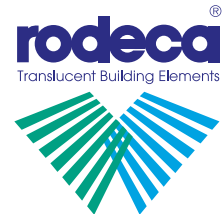




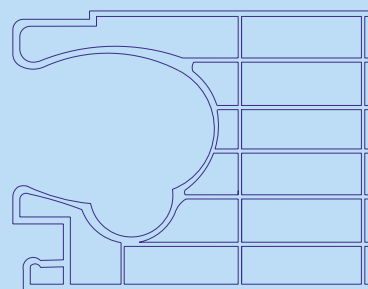
SUNPLASTECNIC
suministros plásticos técnicos



Technical manual



40



Translucent Building Elements 40 mm

Made of Polycarbonate for seamless glazings

System PC 2540-10 | PC 2540-7 | PC 2540-6 | PC 2540-4 | PC 2540-4 MC |
System AF 50 | System AF 100 and PC 2410-3 |



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 refineration special requests and colours can be realized. Please inquire the 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 according to the requirements on Heat Insulation Ordinance according to EnEV 2009.

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.

IR-radiation transmission

Our panels with HEATBLOC-surface let through day light and reflect and stop at the same time selectively the heating radiation. The effect is cooler rooms through lower solar gain values.

Reflection of radar radiation

In the near of radar-units (e.g. at airports) it is important to have none or minimized influence through building elements. Rodeca products do not have influence on reflection and do not affect radar-units.

General information

on translucent building elements of Polycarbonate

Stand: 06/19

Service temperature

Service temperature is between minus 40 °C up to plus 115 °C (temporarily up to 130 °C). Please take into consideration service temperature especially with rain screen claddings respectively the use of dark foils for deposition of translucent building elements. Adequate distances and sufficient ventilation need to be considered in planning. That way danger of heat accumulation and associated deformations can be avoided.

Thermal properties

The high deformation resistance from shortly up to 130 °C is one of the advantages which Rodeca products with coextruded surface offer. Rodeca products can be used in spaces where other thermoplastics cannot be used anymore. Interesting to know is that white surfaces on roof applications already can heat up to +100°C. (It is essential to respect thermal expansion/shrinking of polycarbonate and to avoid heat accumulation.)

Colouring

The usual colours are:

- **CLEAR** with structure for panels for higher light transmission, light refraction. Additionally the surface is less sensitive to scratches.
- **OPAL** for optimized diffused light.
- **COLOR** Series - transparent or semitransparent COLOURS, similar to RAL from approx. 300 m² on request
- **BICOLOR** Series - two coloured finish, inner wall coloured, similar to RAL from approx. 150 m² on request
- **DUOCOLOR** - two coloured finish of translucent building elements custom made in transparent or semitransparent COLOURS similar to RAL from approx. 300 m² on request
- **DECOCOLOR** - two coloured finish, outer wall coloured, similar to RAL from approx. 150 m² on request

Qualities

Depending on application area and demand Rodeca produces different qualities.

- **ONGLIFE** quality for one sided UV protection. The terms can be extracted from our 10 years warranty declaration for LBE, MFP and U-Panels "longlife"
- **ONGLIFE PLUS** quality for one sided UV protection quality for special requirements. The terms can be extracted from our 10 years warranty declaration for LBE, MFP and U-Panels "longlife plus".

Impact resistance/fracture behaviour

Rodeca products made of PC are due to the raw material practically indestructible through beat, impact, stone throwing etc. Polycarbonate is 200 times more impact resistant than glass.

Polycarbonate building elements do not splinter and comply with German regulations on workplaces (Arbeitsstättenverordnung).

Hail resistance

Currently doesn't exist a DIN standard, so our Rodeca elements were tested at EMPA (Swiss testing laboratory) with a simulated hail test with a shot radius of 20 mm and no holes occurred. According to the current testing results we achieve the highest class (class 5) of the Swiss hail test with factory-new goods.

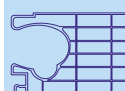
Ball rebound safety

Even an ice hockey puck hurled against the element at 130 km/h could not cause damage.

Unlimited ball rebound safety thus applies according to DIN 18032 T 3.

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.



General information

on translucent building elements of Polycarbonate

Melttable area according to DIN 18234

In many cases Rodeca panels are used as melt-surface because their softening point is below 300°C.

Sound insulation

Polycarbonate panels have despite their light weight a good sound insulation value up to 27 dB according to DIN EN ISO 140-3 in testing facility. With a double wall construction a value of up to 43 dB is achievable. This value refers to the value that the panel achieves on its own, due to constructive conditions this value may differ.

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 cycle 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.

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. Drill holes (preferably steel-, twist drill or wedge angle drill) need to be at least 40 mm away from elements side and always minimum 50% larger than the screw radius (because of expansion and shrinking due to temperature).

General information

on translucent building elements of Polycarbonate

Stand: 06/19

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.

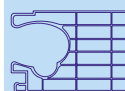
With a sealing that is permeable for vapour diffusion (or permeable to water) you run risk that dust, diesel exhaust particulates, gases or other fine particles can diffuse into the panel chambers. For projects with increased particulate matter emission respectively environmental pollution are additionally 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.

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 perpetration (according to workplace ordinance (German „Arbeitsstättenrichtlinie“) it is mandatory to use a board of 50 cm width.



General information

on translucent building elements of Polycarbonate

Tolerances

Panels

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

Thickness \pm 0.5 mm

Width -2 mm / +6 mm

Weight - 5 %

Concavity length \pm 5 mm per linear meter of panel length

Concavity width \pm 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

Especially for large facades it is important not only to achieve a good U-value but also a product which is tested on joint permeability and complies with the required DIN values. Rodeca panels fulfil this demand and passed project wise blower door tests for the whole construction.

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.

Certification/Quality standard

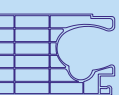
Rodeca panels are CE marked as specified by the European directive No. 305/2011 and according to the requirements of EN 16153. Beyond the performance of EN 16153 our products are certified according to several European and national standards.

If RODECA forwards building certification for translucent building elements these regulations must be complied with. Due to the not finalized harmonization of National and European norms please check whether the certifications are suitable for the particular application purpose.

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.

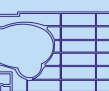


Content

Technical manual LBE 40 mm

Stand: 06/19

- Content
- Product range
- Technical information panels and load capacities 1.2.1.1 to 1.2.1.18
- Technical information about fastening 1.2.2.1 to 1.2.2.2
- Technical information frame systems 1.2.3.0
- Technical information non-thermally broken frame system 1.2.4.0 to 1.2.4.6
- Technical information thermally broken frame system 1.2.5.0 to 1.2.5.6
- Technical information non-thermally broken frame system Eco 1.2.6.0 to 1.2.6.3
- Technical information windowsill systems 1.2.7.0 to 1.2.7.4



Product Range

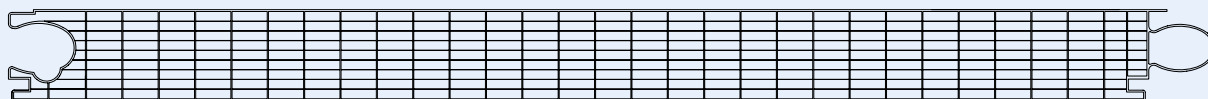
Translucent Building Elements

Standard

Standard - crystal and opal

PC 2540-10

Up-Value 1.0 W/m²K**



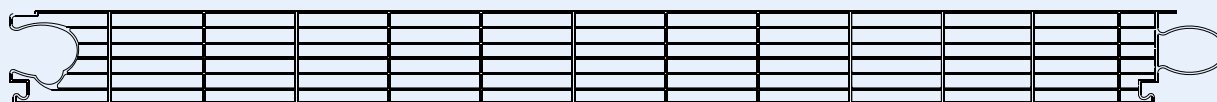
Color: minimum quantity of 300 m²

Building width 500 mm*

Standard - crystal and opal

PC 2540-7

Up-Value 1.0 - 1.2 W/m²K**



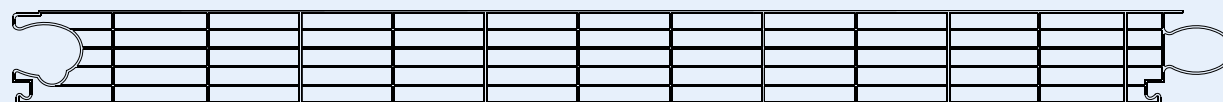
General German Building Approval Z-10.1-327

Building width 500 mm*

Standard - crystal and opal

PC 2540-6

Up-Value 1.1 - 1.2 W/m²K**



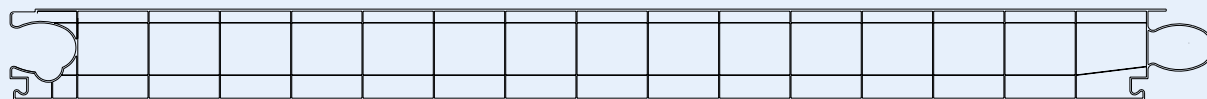
General German Building Approval Z-10.1-327

Building width 500 mm*

Standard - crystal and opal

PC 2540-4 MC

Up-Value 1.3 - 1.6 W/m²K**



General German Building Approval Z-10.1-327

Building width 500 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

Translucent Building Elements

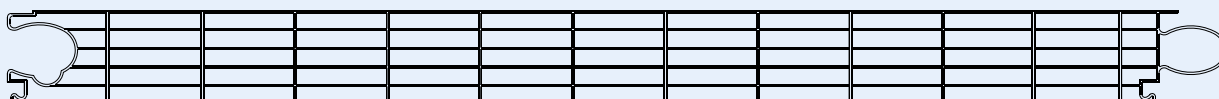
Color Series

Stand: 06/19

Color

PC 2540-6

Up-Value 1.1 - 1.2 W/m²K**



General German Building Approval Z-10.1-327

Building width 500 mm*

Colours:

Pacific blue and petrol deliverable without minimum quantity.

For all other colours a minimum quantity of 300 m² is applied.

For quantities < 300 m² please ask for the minimum quantity surcharges.

For colour preferences out of our colour range (30 colours according to colour sample box), we kindly ask you to inquire if your preferred colour is already available from stock.

If it is necessary we can develop the desired colour.



A customized colour development with colour stripes is possible. For approval of the developed colour you will receive three colour stripes in different colour concentrations. Please inquire the costs in advance.

In case that for the sampling additionally panels in desired colour will be needed we are able to help you in decision taking by producing 2 m² of panels for 1,000 € only.

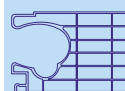
The aforesaid information and our application technological advice in words, written and through tries, are carried out to best of one's knowledge. This information is non-binding advice even in regards to property rights of third parties. Our advice does not release you from your responsibility to proof 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.

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info@sumplastecnic.es

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Product Range

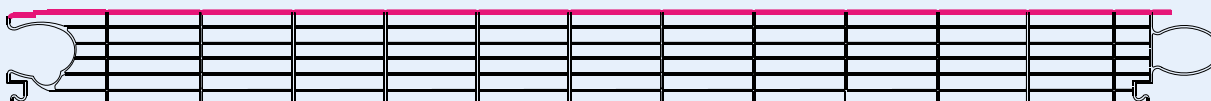
Translucent Building Elements

Design Series

DecoColor

PC 2540-7

Up-Value 1.0 - 1.2 W/m²K**



General German Building Approval Z-10.1-327

Building width 500 mm*

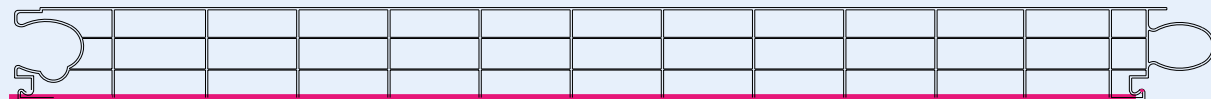
Standard colour combination is Heatbloc S / opal

For all other effect- and colour combinations a minimum quantity of 150 m² is necessary.

BiColor 3D

PC 2540-4

Up-Value 1.3 - 1.5 W/m²K**



General German Building Approval Z-10.1-327

Building width 500 mm*

Standard colour combinations are:

crystal / RAL 5015, crystal / RAL6029, crystal / RAL5002, crystal / RAL 4006, crystal / RAL3020,
crystal / RAL1023, crystal / RAL2009, crystal / RAL 6027 and crystal/opal

For all other effect- or colour combinations a minimum quantity of 150 m² is necessary.

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. Secondary it is mandatory to consider the technical datasheet.

Product Range

Translucent Building Elements

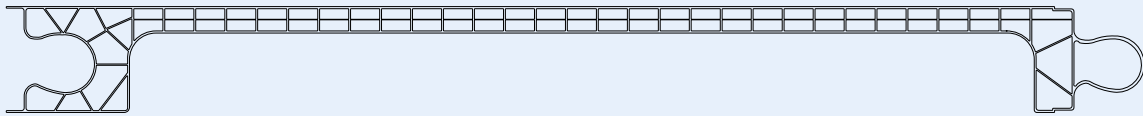
Greenline

Stand: 06/19

Standard – crystal and opal

PC 2410-3

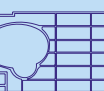
Up-Value approx. $3.0 \text{ W/m}^2\text{K}^{**}$



Building width 400 mm*

* 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. Secondary it is mandatory to consider the technical datasheets.



1.2.1.1

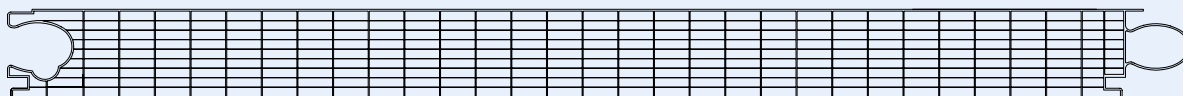
Translucent Building Elements

Product properties - Physical properties

PC 2540-10

Up-Value 1.0 W/m²K

Depending on horizontal or vertical installation situation as interior or exterior application according to DIN EN ISO 6946:2008 / DIN EN ISO 10077-2:2008



Flammability classification:

PC 2540-10

fire class B-s1, d0 according to EN 13501

Building width:

500 mm -2/+ 6 mm

Thickness:

40 mm +/- 0.5 mm

Weight:

approx. 4.2 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 %, wavelengths until 380 nm stopped almost a 100 %

Production tolerances:

s. General information

Versions:

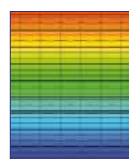
Standard:



Colours: crystal and opal

Up-values:

Isotherm- and temperature pattern from -10 °C outside and 20 °C inside at vertical assembly



Isotherm:

Red: 13 °C

Blue: 10 °C

Black: 0 °C

Installation situation exterior:

Up-value 1.0 W/m²K vertical

Up-value 1.0 W/m²K horizontal

The German building approval foresees the calculation of facade and roof areas according to the requirements of DIN 10077-2 (U_{ew}). If additional or divergent national requirements be asked to calculate the thermal protection, these must be respected.

1.2.1.2

Translucent Building Elements

Physical properties

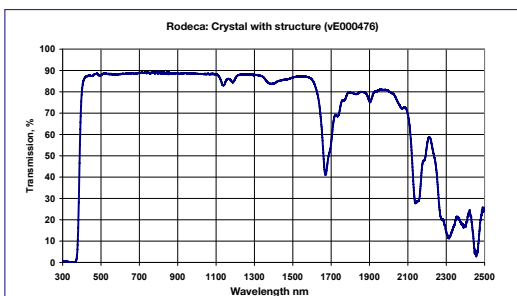
Stand: 06/19

Transmission:

Standard:

Colour: crystal
Colour: opal

approx. 55 %
approx. 25 %



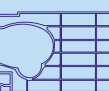
The Measurement of the transmission values was carried out with application of a natural day light lamp of 20,000 Lux in connection with a lux meter Lightmeter MS 1000-300 – measuring range 200 to 50,000 LUX) exemplarily on a 1 mm thick PC.

Solar gain values g

Standard:

Colour: crystal
Colour: opal

approx. 56 %
approx. 38 %



1.2.1.3

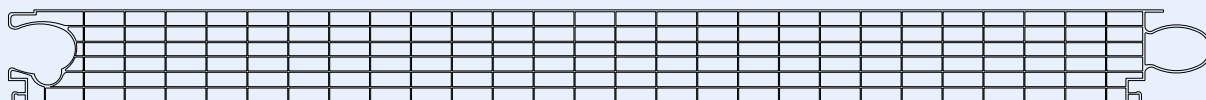
Translucent Building Elements

Product properties - Physical properties

PC 2540-7

Up-Value from 1.0 W/m²K to 1.2 W/m²K

Depending on horizontal or vertical installation situation as interior or exterior application according to DIN EN ISO 6946:2008 / DIN EN ISO 10077-2:2008



Flammability classification:

PC 2540-7

fire class B-s1, d0 according to EN 13501

Building width:

500 mm -2/+ 6 mm

Thickness:

40 mm +/- 0.5 mm

Weight:

approx. 4.3 kg/m²

Number of layers:

7 layers / 6 chambers

Modulus of elasticity:

2,400 N/mm²

Coefficient of linear expansion:

0.065 mm/m/°C

UV admission:

< 1 %, wavelengths until 380 nm stopped almost a 100 %

Production tolerances:

s. General information

Versions:

Standard:

Colours: crystal and opal

DecoColor:



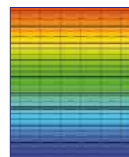
Two coloured version of the translucent building elements
For example colour combination:

Heatbloc S / opal

The DecoColor version can be delivered with a minimum quantity of 150 m² without separate surcharges for colour change.

Up-values:

Isotherm- and temperature pattern from -10 °C outside and 20 °C inside at vertical assembly



Isotherm:

Red: 13 °C

Blue: 10 °C

Black: 0 °C

Installation situation interior:

Up-value 1.0 W/m²K vertical

Up-value 1.1 W/m²K horizontal

Installation situation exterior:

Up-value 1.1 W/m²K vertical

Up-value 1.2 W/m²K horizontal

The German building approval foresees the calculation of facade and roof areas according to the requirements of DIN 10077-2 (U_{ew}). If additional or divergent national requirements be asked to calculate the thermal protection, these must be respected.

Test report on request

Sound insulation:



1.2.1.4

Translucent Building Elements

Physical properties

Stand: 06/19

Transmission:

Standard:

Colour: crystal

approx. 55 %

Colour: opal

approx. 25 %

DecoColor:

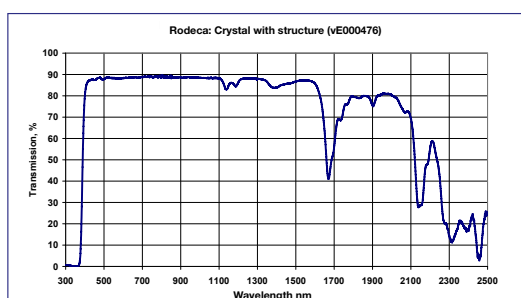
Depending on colour combinations and level of opalization
For example colour combination

Heatbloc S / opal

approx. 22 %

opal / crystal

approx. 31 %



The Measurement of the transmission values was carried out with application of a natural day light lamp of 20,000 Lux in connection with a lux meter Lightmeter MS 1000-300 – measuring range 200 to 50,000 LUX) exemplarily on a 1 mm thick PC.

Solar gain values g

Standard:

Colour: crystal

approx. 56 %

Colour: opal

approx. 39 %

DecoColor:

Depending on colour combinations and level of opalization
For example colour combination

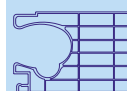
Heatbloc S / opal

approx. 31 %

Opal / crystal

approx. 40 %

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.



