frame profile
493082 = Profile connector for 415002
493006 = Profile connector 2x for 415002

415001 = Base profile
493082 = Profile connector for 415001
493006 = Profile connector 2x for 415001

492093 = Front plate in L = 3.0 m

493081 = Profile connector for 492093

902801 = Outer plug gasket TPE grey

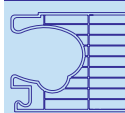
902811 = Outer plug gasket TPE black

902902N = Inner lip gasket TPE grey

902912N = Inner lip gasket TPE black

Calculation of panel length:

L in mm = Height H in mm - 75 mm



1.1.4.1

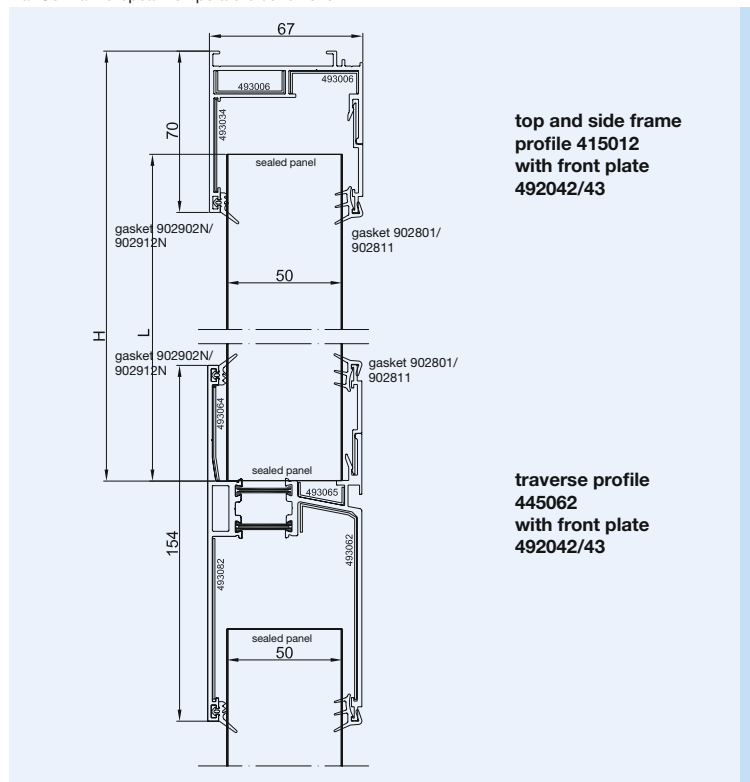
Translucent Building Elements

Frame system non-thermally broken

Top and base framing

Facade 90° up to 4.5 m panel length*

* at Central European temperature conditions



Top profile 415012
Traverse profile 445062

Article numbers

415012 = Top and side frame profile
493034 = Profile connector for 415012
493006 = Profile connector 2x for 415012

445062 = Traverse profile
493062 = Profile connector for 445062
493082 = Profile connector for 445062
493064 = Profile connector for 445062
493065 = Profile connector for 445062

492042 = Front plate in L = 2.0 m
492043 = Front plate in L = 3.0 m

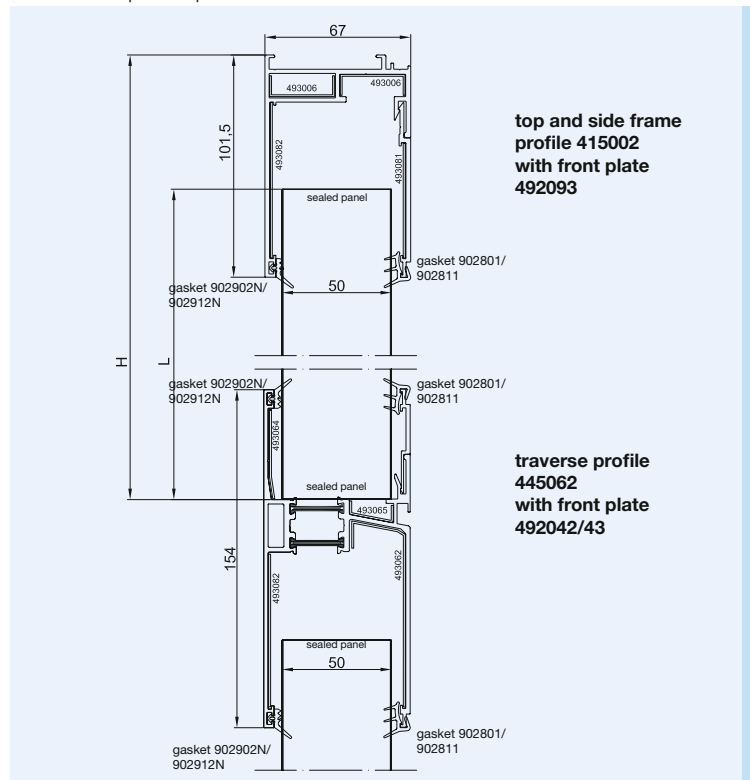
902801 = Outer plug gasket TPE grey
902811 = Outer plug gasket TPE black

902902N = Inner lip gasket TPE grey
902912N = Inner lip gasket TPE black

Calculation of panel length:
 $L \text{ in mm} = \text{Height } H \text{ in mm} - 45 \text{ mm}$

Facade 90° up to 12 m panel length*

* at Central European temperature conditions



Top profile 415002
Traverse profile 445062

Article numbers

415002 = Top and side frame profile
493082 = Profile connector for 415002
493006 = Profile connector 2x for 415002
492093 = Front plate in L = 3.0 m
493081 = Profile connector for 492093

445062 = Traverse profile
493062 = Profile connector for 445062
493082 = Profile connector for 445062
493064 = Profile connector for 445062
493065 = Profile connector for 445062
492042 = Front plate in L = 2.0 m
492043 = Front plate in L = 3.0 m

902801 = Outer plug gasket TPE grey
902811 = Outer plug gasket TPE black

902902N = Inner lip gasket TPE grey
902912N = Inner lip gasket TPE black

Calculation of panel length:
 $L \text{ in mm} = \text{Height } H \text{ in mm} - 55 \text{ mm}$

1.1.4.2

Translucent Building Elements

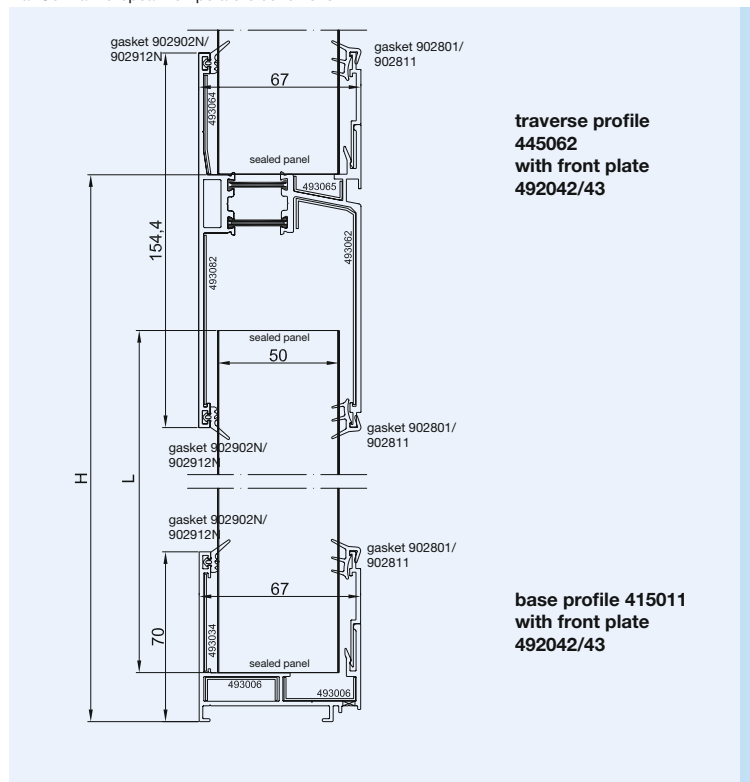
Frame system non-thermally broken

Top and base framing

Stand: 08/19

Facade 90° up to 12 m panel length*

* at Central European temperature conditions



Traverse profile 445062
Base profile 415011

Article numbers

445062 = Traverse profile
493062 = Profile connector for 445062
493082 = Profile connector for 445062
493064 = Profile connector for 445062
493065 = Profile connector for 445062

415011 = Base profile
493034 = Profile connector for 415011
493006 = Profile connector for 2x for 415011

