Your specialist for translucent building elements

rodeca®
Translucent Building Elements

Technical manual

50

ISOCLEAR 2550-10

Translucent Building Elements made of Polycarbonate for seamless glazings

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

ENERGY EFFICIENCY made in Germany

rodeca®
Translucent Building Elements

General Terms and Conditions

Stand: 07/16

§ 1 General

1.1 The present General Terms and Conditions exclusively apply to corporations, corporate bodies organized under public law or specialized agencies subject to public law in accordance with §310 section 1 BGB (German Civil Code).

1.2 The following Terms and Conditions are exclusively decisive for the Supplier's quotations, deliveries and performances. In current business relationships, the present Terms and Conditions also apply for any contracts concluded in future, even if not expressly agreed upon again.

1.3 Opposite conditions or any conditions deviating from the present Terms and Conditions which are not expressly accepted by the Supplier in writing shall not be valid, even if not expressly objected by the Supplier.

§ 2 Offer, Conclusion of Contract

2.1 The Supplier's quotations are subject to change and not binding. A contract between the Parties shall be concluded by the Supplier's written confirmation of the Customer's order or by sending the goods. Oral subsidiary agreements shall not exist.

2.2 The Supplier reserves the property and copyright of all illustrations, drawings, calculations and other documents transmitted to him within the scope of commencement of contract negotiations. The Customer must have obtained the Supplier's express written approval before passing any material to third parties.

§ 3 Prices

3.1 All prices are net prices ex Supplier's warehouse without packaging, plus fees for delivery and shipment and plus the legally valid Value Added Tax as amended from time to time.

3.2 The prices invoiced are the prices valid at the day of delivery. The Supplier reserves the right to adjust the prices accordingly, if the time between conclusion of the contract and delivery is at least four months and if after conclusion of the contract during the production processes the polymer price index of Kunststoff Information Verlagsgesellschaft mbH in Bad Homburg increases or decreases. The polymer price index is available at www.kiweb.de. The cost increases are proved to the customer upon request. If the adjusted price is 10 % higher than at the time of conclusion of the contract, the customer shall be entitled to withdraw from the contract within 14 days after notice of the price increase with regard to the products not yet received. If several partial deliveries are agreed upon, the Customer shall be entitled to withdraw if the prices for partial deliveries are increased by more than 10 % within one year, starting at the conclusion of the contract. Any taxes, custom fees, fees or other expenses created or increased due to legal or authority measures which directly or indirectly affect his deliveries or performances are on the Customer's account.

§ 4 Times of Delivery, Force Majeure

4.1 Times or periods of delivery that may be agreed upon bindingly or non-bindingly have to be made in writing. The time of delivery starts with the conclusion of the contract, however, not before the Customer provided any documents, approvals and securities to be provided by him and not before any down-payments previously agreed upon were made. If a time of delivery has been agreed upon, it shall be delayed by an appropriate period, if the Customer does not provide the documents, approvals and securities to be provided by him in due time and if he does not make any stipulated down-payments in due time.

4.2 According to legal provisions, the Supplier is liable for damage due to delays in performance by the Supplier or his representative or vicarious agents. However, the Supplier's liability for delay is limited to foreseeable losses that are typical for this type of contract.

4.3 Correct and punctual delivery of required materials reserved. The Supplier obliges to immediately inform the Customer about the non-availability of the object to be delivered and in case of withdrawal to immediately refund the relevant consideration to the customer.

4.4 Inevitable, unforeseeable, exceptional events which the Supplier is not responsible for, such as war, official directions, strike, lockouts, holdups, transport problems or other cases of Force Majeure, even of subcontractors, coming into existence after conclusion of contract only or which the Supplier is informed about after conclusion of contract only, suspend the Supplier's contractual obligations for the duration of the problem and with regard to the extension of their effect. If any delays resulting thereof exceed a six week period, both contract partners shall be entitled to withdraw from the contract. The Supplier shall immediately inform the Customer about the nonavailability of the performance and reimburse any payments which may already have been made by the Customer. Other requirements do not exist.

4.5 The Supplier shall be entitled to effect partial deliveries provided that they are reasonable with regard to the circumstances of the individual cases. Independent of the overall delivery, invoices for partial deliveries have to be paid.

4.6 If the delivery of a contractual product ready for dispatch is postponed upon the Customer's request by more than one month, or if shipment or acceptance is delayed for reasons which the Customer is responsible for, the Supplier shall be entitled to invoice to the Customer an all in storage fee in the amount of 2 % of the price of the object to be supplied for every month started. The Customer is entitled to proof that the Supplier does not have any loss or a much lower loss. An extended liability in accordance with § 287 BGB (German Civil Code) shall be excluded.

§ 5 Transport

Unless otherwise agreed upon, transport has to be paid by the Customer. Upon the Supplier's request, the Customer shall directly pay or refund the transport costs. The Customer's conditions of shipment are binding for the Supplier only, if the latter confirms them in writing. The Supplier shall conclude any transport insurances on the Customer's account and upon the Customer's explicit request.

§ 6 Passing of Risk

The risk of accidental perishing or of accidental deterioration of the goods passes to the Customer as soon as the goods were transferred to the person carrying out the transport or as soon as the goods left the Supplier's distributing warehouse. If shipment becomes impossible without the Supplier's fault, the risk passes to the Customer as soon as the information is given that the goods are ready for dispatch.

§ 7 Warranty and Liability

7.1 The Customer's warranty rights imply that the Customer meets his obligations to examine and to complain in accordance with § 377 HGB (German Commercial Code). The Customer has to check the goods delivered immediately for defects with regard to quality, quantity, completeness and purpose of use and he has to complain immediately about any defects detected. Otherwise, the goods are considered as being approved. Any complaints are taken into consideration only, if they are made in writing immediately after receipt of the goods or – in case of hidden defects, as soon as these are detected. The notice period shall be deemed observed if the letter of cancellation is sent in due time.

7.2 The Customer's warranty rights shall become time-barred within one year from date of shipment of the goods, unless longer delays are bindingly prescribed by the law, in particular in case of goods which were used in accordance with their usual application for any kind of construction work having thus caused their defectiveness.

7.3 As far as the goods' quality is concerned, the Supplier's product description is basically considered as agreed upon. The product description which is currently valid in accordance with continuous technical further development and improvement of the products as well as the product quality are indicated at www.rodeca.de. The valid version of such product descriptions and product qualities at the time of the conclusion of the contract shall become an integral part of the contract. Public statements of the Supplier's assistant or third parties (such as public explanations of product properties) do not include any descriptions supplementing or amending such product descriptions.

7.4 If the product supplied does not have the quality defined by and between the Customer and the Supplier in the confirmation of order, the supplier is obliged to supplementary performances. This does not apply, if the Supplier is entitled to refuse supplementary performances according to legal regulations.

7.5 In any case, the Supplier is entitled to select between the elimination of the defects and the delivery of new products. If the supplementary performance fails, the Customer shall be entitled to minimize the loss or to cancel the contract at his own option. The application of § 478 section 1 BGB (German Civil Code) (Right of Recourse) remains untouched. The Customer's right to claim damages instead of supplementary performance in accordance with legal regulations and the present conditions remains untouched.

7.6 If the Customer wants to claim damage instead of performances or if he wants to remedy the defects himself, a failure of the remedy is given only after the second try without success, unless something else results from the type of the matter or the defect or other circumstances. For the rest, the legal cases of dispensability of setting a deadline remain untouched.

7.7 In case of justified claims, the goods can only be returned to the Supplier on the Supplier's account, if after information of the defect the Supplier does not offer to pick up or to dispose of the goods. If higher expenses accrue because the customer had the goods transported after delivery to a location different than that of his business premises, the Supplier shall charge the increased expenses for supplementary performance to the Customer, unless the transport is in accordance with the intended use of the matter.

7.8 Any Customer claims against the Supplier resulting from one of the manufacturer guarantees granted to him remain untouched.

7.9 Performances that are not part of the warranty shall be charged at the current hourly rates (at present € 100.00/hour), as well as at € 0.55/kilometer plus legally valid Value Added Tax. This also applies to trips carried out in vain within the scope of supplementary performance measures, if the Customer is not present in spite of an appointment.

§ 8 Liability, Limitation of Liability

8.1 Notwithstanding any previous regulations and the subsequent limitations of liability, the Supplier shall be liable without limitation for any damages of life, body and health resulting from a negligent or intended violation of the Supplier's obligations, as well as for damages, subject to liability in accordance with the Product Liability Act, and for all damages resulting from intended or gross negligent violations of the contract or the Supplier's malice. If the Supplier has given a guarantee of quality and/or durability for the goods or any parts thereof, the Supplier shall also be liable within the scope of this guarantee. For any damages due to a lack of the guaranteed quality or durability which however are not detected directly at the goods themselves, the Supplier shall only be liable if the risk of such a damage is evidently subject to the quality or durability guarantee. The liability is limited to foreseeable damages typical for the contract. The limitations of liability shall also apply if the liability for legal representatives, executive employees and other vicarious agents of the supplier is concerned.

8.2 The Supplier shall also be liable for any damages resulting from simple negligence, if said negligence regards the violation of essential contract obligations. Essential contractual obligations are any obligations the fulfillment of which make the appropriate contract execution possible after all and the fulfillment of which can be regularly trusted by the contract partner. However, the Supplier shall only be liable if the damages are connected to the contract in a typical manner and if they are foreseeable. In case of simple negligent violation of obligations that are not essential, the Supplier shall not be liable. These limitations of liability shall also be valid, if the liability for legal representatives, executive employees and other vicarious agents of the Supplier is concerned.