1.2.1.5

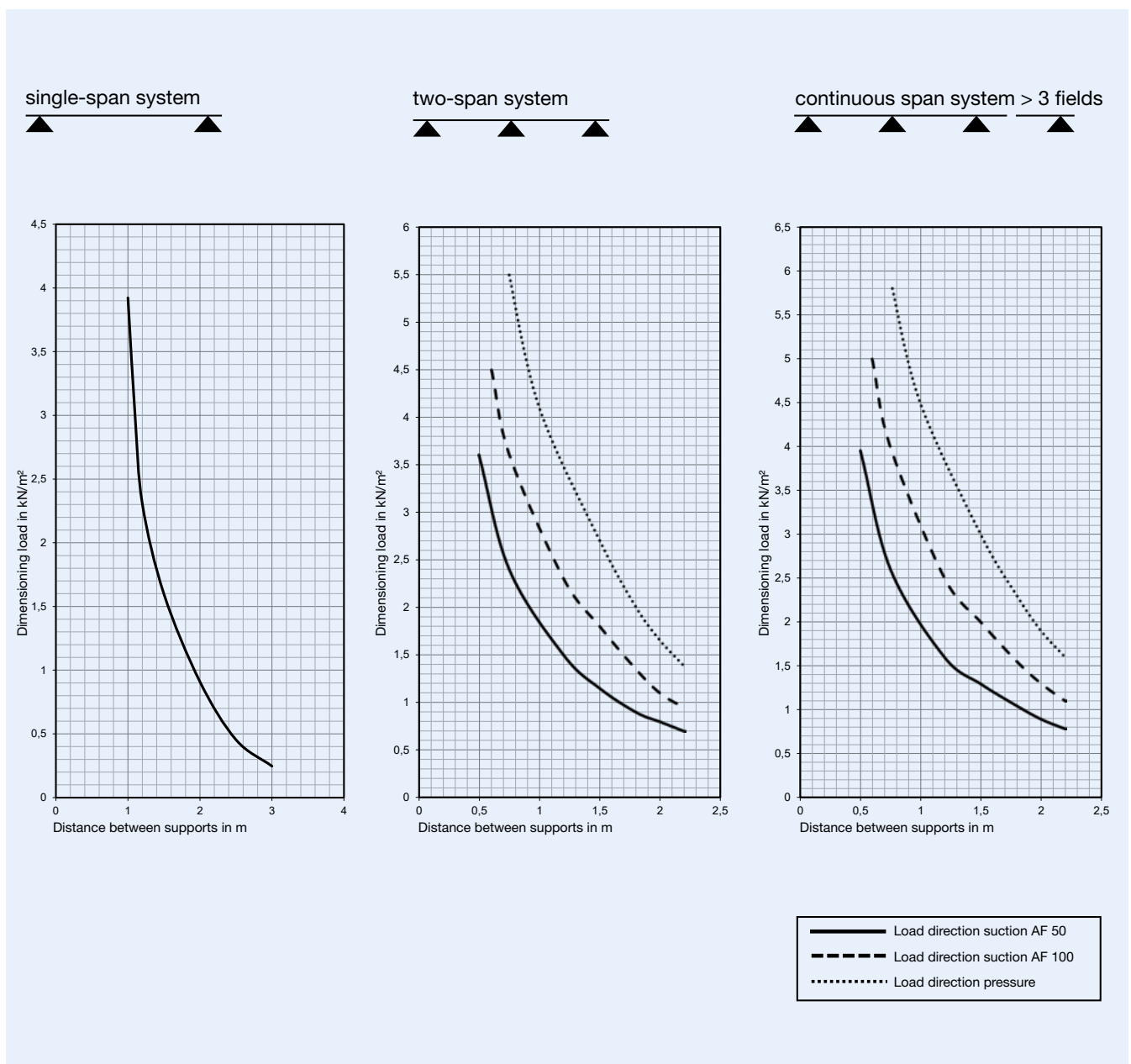
Translucent Building Elements

Span width | System 2540-7

The below diagrams show the span widths recommendations referring to dimensioning loads, where wind is considered as dominating variable action. The values are based on the General German Building approval Z-10.1-327 and are only valid in conjunction with the Rodeca systems accessories.

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

The structural analysis of the span widths must be proven project-related based on the German Building approval Z-10.1-327.



1.2.1.6

Translucent Building Elements

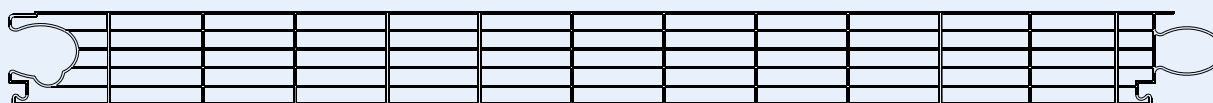
Product properties - Physical properties

Stand: 06/19

System PC 2540-6

Up-Value from 1.1 W/m²K to 1.2 W/m²K

Depending on horizontal or vertical installation situation in interior or exterior application according to DIN EN ISO 6946:2008 / DIN EN ISO 10077-2:2008



Flammability classifications:

PC 2540-6

fire class B-s1, d0 according to EN 13501

Building width:

500 mm -2/+ 6 mm

Thickness:

40 mm +/- 0.5 mm

Weight:

approx. 4.2 kg/m²

Number of layers:

6 layers / 5 chambers

Modulus of elasticity:

2,400 N/mm²

Coefficient of linear expansion:

0.065 mm/m/°C

UV admission:

< 1 %, wavelengths until 380 nm stopped almost a 100 %

Production tolerances:

s. General information

Versions:

Standard:



Colours: crystal, opal, crystal clear (without refracting structure), pacific blue and petrol

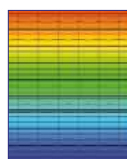
Color:

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.

Up-values:

Isotherm- and temperature pattern from -10 °C outside and 20 °C inside at vertical assembly



Isotherm:

Red: 13 °C
Blue: 10 °C
Black: 0 °C

Installation situation interior:

Up-value 1.1 W/m²K vertical
Up-value 1.1 W/m²K horizontal

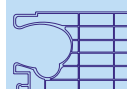
Installation situation exterior:

Up-value 1.2 W/m²K vertical
Up-value 1.2 W/m²K horizontal

The German building approval foresees the calculation of facade and roof areas according to the requirements of DIN 10077-2 (U_{cw}). If additional or divergent national requirements be asked to calculate the thermal protection, these must be respected.

Sound insulation:

Test report on request



1.2.1.7

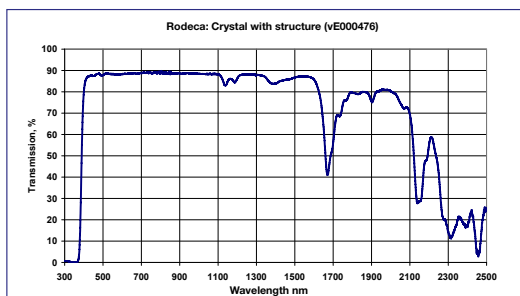
Translucent Building Elements

Physical properties

Transmission:

Standard:

Colour: crystal	approx. 60 %
Colour: crystal clear	approx. 60 %
Colour: opal	approx. 28 %
Colour: pacific blue	approx. 37 %
Colour: petrol	approx. 50 %



The measurement of the transmission values was carried out with application of a natural day light lamp of 20.000 Lux in connection with a lux meter Lightmeter MS 1000-300 – measuring range 200 to 50.000 LUX) exemplarily on a 1 mm thick PC.

Solar gain values g

Standard:

Colour: crystal	approx. 58 %
Colour: crystal clear	approx. 58 %
Colour: opal	approx. 41 %
Colour: pacific blue	approx. 53 %
Colour: petrol	approx. 52 %

1.2.1.8

Translucent Building Elements

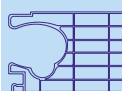
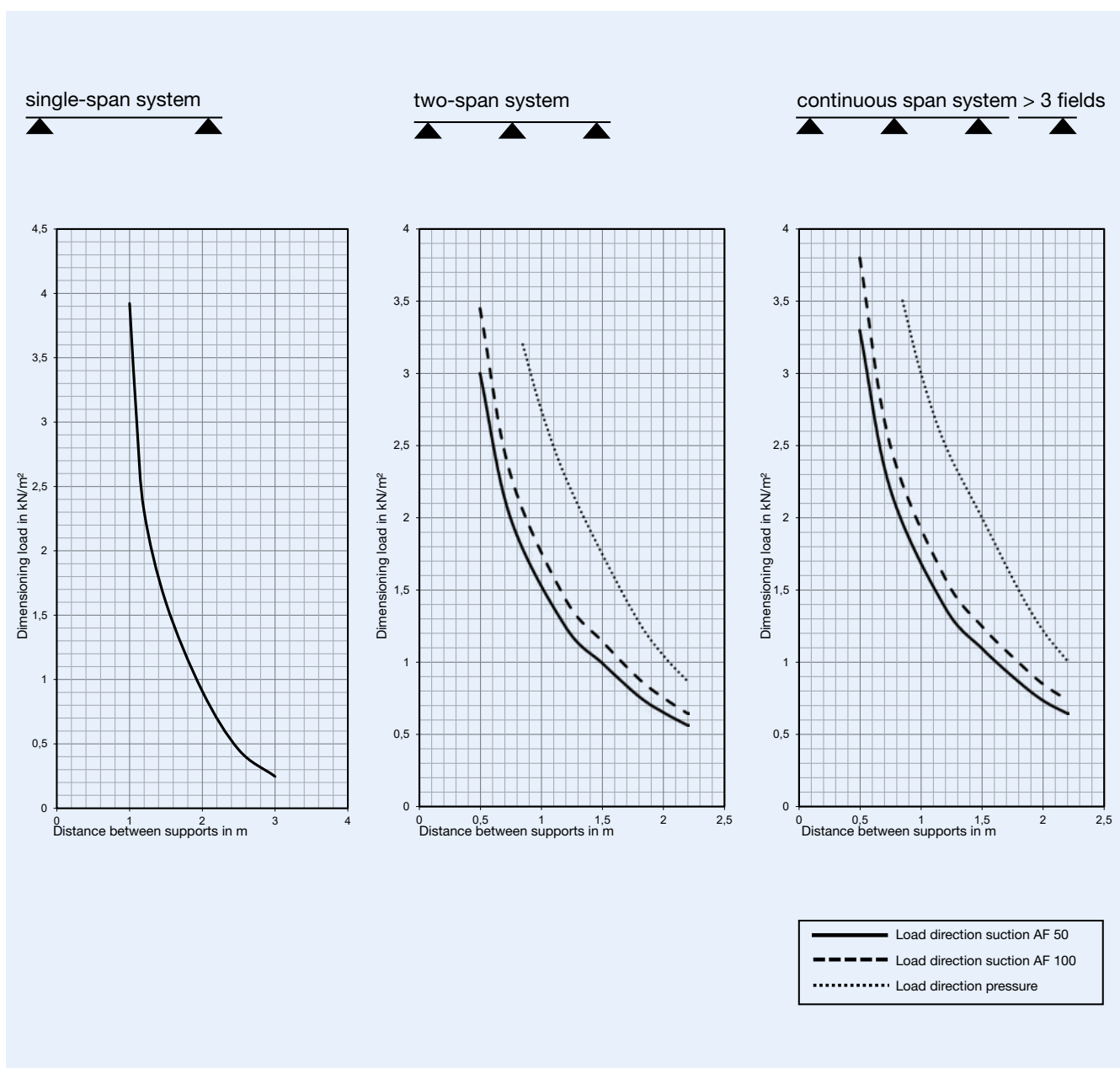
Span width | System 2540-6

Stand: 06/19

The below diagrams show the span widths recommendations referring to dimensioning loads, where wind is considered as dominating variable action. The values are based on the General German Building approval Z-10.1-327 and are only valid in conjunction with the Rodeca systems accessories.

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

The structural analysis of the span widths must be proven project-related based on the German Building approval Z-10.1-327.



1.2.1.9

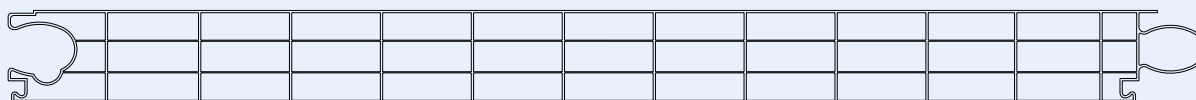
Translucent Building Elements

Product properties - Physical properties

System PC 2540-4

Up-Value from 1.3 W/m²K to 1.5 W/m²K

Depending on horizontal or vertical installation situation as interior and exterior application according to DIN EN ISO 6946:2008 / DIN EN ISO 10077-2:2008



Flammability classifications:

PC 1540-4 crystal
PC 2540-4

fire class B 1 according to DIN 4102
fire class B-s1, d0 according to EN 13501

Building width:

500 mm -2/+ 6 mm

Thickness:

40 mm +/- 0.5mm

Weight:

approx. 4.0 kg/m²

Number of layers:

4 layers / 3 chambers

Modulus of elasticity:

2,400 N/mm²

Coefficient of linear expansion:

0.065 mm/m/°C

UV admission:

< 1 %, wavelengths until 380 nm stopped almost a 100 %

Production tolerances:

s. General information

Versions:

Standard:

Colours: crystal and opal

BiColor:



Two coloured versions of the translucent building elements.

The BiColor version can be delivered with a minimum quantity of 150 m² without separate surcharges for the standard colour combinations - Nonstandard combinations beginning from 300 m².

Standard colours:

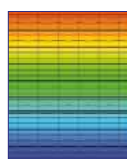
crystal/RAL 1023 - yellow
crystal/RAL 2009 - orange
crystal/RAL 3020 - red
crystal/RAL 4006 - viola
crystal/RAL 5002 - ultramarine blue

crystal/RAL 5015 - pazific blue
crystal/RAL 6027 - petrol
crystal/RAL 6029 - verde
crystal/opal

Please consider that the specification of RAL colour tones for transparent building materials is only on the basis on the RAL card usable. Please request samples when needed.

Up-values:

Isotherm- and temperature pattern from -10 °C outside and 20 °C inside at vertical assembly



Isotherm:

Red: 13 °C
Blue: 10 °C
Black: 0 °C

Installation situation interior:

Up-value 1.3 W/m²K vertical
Up-value 1.4 W/m²K horizontal

Installation situation exterior:

Up-value 1.4 W/m²K vertical
Up-value 1.5 W/m²K horizontal

The German building approval foresees the calculation of facade and roof areas according to the requirements of DIN 10077-2 (U_{cw}). If additional or divergent national requirements be asked to calculate the thermal protection, these must be respected.

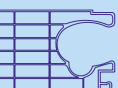
Sound insulation:

Test report on request

www.sumplastecnic.es

911337027

info@sumplastecnic.es



1.2.1.10

Translucent Building Elements

Physical properties

Stand: 06/19

Transmission:

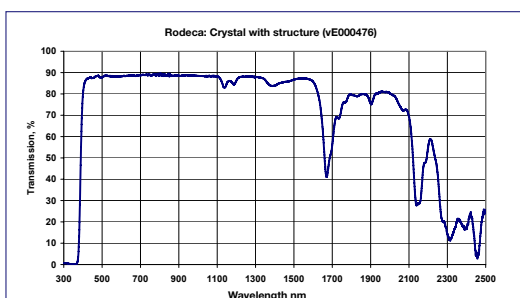
Standard:

Colour: crystal

approx. 63 %

Colour: opal

approx. 28 %



The measurement of the transmission values was carried out with application of a natural day light lamp of 20,000 Lux in connection with a lux meter Lightmeter MS 1000-300 – measuring range 200 to 50,000 LUX) exemplarily on a 1 mm thick PC.

Solar gain values g

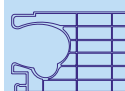
Standard:

Colour: crystal

approx. 61 %

Colour: opal

approx. 42 %



1.2.1.11

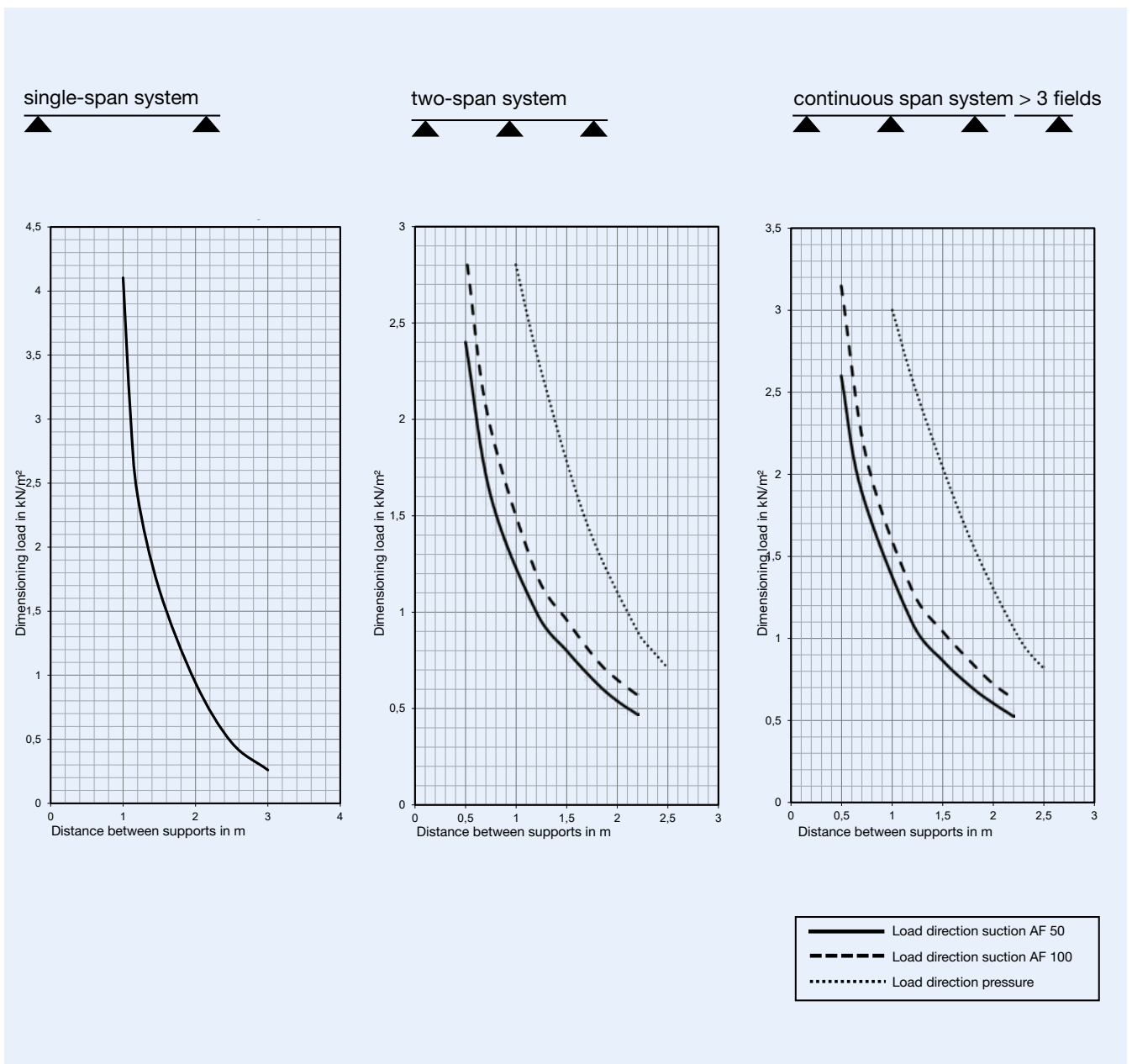
Translucent Building Elements

Span width | System 2540-4

The below diagrams show the span widths recommendations referring to dimensioning loads, where wind is considered as dominating variable action. The values are based on the General German Building approval Z-10.1-327 and are only valid in conjunction with the Rodeca systems accessories.

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

The structural analysis of the span widths must be proven project-related based on the German Building approval Z-10.1-327.