492042 = Front plate in L = 2.0 m

492043 = Front plate in L = 3.0 m

902801 = Outer plug gasket TPE grey
902811 = Outer plug gasket TPE black

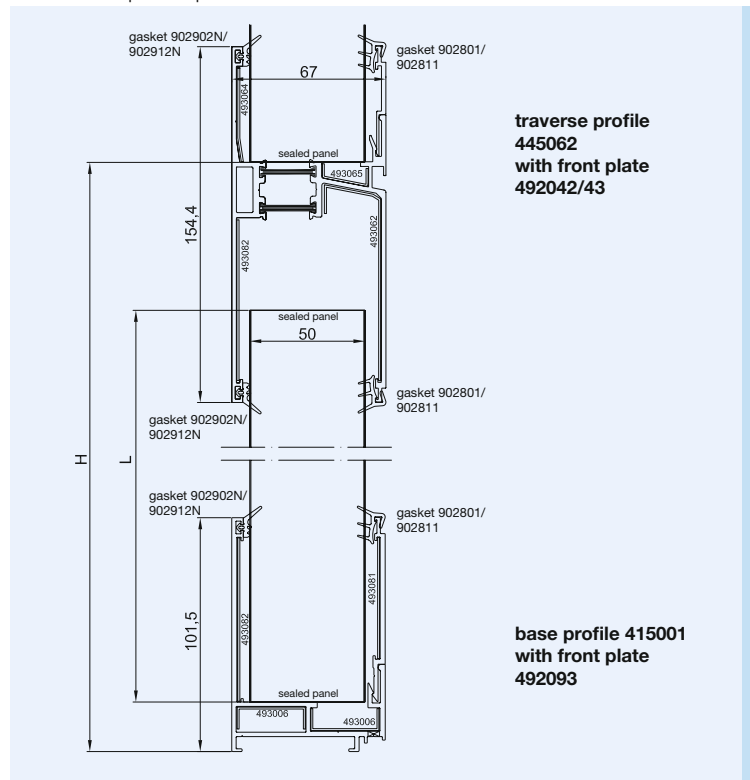
902902N = Inner lip gasket TPE grey
902912N = Inner lip gasket TPE black

Calculation of panel length:

L in mm = Height H in mm - 75 mm

Facade 90° up to 12 m panel length*

* at Central European temperature conditions



Traverse profile 445062
Base profile 415001

Article numbers

445062 = Traverse profile
493062 = Profile connector for 445062
493082 = Profile connector for 445062
493064 = Profile connector for 445062
493065 = Profile connector for 445062

492042 = Front plate in L = 2.0 m

492043 = Front plate in L = 3.0 m

415001 = Base profile
493082 = Profile connector for 415001
493006 = Profile connector 2x for 415001

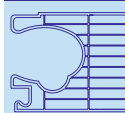
492093 = Front plate in L = 3.0 m
493081 = Profile connector for 492093

902801 = Outer plug gasket TPE grey
902811 = Outer plug gasket TPE black

902902N = Inner lip gasket TPE grey
902912N = Inner lip gasket TPE black

Calculation of panel length:

L in mm = Height H in mm - 75 mm



1.1.4.3

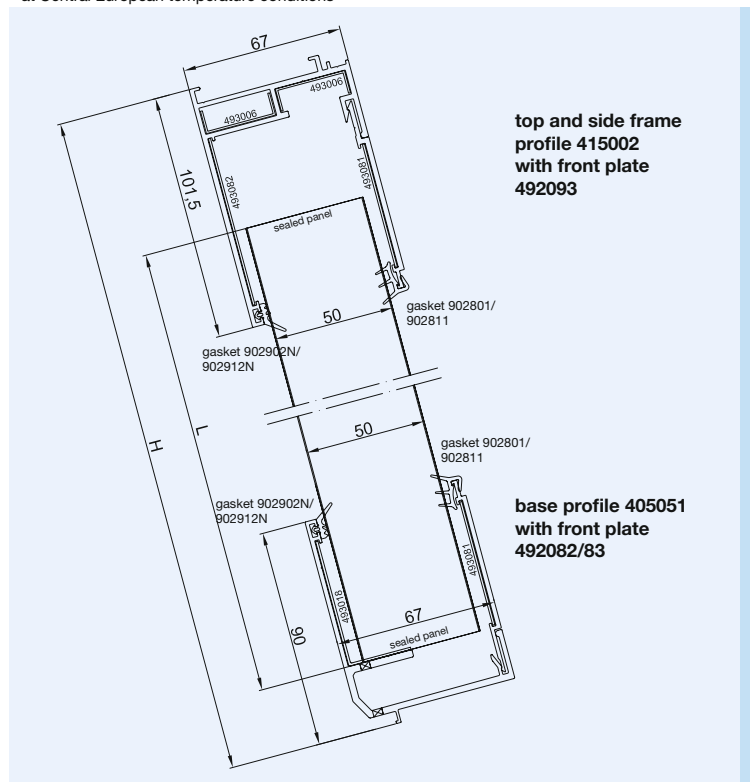
Translucent Building Elements

Frame system non-thermally broken

Top and base framing

Pitched installation >15° up to 12 m panel length*

* at Central European temperature conditions



Top profile 415002
Base profile 405051

Article numbers

415002 = Top and side frame profile
493082 = Profile connector for 415002
493006 = Profile connector 2 x for 415002

492093 = Front plate in L = 3.0 m
493081 = Profile connector for 492093

405051 = Base profile
493018 = Profile connector for 405051

492082 = Front plate in L = 2.0 m
492083 = Front plate in L = 3.0 m
493081 = Profile connector for 492082/83

902801 = Outer plug gasket TPE grey
902811 = Outer plug gasket TPE black

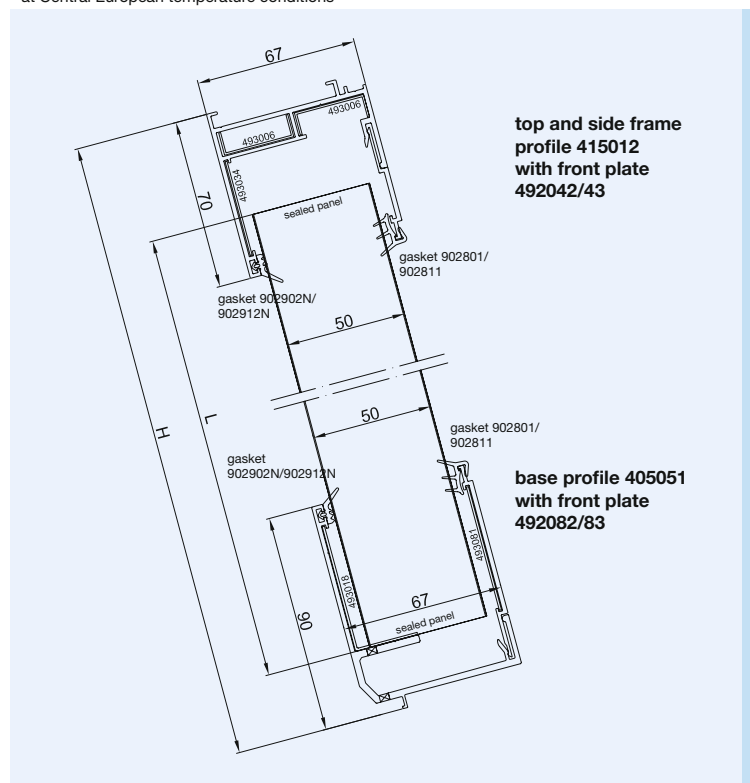
902902N = Inner lip gasket TPE grey
902912N = Inner lip gasket TPE black

Calculation of panel length:

L in mm = Height H in mm - 80 mm

Pitched installation >15° up to 4.5 m panel length*

* at Central European temperature conditions



Top profile 415012
Base profile 405051

Article numbers

415012 = Top and side frame profile
493034 = Profile connector for 415012
493006 = Profile connector 2 x for 415012

492042 = Front plate in L = 2.0 m
492043 = Front plate in L = 3.0 m

405051 = Base profile
493018 = Profile connector for 405051

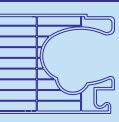
492082 = Front plate in L = 2.0 m
492083 = Front plate in L = 3.0 m
493081 = Profile connector for 492082/83

902801 = Outer plug gasket TPE grey
902811 = Outer plug gasket TPE black

902902N = Inner lip gasket TPE grey
902912N = Inner lip gasket TPE black

Calculation of panel length:

L in mm = Height H in mm - 60 mm



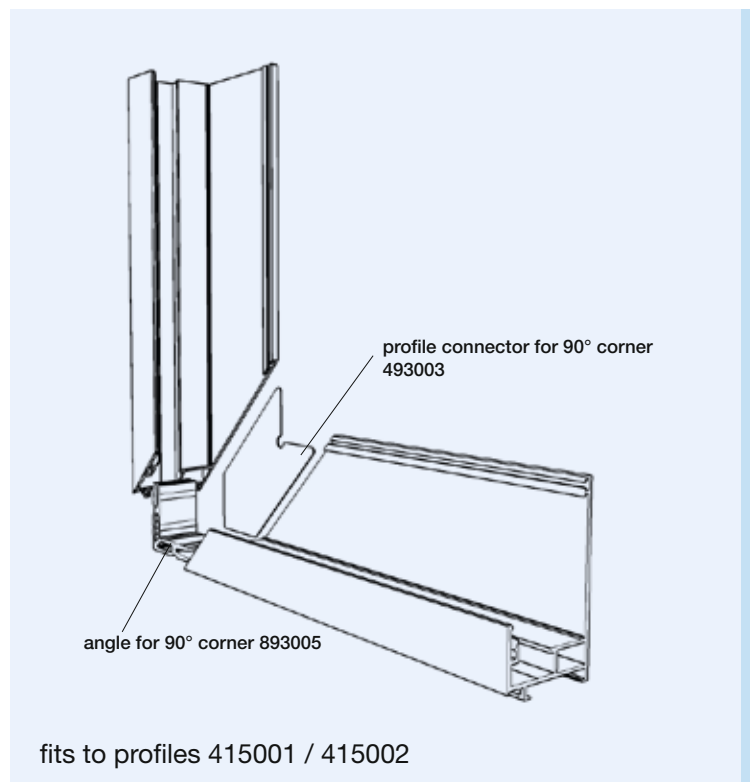
1.1.4.4

Translucent Building Elements

Frame system non-thermally broken
Corner connection

Stand: 08/19

90° corner connection 415005



General

90° corner connections of the profiles 415002 and 415012 are available as prefabricated components.