§ 9 Retention of Title

9.1 The sold goods remain the Supplier's property until full payment of all the Supplier's claims resulting from the business relationship with the Customer. This also applies to any future deliveries, even if not always expressly mentioned by the Supplier.

9.2 The Customer is obliged to treat the bought goods with utmost care as long as the transfer of ownership has not yet taken place. As long as the ownership has not yet been transferred onto him, the Customer has to inform the Supplier immediately if the supplied object is seized or otherwise exposed to third party's actions.

9.3 If the Supplier's (co-) ownership seizes to exist due to connection, it is agreed upon already now that the Customer's (co-) ownership of the jointly owned property is passed proportionally to the value of the invoice onto the Supplier. The Customer keeps the jointly owned property for free. To protect the Supplier's claims towards the Customer, the Customer even assigns such claims to the Supplier resulting for him from the connection of the retained goods with a real estate property of a third party; the Supplier accepts such assignment of a claim already now.

9.4 The Customer shall be entitled to further sell goods subject to retention of title within normal business transactions. The claims against third parties resulting from selling the goods – in case of a current account agreed with them, it is the relevant balance claims – are assigned by the Customer already now in the total amount and/or the amount of a possible co-ownership share (see section 9.3) to the Supplier for safety purposes. The Customer is entitled to collect them until cancellation or discontinuation of the payments to the Supplier. The Customer is entitled to assign such claims – even for the purpose of collecting the outstanding payments within the scope of factoring – only in case of the Suppliers written consent.

9.5 If the realizable value of all security interests the Supplier is entitled to exceeds the amount of all secured claims by more than 20%, the Supplier shall be obliged to release securities upon the Customer's request. The Supplier is entitled to select the security interests to be released.

9.6 Due to the reservation of title, the Supplier is entitled to take back goods even if he did not cancel the contract. Taking back the goods while exerting the reservation of title is not considered as cancellation of the contract. The Customer grants the Supplier and/or any persons authorized by the latter access to the location of the goods.

9.7 If the legislation the sold goods are subject to does not permit any reservation of title, but allows the Supplier to reserve similar rights at the object delivered, the Customer is obliged to make available to the Supplier a different, adequate security. The Customer is obliged to cooperate with regard to meeting any formal requirements that might be involved in this matter.

§ 10 Payment

10.1 Unless otherwise agreed upon, the purchase price is due immediately at receipt of goods and invoice without any deduction. The date of payment is the day the money is available to the Supplier.

10.2 The Supplier accepts any orders under the explicit restriction that the extent of the order does not exceed the credit limit granted to the Buyer by the Supplier's credit insurer, taking into consideration any unsettled amounts of invoices in favor of the Supplier.

10.3 Drafts and checks are accepted as payment only and exclusively if explicitly agreed upon. The Buyer shall pay any extra costs accruing in this connection.

10.4 In spite of the Customer's different regulations on repayment, any payments made by the Customer are first deducted from the Customer's oldest debt. If costs and interests have already accrued, the payments received will first be deducted from the costs, then from the interests and finally from the key debts.

10.5 In case of a delay in payment by the Customer, the Supplier shall be entitled to invoice default interests in the amount of eight percentage points above the basic interest rate (§ 247 BGB (German Civil Code)). Subject to reserve to enforcement of a higher damage for delay. If the Supplier claims a higher damage for delay, the Customer has the right to prove that the damage for delay claimed did not accrue as such or at a lesser amount.

10.6 In case of a delay of a Customer's payment to the Supplier or any company associated with it and of well-founded doubts with regard to the Customer's ability to pay and/or creditworthiness, the Supplier shall be entitled to demand securities or down-payments for outstanding deliveries and to immediately make payable any claims from the business relationship.

10.7 The Customer shall be entitled to count up and exert any rights of reserve if his counterclaim is based on the same contractual relationship. As far as counterclaims from other contractual relationships are concerned, the Customer shall be entitled to count up only if his counterclaims are undisputed and established as final and absolute.

§ 11 Miscellaneous Provisions

11.1 The legislation of the Federal Republic of Germany shall be valid exclusively. The United Nations Convention on Contracts for the International Sale of Goods as of 11.04.1980 shall be excluded.

11.2 Place of fulfillment is the relevant point of departure of the goods; for payment, it is Muelheim an der Ruhr.

11.3 If the Customer is a merchant, a corporate party organized under public law or a specialized agency subject to public law or if he does not have a general place of jurisdiction in Germany, the place of jurisdiction is Muehlheim an der Ruhr. However, the Supplier shall be entitled to file suit at the Customer's general place of jurisdiction.

11.4 The Supplier reserves the right to amend these General Terms and Conditions at any time. The amended General Terms and Conditions are then considered as being agreed upon between the two Parties, if the Customer does not object to these amended General Terms and Conditions within six weeks after their receipt. However, this shall apply only if the Supplier was informed about the consequences of a failure to protest.

11.5 If any provision of the present General Terms and Conditions or any provision within the scope of other agreements should be or become ineffective or impracticable, the effectiveness of any other provisions or agreements shall not be touched by this. Any inefficient or impracticable provision or agreement shall be replaced by an effective and/or practicable provision or agreement corresponding as closely as possible to the first economic purpose of this Agreement.

Rodeca GmbH (Version: 03.2014)

Content

Stand: 07/16

Product range

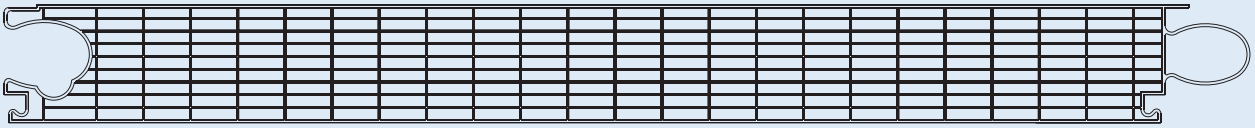
Translucent Building Elements

Standard and Design Series

Stand: 07/16

Standard - crystal and opal antiblind

PC 2550-10 ISOCLEAR Up-Value 0.80 - 0.92 W/m²K**

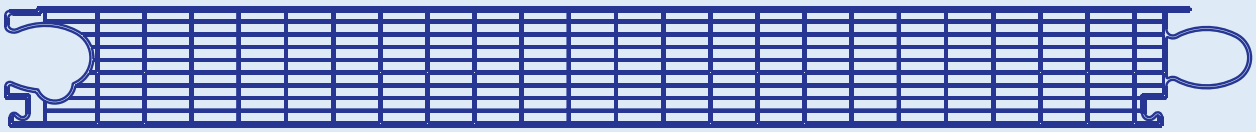


General German Building Approval Z-10.1-466

Building width 495 mm*

Design Series - Color

PC 2550-10 ISOCLEAR Up-Value 0.80 - 0.92 W/m²K**

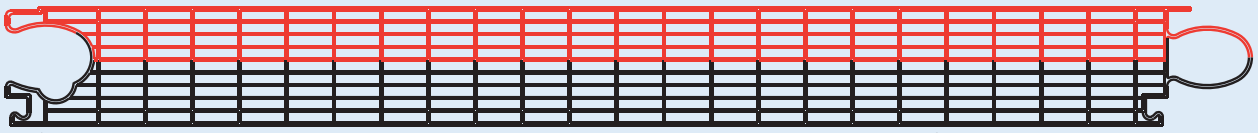


Minimum quantity of 300 m²
General German Building Approval Z-10.1-466

Building width 495 mm*

Design Series - Duocolor

PC 2550-10 ISOCLEAR Up-Value 0.80 - 0.92 W/m²K**



Minimum quantity of 300 m²
General German Building Approval Z-10.1-466

Building width 495 mm*

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

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

The aforesaid information and our application technological advice in words, written and through tries, are carried out to best of one's knowledge. Technical changes reserved.

General information

on translucent building elements of Polycarbonate

Stand: 07/16

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)
The G-values are related to light transmission and U-value. G-values can differ from product specification to product specification from 0.68 down to 0.25!

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: 07/16

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-ANTIBLEND** with light refractive and light transmitting pigments for an optimized diffused and antiglare light.
- **COLOR** Series - transparent or semitransparent COLOURS, similar to RAL from approx. 300 m^2 on request
- **BICOLOR** Series - two coloured finish, inner wall coloured, similar to RAL from approx. 150 m^2 on request
- **DUOCOLOR** - two coloured finish of translucent building elements custom made in transparent or semitransparent COLOURS similar to RAL from approx. 300 m^2 on request
- **DECOCOLOR** - two coloured finish, outer wall coloured, similar to RAL from approx. 150 m^2 on request

Qualities
Depending on application area and demand RODECA produces different qualities.
- **LONGLIFE** quality for one sided UV protection. The terms can be extracted from our 10 years warranty declaration for LBE, MFP and U-Panels “longlife”
- **LONGLIFE 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

Stand: 07/16

Meltable 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:
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: 07/16

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 elsewise 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 singularily. 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.

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.

Tolerances
Panels
Length + 12 mm (up to 3 m) / +0,40% of panel length (above panel length of 3 m)
Thickness ± 0,5 mm
Width -2 mm / +6 mm
Weight - 5 %
Concavity length ± 5 mm per linear meter of panel length
Concavity width ± 5 mm per linear meter of panel width
Rectangularity < 5 mm per linear meter of panel length

All tolerances are based on room temperature of approx. 20 °C
Variations in colour saturation and shade between several production batches cannot be precluded (production-related). Variations are always possible and will not be accepted as reason for complaint.