1.2.1.12

Translucent Building Elements

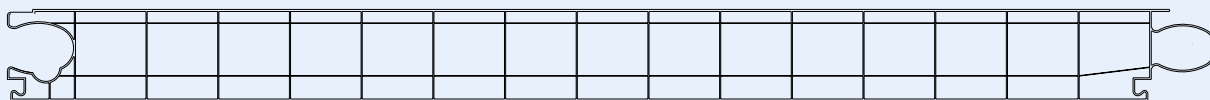
Product properties - Physical properties

Stand: 06/19

System PC 2540-4 MC

Up-Value from 1.3 W/m²K to 1.6 W/m²K

Depending on horizontal or vertical installation situation as interior and exterior application according to DIN EN ISO 6946:2008 / DIN EN ISO 10077-2:2008



Flammability classifications:

PC 2540-4 MC

fire class B-s1, d0 according to EN 13501

Building width:

500 mm -2/+6 mm

Thickness:

40 mm +/- 0.5 mm

Weight:

approx. 4.0 kg/m²

Number of layers:

4 layers / 3 chambers

Modulus of elasticity:

2,400 N/mm²

Coefficient of linear expansion:

0.065 mm/m/°C

UV admission:

< 1 %, wavelengths until 380 nm stopped almost a 100 %

Production tolerances:

s. General information

Versions:

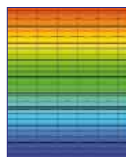
Standard:

Colours: crystal and opal

Up-values:

Isotherm- and temperature pattern from -10 °C outside and 20 °C inside at vertical assembly

Isotherm:



Red: 13 °C

Blue: 10 °C

Black: 0 °C

Installation situation interior:

Up-value 1.3 W/m²K vertical

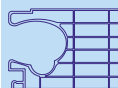
Up-value 1.5 W/m²K horizontal

Installation situation exterior:

Up-value 1.5 W/m²K vertical

Up-value 1.6 W/m²K horizontal

The German building approval foresees the calculation of facade and roof areas according to the requirements of DIN 10077-2 (U_{cw}). If additional or divergent national requirements be asked to calculate the thermal protection, these must be respected.



1.2.1.13

Translucent Building Elements

Physical properties

Transmission:

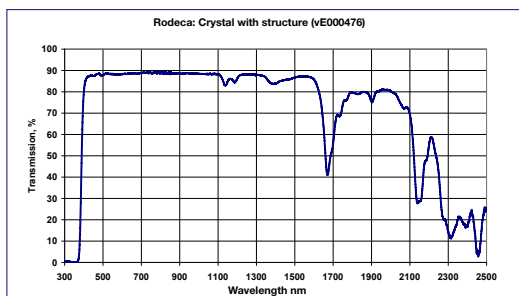
Standard:

Colour: crystal

approx. 66 %

Colour: opal

approx. 29 %



The measurement of the transmission values was carried out with application of a natural day light lamp of 20,000 Lux in connection with a lux meter Lightmeter MS 1000-300 – measuring range 200 to 50,000 LUX) exemplarily on a 1 mm thick PC.

Solar gain values g

Standard:

Colour: crystal

approx. 60 %

Colour: opal

approx. 42 %

1.2.1.14

Translucent Building Elements

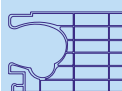
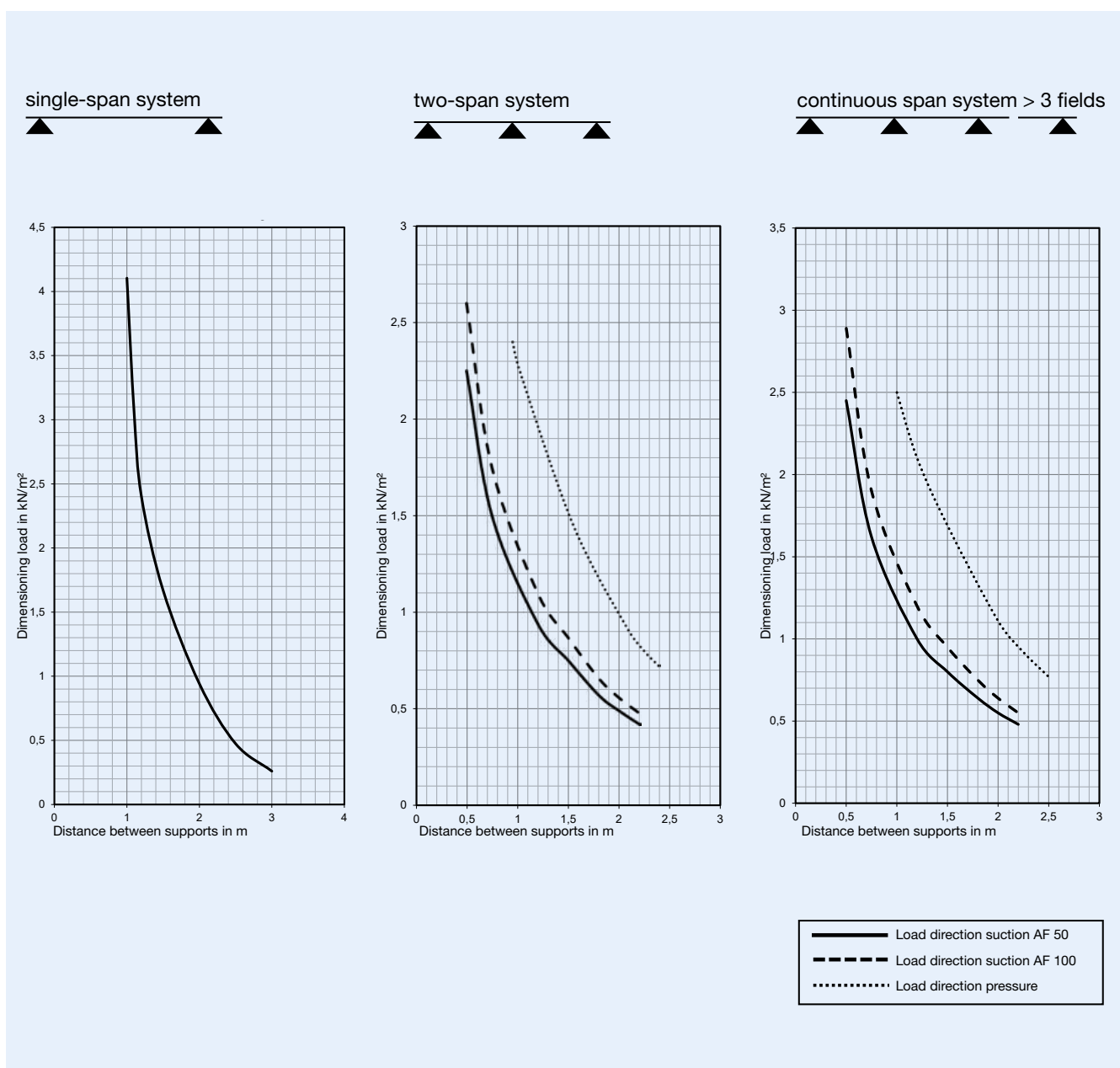
Span width | System 2540-4 MC

Stand: 06/19

The below diagrams show the span widths recommendations referring to dimensioning loads, where wind is considered as dominating variable action. The values are based on the General German Building approval Z-10.1-327 and are only valid in conjunction with the Rodeca systems accessories.

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

The structural analysis of the span widths must be proven project-related based on the German Building approval Z-10.1-327.



1.2.1.15

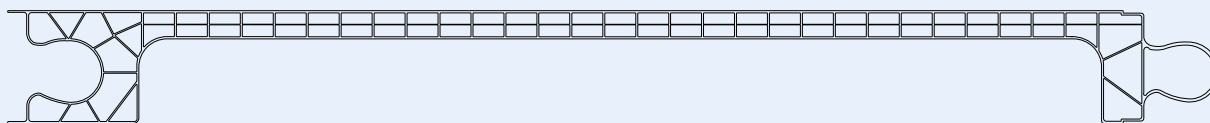
Translucent Building Elements

Product properties - Physical properties

System PC 2410-3

Up-Value from 3.0 W/m²K

(Average reference value)



Flammability classification:

PC 2410-3

fire class B-s1, d0 according to EN 13501

Building width:

400 mm -2/+ 6 mm

Thickness:

40/10 mm +/- 0.5 mm

Weight:

approx. 2.8 kg/m²

Number of layers:

3 layers / 2 chambers

Modulus of elasticity:

2,400 N/mm²

Coefficient of linear expansion:

0.065 mm/m/°C

UV admission:

< 1 %, wavelengths until 380 nm stopped almost a 100 %

Production tolerances:

s. General information

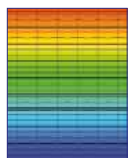
Versions:

Standard:

Colour: crystal

Up-values:

Isotherm- and temperature pattern
from -10 °C outside and 20 °C inside
at vertical assembly



Isotherm:

Red: 13 °C

Blue: 10 °C

Black: 0 °C

Installation situation exterior:

Up-value approx. 3.0 W/m²K vertical

1.2.1.16

Translucent Building Elements

Physical properties

Stand: 06/19

Transmission:

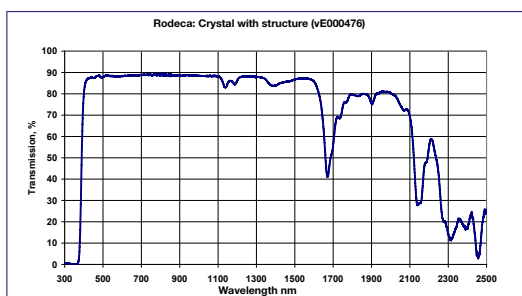
Standard:

Colour: crystal

approx. 76 %

Colour: opal

approx. 52 %



The measurement of the transmission values was carried out with application of a natural day light lamp of 20,000 Lux in connection with a lux meter Lightmeter MS 1000-300 – measuring range 200 to 50,000 LUX) exemplarily on a 1 mm thick PC.

1.2.1.17

Translucent Building Elements

Product version DecoColor 2540-7

Design Series - DecoColor

DecoColor means:

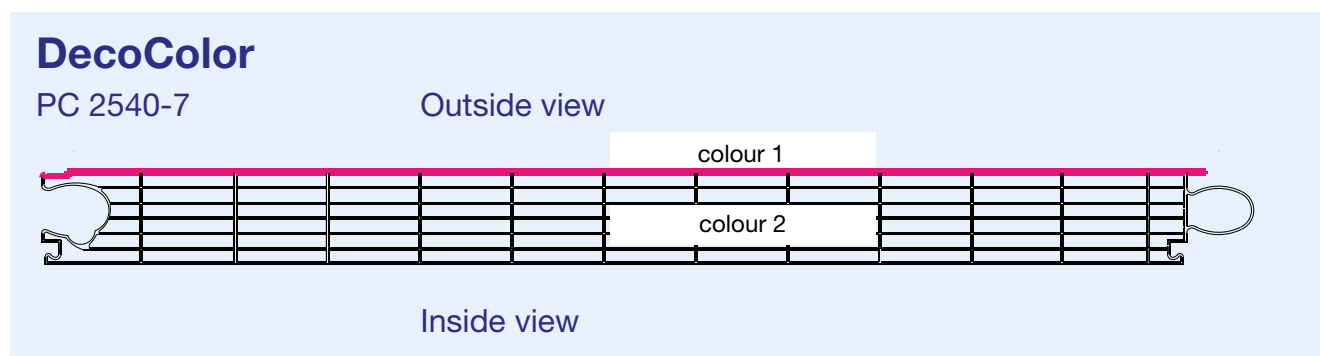
Layer 1 from outside view in colour 1
Layers 2-7 from outside view in colour 2

Internal production codification BI-A

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

DecoColor RAL5002/crystal means:

Layer 1 in colour RAL 5002
Layers 2-7 in colour crystal



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

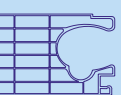
Ordering Information:

Layer 1 from outside view in colour 1 _____

Layers 2-7 from outside view in colour 2 _____

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

DecoColor colour 1 _____ /colour 2 _____



1.2.1.18

Translucent Building Elements

Product version BiColor 2540-4

Stand: 06/19

Design Series - BiColor

BiColor means:

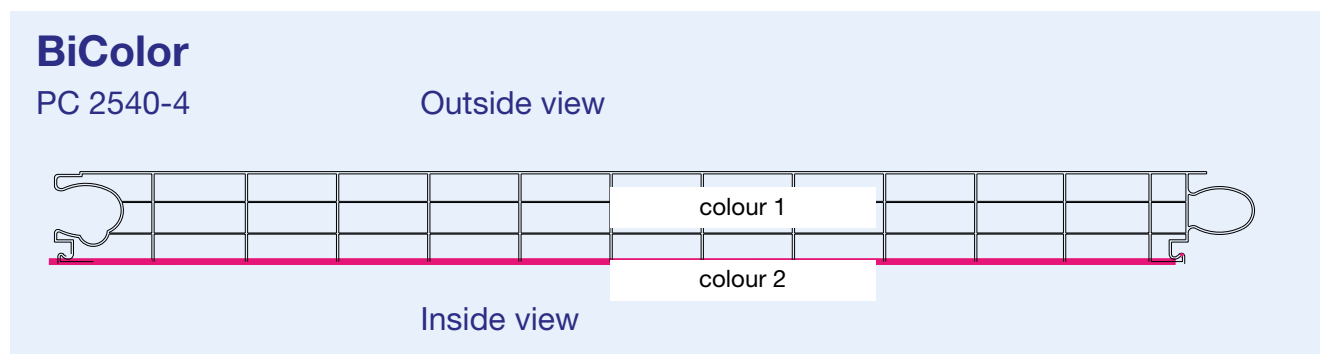
Layers 1-3 from outside view in colour 1
Layer 4 from outside view in colour 2

Internal production codification BI-I

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

BiColor crystal/RAL5002 means:

Layers 1-3 from outside view in crystal
Layer 4 from outside view in RAL 5002



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

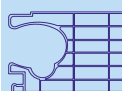
Ordering information:

Layers 1-3 from outside view in colour 1 _____

Layer 4 from outside view in colour 2 _____

For the indication of colours always the outside view is taken as basis.

BiColor colour 1 _____ /colour 2 _____



1.2.2.1

Translucent Building Elements

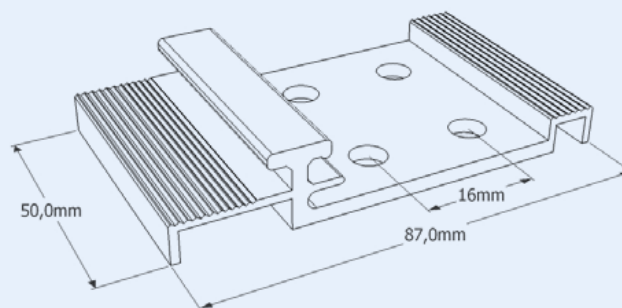
System PC 2540 AF 50 | System PC 2540 AF 100
Fastener

General

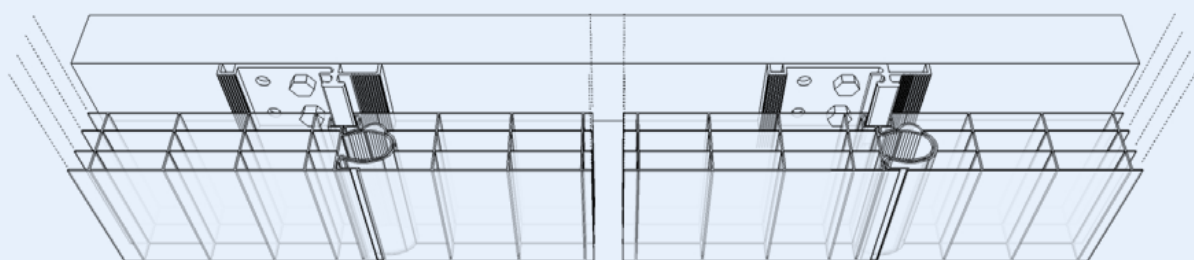
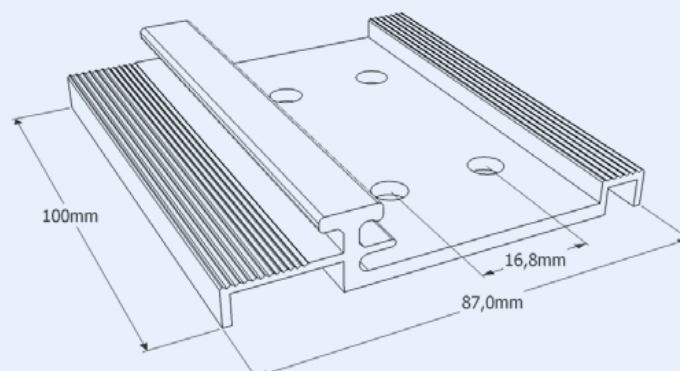
The Rodeca flat fasteners are made of extruded aluminium profiles, afterwards cut, pierced and trovalised.

The proof of applicability and the statical values are in the General German Building Approval Z-10.1-327 documented. We recommend to fix the flat aluminium fasteners with stainless steel screws with screw heads not higher than 5mm. The fixing materials need to be chosen in type and finish adequately to substructure. The height of substructure should not be smaller than the height of the fastener.

Art.-No.: 49404050



Art.-No.: 494040100



1.2.2.2

Translucent Building Elements

System PC 2410-3 | Fastener

Stand: 06/19

General

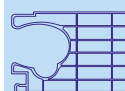
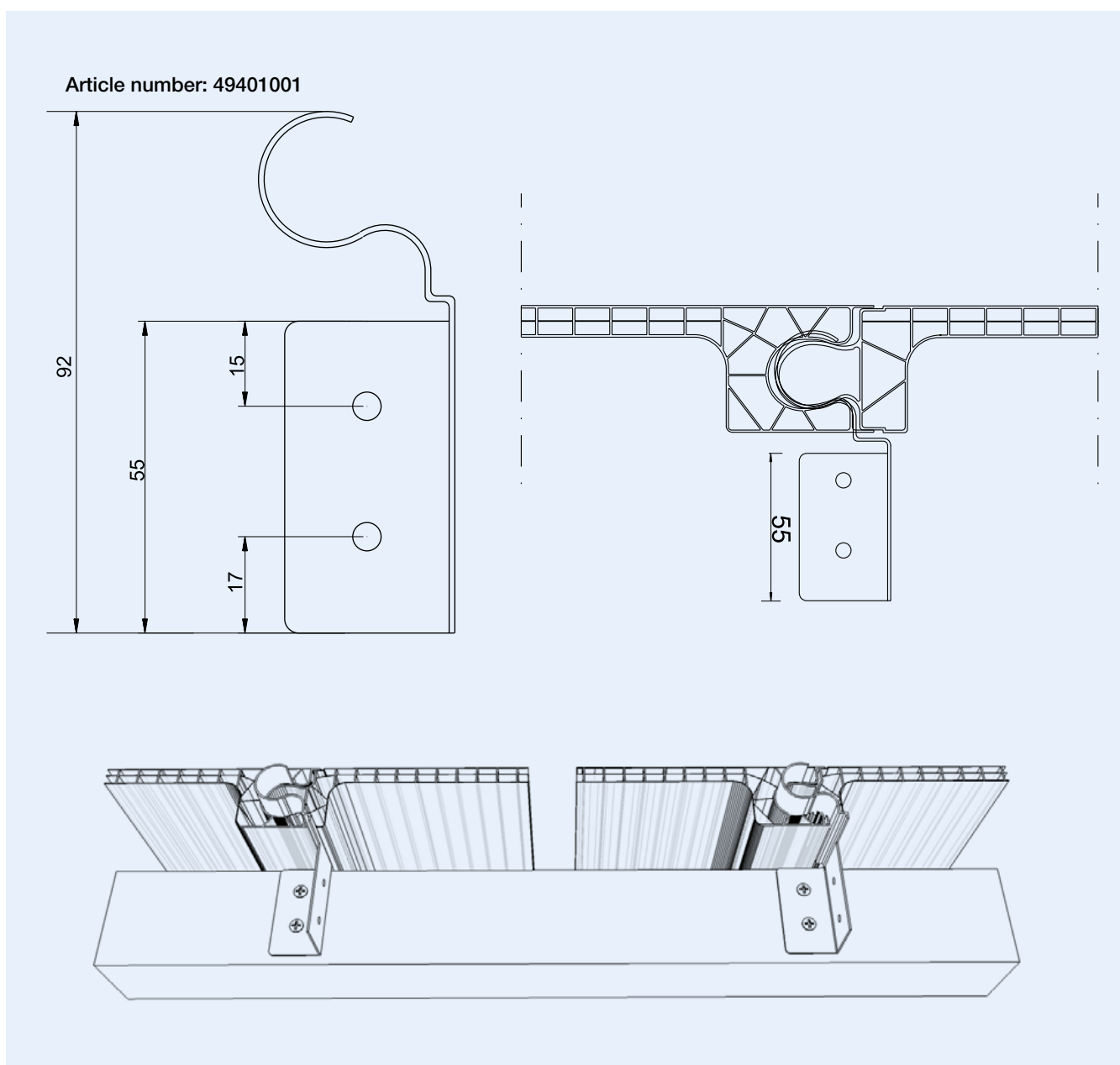
The frame fastener **49401001** fastens the PC panels 2410-3 onto supporting substructure.