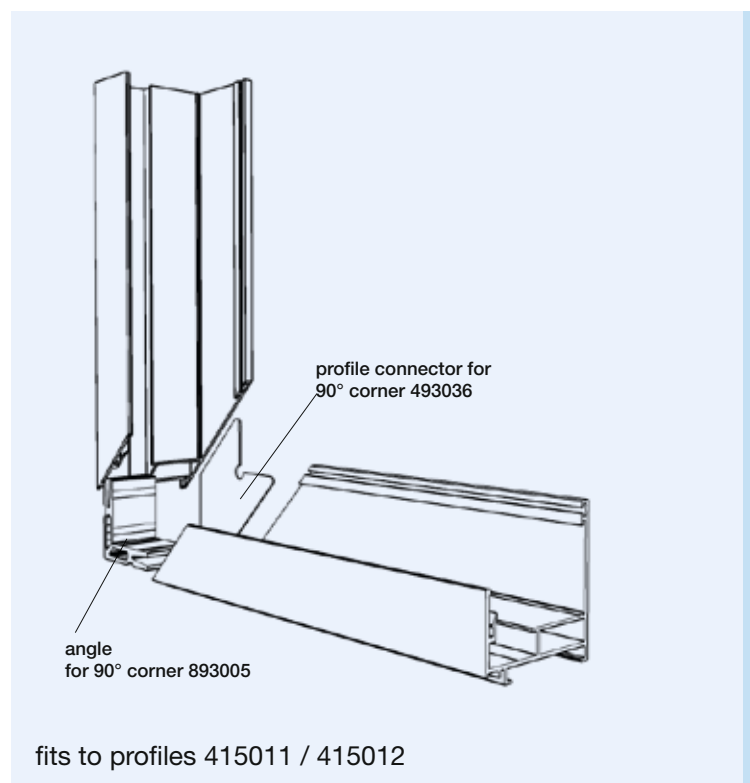
The corner connections are made of 0.55m long frame profiles, incl. front plates. The connections are sealed with profile connectors and sealant and thus save installation time and effort.

Initial lengths/-units

Prefabricated corner profile incl. front plates and profile connectors	
Length 0.55 m	1 pc. PU*
Profile connector 493003	4 pcs. PU*
Angle for 90° corner 893005	4 pcs. PU*
TPE gaskets, grey or black or special colour on request	50 m rolls
Profile connector	10 cm

*PU = Packing unit

90° corner connection 415015



Article numbers

415005 = 90° corner connection prefabricated incl. profile connectors and front plate, fits to profile 415001 & 415002

493003 = profile connector for a 90° corner of profile 415001/02

893005 = angle for a 90° corner of profile 415001/02

415015 = 90° corner connection prefabricated incl. profile connectors and front plate, fits to profile 415011 & 415012

493036 = profile connector for a 90° corner of profile 415011/12

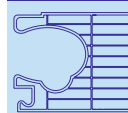
893005 = angle for a 90° corner of profile 415011/12

Versions

Aluminium - mill finish

Aluminium - anodized E6/C0

Aluminium - powder coated according to RAL



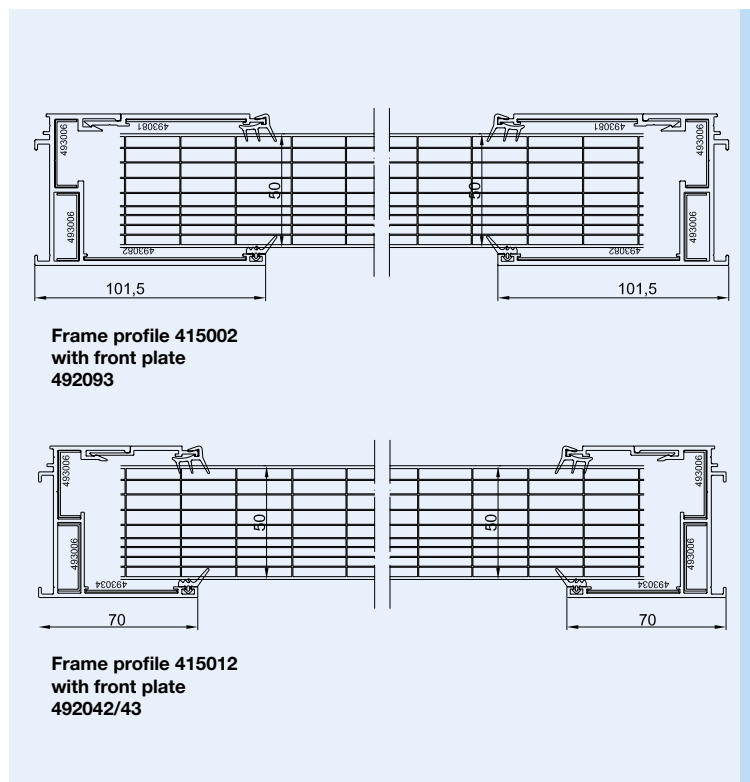
1.1.4.5

Translucent Building Elements

Frame system non-thermally broken

Lateral framing

Side connections



Side connection with frame profiles

Article numbers

415002 = Top and side frame profile
493082 = Profile connector for 415002
493006 = Profile connector 2 x for 415002

492093 = Front plate in L = 3.0 m
493081 = Profile connector for 492093

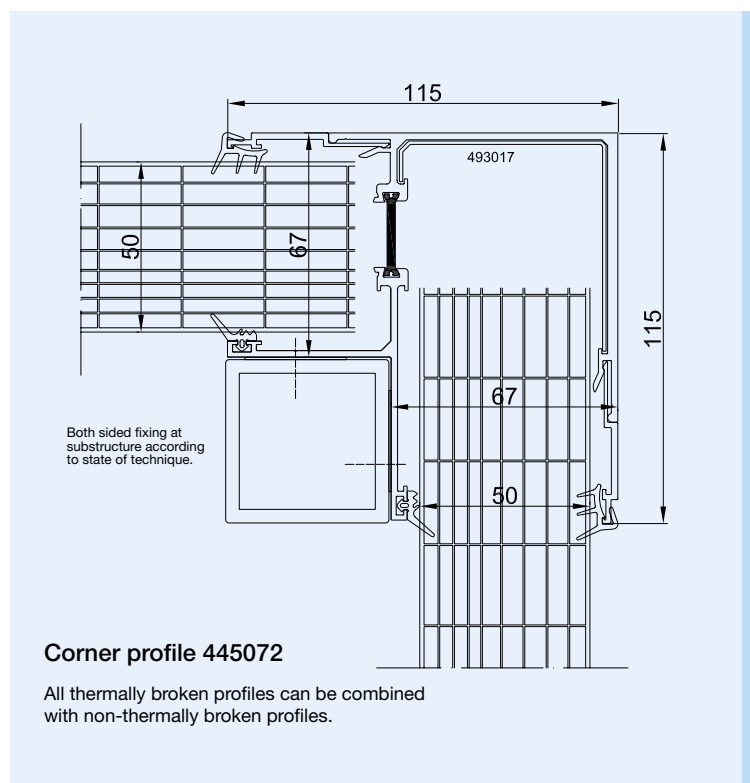
415012 = Top and side frame profile
493034 = Profile connector for 415012
493006 = Profile connector 2 x for 415012

492042 = Front plate in L = 2.0 m
492043 = Front plate in L = 3.0 m

902801 = Outer plug gasket TPE grey
902811 = Outer plug gasket TPE black

902902N = Inner lip gasket TPE grey
902912N = Inner lip gasket TPE black

Side connection 90° corner



Side connection 90° corner with frame profile 445072

Article numbers

445072 = Corner profile
493017 = Profile connector for 445072

492042 = Front plate in L = 2.0 m
492043 = Front plate in L = 3.0 m

902801 = Outer plug gasket TPE grey
902811 = Outer plug gasket TPE black

902902N = Inner lip gasket TPE grey
902912N = Inner lip gasket TPE black

1.1.5.0

Translucent Building Elements

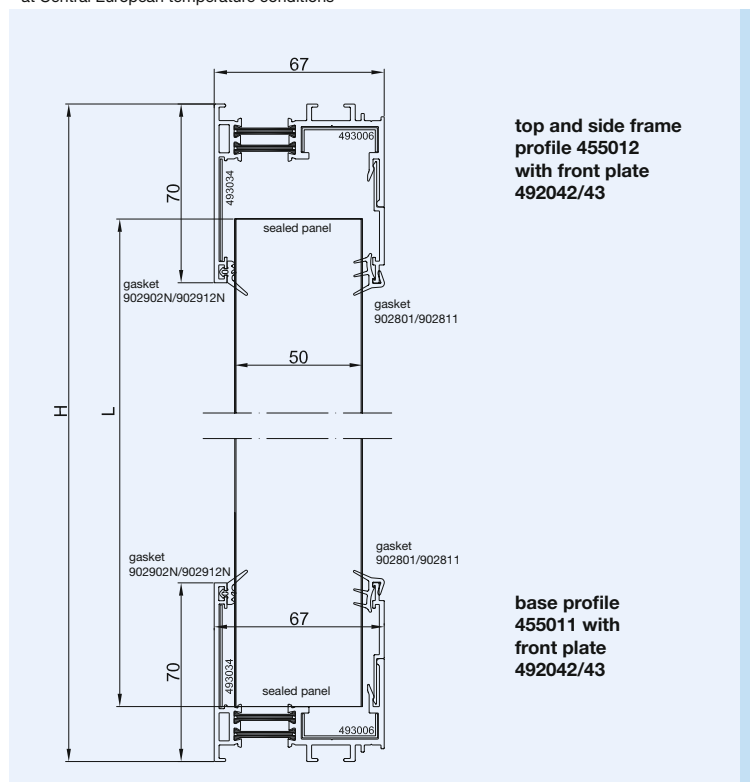
Frame system thermally broken

Top and base framing

Stand: 08/19

Facade 90° up to 4.5 m panel length*

* at Central European temperature conditions



Top profile 455012
Base profile 455011

Article numbers

455012 = Top and side frame profile
493006 = Profile connector for 455012
493034 = Profile connector for 455012