General information

on translucent building elements of Polycarbonate

Stand: 07/16

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.

rodeca®
Translucent Building Elements

1.1.1.1

Translucent Building Elements

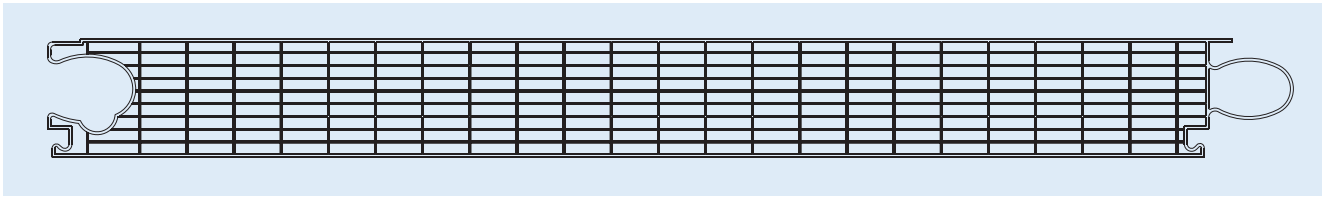
Product properties - Physical properties

Stand: 07/16

Up-Value from 0.80 W/m²K to 0.92 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

ENERGY EFFICIENCY made in Germany



Flammability classification:

PC 255-10 ISOCLEAR	fire class B-s1, d0 according to EN 13501

Building width:	495 mm -2/+6 mm
Thickness:	50 mm +/- 0.5 mm
Weight:	approx. 5.0 kg/m²
Number of layers:	10 layers / 9 chambers
Modulus of elasticity:	2,400 N/mm²
Coefficient of linear expansion:	0.065 mm/m/°C
UV admission:	< 1 %, wavelength until 380 nm stopped almost a 100 %
Production tolerances:	s. General information

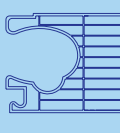
Versions:

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

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

Duocolor: Two coloured version of the panels combinable with HEATBLOC

The DUOCOLOR version can be delivered with a minimum quantity of 300 m² without seperate surcharges for colour change.



1.1.1.2

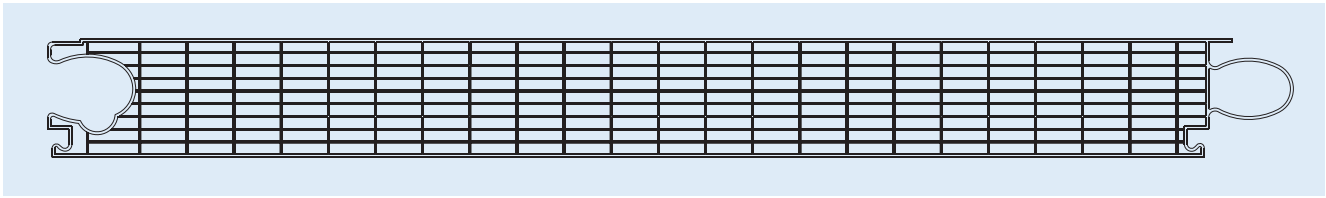
Translucent Building Elements

Product properties - Physical properties

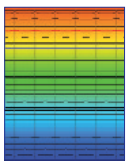
Stand: 07/16

Up-Value from 0.80 W/m²K to 0.92 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



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



Isotherms:

Red: 13°C
Blue: 10°C
Black: 0°C

Installation situation interior:
Up-Value 0.80 W/m²K vertical
Up-Value 0.84 W/m²K horizontal

Installation situation exterior:
Up-Value 0.90 W/m²K vertical
Up-Value 0.92 W/m²K horizontal

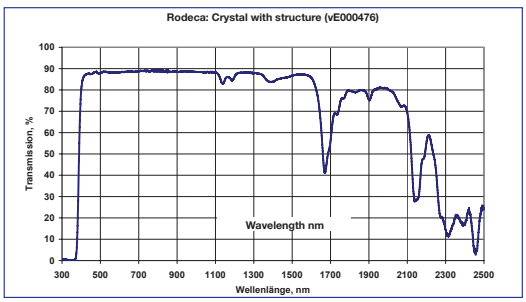
The German building approval foresees the calculation of facade and roof areas according to the requirements of DIN 10077-2 (U_{cw}). If additional or divergent national requirements be asked to calculate the thermal protection, these must be respected.

Sound insulation:

Rw 27 dB according to DIN EN ISO 140-3 in testing facility

Transmission:

Standard:	Colour: crystal	approx. 44 %
	Colour: opal antiblind	approx. 36 %
Color:	Depending on colour e. g.	
	Colour: petrol (~ RAL 6027)	approx. 36 %
Duocolor:	Depending on colour combination and level of opalization For example colour combination:	
	Crystal/opal 037	approx. 41 %
	Heatbloc S / crystal	approx. 25 %
	Heatbloc S / opal 067	approx. 20 %



(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.)

rodeca®
Translucent Building Elements

1.1.1.3

Translucent Building Elements

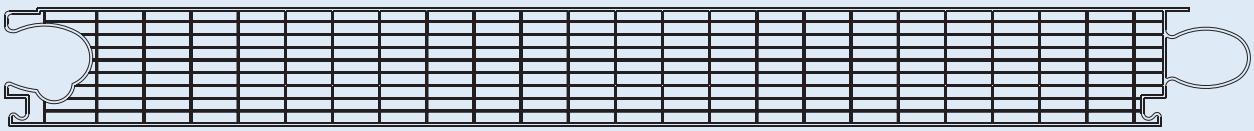
Product properties - Physical properties

Stand: 07/16

Up-Value from 0.80 W/m²K to 0.92 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

ENERGY EFFICIENCY made in Germany



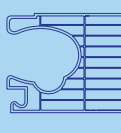
Solar gain values g

Standard:	Colour: crystal	approx. 50 %
	Colour: opal antiblind	approx. 41 %
Color:	Depending on colour e .g. colour: petrol (≈ RAL 6027)	approx. 45 %
Duocolor:	Depending on colour combination and level of opalization For example colour combination	
	Crystal/opal 037	approx. 46 %
	Heatbloc S / crystal	approx. 25 %
	Heatbloc S / opal 067	approx. 26 %

The General German building approval Z-10.1-466 is available. All following specification about the structural safety are based upon the component testings which were made in the context of the approval procedure. Flammability classifications don't have any influence of the structural safety aspects.

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

PC 2550-10	For single field constructions
PC 2550-10 AF 60	For two or multi field constructions with aluminium flat frame fastener in length 60 mm
PC 2550-10 AF 120	For two or multi field constructions with aluminium flat frame fastener in length 120 mm



1.1.1.4

Translucent Building Elements

Product version Duocolor

Stand: 07/16

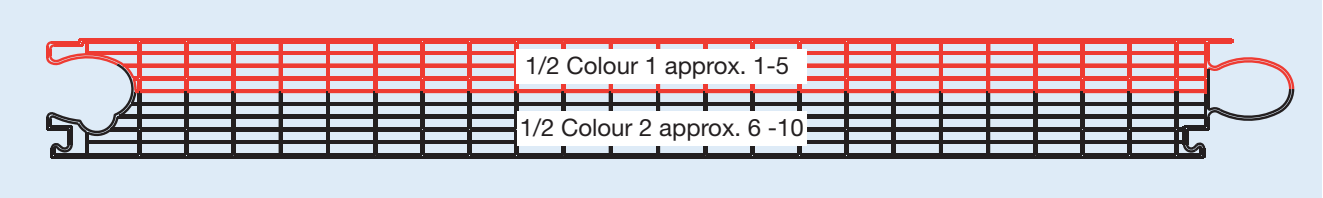
Duocolor means:

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

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

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

Example:
The version Duocolor crystal/RAL 5002 means:
Approx. Layers 1-5 in colour crystal
Approx. Layers 6-10 in colour RAL 5002



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

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

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

Ordering information:

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

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

1.1.2.0

Translucent Building Elements

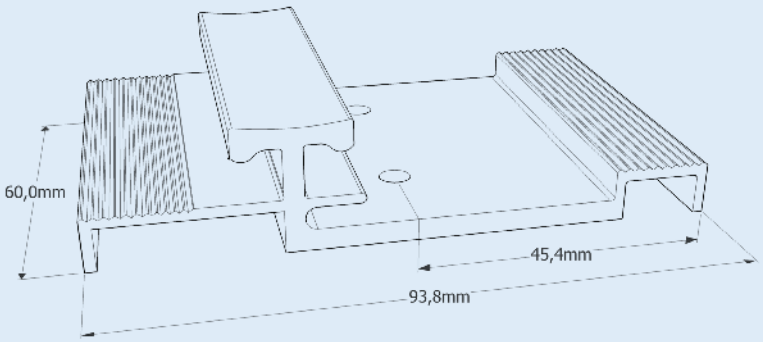
System PC 2550-10 AF 60 | System PC 2550-10 AF 120
Fastener