We recommend to fix the frame fasteners with stainless steel screws.

The fixing materials need to be chosen in type and finish adequately to substructure.

Article number

49401001 = Fastener for 2410-3



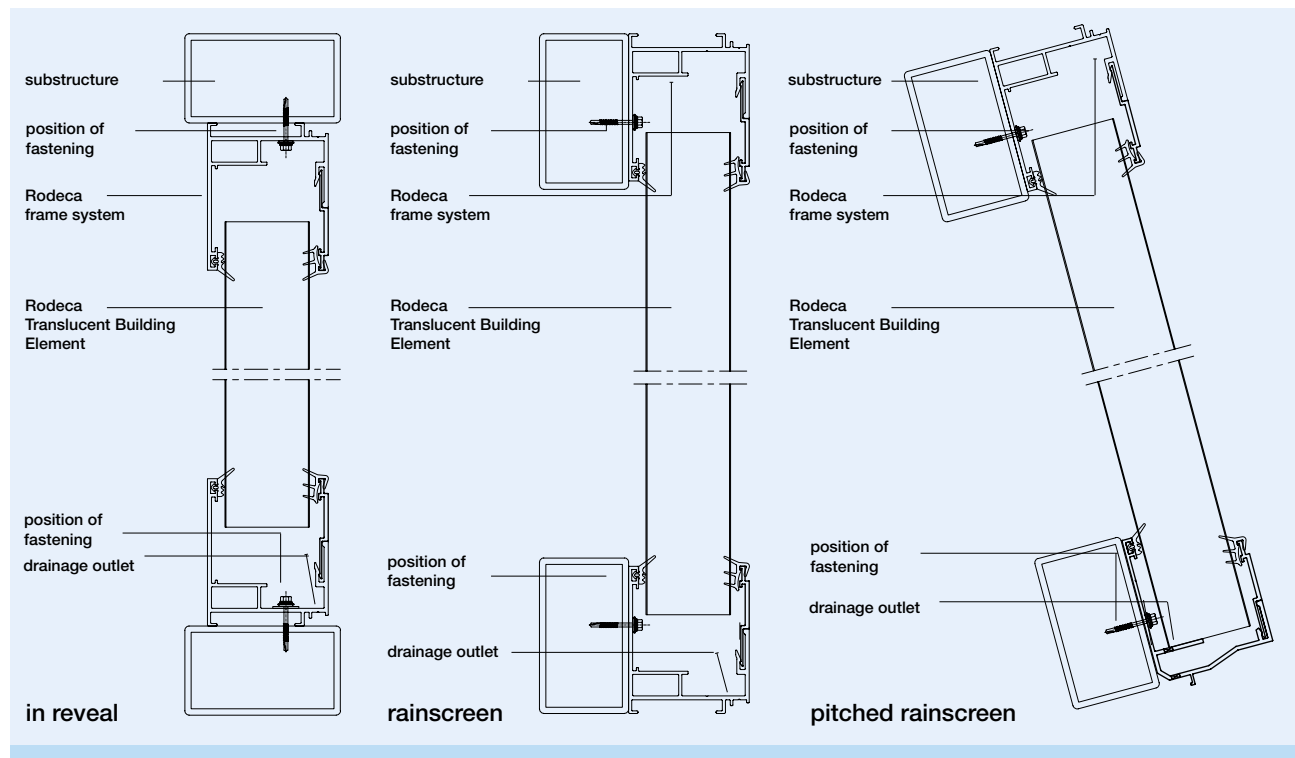
1.2.3.0

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

Installation manuals can be downloaded on our website www.Rodeca.de.

If there are any further questions on the proper implementation of your Rodeca project, please contact us.

1.2.4.0

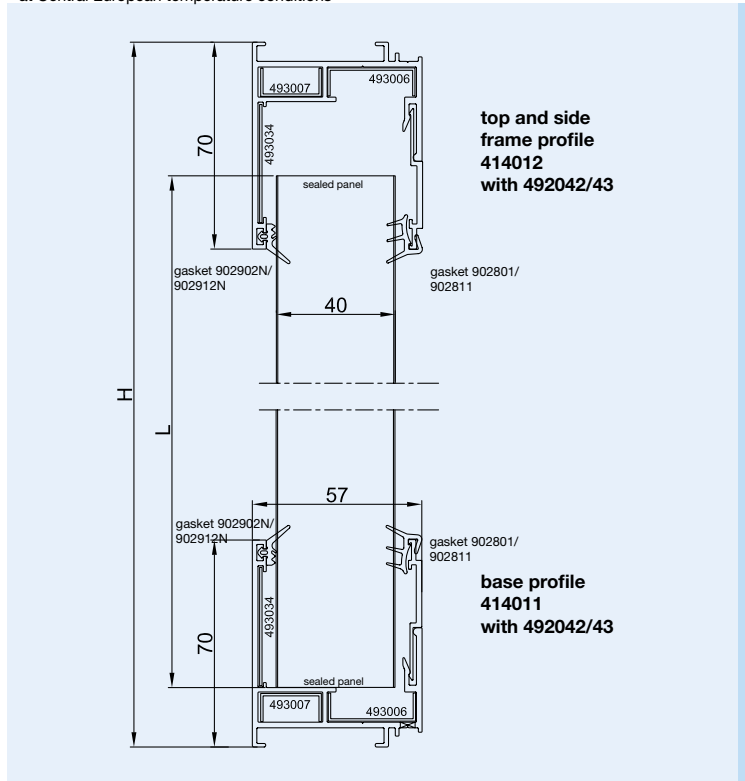
Translucent Building Elements

Frame system non-thermally broken
Top and base framing

Stand: 06/19

Facade 90° up to 6 m panel length*

* at Central European temperature conditions



Top profile 414012
Base profile 414011

Article numbers

414012 = Top and side frame profile
493034 = Profile connector for 414012
493006 = Profile connector for 414012
493007 = Profile connector for 414012

414011 = Base profile
493034 = Profile connector for 414011
493006 = Profile connector for 414011
493007 = Profile connector for 414012

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

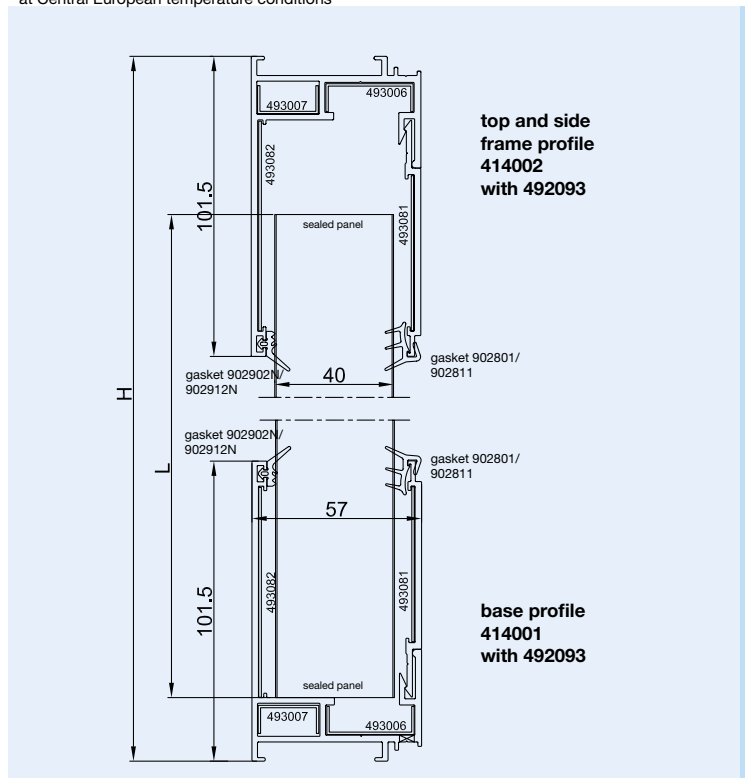
902801 = Outer plug gasket TPE grey
902811 = Outer plug gasket TPE black

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 414002
Base profile 414001

Article numbers

414002 = Top and side frame profile
493082 = Profile connector for 414002
493006 = Profile connector for 414002
493007 = Profile connector for 414002

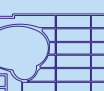
414001 = Base profile
493082 = Profile connector for 414001
493006 = Profile connector for 414001
493007 = Profile connector for 414001

492093 = Front plate in L = 3.0 m
493081 = Profile connector for 492092/93

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



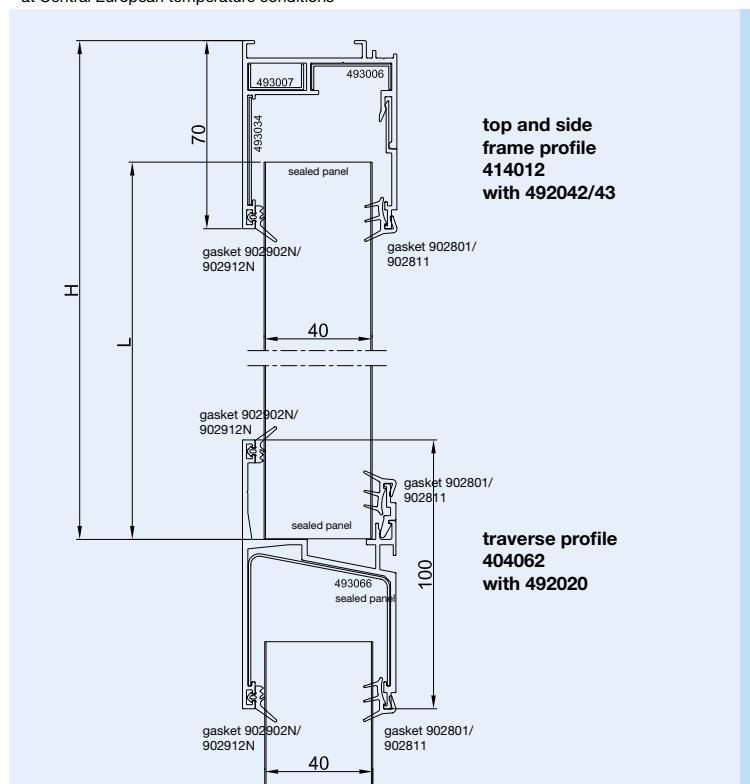
1.2.4.1

Translucent Building Elements

Frame system non-thermally broken
Top and base framing

Facade 90° up to 6 m panel length*

* at Central European temperature conditions



Top profile 414012
Traverse profile 404062

Article numbers

414012 = Top and side frame profile
493034 = Profile connector for 414012
493006 = Profile connector for 414012
493007 = Profile connector for 414012

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

404062 = Traverse profile
493066 = Profile connector for 404062

492020 = Front plate in L = 2.0 m

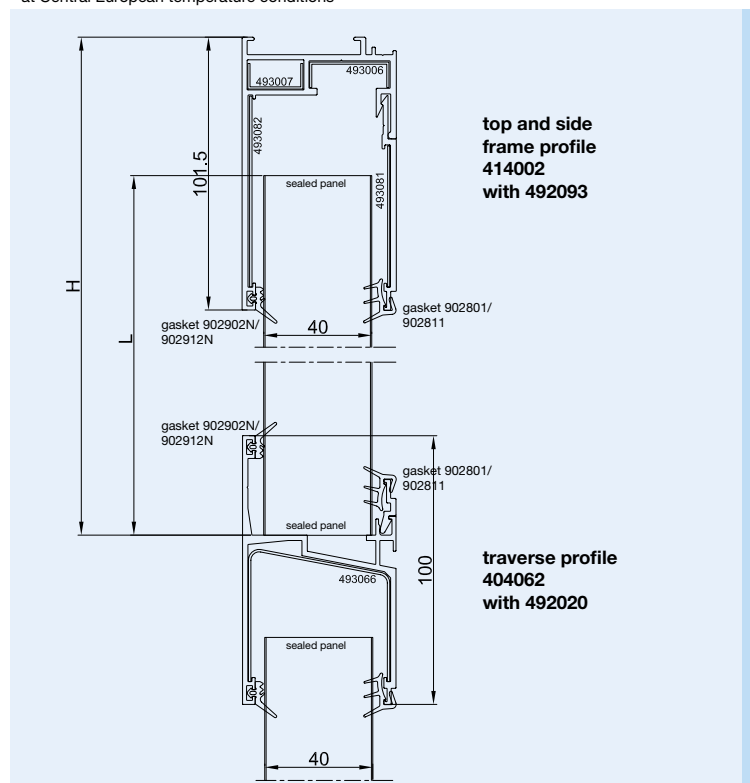
902801 = Outer plug gasket TPE grey
902811 = Outer plug gasket TPE black

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

Calculation of panel length:
L in mm = Height H in mm - 45 mm

Facade 90° up to 12 m panel length*

* at Central European temperature conditions



Top profile 414002
Traverse profile 404062

Article numbers

414002 = Top and side frame profile
493082 = Profile connector for 414002
493006 = Profile connector for 414002
493007 = Profile connector for 414002

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

404062 = Traverse profile
493066 = Profile connector for 404062

492020 = Front plate in L = 2.0 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 - 55 mm

1.2.4.2

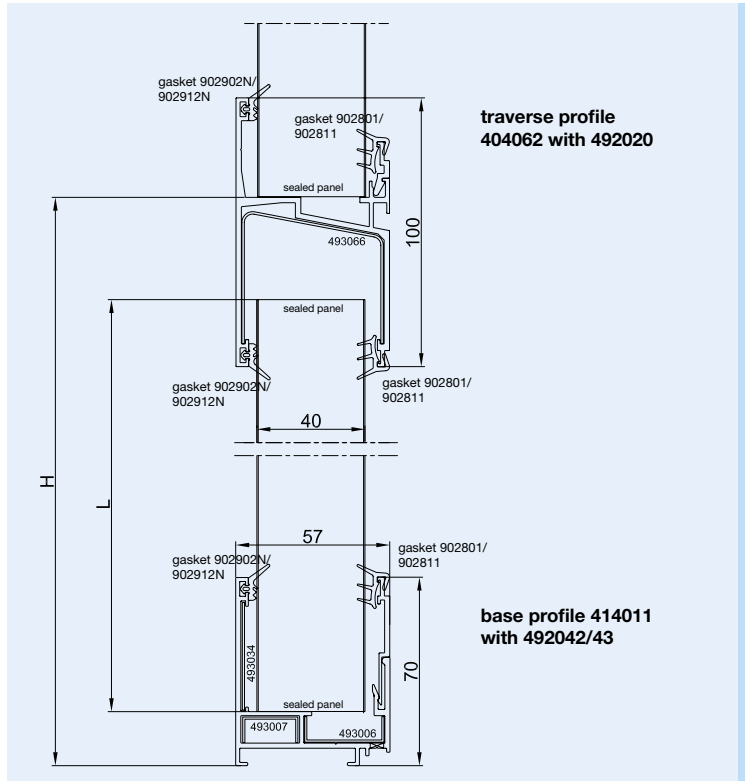
Translucent Building Elements

Frame system non-thermally broken
Top and base framing

Stand: 06/19

Facade 90° up to 6 m panel length*

* at Central European temperature conditions



Traverse profile 404062
Base profile 414011

Article numbers

404062 = Traverse profile
493066 = Profile connector for 404062

492020 = Front plate in L = 2.0 m

414011 = Base profile
493034 = Profile connector for 414011
493006 = Profile connector for 414011
493007 = Profile connector for 414011

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

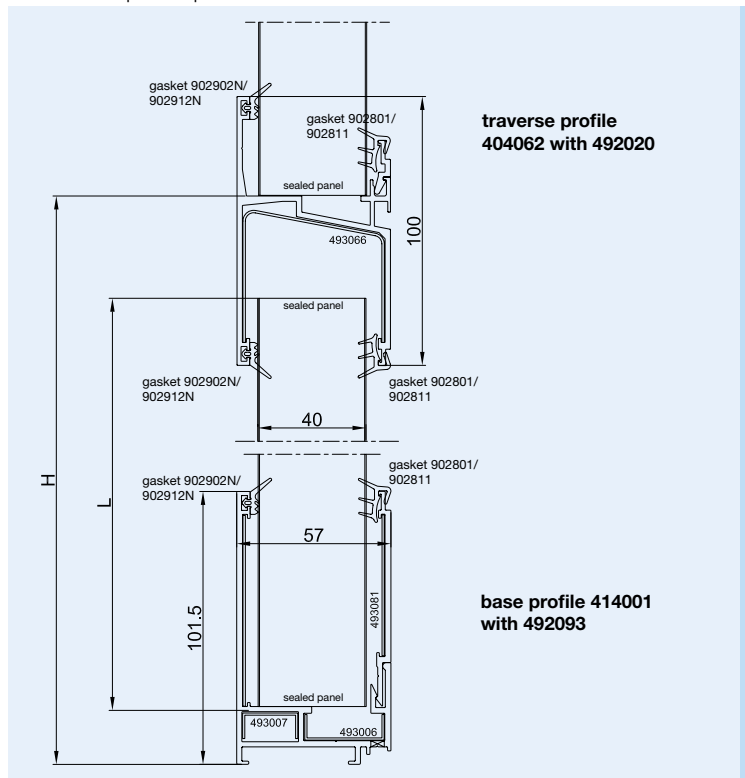
902801 = Outer plug gasket TPE grey
902811 = Outer plug gasket TPE black

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

Calculation of panel length:
 L in mm = Height H in mm - **60 mm**

Facade 90° up to 6 m panel length*

* at Central European temperature conditions



Traverse profile 404062
Base profile 414001

Article numbers

404062 = Traverse profile
493066 = Profile connector for 404062

492020 = Front plate in L = 2.0 m

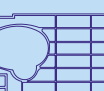
414001 = Base profile
493082 = Profile connector for 414002
493006 = Profile connector for 414002
493007 = Profile connector for 414002

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 - **60 mm**



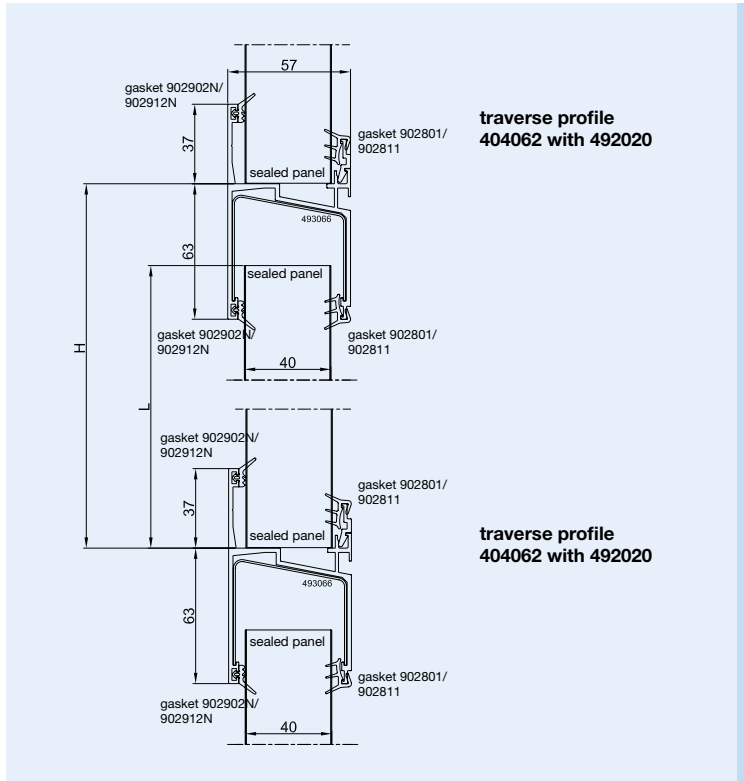
1.2.4.3

Translucent Building Elements

Frame system non-thermally broken
Top and base framing

Facade 90° up to 6 m panel length*

* at Central European temperature conditions



Traverse profile 404062
Traverse profile 404062

Article numbers

404062 = Traverse profile
493066 = Profile connector for 404062

492020 = Front plate in L = 2.0 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 - **30 mm**