455011 = Base profile with drainage
493006 = Profile connector for 455011
493034 = Profile connector for 455011

492042 = Front plate in L = 2.0 m
492043 = Front plate in L = 3.0 m

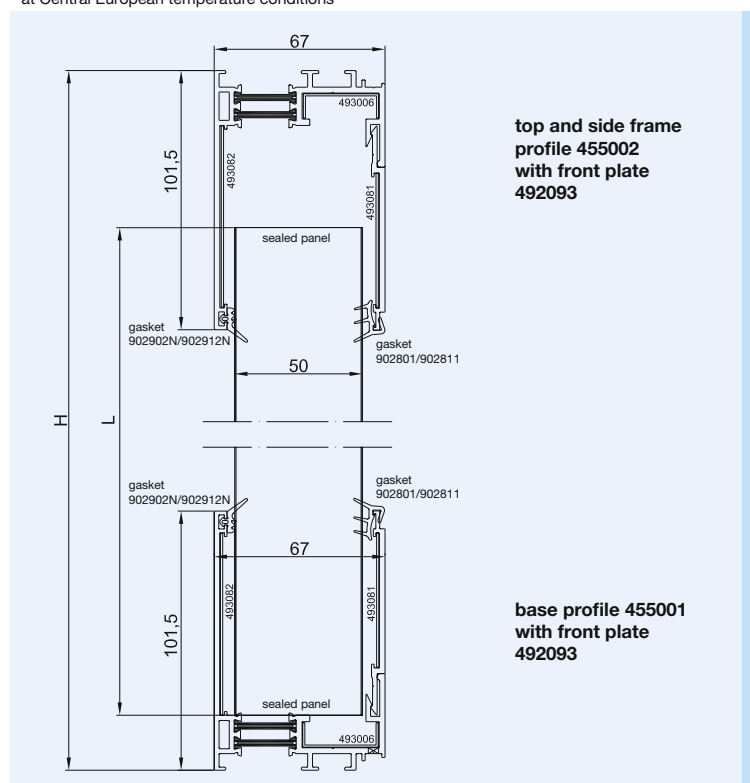
902801 = Outer plug gasket TPE grey
902811 = Outer plug gasket TPE black

902902N = Inner lip gasket TPE grey
902912N = Inner lip gasket TPE black

Calculation of panel length:
L in mm = Height H in mm - **68 mm**

Facade 90° up to 12 m panel length*

* at Central European temperature conditions



Top profile 455002
Base profile 455001

Article numbers

455002 = Top and side frame profile
493082 = Profile connector for 455002
493006 = Profile connector for 455002

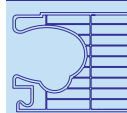
455001 = Base profile with drainage
493082 = Profile connector for 455001
493006 = Profile connector for 455001

492093 = Front plate in L = 3.0 m
493081 = Profile connector for 492093

902801 = Outer plug gasket TPE grey
902811 = Outer plug gasket TPE black

902902N = Inner lip gasket TPE grey
902912N = Inner lip gasket TPE black

Calculation of panel length:
L in mm = Height H in mm - **75 mm**



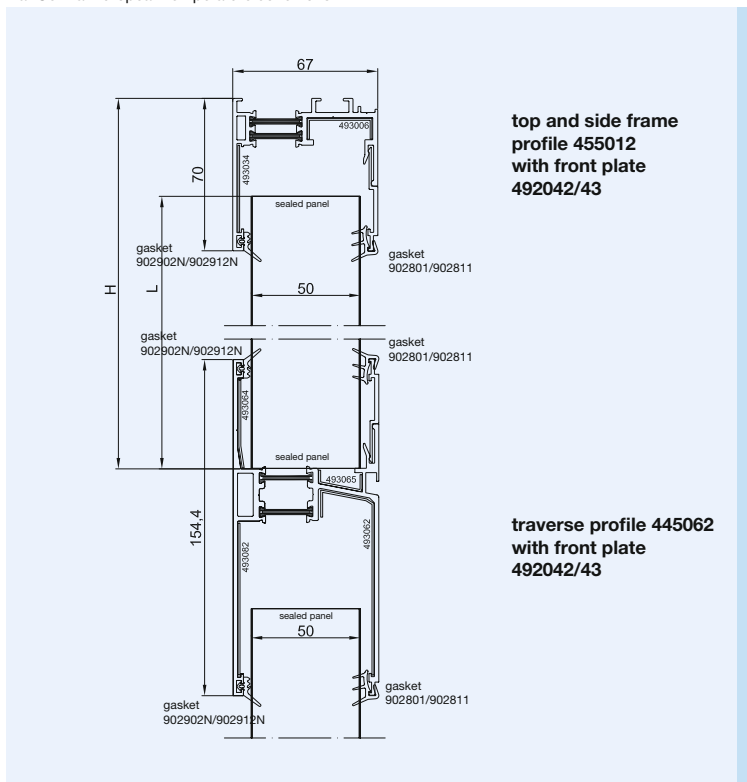
1.1.5.1

Translucent Building Elements

Frame system thermally broken
Top and base framing

Facade 90° up to 4.5 m panel length*

* at Central European temperature conditions



Top profile 455012
Traverse profile 445062

Article numbers

455012 = Top and side frame profile
493006 = Profile connector for 455012
493034 = Profile connector for 455012
492042 = Front plate in L = 2.0 m
492043 = Front plate in L = 3.0 m

445062 = Traverse profile
493062 = Profile connector for 445062
493082 = Profile connector for 445062
493064 = Profile connector for 445062
493065 = Profile connector for 445062
492042 = Front plate in L = 2.0 m
492043 = Front plate in L = 3.0 m

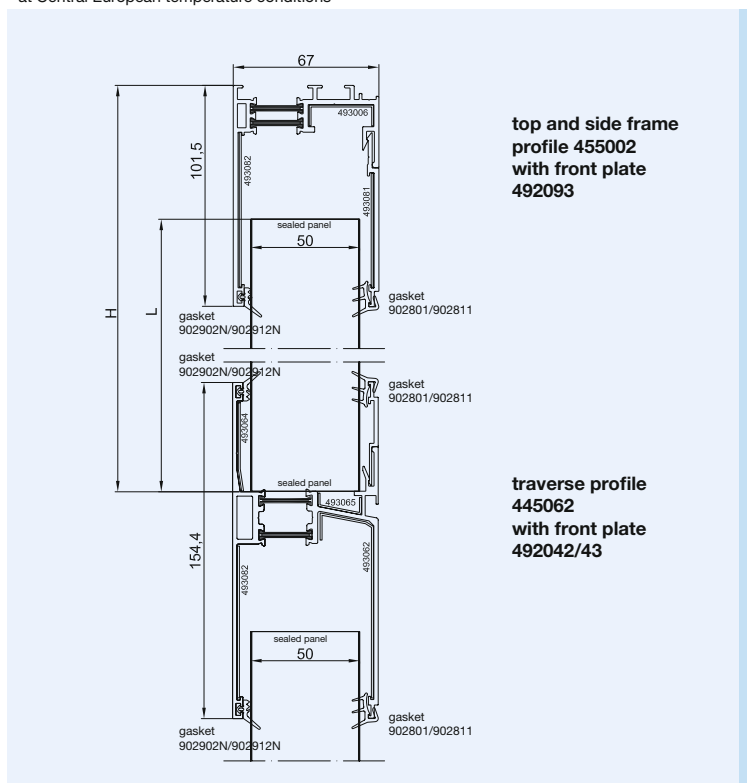
902801 = Outer plug gasket TPE grey
902811 = Outer plug gasket TPE black

902902N = Inner lip gasket TPE grey
902912N = Inner lip gasket TPE black

Calculation of panel length:
 $L \text{ in mm} = \text{Height } H \text{ in mm} - 45 \text{ mm}$

Facade 90° up to 12 m panel length*

* at Central European temperature conditions



Top profile 455002
Traverse profile 445062

Article numbers

455002 = Top and side frame profile
493082 = Profile connector for 455002
493006 = Profile connector for 455002
492093 = Front plate in L = 3.0 m
493081 = Profile connector for 492093

445062 = Traverse profile
493062 = Profile connector for 445062
493082 = Profile connector for 445062
493064 = Profile connector for 445062
493065 = Profile connector for 445062
492042 = Front plate in L = 2.0 m
492043 = Front plate in L = 3.0 m