Stand: 07/16

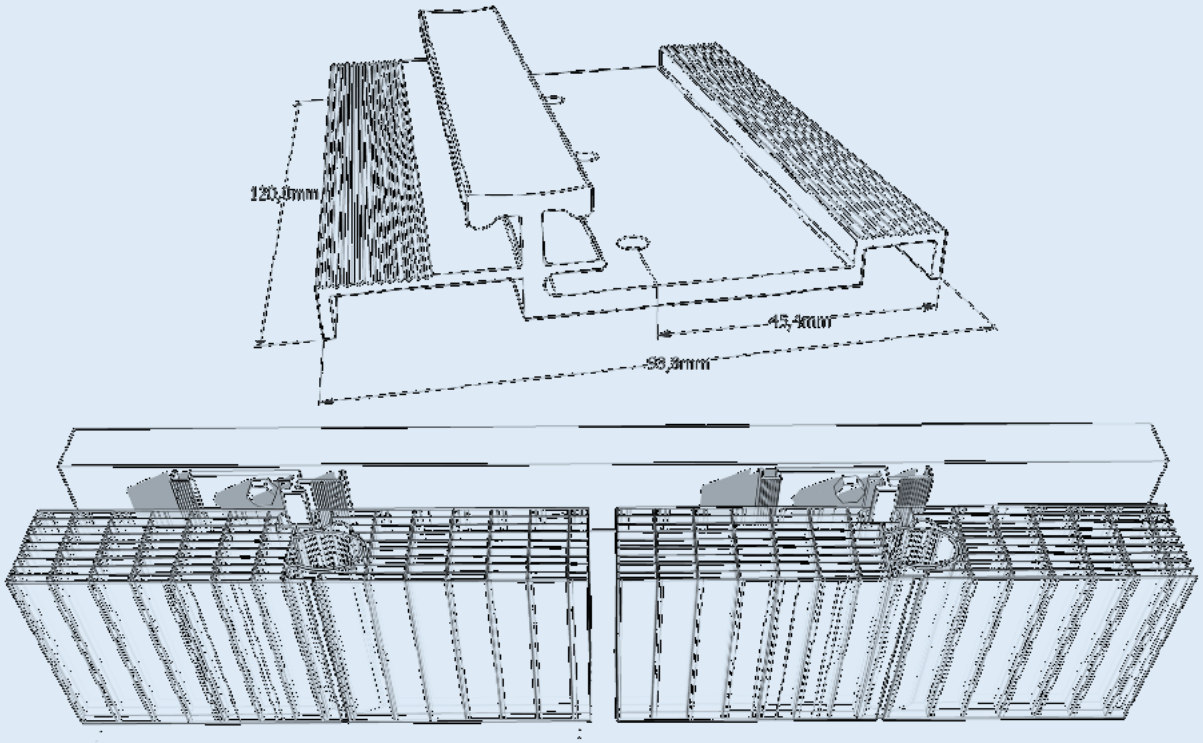
General

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-10.1-466 documented. We recommend to fix the flat aluminium fasteners with stainless steel screws without sealing discs.The fixing materials need to be chosen in type and finish adequately to substructure. The height of substructure should be not smaller than the height of the fastener.

Article no.: 49405060



Article no.: 494050120



1.1.2.1

Translucent Building Elements

Span width | System PC 2550-10

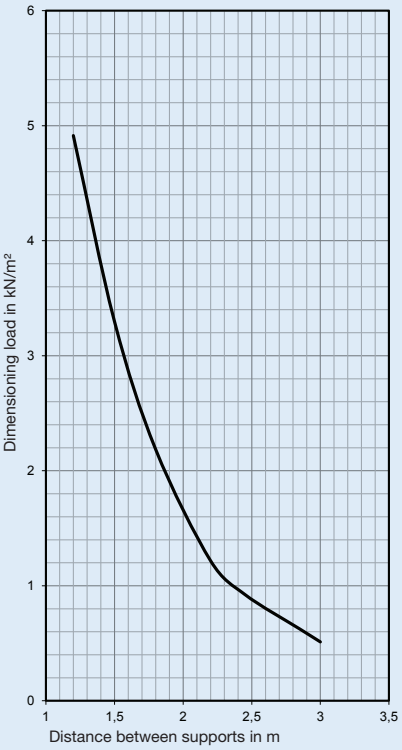
Stand: 07/16

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-10.1-466 and are only valid in conjunction with the RODECA sysrems accessories.

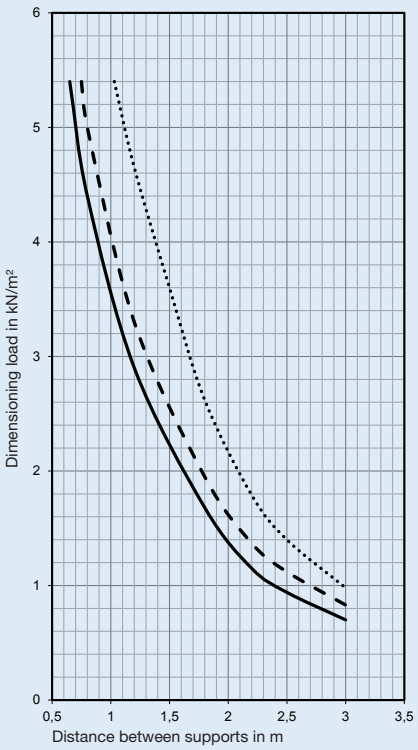
Please note that for the structural design of the valid spans additionally to the influencing loads the correspondent national partial safety factors γ_f must be added.

The structural analysis of the span widths must be proven project-related based on the German Building approval Z-10.1-466.

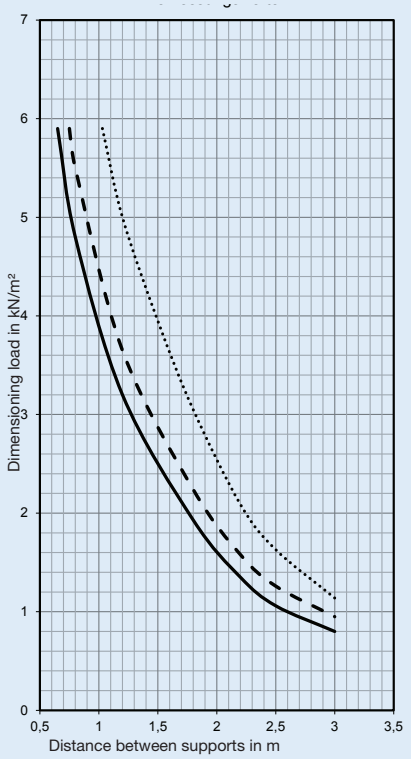
single span system

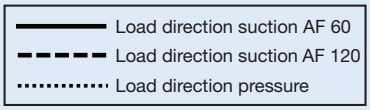


two span system



continuos span system > 3 fields





1.1.3.0

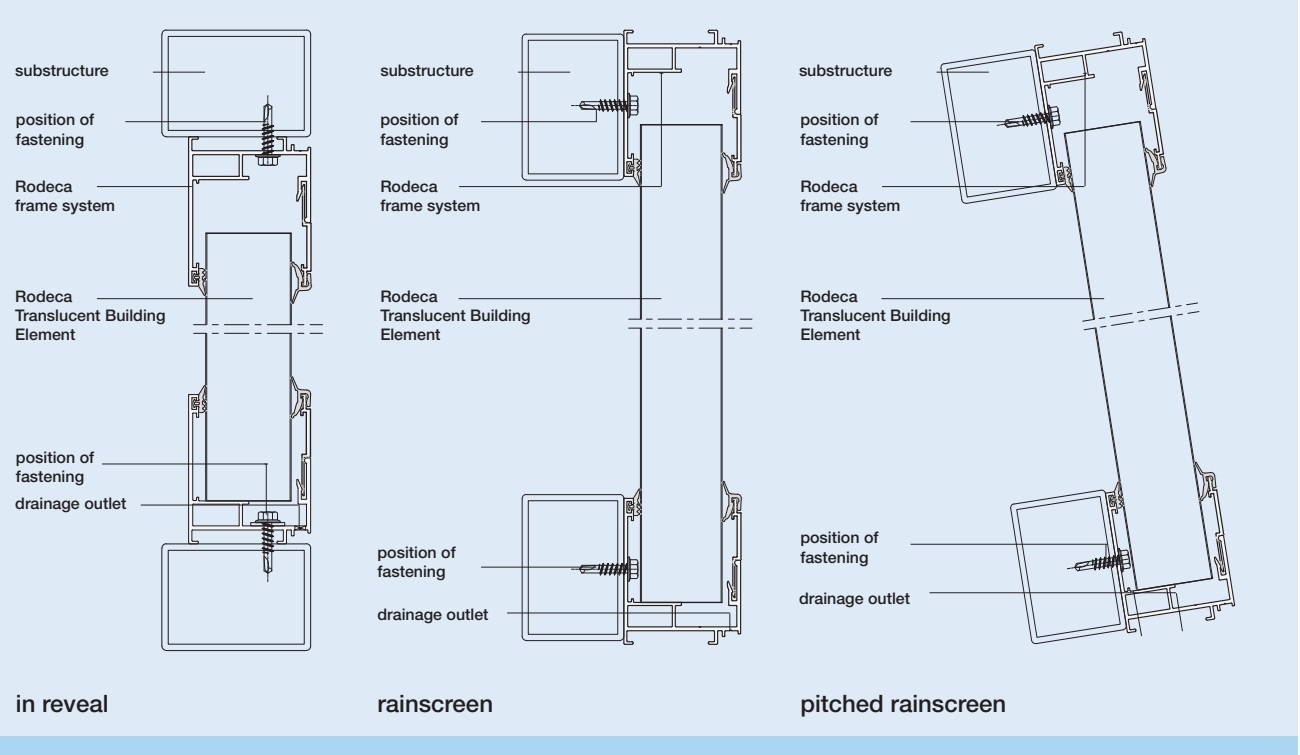
Translucent Building Elements

Frame system thermally and non-thermally broken

General Information

Stand: 07/16

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/EV1
Aluminium - powder coated according to RAL