1.2.4.4

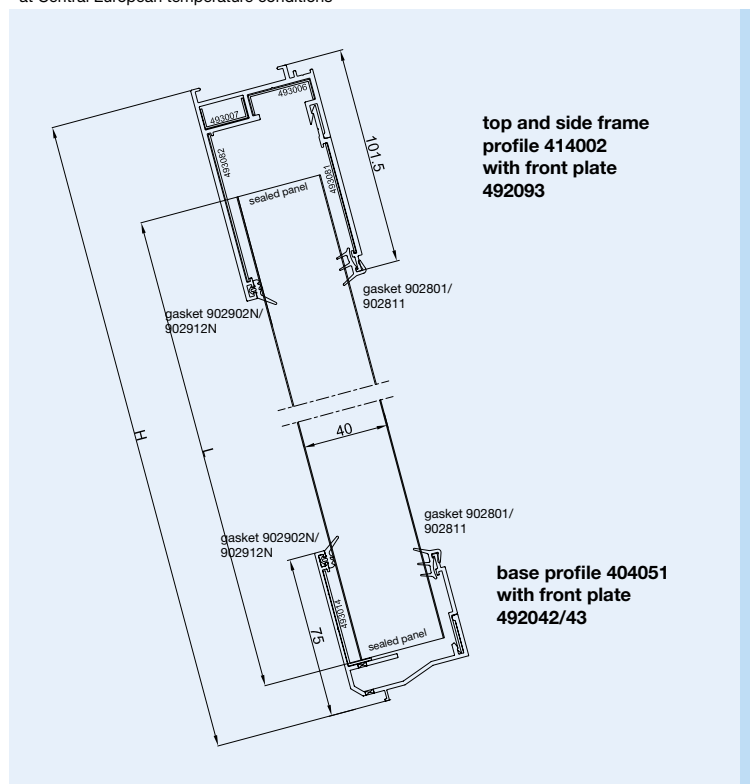
Translucent Building Elements

Frame system non-thermally broken
Top and base framing

Stand: 06/19

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

* at Central European temperature conditions



Top profile 414002
Base profile 404051

Article numbers

414002 = Top and side frame profile
493082 = Profile connector for 414002
493006 = Profile connector for 414002
493007 = Profile connector for 414002

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

404051 = Base profile
493014 = Profile connector for 404051

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

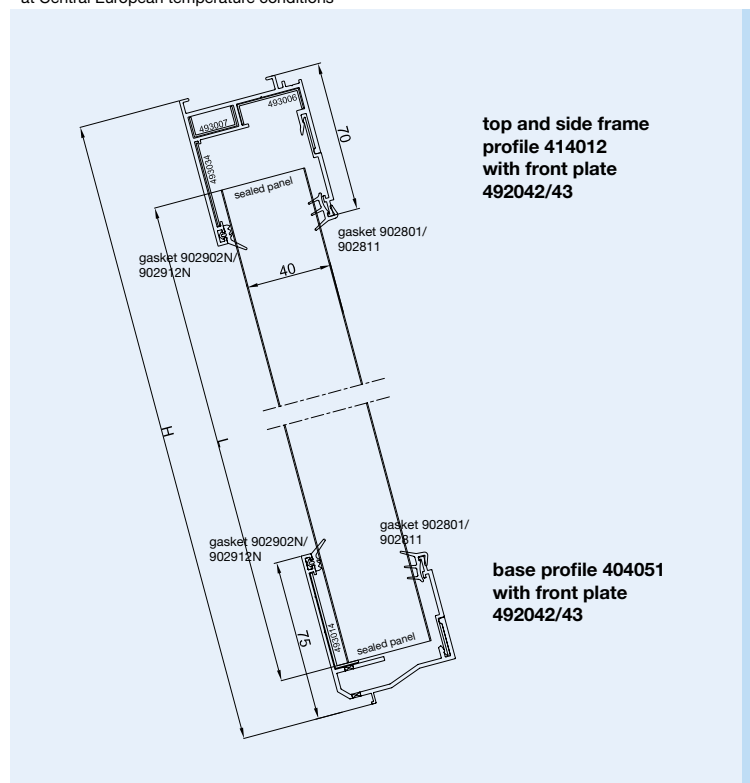
902801 = Outer plug gasket TPE grey
902811 = Outer plug gasket TPE black

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

Calculation of panel length:
 $L \text{ in mm} = \text{Height } H \text{ in mm} - 75 \text{ mm}$

Pitched installation >15° up to 6 m panel length*

* at Central European temperature conditions



Top profile 414012
Base profile 404051

Article numbers

414012 = Top and side frame profile

493034 = Profile connector for 414012
493006 = Profile connector for 414012
493007 = Profile connector for 414012

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

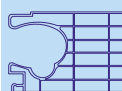
404051 = Base profile
493014 = Profile connector for 404051

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:
 $L \text{ in mm} = \text{Height } H \text{ in mm} - 65 \text{ mm}$

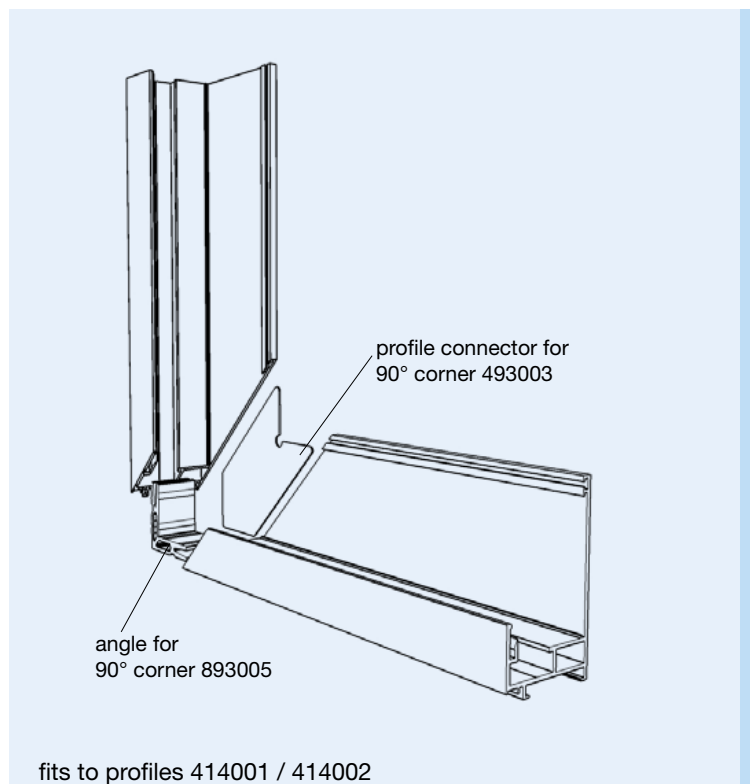


1.2.4.5

Translucent Building Elements

Frame system non-thermally broken
Corner connection

90° corner connection 414005



General

90° corner connections of the profiles 414002 and 414012 are available as prefabricated components.

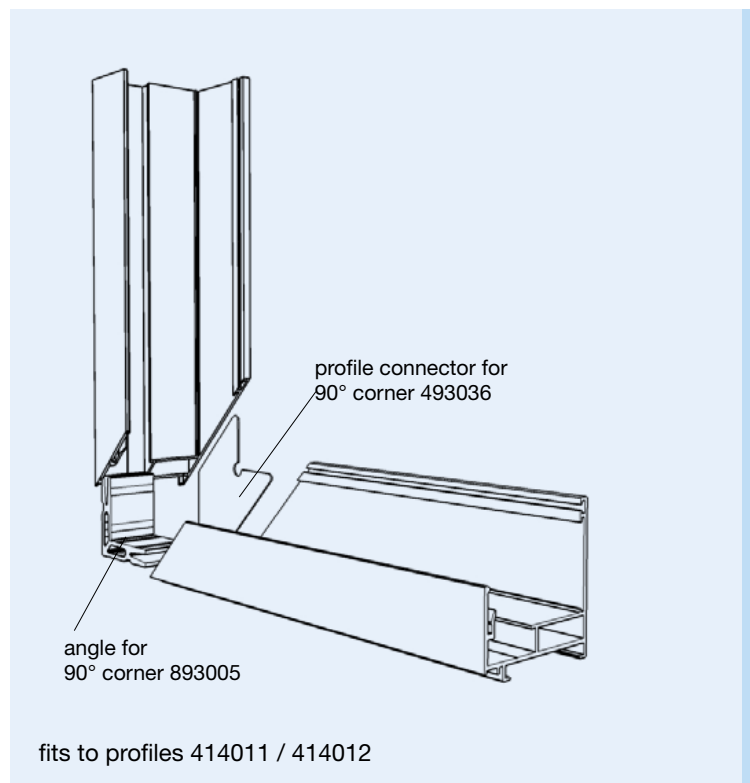
The corner connections are made of 0.55m long frame profiles, incl. front plates. The connections are sealed with profile connectors and sealant and thus save installation time and effort.

Initial lengths/-units

Prefabricated corner profile incl. front plates and profile connectors	1 pc. PU*
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

*PU = Packing unit

90° corner connection 414015



Article numbers

- 414005** = 90° corner connection prefabricated
incl. profile connectors and front plate,
fits to profile 414001 & 414002
- 493003** = profile connector for a 90° corner
of profile 414001/02
- 893005** = angle for a 90° corner of profile
414001/02

- 414015** = 90° corner connection prefabricated
incl. profile connectors and front plate,
fits to profile 414011 & 414012
- 493036** = profile connector for a 90° corner
of profile 414011/12
- 893005** = angle for a 90° corner of profile
414001/02

Versions

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

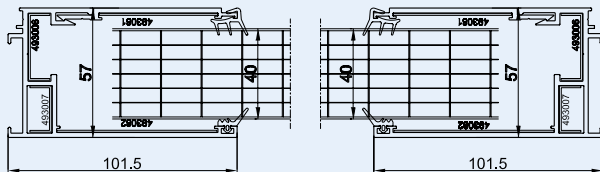
1.2.4.6

Translucent Building Elements

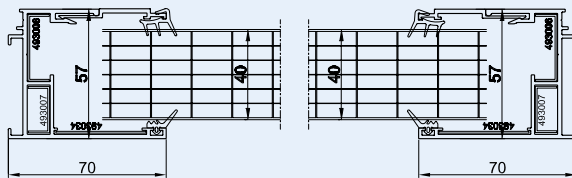
Frame system non-thermally broken
Lateral framing

Stand: 06/19

Side connections



frame profile 414002
with front plate
492093



frame profile 414012
with front plate
492042/43

Side connection with frame profiles

Article numbers

414002 = Top and side frame profile
493082 = Profile connector for 414002
493006 = Profile connector for 414002
493007 = Profile connector for 414002

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

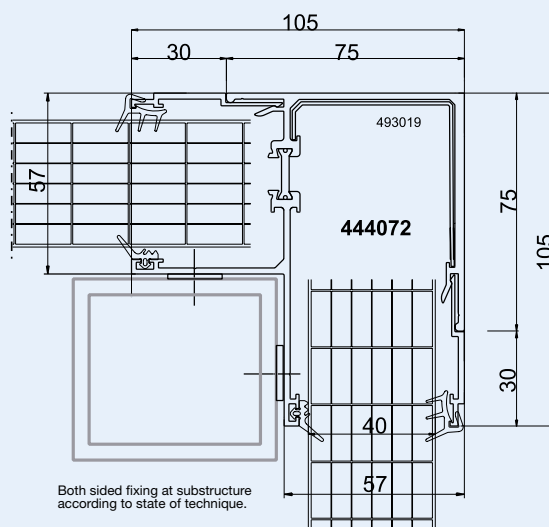
414012 = Top and side frame profile
493034 = Profile connector for 414012
493006 = Profile connector for 414012
493007 = Profile connector for 414012

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



Corner profile 444072

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

Side connection 90° corner with profile 444072

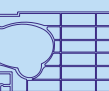
Article numbers

444072 = Corner profile
493019 = Profile connector for 444072

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



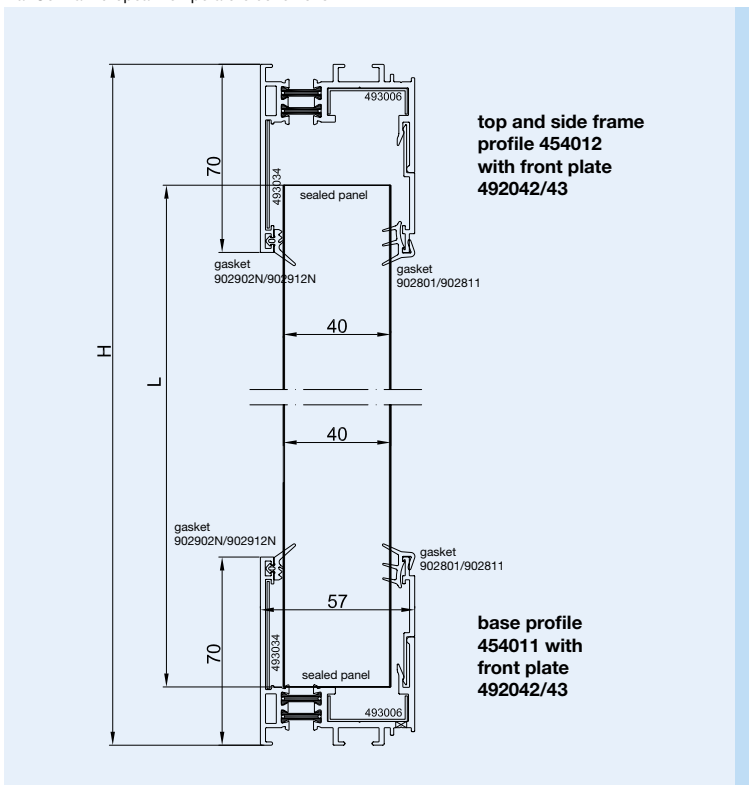
1.2.5.0

Translucent Building Elements

Frame system thermally broken
Top and base framing

Facade 90° up to 6 m panel length*

* at Central European temperature conditions



Top profile 454012
Base profile 454011

Article numbers

454012 = Top and side frame profile
493006 = Profile connector for 454012
493034 = Profile connector for 454012

454011 = Base profile with drainage
493006 = Profile connector for 454011
493034 = Profile connector for 454011

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

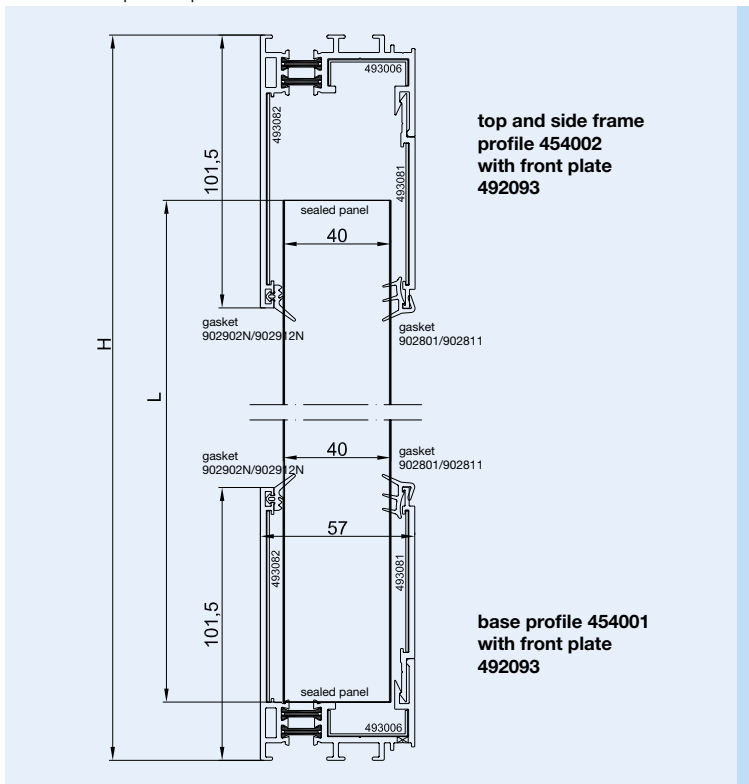
902801 = Outer plug gasket TPE grey
902811 = Outer plug gasket TPE black

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 454002
Base profile 454001

Article numbers

454002 = Top and side frame profile
493082 = Profile connector for 454002
493006 = Profile connector for 454002

454001 = Base profile with drainage
493082 = Profile connector for 454001
493006 = Profile connector for 454001

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**

1.2.5.1

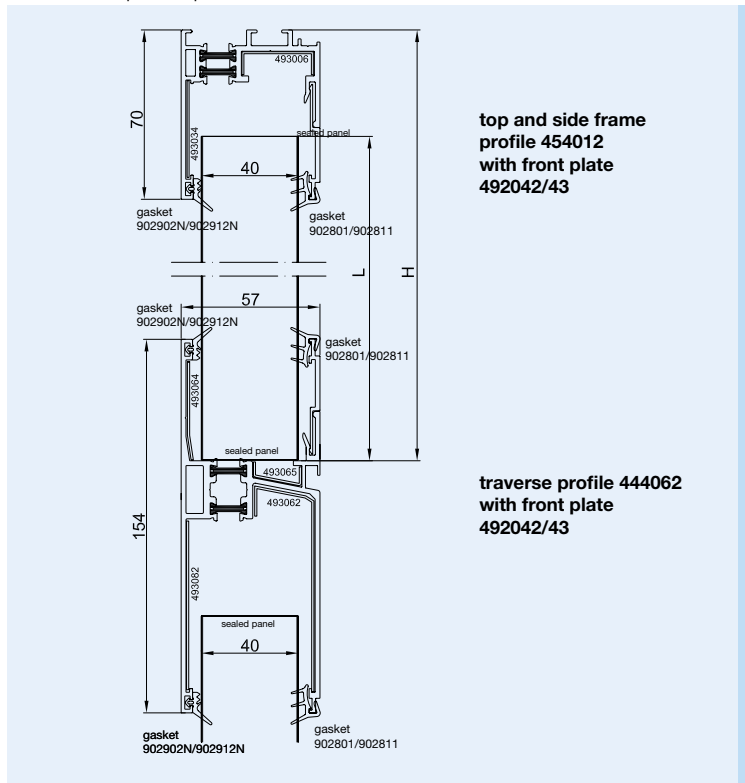
Translucent Building Elements

Frame system thermally broken
Top and base framing

Stand: 06/19

Facade 90° up to 6 m panel length*

* at Central European temperature conditions



Top profile 454012
Traverse profile 444062

Article numbers

454012 = Top and side frame profile
493006 = Profile connector for 454012
493034 = Profile connector for 454012
492042 = Front plate in L = 2.0 m
492043 = Front plate in L = 3.0 m

444062 = Traverse profile
493062 = Profile connector for 444062
493082 = Profile connector for 444062
493064 = Profile connector for 444062
493065 = Profile connector for 444062
492042 = Front plate in L = 2.0 m
492043 = Front plate in L = 3.0 m

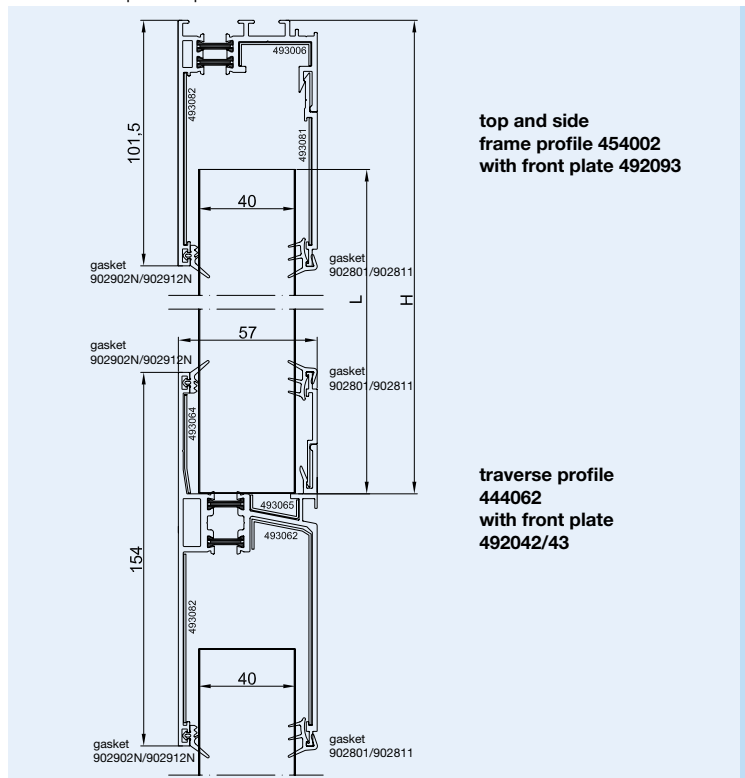
902801 = Outer plug gasket TPE grey
902811 = Outer plug gasket TPE black