902801 = Outer plug gasket TPE grey
902811 = Outer plug gasket TPE black

902902N = Inner lip gasket TPE grey
902912N = Inner lip gasket TPE black

Calculation of panel length:
 $L \text{ in mm} = \text{Height } H \text{ in mm} - 55 \text{ mm}$

1.1.5.2

Translucent Building Elements

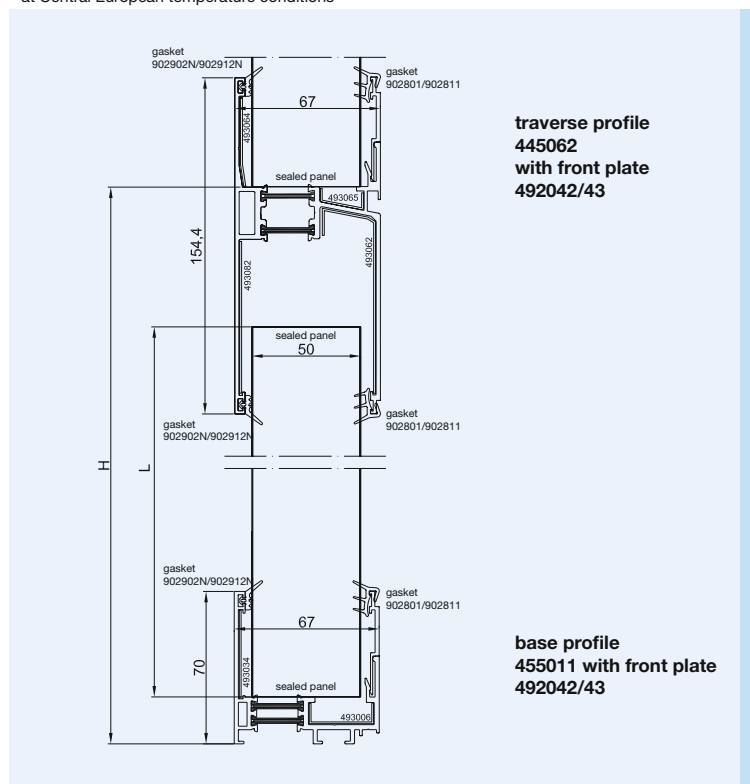
Frame system thermally broken

Top and base framing

Stand: 08/19

Facade 90° up to 12 m panel length*

* at Central European temperature conditions



Traverse profile 445062 Base profile 455011

Article numbers

445062 = Traverse profile
 493062 = Profile connector for 445062
 493082 = Profile connector for 445062
 493064 = Profile connector for 445062
 493065 = Profile connector for 445062
492042 = Front plate in L = 2.0 m
492043 = Front plate in L = 3.0 m

455011 = Base profile with drainage
 493006 = Profile connector for 455011
 493034 = Profile connector for 455011
492042 = Front plate in L = 2.0 m
492043 = Front plate in L = 3.0 m

902801 = Outer plug gasket TPE grey
902811 = Outer plug gasket TPE black

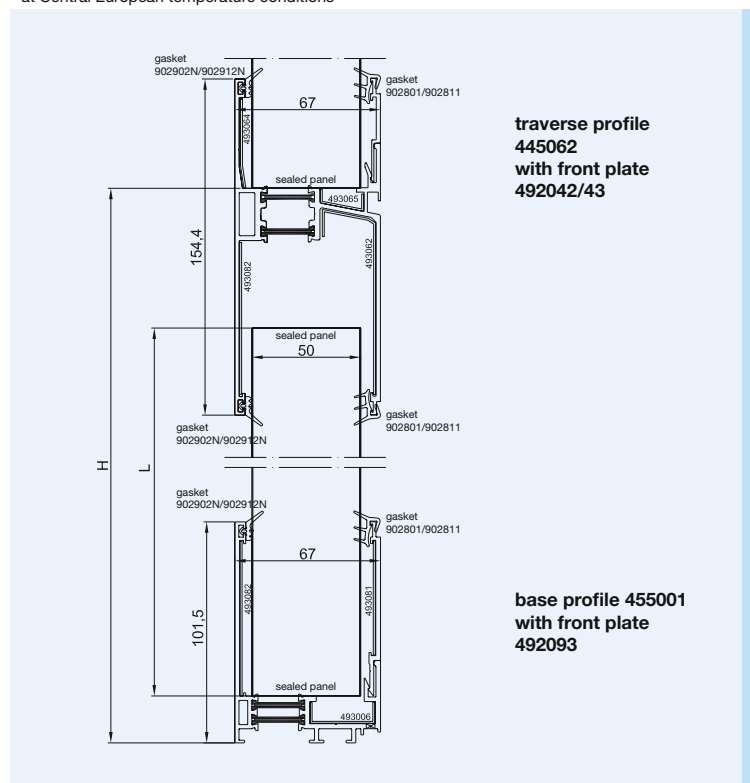
902902N = Inner lip gasket TPE grey
902912N = Inner lip gasket TPE black

Calculation of panel length:

L in mm = Height H in mm - 80 mm

Facade 90° up to 12 m panel length*

* at Central European temperature conditions



Traverse profile 445062 Base profile 455001

Article numbers

445062 = Traverse profile
 493062 = Profile connector for 445062
 493082 = Profile connector for 445062
 493064 = Profile connector for 445062
 493065 = Profile connector for 445062
492042 = Front plate in L = 2.0 m
492043 = Front plate in L = 3.0 m

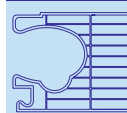
455001 = Base profile with drainage
 493082 = Profile connector for 455001
 493006 = Profile connector for 455001
492093 = Front plate in L = 3.0 m
 493081 = Profile connector for 492093

902801 = Outer plug gasket TPE grey
902811 = Outer plug gasket TPE black

902902N = Inner lip gasket TPE grey
902912N = Inner lip gasket TPE black

Calculation of panel length:

L in mm = Height H in mm - 80 mm



1.1.5.3

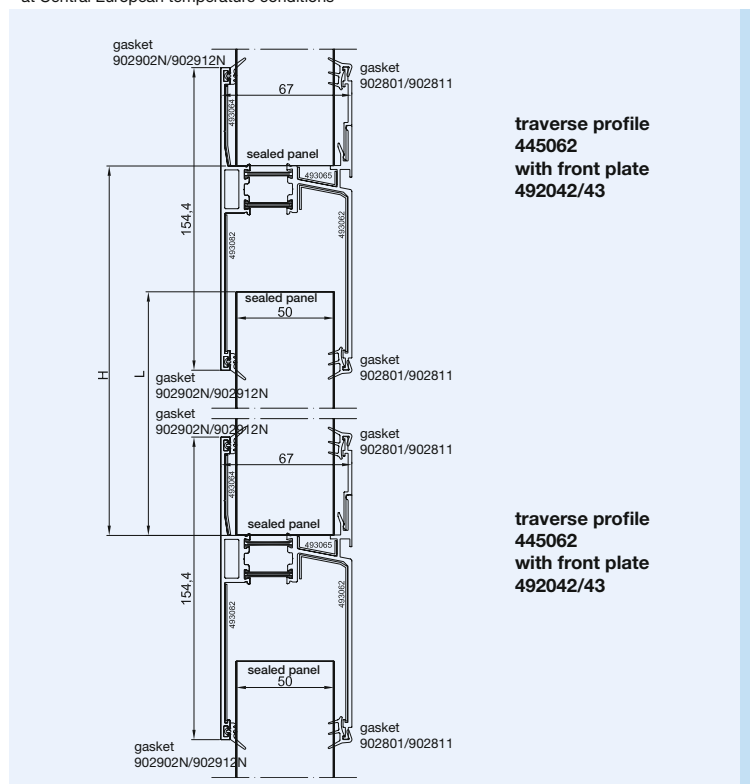
Translucent Building Elements

Frame system thermally broken

Top and base framing

Facade 90° up to 12 m panel length*

* at Central European temperature conditions



Traverse profile 445062
Traverse profile 445062

Article numbers

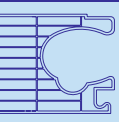
445062 = Traverse profile
493062 = Profile connector for 445062
493082 = Profile connector for 445062
493064 = Profile connector for 445062
493065 = Profile connector for 445062

492042 = Front plate in L = 2.0 m
492043 = Front plate in L = 3.0 m

902801 = Outer plug gasket TPE grey
902811 = Outer plug gasket TPE black

902902N = Inner lip gasket TPE grey
902912N = Inner lip gasket TPE black

Calculation of panel length:
 $L \text{ in mm} = \text{Height } H \text{ in mm} - 60 \text{ mm}$