rodeca®
Translucent Building Elements

1.1.4.0

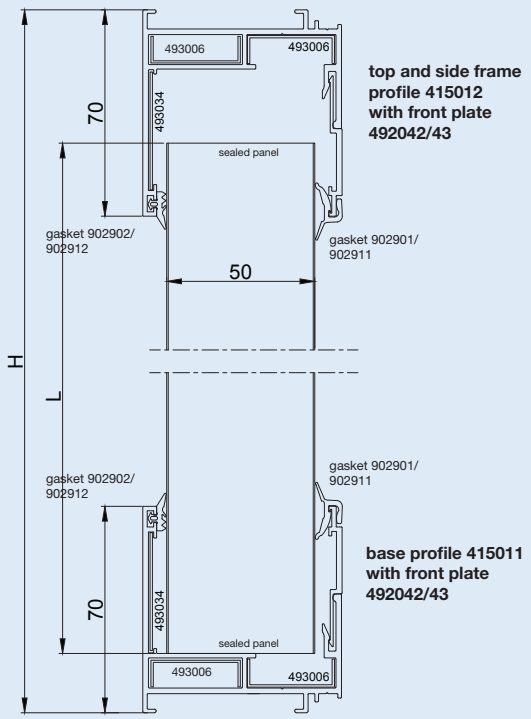
Translucent Building Elements

Frame system non-thermally broken
Top and base framing

Stand: 07/16

Facade 90° up to 4.5m panel length*

* at Central European temperature conditions



top and side frame profile 415012 with front plate 492042/43

base profile 415011 with front plate 492042/43

Top profile 415012
Base profile 415011

Article numbers

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

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

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

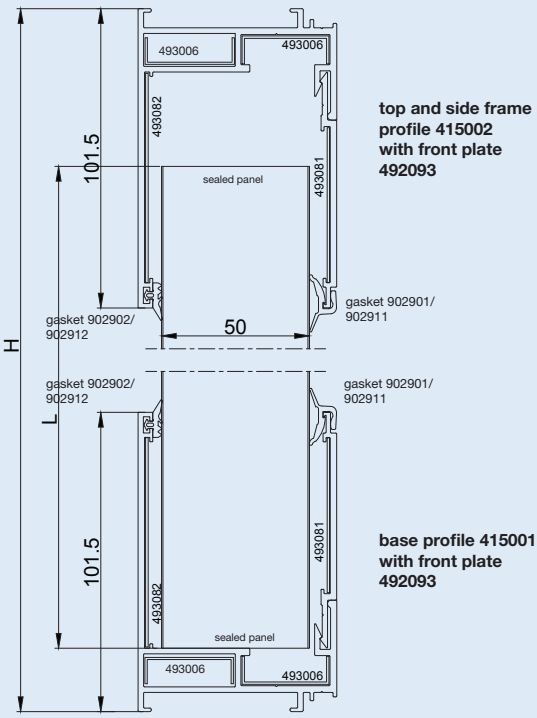
902901 = Outer plug gasket TPE grey
902911 = Outer plug gasket TPE black

902902 = Inner lip gasket TPE grey
902912 = 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 12m panel length*

* at Central European temperature conditions



top and side frame profile 415002 with front plate 492093

base profile 415001 with front plate 492093

Top profile 415002
Base profile 415001

Article numbers

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

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

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

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

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

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

rodeca®
Translucent Building Elements

1.1.4.1

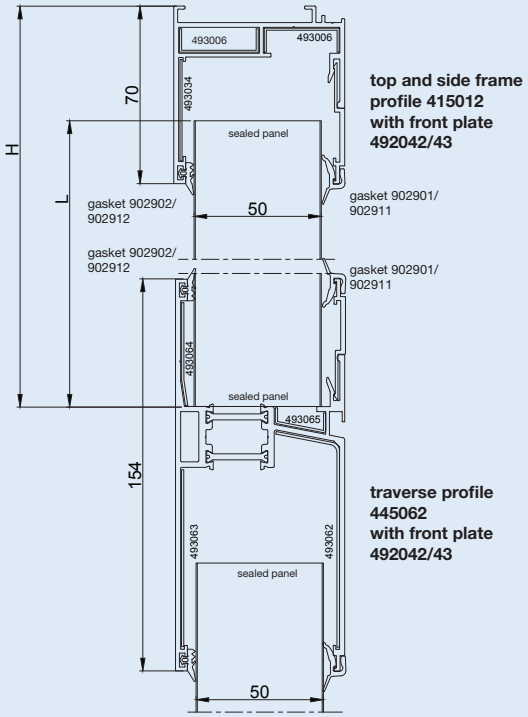
Translucent Building Elements

Frame system non-thermally broken
Top and base framing

Stand: 07/16

Facade 90° up to 4.5m panel length*

* at Central European temperature conditions



Top profile 415012
Traverse profile 445062

Article numbers

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

445062 = Traverse profile
493062 = Profile connector for 445062
493063 = Profile connector for 445062
493064 = Profile connector for 445062
493065 = Profile connector for 445062

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

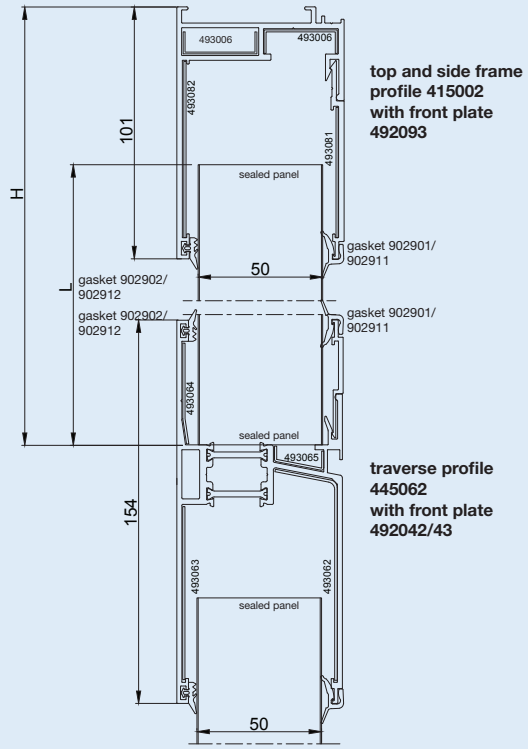
902901 = Outer plug gasket TPE grey
902911 = Outer plug gasket TPE black

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

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

Facade 90° up to 12m panel length*

* at Central European temperature conditions



Top profile 415002
Traverse profile 445062

Article numbers

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

445062 = Traverse profile
493062 = Profile connector for 445062
493063 = Profile connector for 445062
493064 = Profile connector for 445062
493065 = Profile connector for 445062
492042 = Front plate in L = 2.0 m
492043 = Front plate in L = 3.0 m

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

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

Calculation of panel length:
L in mm = Height **H** in mm - **55 mm**

rodeca®
Translucent Building Elements

1.1.4.2

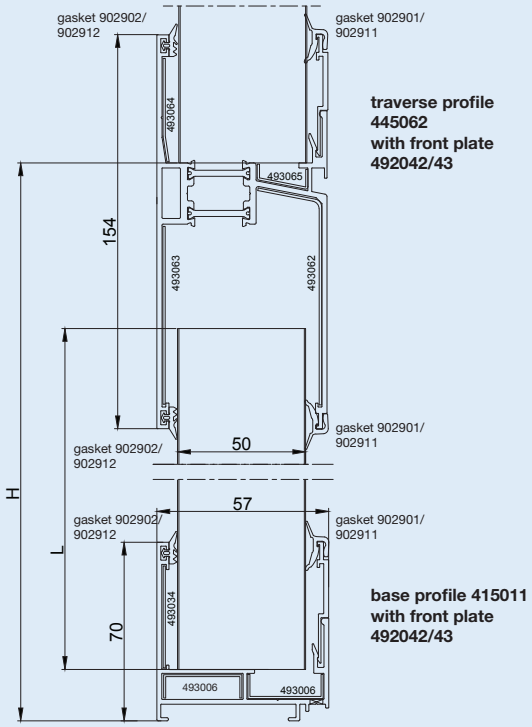
Translucent Building Elements

Frame system non-thermally broken
Top and base framing

Stand: 07/16

Facade 90° up to 12m panel length*

* at Central European temperature conditions



Traverse profile 445062
Base profile 415011

Article numbers

445062 = Traverse profile
493062 = Profile connector for 445062
493063 = Profile connector for 445062
493064 = Profile connector for 445062
493065 = Profile connector for 445062

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

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

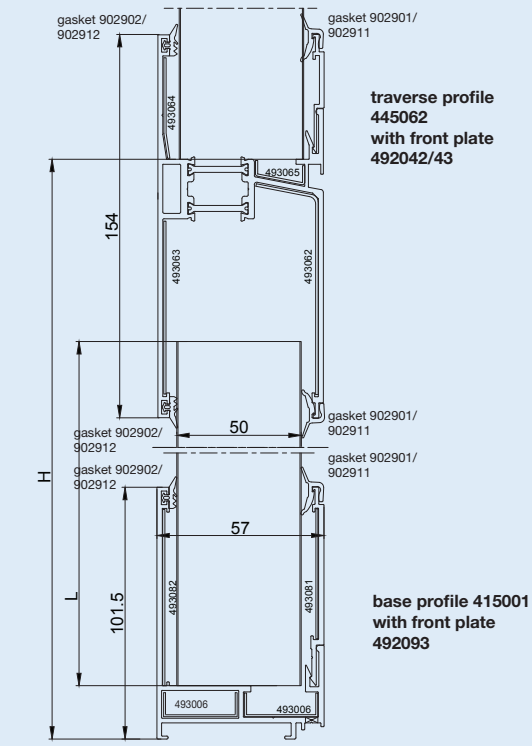
902901 = Outer plug gasket TPE grey
902911 = Outer plug gasket TPE black

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

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

Facade 90° up to 12m panel length*

* at Central European temperature conditions



Traverse profile 445062
Base profile 415001

Article numbers

445062 = Traverse profile
493062 = Profile connector for 445062
493063 = Profile connector for 445062
493064 = Profile connector for 445062
493065 = Profile connector for 445062