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

Calculation of panel length:
L in mm = Height H in mm - **45 mm**

Facade 90° up to 12 m panel length*

* at Central European temperature conditions



Top profile 454002
Traverse profile 444062

Article numbers

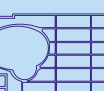
454002 = Top and side frame profile
493082 = Profile connector for 454002
493006 = Profile connector for 454002
492093 = Front plate in L = 3.0 m
493081 = Profile connector for 492093

444062 = Traverse profile
493062 = Profile connector for 444062
493082 = Profile connector for 444062
493064 = Profile connector for 444062
493065 = Profile connector for 444062
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 - **55 mm**



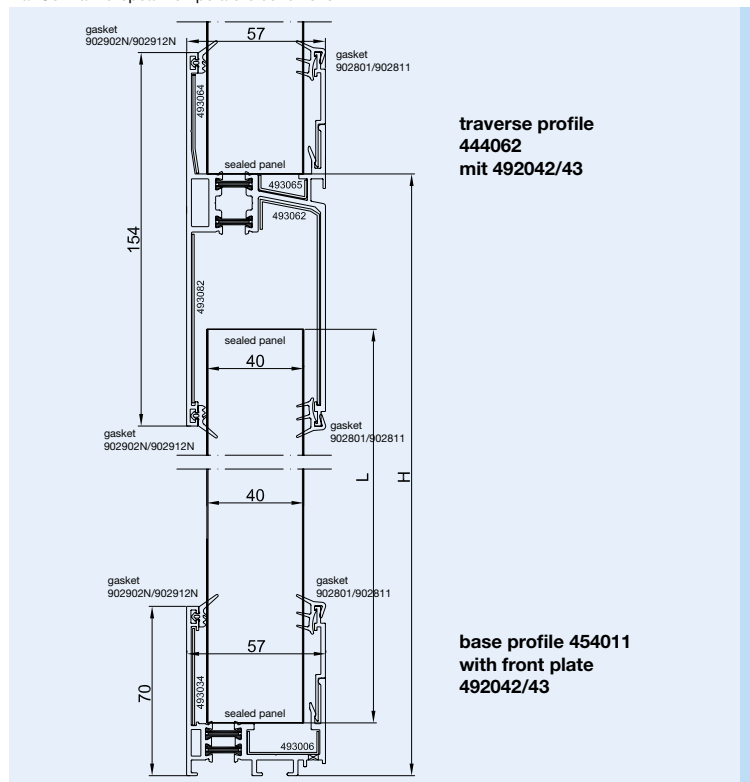
1.2.5.2

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 444062
Base profile 454011

Article numbers

444062 = Traverse profile
493062 = Profile connector for 444062
493082 = Profile connector for 444062
493064 = Profile connector for 444062
493065 = Profile connector for 444062
492042 = Front plate in L = 2.0 m
492043 = Front plate in L = 3.0 m

454011 = Base profile with drainage
493006 = Profile connector for 454011
493034 = Profile connector for 454011
492042 = Front plate in L = 2.0 m
492043 = Front plate in L = 3.0 m

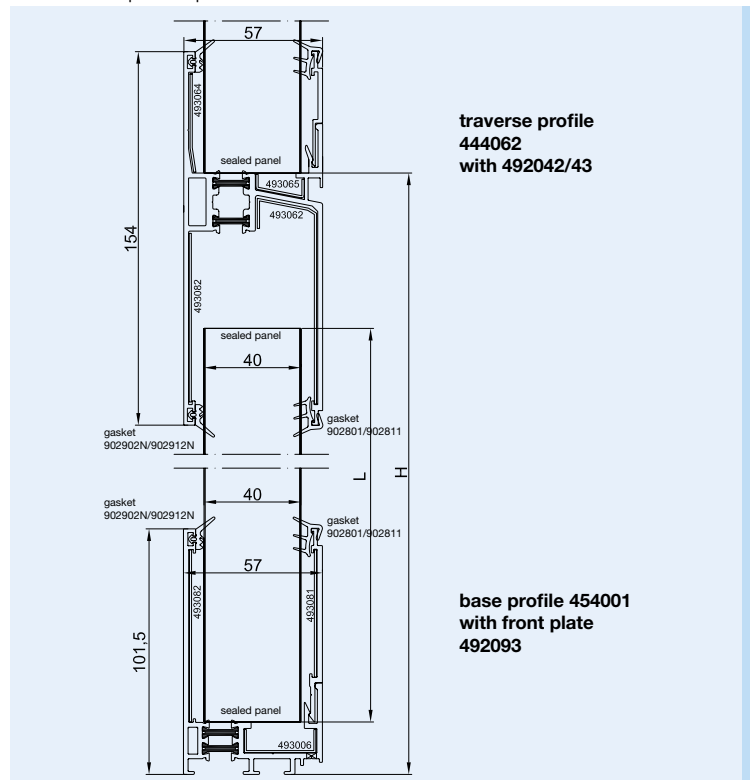
902801 = Outer plug gasket TPE grey
902811 = Outer plug gasket TPE black

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 444062
Base profile 454001

Article numbers

444062 = Traverse profile
493062 = Profile connector for 444062
493082 = Profile connector for 444062
493064 = Profile connector for 444062
493065 = Profile connector for 444062
492042 = Front plate in L = 2.0 m
492043 = Front plate in L = 3.0 m

454001 = Base profile with drainage
493082 = Profile connector for 454001
493006 = Profile connector for 454001
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**

1.2.5.3

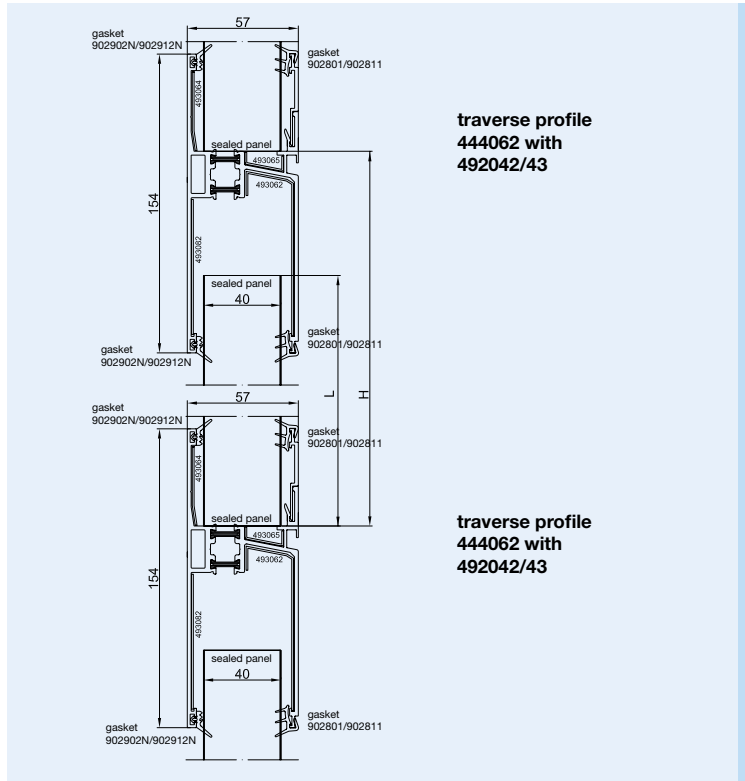
Translucent Building Elements

Frame system thermally broken
Top and base framing

Stand: 06/19

Facade 90° up to 12 m panel length*

* at Central European temperature conditions



Traverse profile 444062
Traverse profile 444062

Article numbers

444062 = Traverse profile
493062 = Profile connector for 444062
493082 = Profile connector for 444062
493064 = Profile connector for 444062
493065 = Profile connector for 444062

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

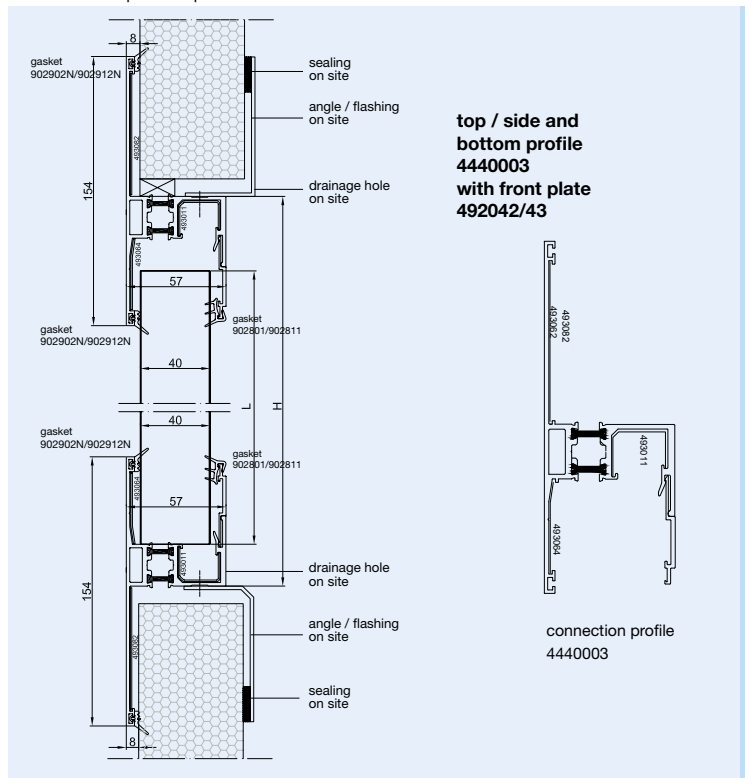
902801 = Outer plug gasket TPE grey
902811 = Outer plug gasket TPE black

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

Calculation of panel length:
L in mm = Height H in mm - **60 mm**

Facade 90° up to 6 m panel length*

* at Central European temperature conditions



Connection profile 4440003
(for e.g. sandwich panel)

Article numbers

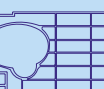
4440003 = Connection profile
492042 = Front plate in L = 2.0 m
492043 = Front plate in L = 3.0 m
493082 = Profile connector for 4440003
493064 = Profile connector for 4440003
493011 = Profile connector for 4440003

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

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

Angle or flashings as frame for e.g. sandwich panel on site

Calculation of panel length:
L in mm = Height H in mm - **73 mm**



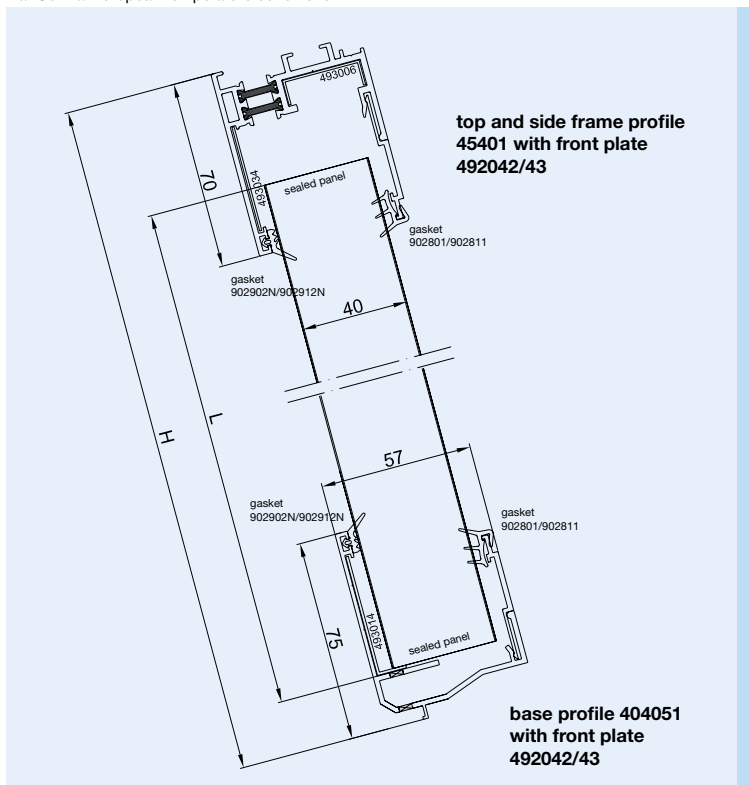
1.2.5.4

Translucent Building Elements

Frame system thermally broken
Top and base framing

Pitched installation >15° up to 6 m panel length*

* at Central European temperature conditions



Top profile 454012
Base profile 404051

Article numbers

454012 = Top and side frame profile
493006 = Profile connector for 454012
493034 = Profile connector for 454012
492042 = Front plate in L = 2.0 m
492043 = Front plate in L = 3.0 m

404051 = Base profile
493014 = Profile connector for 404051
492042 = Front plate in L = 2.0 m
492043 = Front plate in L = 3.0 m

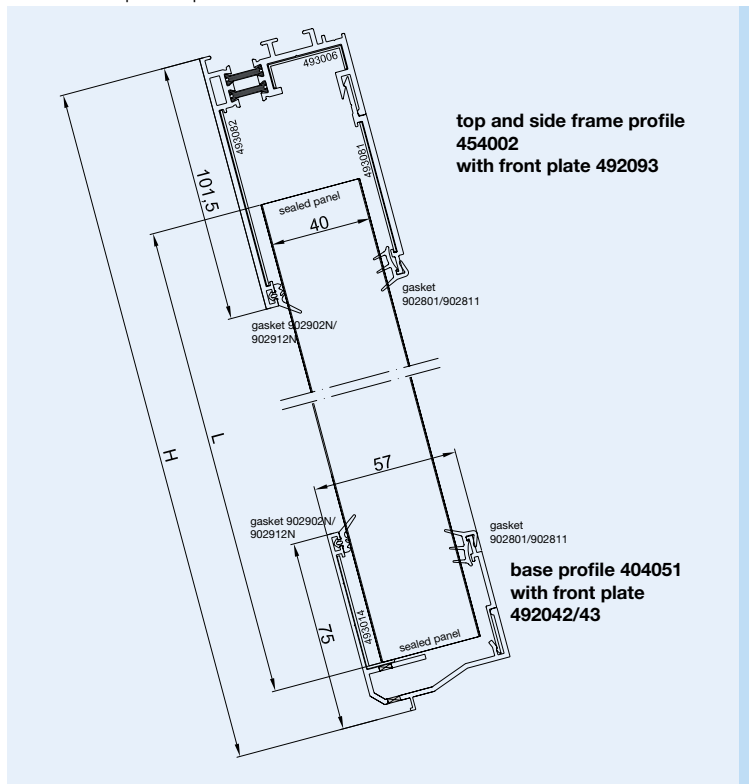
902801 = Outer plug gasket TPE grey
902811 = Outer plug gasket TPE black

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

Calculation of panel length:
L in mm = Height H in mm - 65 mm

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

* at Central European temperature conditions



Top profile 454002
Base profile 404051

Article numbers

454002 = Top and side frame profile
493082 = Profile connector for 454002
493006 = Profile connector for 454002

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

404051 = Base profile
493014 = Profile connector for 404051

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

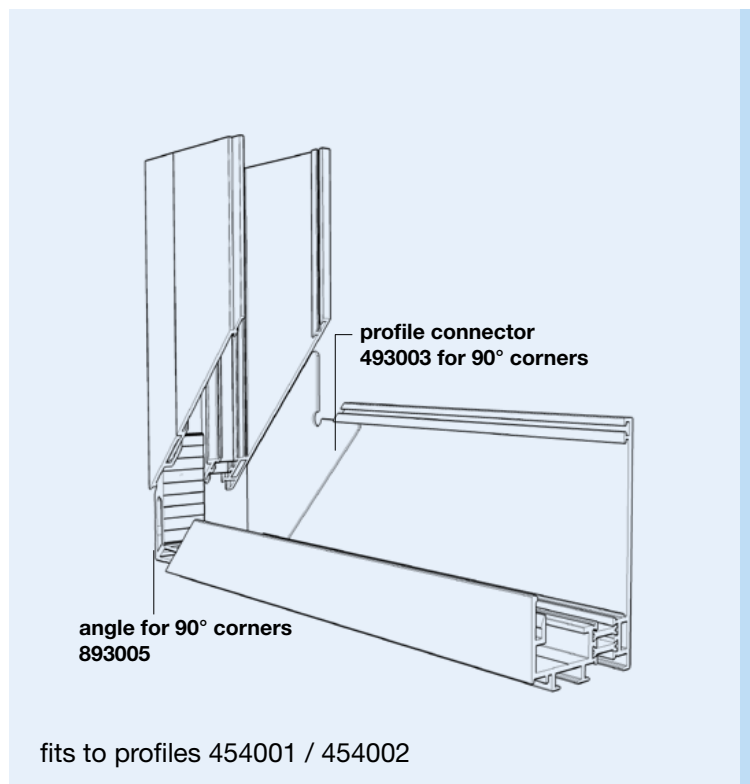
1.2.5.5

Translucent Building Elements

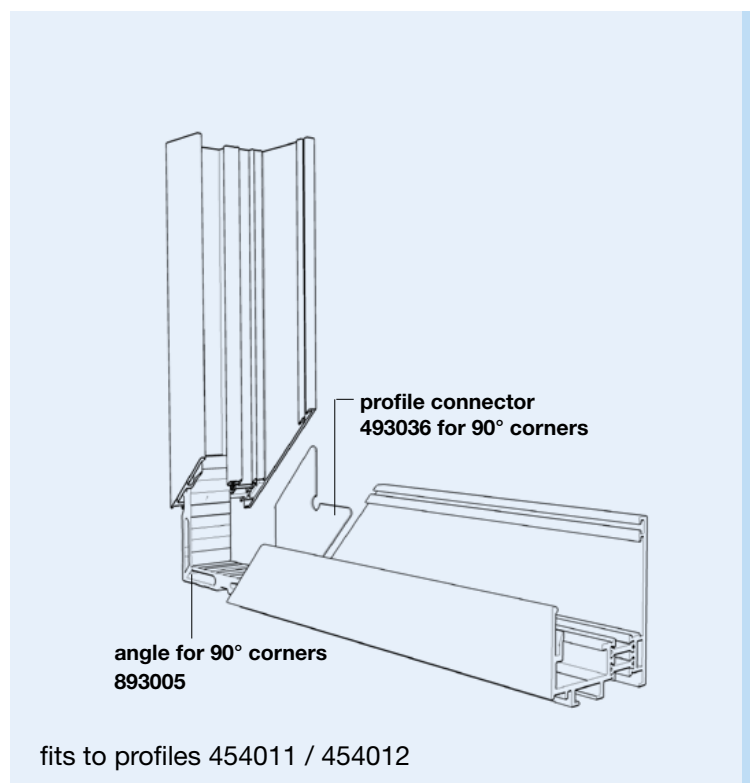
Frame system thermally broken
Corner connection

Stand: 06/19

90° corner connection 454005



90° corner connection 454015



General

90° corner connections of the profiles 454002 and 454012 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

*PU = Packing unit

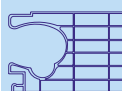
Article numbers

- 454005** = 90° corner connection prefabricated
incl. profile connectors and front plate,
fits to profile 454001 & 454002
- 493003 = profile connector for a 90° corner
of profile 454001/02
- 893005 = angle for a 90° corner of profile
454001/02

- 454015** = 90° corner connection prefabricated
incl. profile connectors and front plate,
fits to profile 454011 & 454012
- 493036 = profile connector for a 90° corner
of profile 454011/12
- 893005 = angle for a 90° corner of profile
454011/12