1.1.5.4

Translucent Building Elements

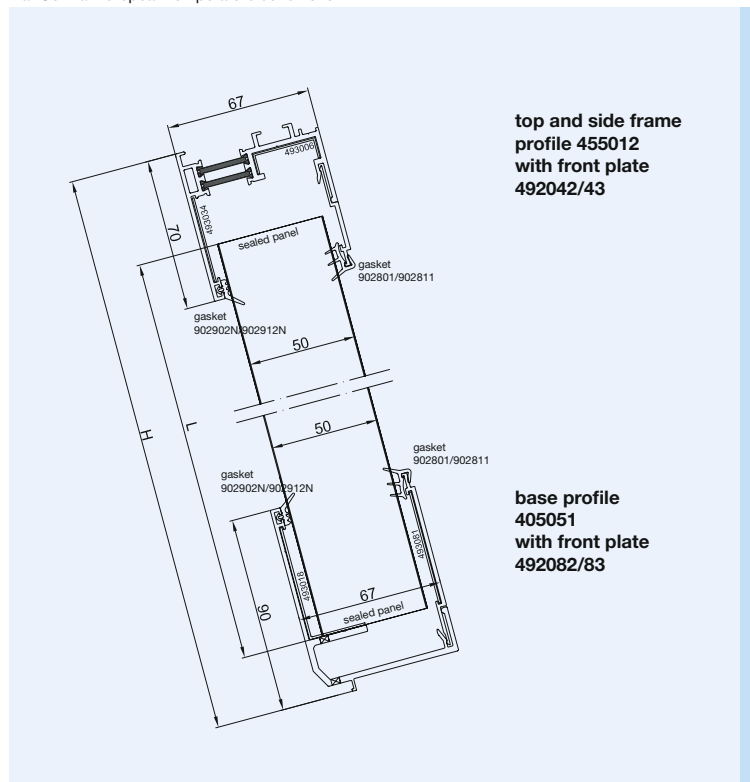
Frame system thermally broken

Top and base framing

Stand: 08/19

Pitched installation >15° up to 4.5 m panel length*

* at Central European temperature conditions



Top profile 455012
Base profile 405051

Article numbers

455012 = Top and side frame profile
493006 = Profile connector for 455012
493034 = Profile connector for 455012
492042 = Front plate in L = 2.0 m
492043 = Front plate in L = 3.0 m

405051 = Base profile
493018 = Profile connector for 405051

492082 = Front plate in L = 2.0 m
492083 = Front plate in L = 3.0 m
493081 = Profile connector for 492082/83

902801 = Outer plug gasket TPE grey
902811 = Outer plug gasket TPE black

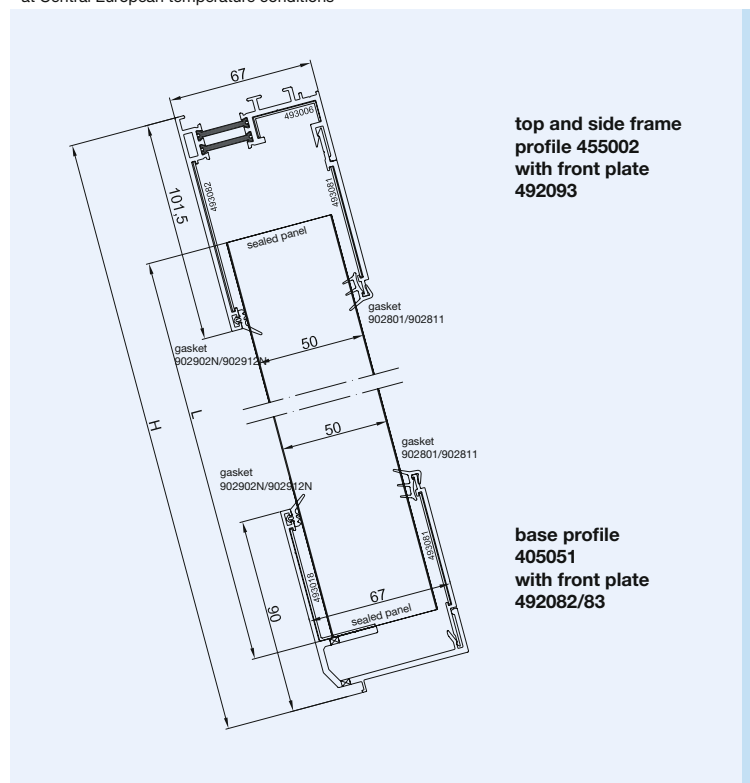
902902N = Inner lip gasket TPE grey
902912N = Inner lip gasket TPE black

Calculation of panel length:

L in mm = Height H in mm - **65 mm**

Pitched installation >15° up to 12 m panel length*

* at Central European temperature conditions



Top profile 455002
Base profile 405051

Article numbers

455002 = Top and side frame profile
493082 = Profile connector for 455002
493006 = Profile connector for 455002

492093 = Front plate in L = 3.0 m
493081 = Profile connector for 492093

405051 = Base profile
493018 = Profile connector for 405051

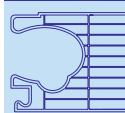
492082 = Front plate in L = 2.0 m
492083 = Front plate in L = 3.0 m
493081 = Profile connector for 492082/83

902801 = Outer plug gasket TPE grey
902811 = Outer plug gasket TPE black

902902N = Inner lip gasket TPE grey
902912N = Inner lip gasket TPE black

Calculation of panel length:

L in mm = Height H in mm - **85 mm**

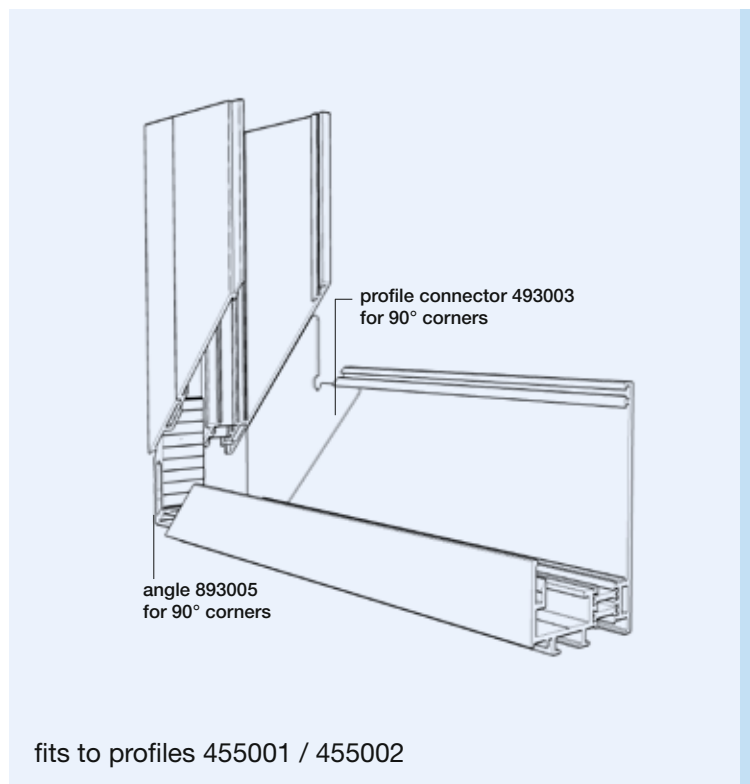


1.1.5.5

Translucent Building Elements

Frame system thermally broken
Corner connection

90° corner connection 455005



General

90° corner connections of the profiles 455002 and 455012 are available as prefabricated components.

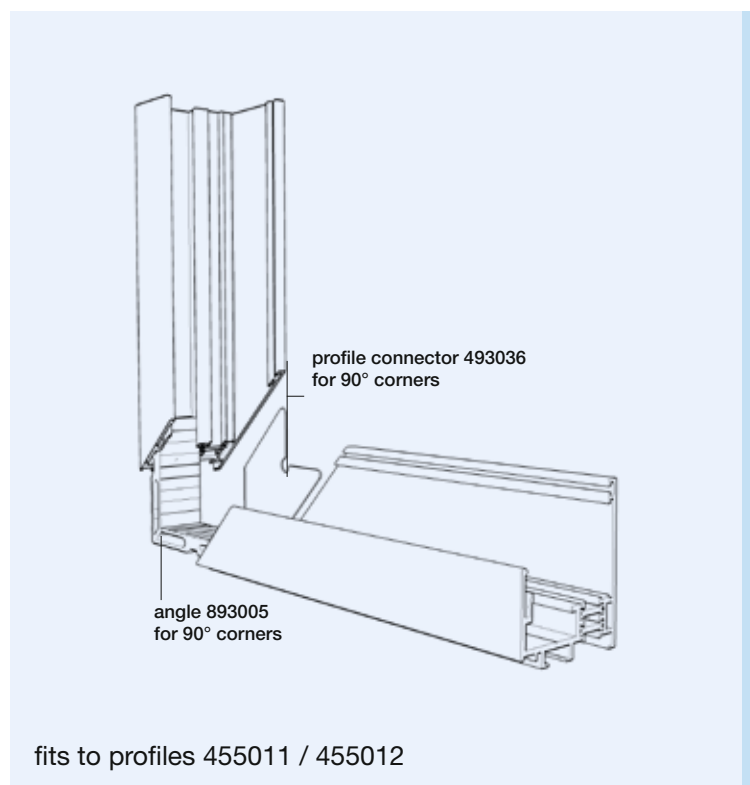
The corner connections are made of 0.55m long frame profiles, incl. front plates. The connections are sealed with profile connectors and sealant and thus save installation time and effort.