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

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

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

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

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

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

rodeca®
Translucent Building Elements

1.1.4.3

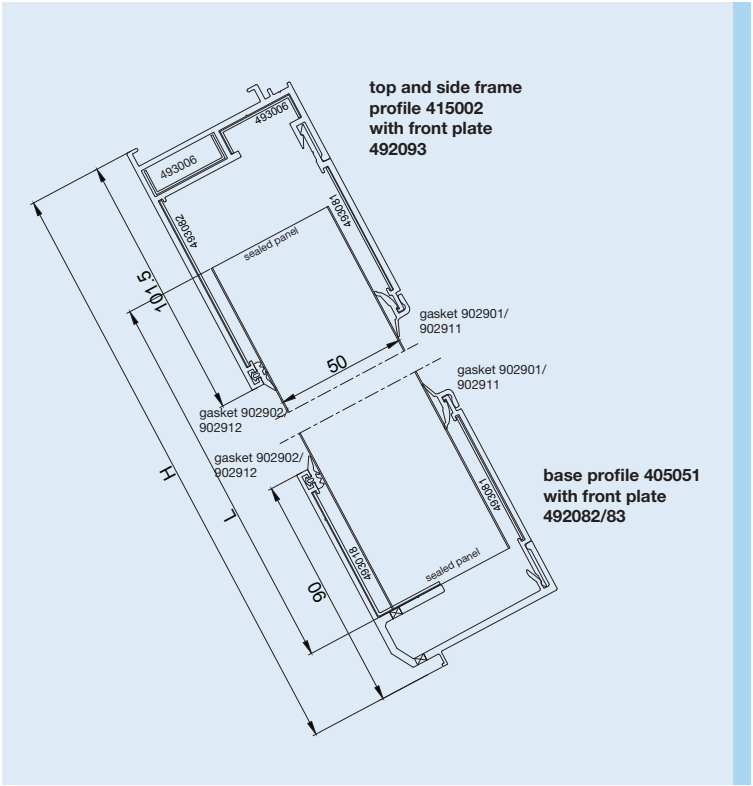
Translucent Building Elements

Frame system non-thermally broken
Top and base framing

Stand: 07/16

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

* at Central European temperature conditions



Top profile **415002**
Base profile **405051**

Article numbers

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

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

405051 = Base profile
493018 = Profile connector for 405051

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

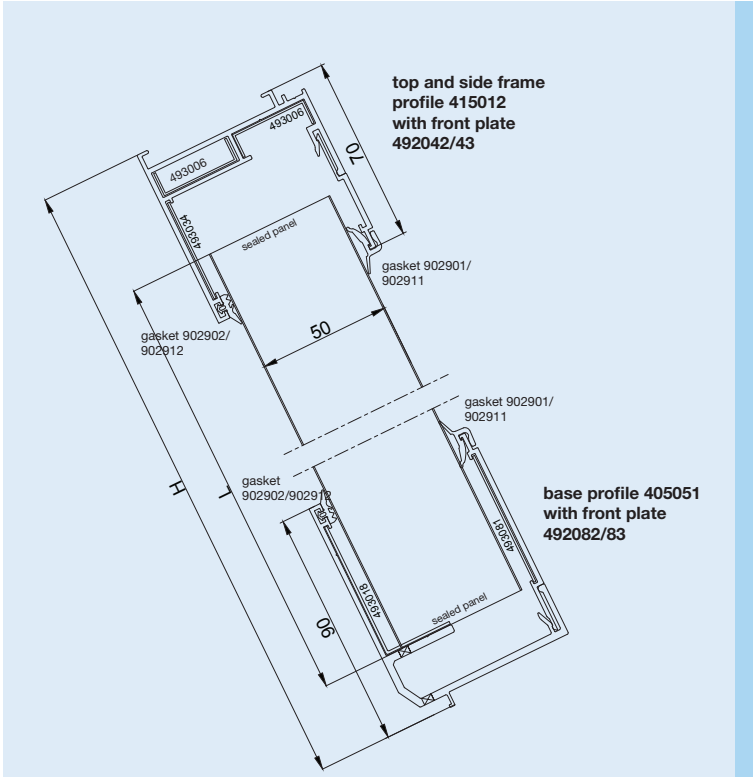
902901 = Outer plug gasket TPE grey
902911 = Outer plug gasket TPE black

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

Calculation of panel length:
L in mm = Height **H** in mm - **80 mm**

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

* at Central European temperature conditions



Top profile **415012**
Base profile **405051**

Article numbers

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

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

405051 = Base profile
493018 = Profile connector for 405051

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

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

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

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

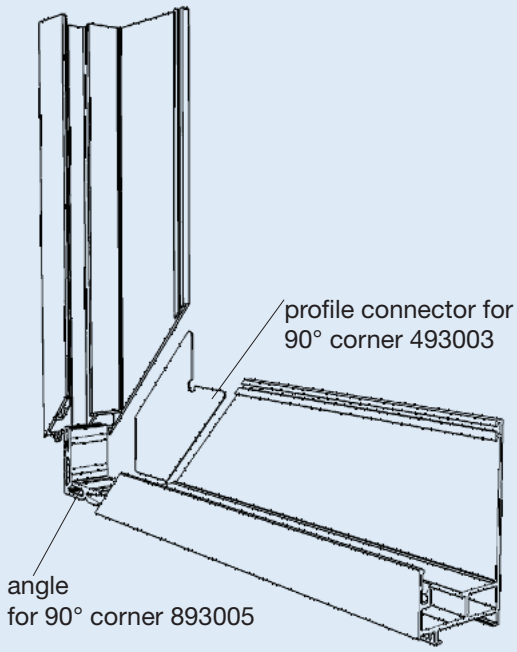
1.1.4.4

Translucent Building Elements

Frame system non-thermally broken
Corner connection

Stand: 07/16

90° corner connection 415005



fits to profiles 415001 / 415002

General

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

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

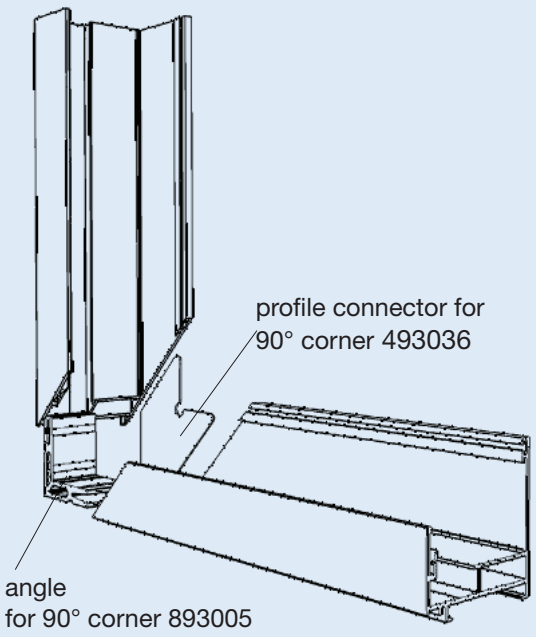
Initial lengths/-units

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

Article numbers

415005 = 90° corner connection prefabricated incl. profile connectors and front plate, fits to profile 415001 & 415002
493003 = profile connector for a 90° corner of profile 415001/02
893005 = angle for a 90° corner of profile 415001/02

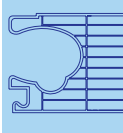
90° corner connection 415015



fits to profiles 415011 / 415012

415015 = 90° corner connection prefabricated incl. profile connectors and front plate, fits to profile 415011 & 415012
493036 = profile connector for a 90° corner of profile 415011/12
893005 = angle for a 90° corner of profile 415011/12

Versions
Aluminium - mill finish
Aluminium - anodized E6/EV1
Aluminium - powder coated according to RAL



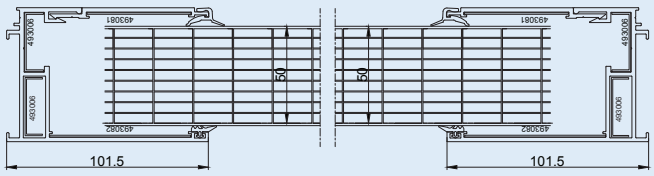
1.1.4.5

Translucent Building Elements

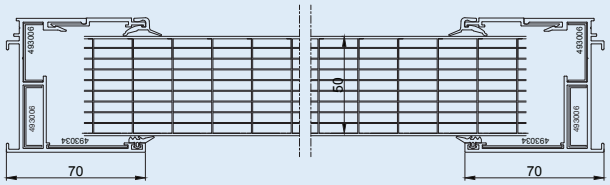
Frame system non-thermally broken
Lateral framing

Stand: 07/16

Side connections



Frame profile 415002 with front plate 492093



Frame profile 415012 with front plate 492042/43

Side connection with frame profiles

Article numbers

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

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

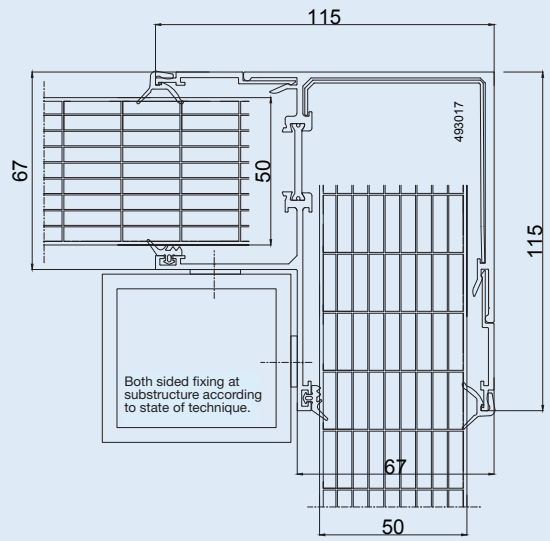
415012 = Top and side frame profile
493034 = Profile connector for 415012
493006 = Profile connector 2x for 415012