Versions

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

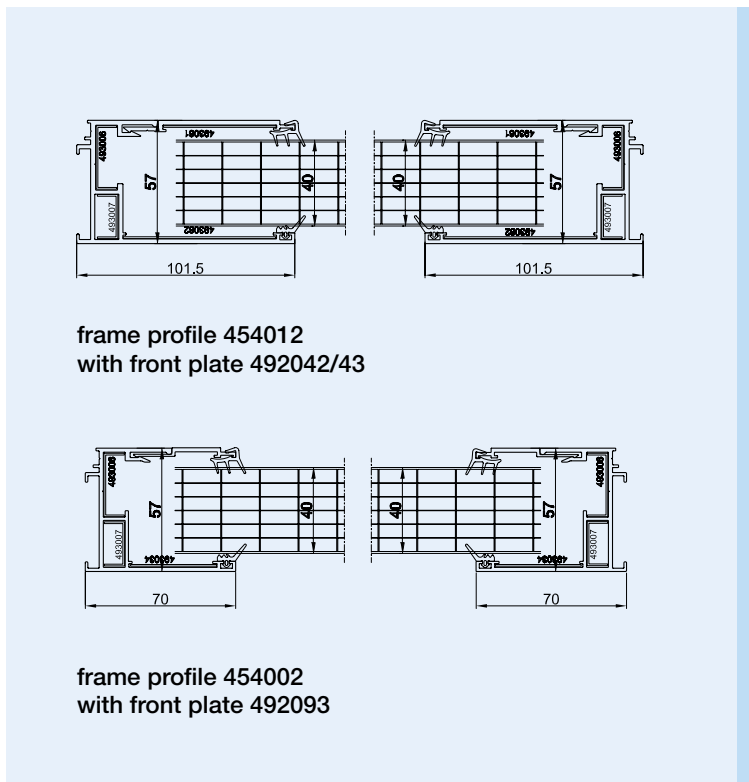


1.2.5.6

Translucent Building Elements

Frame system thermally broken
Lateral framing

Side connection



Side connection with frame profiles

Article numbers

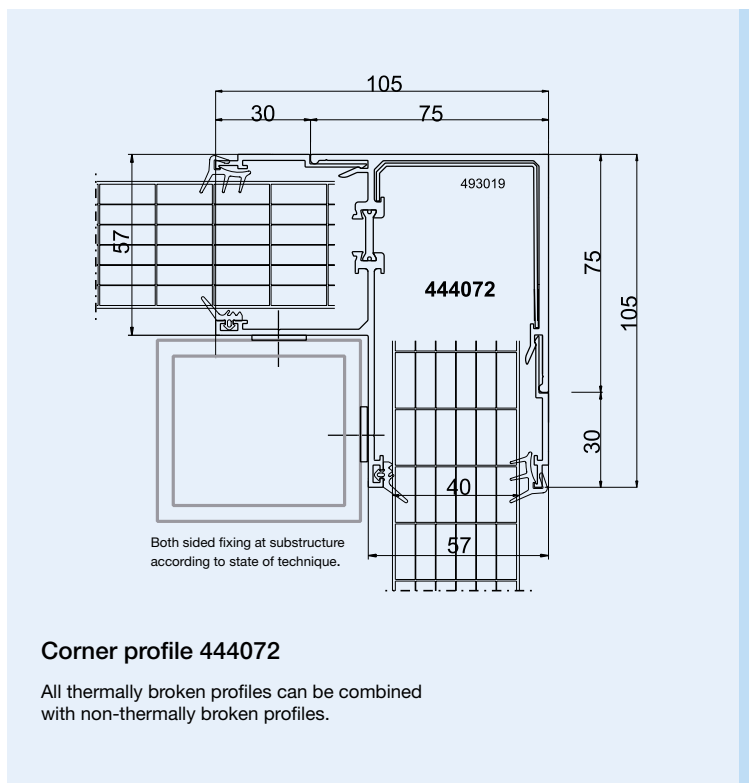
454012 = Top and side frame profile
493006 = Profile connector for 454012
493034 = Profile connector for 454012
492042 = Front plate in L = 2.0 m
492043 = Front plate in L = 3.0 m

454002 = Top and side frame profile
493082 = Profile connector for 454002
493006 = Profile connector for 454002
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



Side connection 90° corner with profile 444072

Article numbers

444072 = Corner profile
493019 = Profile connector for 444072

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

1.2.6.0

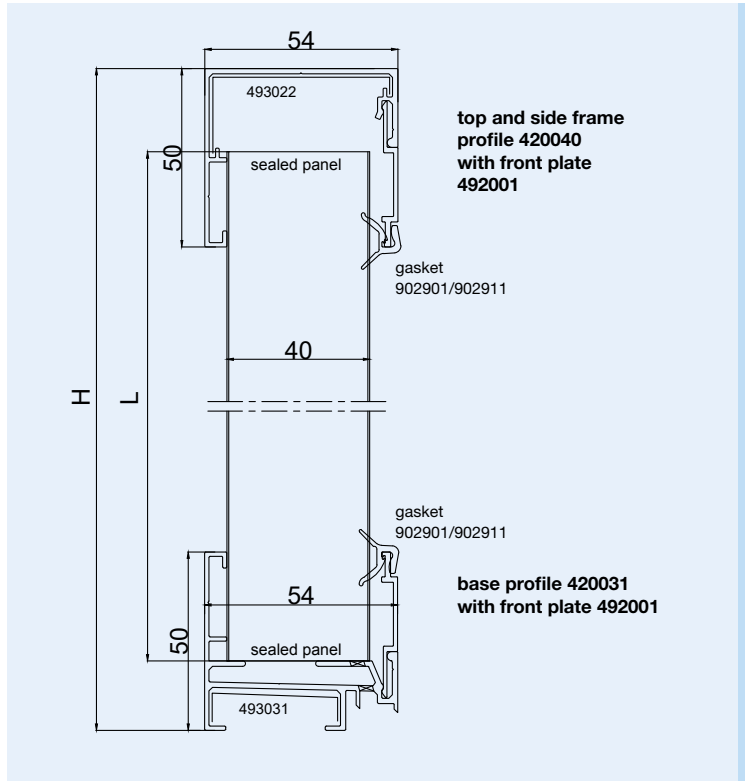
Translucent Building Elements

Frame system Eco non-thermally broken
Top and base framing

Stand: 06/19

Facade 90° up to 6 m panel length*

* at Central European temperature conditions



Top profile 420040
Base profile 420031

Article numbers

420040 = Top and side frame profile
493022 = Profile connector for 420040

492001 = Front plate in L = 3.0 m

420031 = Base profile
493031 = Profile connector for 420031

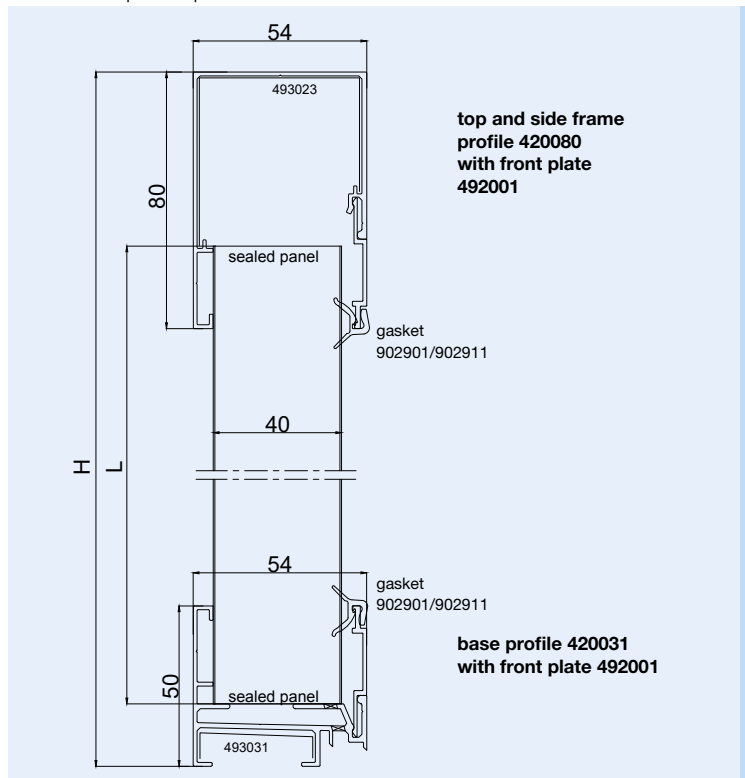
492001 = Front plate in L = 3.0 m

902901 = Outer plug gasket TPE grey
902911 = Outer plug gasket TPE black

Calculation of panel length:
 $L \text{ in mm} = \text{Height } H \text{ in mm} - 40 \text{ mm}$

Facade 90° up to 12 m panel length*

* at Central European temperature conditions



Top profile 420080
Base profile 420031

Article numbers

420080 = Top and side frame profile
493023 = Profile connector for 420080

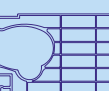
492001 = Front plate in L = 3.0 m

420031 = Base profile
493031 = Profile connector for 420031

492001 = Front plate in L = 3.0 m

902901 = Outer plug gasket TPE grey
902911 = Outer plug gasket TPE black

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



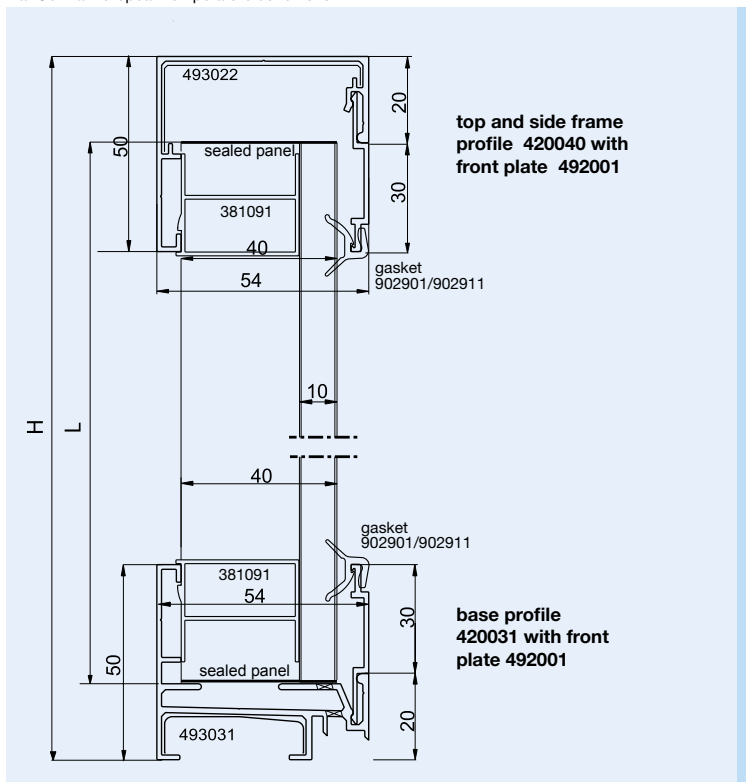
1.2.6.1

Translucent Building Elements

Frame system Eco non-thermally broken
Top and base framing for panel 2410-3

Facade 90° up to 6 m panel length*

* at Central European temperature conditions



Top profile 420040
Base profile 420031

Article numbers

420040 = Top and side frame profile
493022 = Profile connector for 420040

492001 = Front plate in L = 3.0 m

420031 = Base profile
493031 = Profile connector for 420031

492001 = Front plate in L = 3.0 m

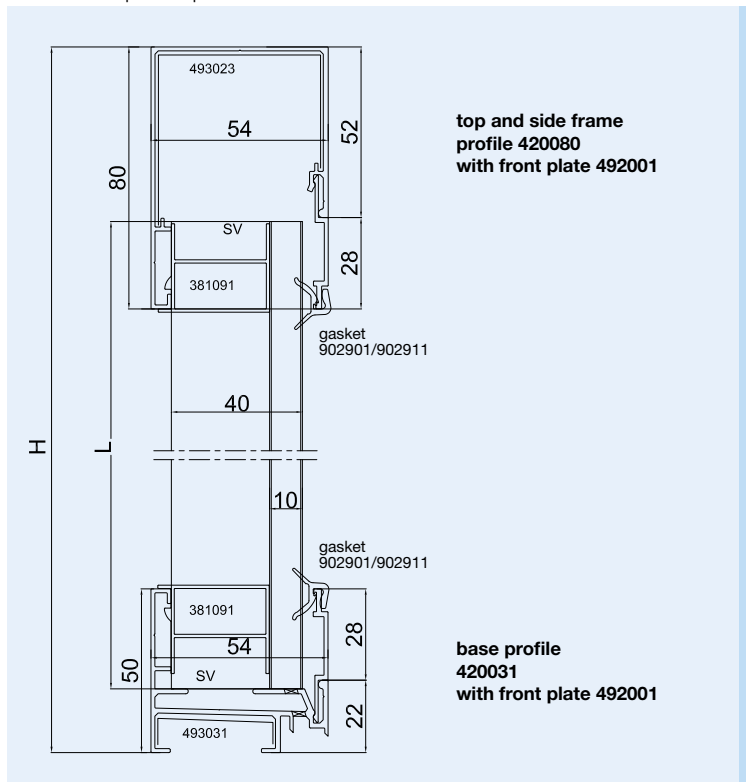
381091 = Polycarbonate front plate in L = 34 cm

902901 = Outer plug gasket TPE grey
902911 = Outer plug gasket TPE black

Calculation of panel length:
L in mm = Height H in mm - **40mm**

Facade 90° up to 12 m panel length*

* at Central European temperature conditions



Top profile 420080
Base profile 420031

Article numbers

420080 = Top and side frame profile
493023 = Profile connector for 420080

492001 = Front plate in L = 3.0 m

420031 = Base profile
493031 = Profile connector for 420031

492001 = Front plate in L = 3.0 m

381091 = Polycarbonate front plate in L = 34 cm

902901 = Outer plug gasket TPE grey
902911 = Outer plug gasket TPE black

Calculation of panel length:
L in mm = Height H in mm - **60mm**

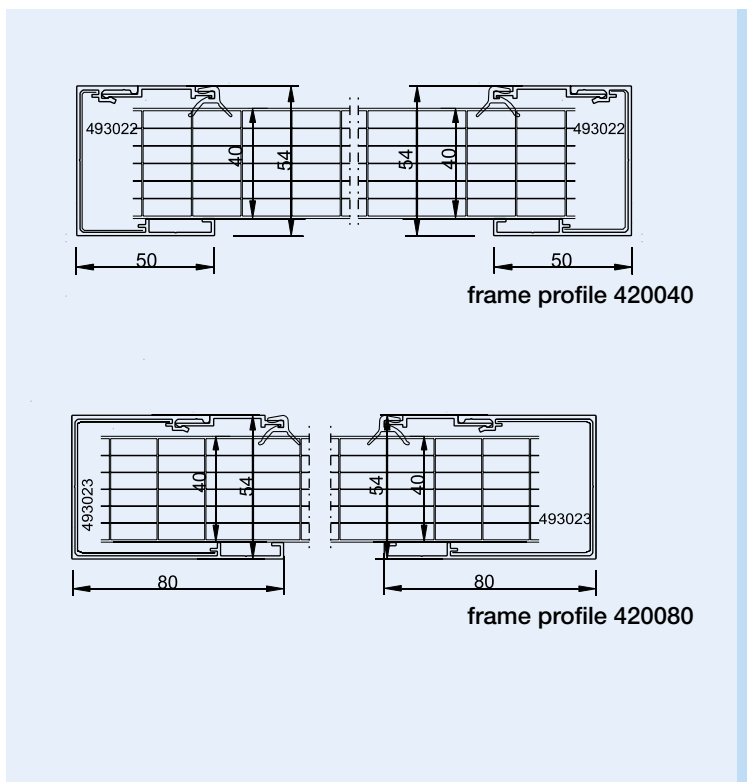
1.2.6.2

Translucent Building Elements

Frame system Eco non-thermally broken
Lateral framing

Stand: 06/19

Side connection



Side connection with frame profiles

Article numbers

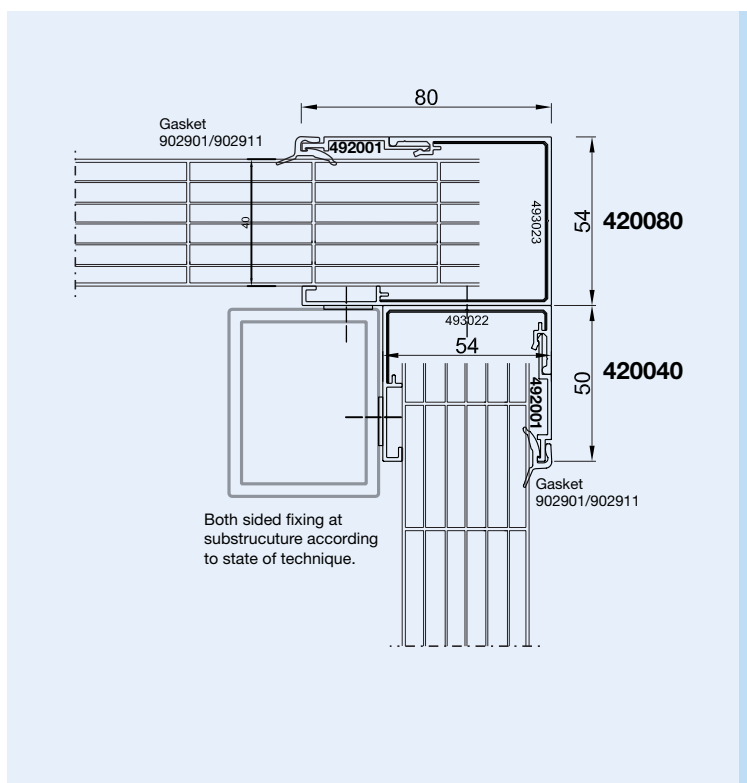
420040 = Top and side frame profile
493022 = Profile connector for 420040