Initial lengths/-units

Prefabricated corner profile incl. front plates and profile connectors	
Length 0.55 m	1 pc. PU*
Profile connector 493003	4 pcs. PU*
Angle for 90° corner 893005	4 pcs. PU*
TPE gaskets, grey or black or special colour on request	50 m rolls
Profile connector	10 cm

*PU = Packing unit

90° corner connection 455015



Article numbers

455005 = 90° corner connection prefabricated
incl. profile connectors and front plate,
fits to profile 455001 & 455002

493003 = profile connector for a 90° corner
of profile 455001/02

893005 = angle for a 90° corner of profile
455001/02

455015 = 90° corner connection prefabricated
incl. profile connectors and front plate,
fits to profile 455011 & 455012

493036 = profile connector for a 90° corner
of profile 455011/12

893005 = angle for a 90° corner of profile
455011/12

Versions

Aluminium - mill finish

Aluminium - anodized E6/C0

Aluminium - powder coated according to RAL

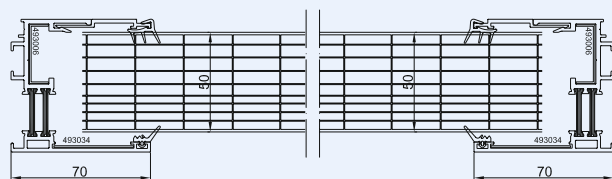
1.1.5.6

Translucent Building Elements

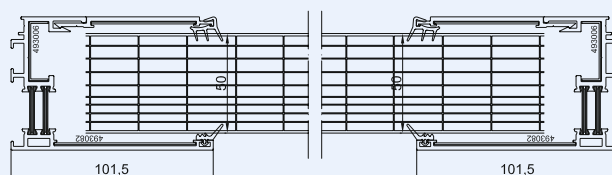
Frame system thermally broken
Lateral framing

Stand: 08/19

Side connection



frame profile 455012
with front plate 492042/43



frame profile 455002
with front plate 492093

Side connection with frame profiles

Article numbers

455012 = Top and side frame profile
493006 = Profile connector for 455012
493034 = Profile connector for 455012
492042 = Front plate in L = 2.0 m
492043 = Front plate in L = 3.0 m

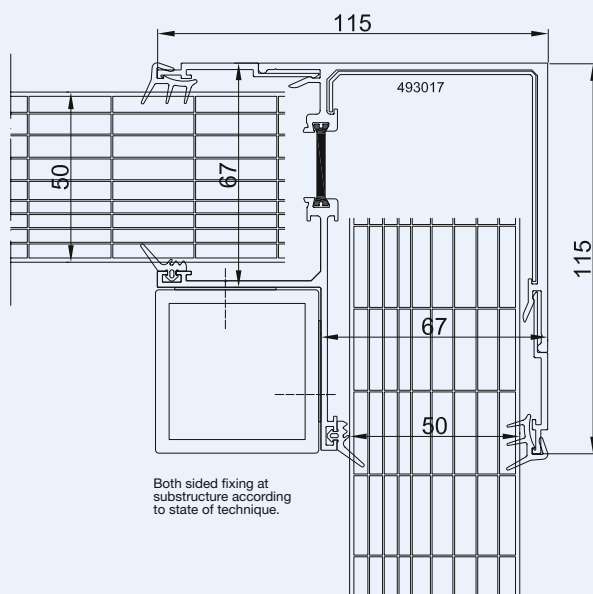
455002 = Top and side frame profile
493082 = Profile connector for 455002
493006 = Profile connector for 455002

492093 = Front plate in L = 3.0 m
493081 = Profile connector for 492093

902801 = Outer plug gasket TPE grey
902811 = Outer plug gasket TPE black

902902N = Inner lip gasket TPE grey
902912N = Inner lip gasket TPE black

Side connection 90° corner



Corner profile 445072

All thermally broken profiles can be combined
with non-thermally broken profiles.

Side connection 90° corner with profile 445072

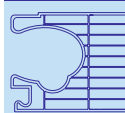
Article numbers

445072 = Corner profile
493017 = Profile connector for 445072

492042 = Front plate in L = 2.0 m
492043 = Front plate in L = 3.0 m

902801 = Outer plug gasket TPE grey
902811 = Outer plug gasket TPE black

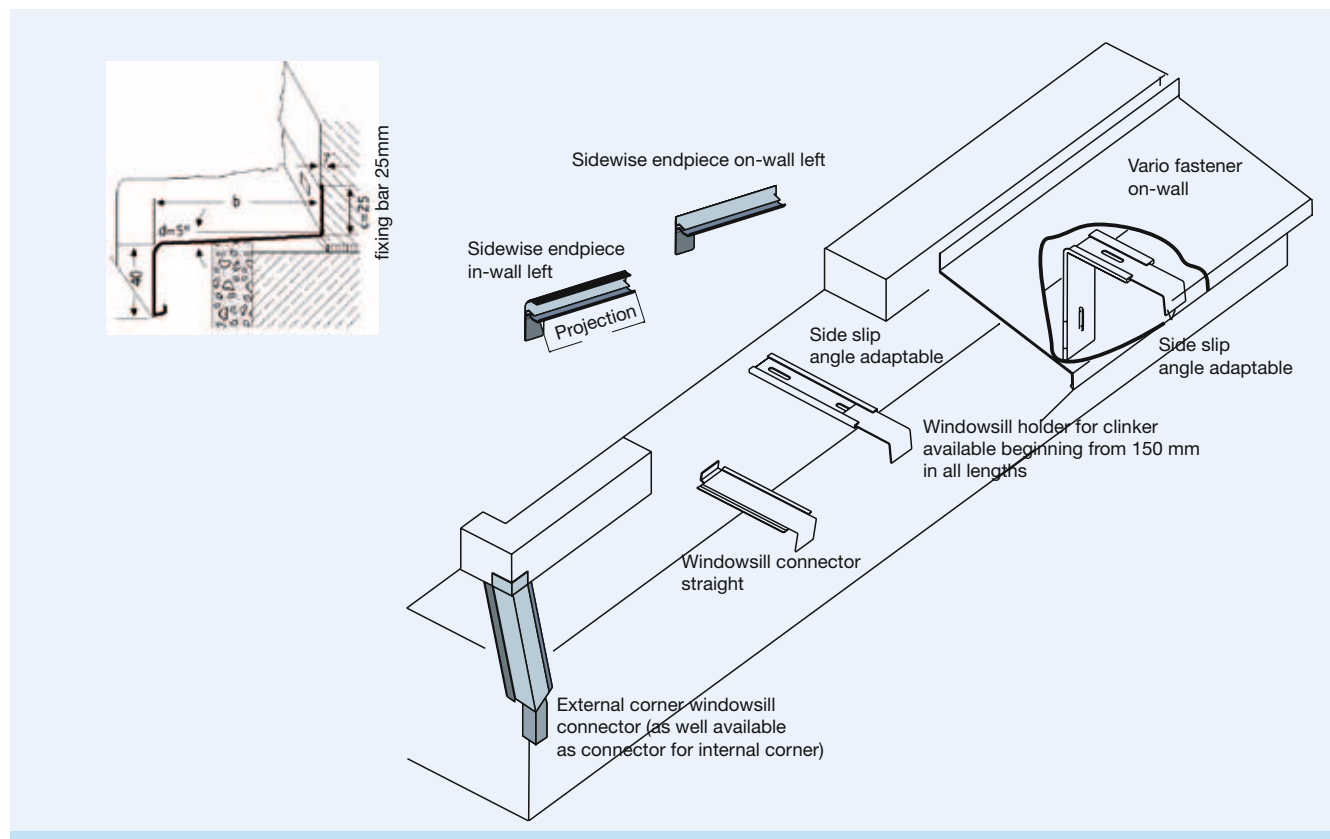
902902N = Inner lip gasket TPE grey
902912N = Inner lip gasket TPE black



1.1.6.0

Translucent Building Elements

Windowsills and accessories



Installation manual - Windowsill products

Please note before installing:

- Thermal expansion of the profiles:
Windowsills over 3,000 mm long must be divided in the middle and extended through a connection joint. The windowsills must be sufficiently fastened to the frame and be tight against rain water. The possibility for the windowsill to expand must be made sure depending on length.
- For sound insulation during heavy rains we recommend to provide windowsills with a sound absorptive stripe. The sound absorptive area should be around 1/3 of the windowsill area.
- For on-site fixing of windowsill on the profile (non-Rodeca profile) of the windows the self-sealing gasket (black or white) is to be used.
- Aluminium windowsills should project about 40 mm over the finished facade. The profile width should be measured accordingly. This applies only for installations with side endings. Without side endings the projection of windowsills should not be lower than 20mm.
- From a projection/profile depth of 150 mm holders (Vario fastener or clinker fastener) are necessarily to be used on the structure (every 800 to 1,000 mm).

Note for installation:

Before installation of the side elements stick the sound absorptive stripes approx. 50 mm behind the beginning of the drip edge on the bottom side of the windowsill profile.

Please don't forget to leave free approx. 30 mm on the front sides of the windowsill in order to be able to install the side elements.

On the predrilled (perforated) side of the windowsill insert the gasket, check the straight and precise seating of the rubber profile and remove the cover strip from the adhesive surface. (This does not apply to assemblies with Rodeca profiles)

Before screwing the windowsills, if using Rodeca profiles, the base profile and chosen adapter are installed to the supporting substructure. The side elements are to be clipped on in advance. After clipping on the side elements and fastening the windowsill, seal the connection points all around. Please leave at least 5 mm on each side of the windowsill for the thermal expansion.

If implementing full thermal protection it is important to make sure that the vario fastener is fixed before placing the insulation to the masonry. This also applies if using the holder for clinker installation.

The windowsill with the protective foil side at the top is to be fixed at the edge of the window using windowsill screws*. The foil may not be covered while assembling the connector elements. Make sure to provide the final windowsill slope of at least 5° after the assembly. When plastering the side elements please check the presence of expansion joint and keep in mind the thermal expansion of aluminium. Coarse mortar and plaster remnants must be removed immediately from the protective foil. After completion of the facade work in the windowsill area, the protective foil has to be removed as quickly as possible.