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

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

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

Side connection 90° corner



Corner profile 445072

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

Side connection 90° corner with frame profile 445072

Article numbers

445072 = Corner profile
493017 = Profile connector for 445072

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

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

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

rodeca®
Translucent Building Elements

1.1.5.0

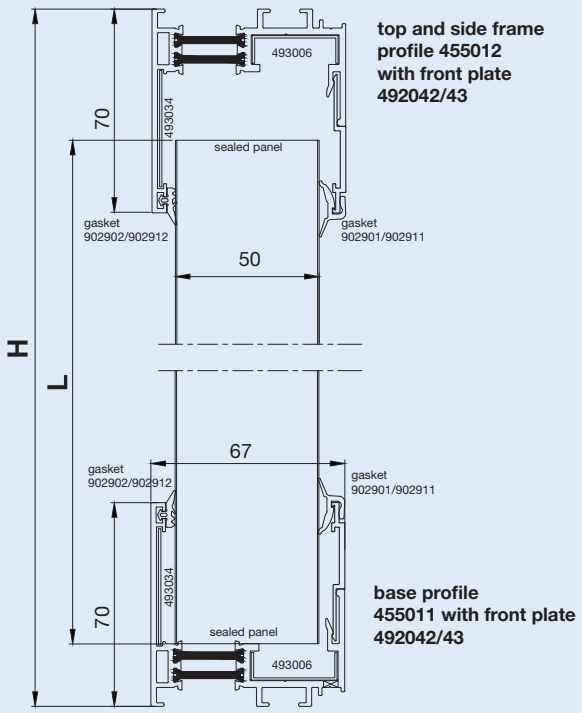
Translucent Building Elements

Frame system thermally broken
Top and base framing

Stand: 07/16

Facade 90° up to 4.5m panel length*

* at Central European temperature conditions



Top profile **455012**
Base profile **455011**

Article numbers

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

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

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

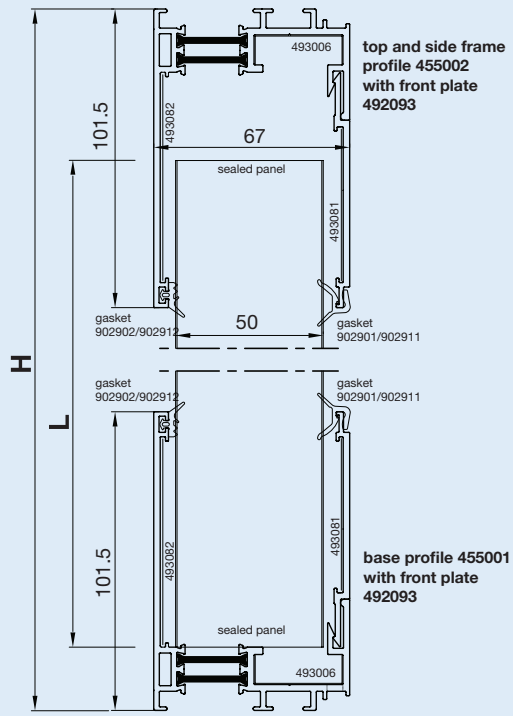
902901 = Outer plug gasket TPE grey
902911 = Outer plug gasket TPE black

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

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

Facade 90° up to 12m panel length*

* at Central European temperature conditions



Top profile **455002**
Base profile **455001**

Article numbers

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

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

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

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

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

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

rodeca®
Translucent Building Elements

1.1.5.1

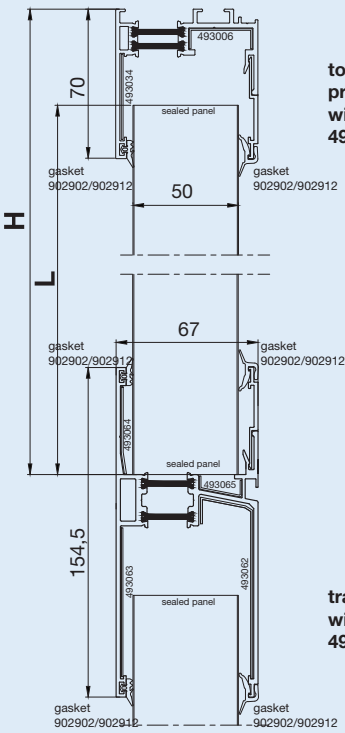
Translucent Building Elements

Frame system thermally broken
Top and base framing

Stand: 07/16

Facade 90° up to 4.5m panel length*

* at Central European temperature conditions



Top profile **455012**
Traverse profile **445062**

Article numbers

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

445062 = Traverse profile
493062 = Profile connector for 445062
493063 = Profile connector for 445062
493064 = Profile connector for 445062
493065 = Profile connector for 445062
492042 = Front plate in L = 2.0 m
492043 = Front plate in L = 3.0 m

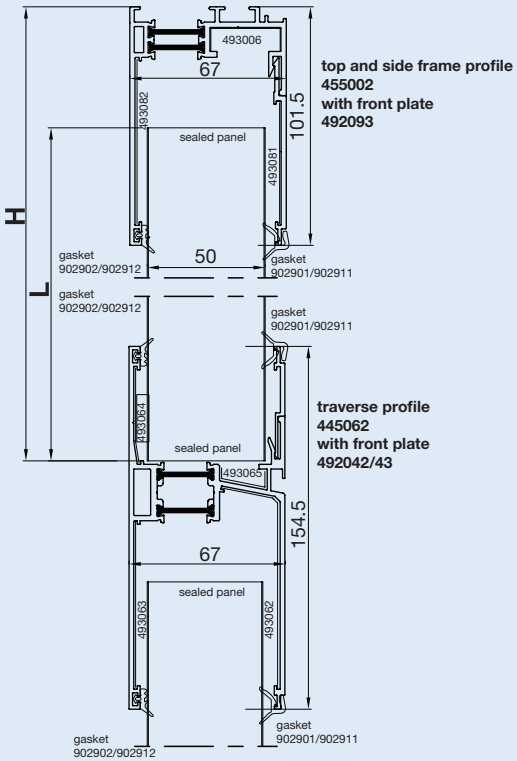
902901 = Outer plug gasket TPE grey
902911 = Outer plug gasket TPE black

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

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

Facade 90° up to 12m panel length*

* at Central European temperature conditions



Top profile **455002**
Traverse profile **445062**

Article numbers

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

445062 = Traverse profile
493062 = Profile connector for 445062
493063 = Profile connector for 445062
493064 = Profile connector for 445062
493065 = Profile connector for 445062
492042 = Front plate in L = 2.0 m
492043 = Front plate in L = 3.0 m

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

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

Calculation of panel length:
L in mm = Height **H** in mm - **55 mm**

rodeca®
Translucent Building Elements

1.1.5.2

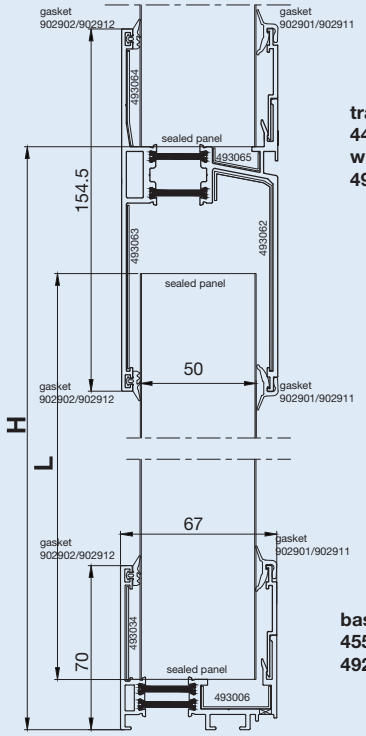
Translucent Building Elements

Frame system thermally broken
Top and base framing

Stand: 07/16

Facade 90° up to 12m panel length*

* at Central European temperature conditions



traverse profile 445062 with front plate 492042/43

base profile 455011 with front plate 492042/43

Traverse profile 445062
Base profile 455011

Article numbers

445062 = Traverse profile
493062 = Profile connector for 445062
493063 = Profile connector for 445062
493064 = Profile connector for 445062
493065 = Profile connector for 445062
492042 = Front plate in L = 2.0 m
492043 = Front plate in L = 3.0 m

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

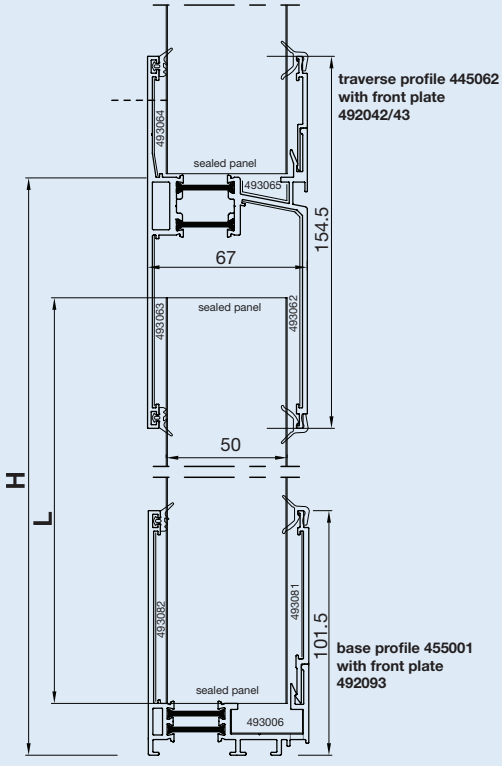
902901 = Outer plug gasket TPE grey
902911 = Outer plug gasket TPE black