420080 = Top and side frame profile
493023 = Profile connector for 420080

492001 = Front plate in L = 3.0 m

902901 = Outer plug gasket TPE grey
902911 = Outer plug gasket TPE black

Side connection 90° corner



Side connection 90° corner with frame profile 420040 - 420080

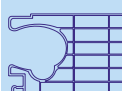
Article numbers

420040 = Top and side frame profile
493022 = Profile connector for 420040

420080 = Top and side frame profile
493023 = Profile connector for 420080

492001 = Front plate in L = 3.0 m

902901 = Outer plug gasket TPE grey
902911 = Outer plug gasket TPE black

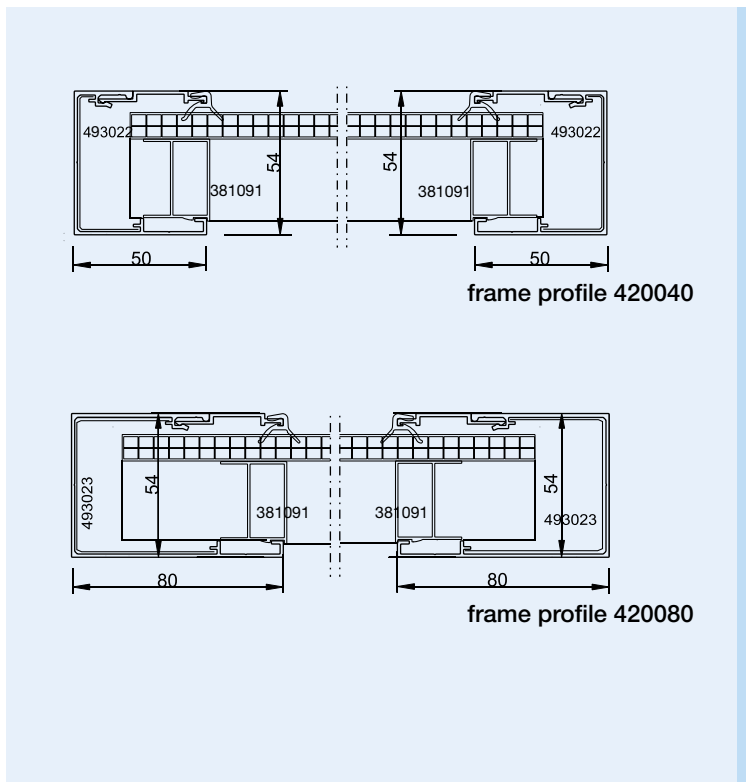


1.2.6.3

Translucent Building Elements

Frame system Eco non-thermally broken
Side connection for panel 2410-3

Side connection



Side connection with frame profiles

Article numbers

420040 = Top and side frame profile
493022 = Profile connector for 420040

420080 = Top and side frame profile
493023 = Profile connector for 420080

492001 = Front plate in L = 3.0 m

381091 = Polycarbonate front plate in L = 34 cm

902901 = Outer plug gasket TPE grey

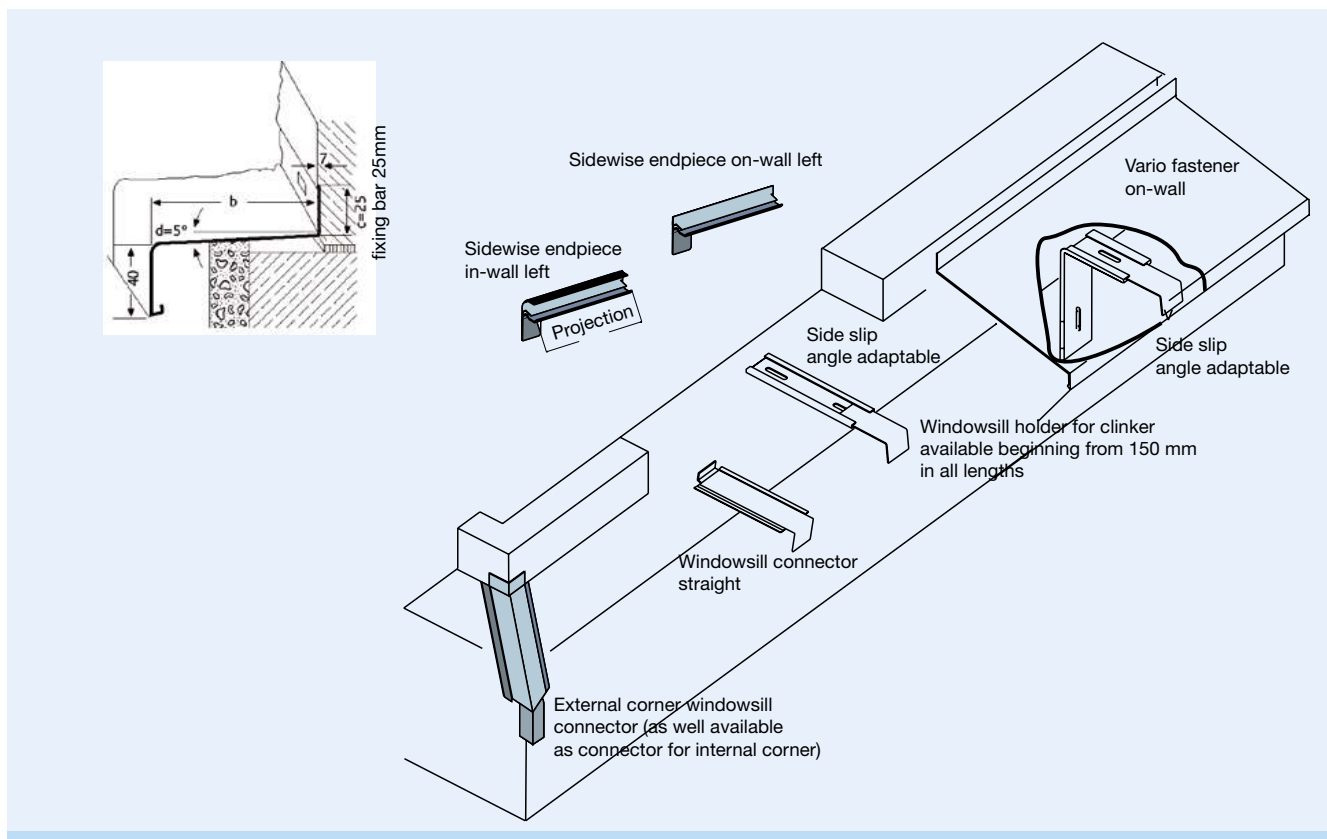
902911 = Outer plug gasket TPE black

1.2.7.0

Translucent Building Elements

Windowsills and accessories

Stand: 06/19



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.

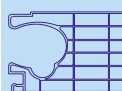
On the predrilled (perforated) side of the windowsill insert the gasket, check the straight and precise seating of the rubber profile and remove the cover strip from the adhesive surface. (This does not apply to assemblies with Rodeca profiles)

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

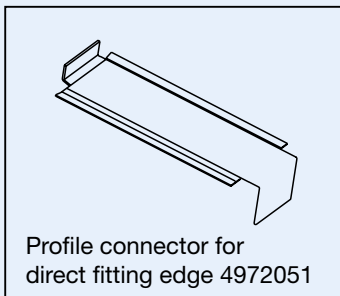
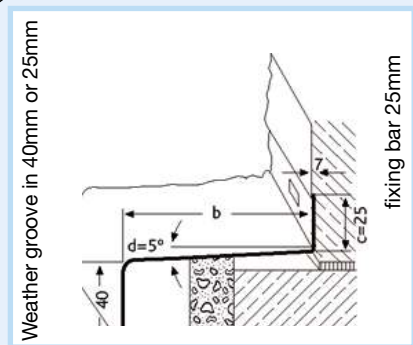
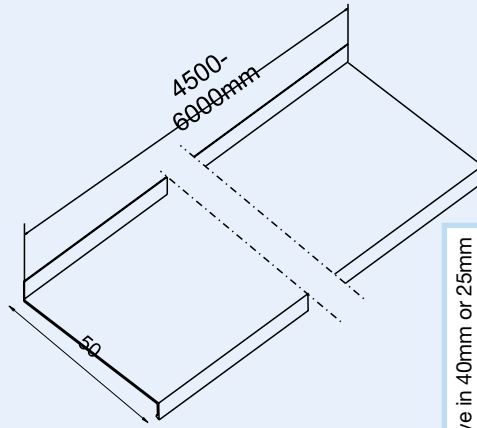
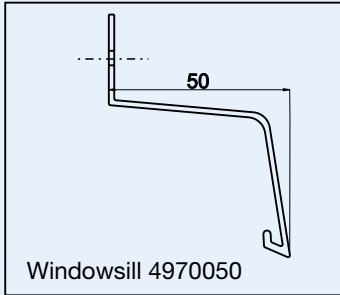


1.2.7.1

Translucent Building Elements

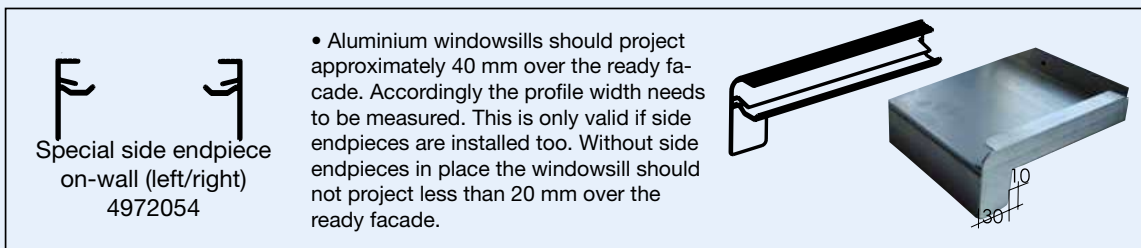
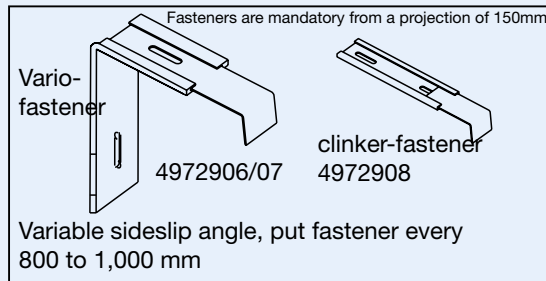
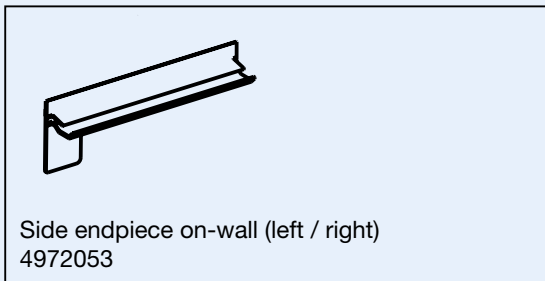
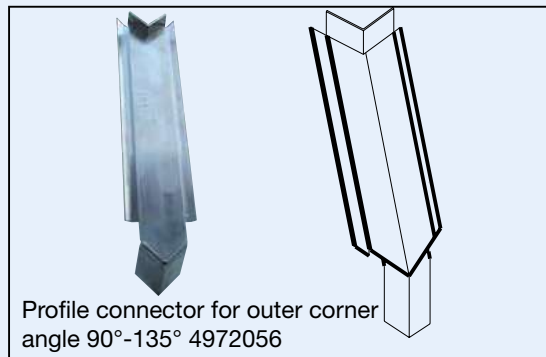
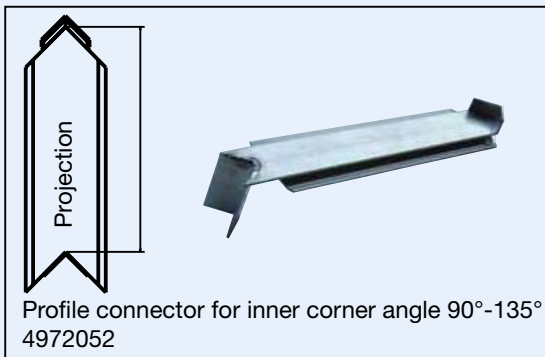
Windowsills and accessories

Example for construction group:



Windowsill projection

Example: article numbers for a 50 mm windowsill projection:



1.2.7.2

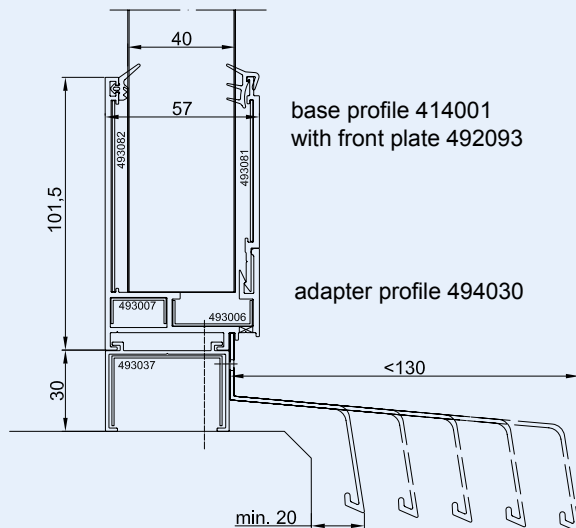
Translucent Building Elements

Windowsills and accessories

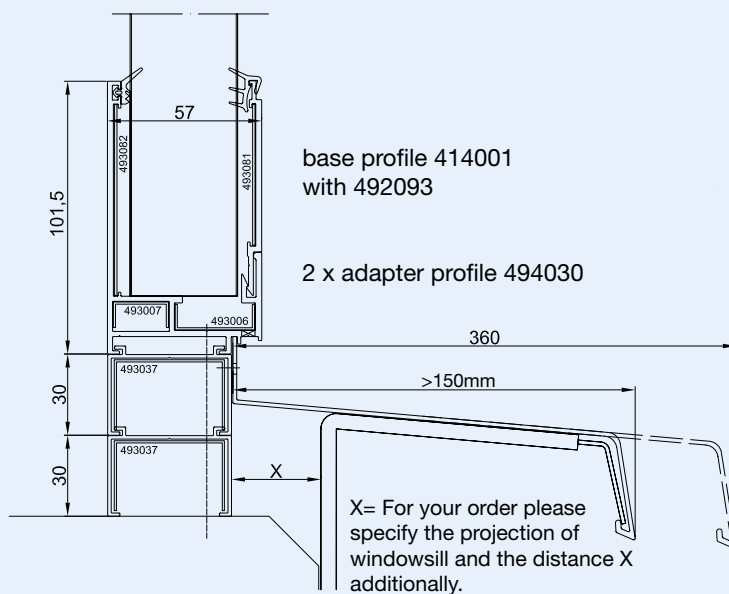
Framing system non-thermally broken

Stand: 06/19

Aluminium windowsills for non-thermally broken frame profiles with adapter profiles



Base profile 414001 (also 414011) with adapter profile 494030 for windowsill projections from 50 mm to 130 mm.



Base profile 414001 (also 414011) with 2 x adapter profile 494030 for windowsill projections from 150 to 360 mm.

General

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

Initial lengths/-units

Aluminium profile	6.00 m
Profile connector	10 cm

Article numbers

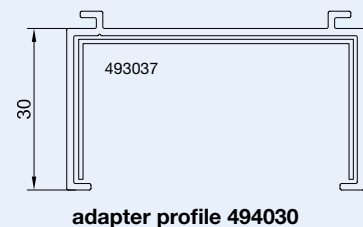
- 4971070 = windowsill 70 mm projection
- 4971110 = windowsill 110 mm projection
- 4971150 = windowsill 150 mm projection

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

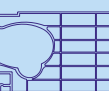
- 494030 = adapter profile for profile 414001 and 414011
- 493037 = Profile connector for 494030

For use with adapter profile 494030 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.



adapter profile 494030

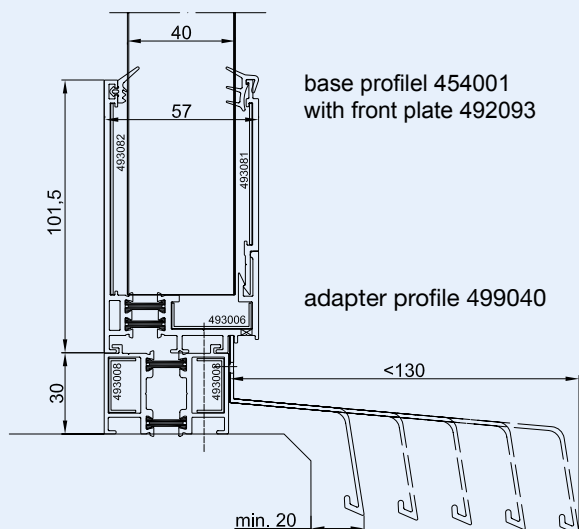


1.2.7.3

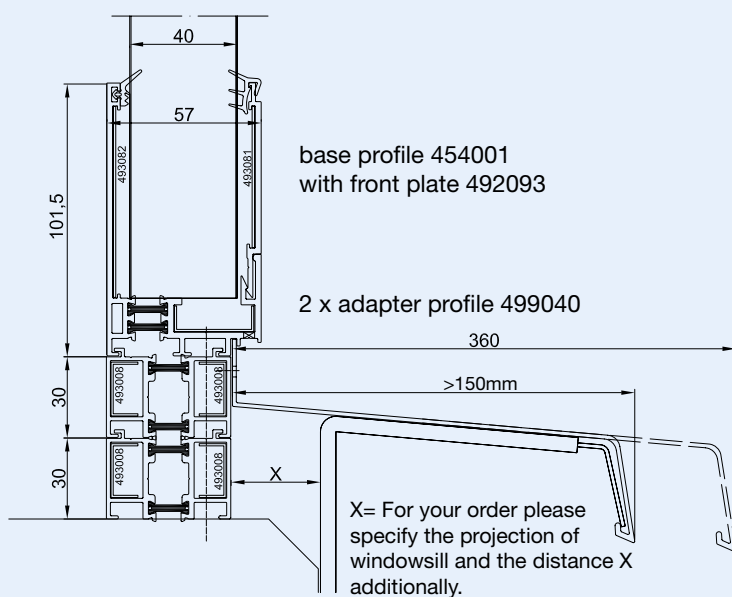
Translucent Building Elements

Windowsills and accessories
 Framing system thermally broken

Aluminium windowsills for thermally broken frame profiles with adapter profiles



Base profile 454001 (also 454011) with adapter profile 499040 for windowsill projections from 50 mm to 130 mm.



Base profile 454001 (also 454011) with 2 x adapter 499040 for windowsill projections from 150 to 360 mm.

General

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

Initial lengths/-units

Aluminium profile	6.00 m
Profile connector	10 cm

Article numbers

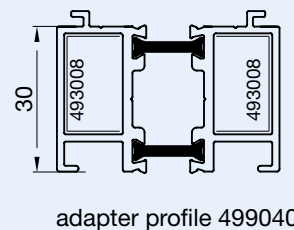
- 4971070 = Windowsill 70 mm projection
- 4971110 = Windowsill 110 mm projection
- 4971150 = Windowsill 150 mm projection

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

- 499040 = Thermally broken adapter profile for 454001/454011
- 493008 = Profile connector for 499040

For use with adapter profile 499040 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.



1.2.7.4

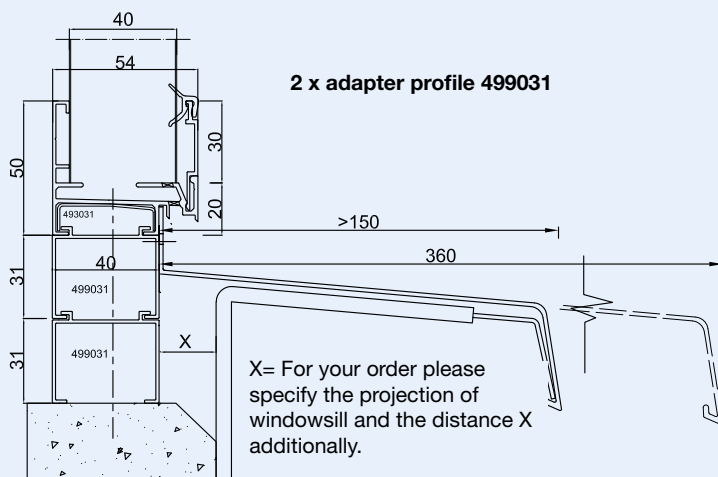
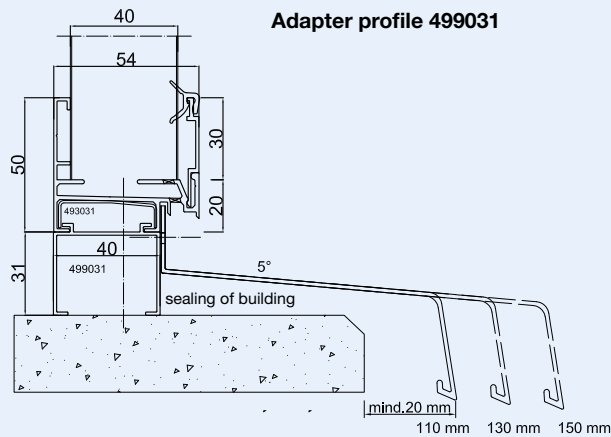
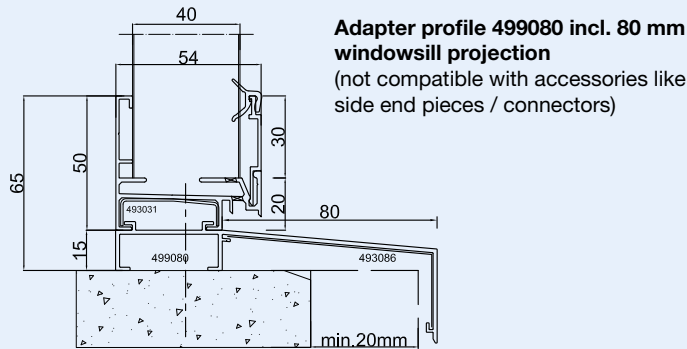
Translucent Building Elements

Windowsills and accessories

Framing system ECO non-thermally broken

Stand: 06/19

Aluminium windowsills for non-thermally broken Eco frame profiles with adapter profiles



General

Compatible to non-thermally broken frame profiles we offer suitable adapter profiles 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

- 499080** = Adapter profile for profile 420031 incl. windowsill with 80 mm projection
- 493086** = Profile connector for 499080

- 499031** = Adapter profile for profile 420031

For use with adapter profile incl. windowsill 499080 the allowance for calculation of panel length must be increased by 15 mm per adapter profile.

For use with adapter profile 499031 the allowance for calculation of panel length must be increased by 31 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.