* Size of the screw head – 3.9 mm

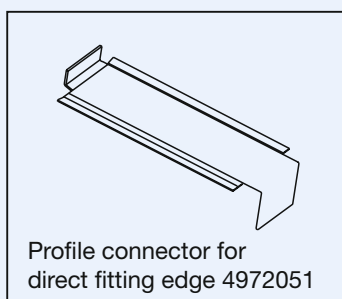
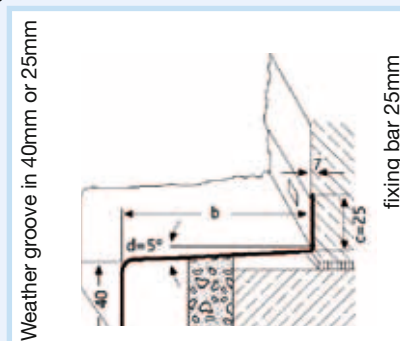
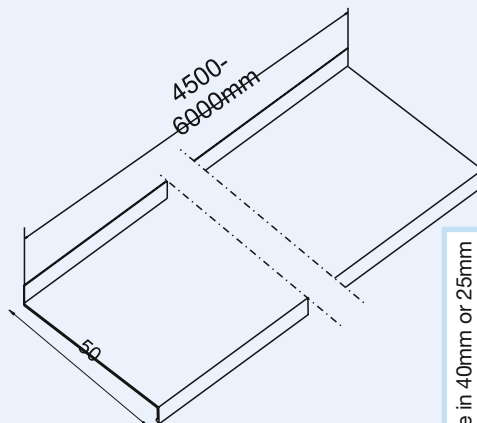
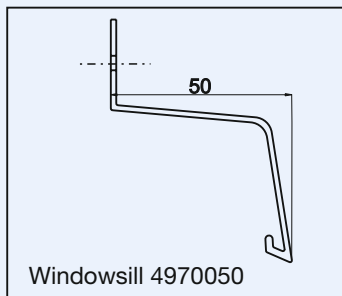
1.1.6.1

Translucent Building Elements

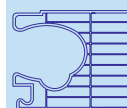
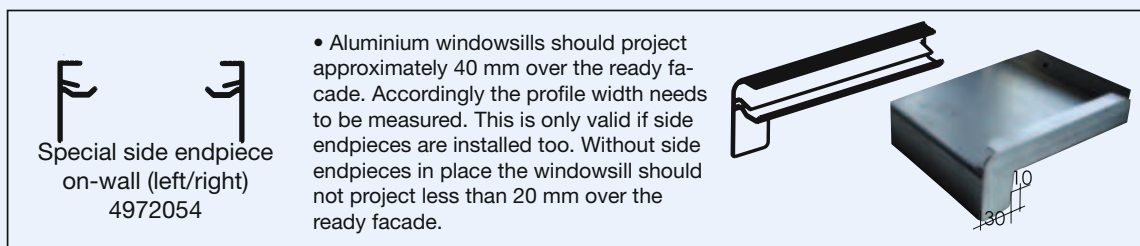
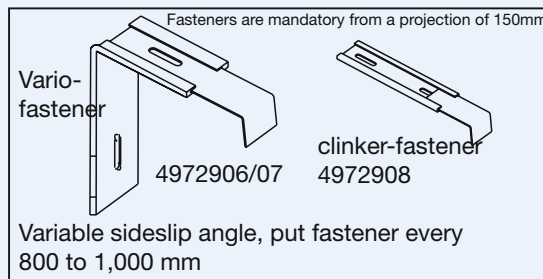
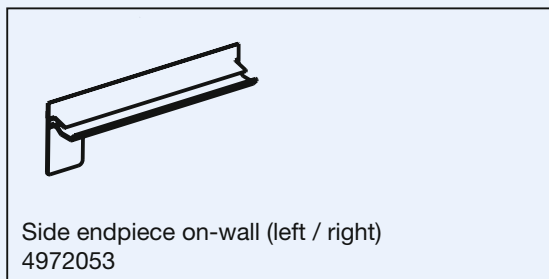
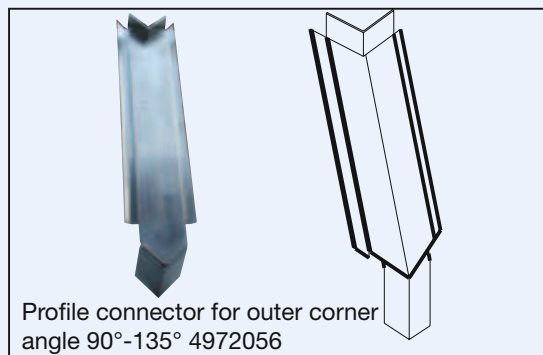
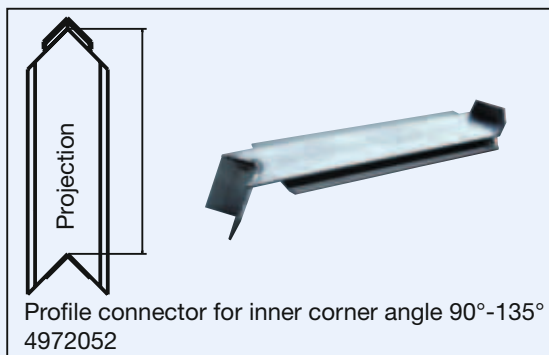
Windowsills and accessories

Stand: 08/19

Example for construction group:



Example: article numbers for a 50 mm windowsill projection:



1.1.6.3

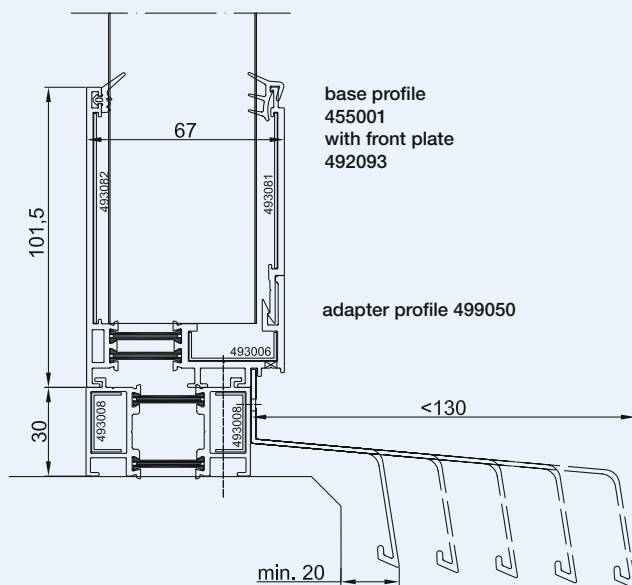
Translucent Building Elements

Windowsills and accessories

Framing system thermally broken

Stand: 08/19

Aluminium windowsills for thermally broken frame profiles with adapter profiles



Base profile 455001 (also 455011) with adapter profile 499050 for windowsill projections from 50 mm to 130 mm.

General

Compatible to thermally broken frame profiles we offer a suitable adapter profile for connection of windowsills with varying projections.

Initial lengths/-units

Aluminium profile	6.00 m
Profile connector	10 cm

Article numbers

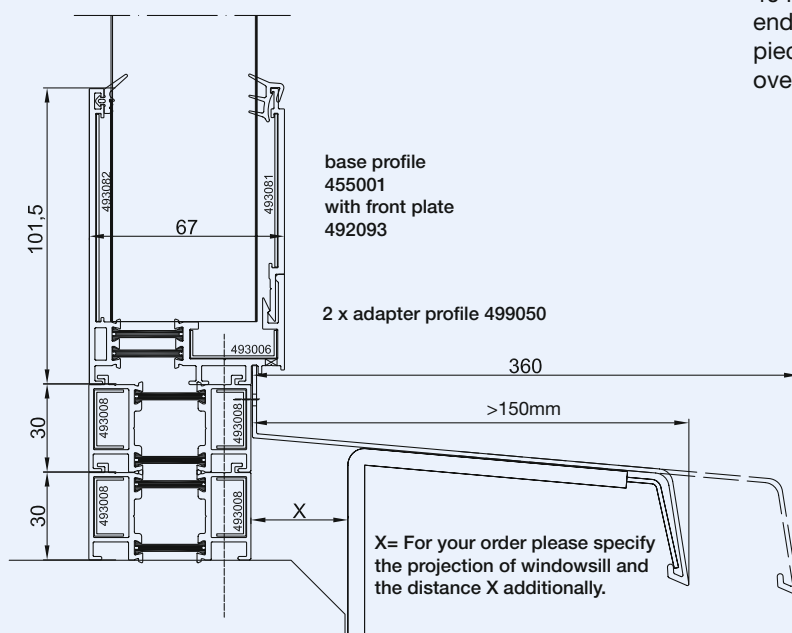
4971070 = windowsill 70 mm projection
4971110 = windowsill 110 mm projection
4971150 = windowsill 150 mm projection

windowsills with 70 mm / 110 mm / 150 mm projection available from stock

499050 = thermally broken adapter profile for profile 455001
493008 = Profile connector for 499050

For use with adapter profile 499050 the allowance for calculation of panel length must be increased by 30 mm per adapter profile.

Aluminium windowsills should project approx. 40 mm over facade. This applies only if side end pieces are installed. Without side end pieces the windowsill must project 20 mm over facade.



Base profile 455001 (also 455011) with 2 x adapter profile 499050 for windowsill projections from 150 mm to 360 mm.