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

Calculation of panel length:
L in mm = Height **H** in mm - **80 mm**

Facade 90° up to 12m panel length*

* at Central European temperature conditions



traverse profile 445062 with front plate 492042/43

base profile 455001 with front plate 492093

Traverse profile 445062
Base profile 455001

Article numbers

445062 = Traverse profile
493062 = Profile connector for 445062
493063 = Profile connector for 445062
493064 = Profile connector for 445062
493065 = Profile connector for 445062
492042 = Front plate in L = 2.0 m
492043 = Front plate in L = 3.0 m

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

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

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

Calculation of panel length:
L in mm = Height **H** in mm - **80 mm**

rodeca®
Translucent Building Elements

1.1.6.0

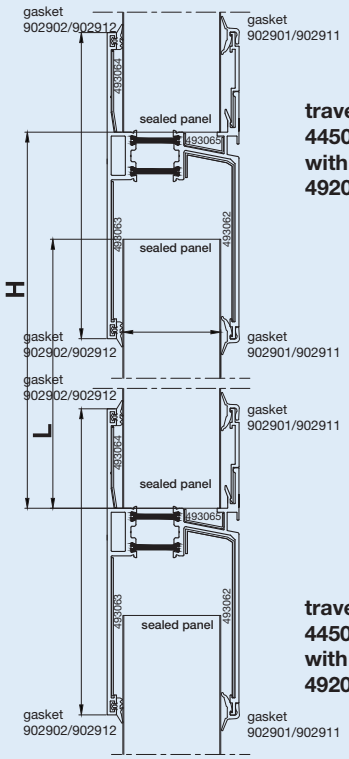
Translucent Building Elements

Frame system thermally broken
Top and base framing

Stand: 07/16

Facade 90° up to 12m panel length*

* at Central European temperature conditions



Traverse profile 445062
Traverse profile 445062

Article numbers

445062 = Traverse profile
493062 = Profile connector for 445062
493063 = Profile connector for 445062
493064 = Profile connector for 445062
493065 = Profile connector for 445062

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

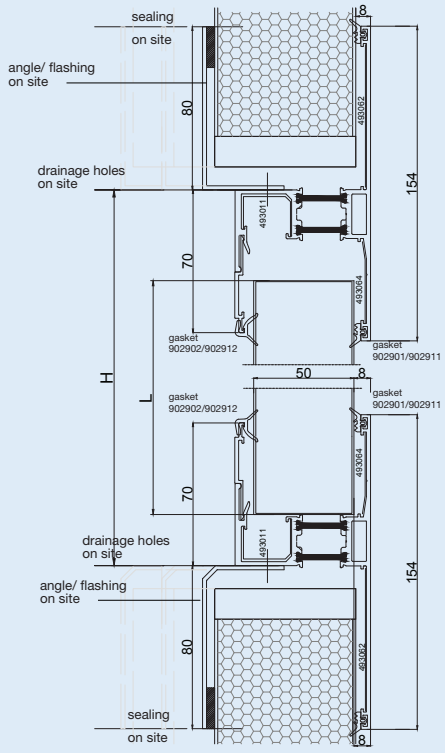
902901 = Outer plug gasket TPE grey
902911 = Outer plug gasket TPE black

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

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

Facade 90° up to 4.5m panel length*

* at Central European temperature conditions



Connection profile 4450003
(for e.g. sandwich panel)

Article numbers

4450003 = Connection profile

492042 = Front plate in L = 2.0 m
492043 = Front plate in L = 3.0 m
493063 = Profile connector for 4450003
493064 = Profile connector for 4450003
493011 = Profile connector for 4450003

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

902902 = Inner lip gasket TPE grey
902912 = 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 - **75 mm**

rodeca®
Translucent Building Elements

1.1.5.3

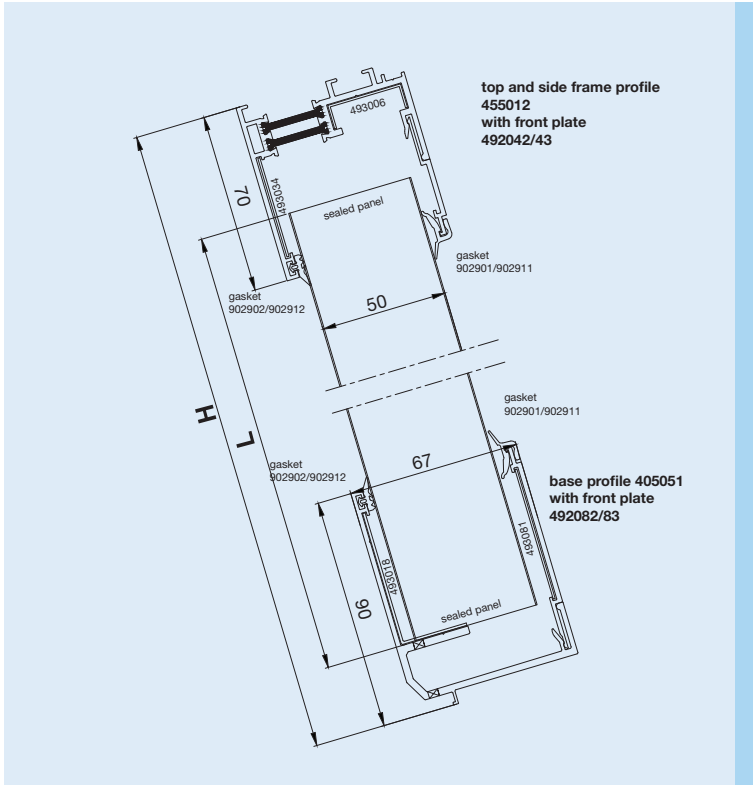
Translucent Building Elements

Frame system thermally broken
Top and base framing

Stand: 07/16

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

* at Central European temperature conditions



Top profile **455012**
Base profile **405051**

Article numbers

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

405051 = Base profile
493018 = Profile connector for 405051

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

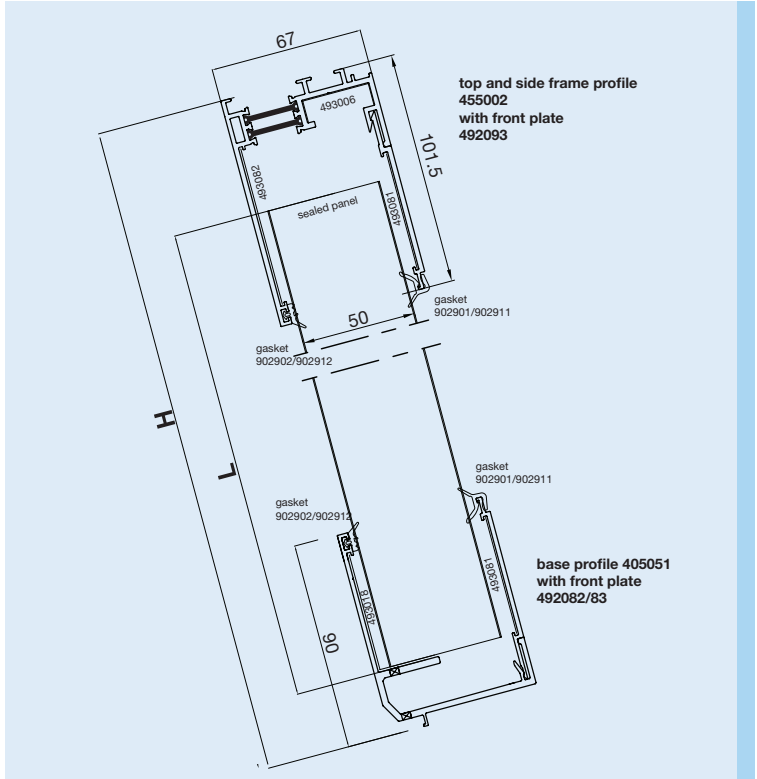
902901 = Outer plug gasket TPE grey
902911 = Outer plug gasket TPE black

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

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

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

* at Central European temperature conditions



Top profile **455002**
Base profile **405051**

Article numbers

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

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

405051 = Base profile
493018 = Profile connector for 405051

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

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

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

Calculation of panel length:
L in mm = Height **H** in mm - **85 mm**

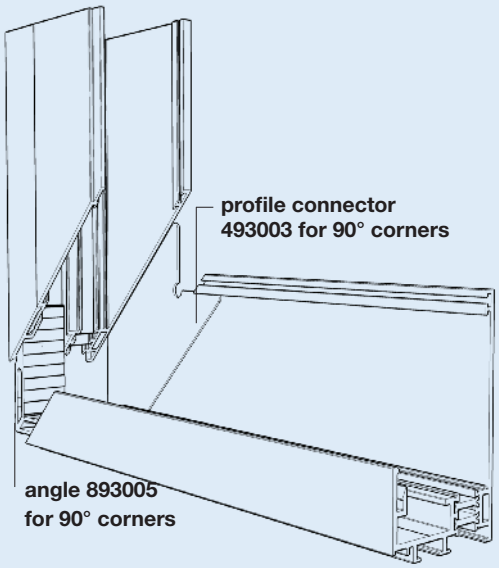
1.1.5.4

Translucent Building Elements

Frame system thermally broken
Corner connection

Stand: 07/16

90° corner connection 455005



fits to profiles 455001 / 455002

General

90° corner connections of the profiles 455002 and 455012 are available as prefabricated components. The corner connections are made of 0.55m long frame profiles, incl. front plates. The connections are sealed with profile connectors and sealant and thus save installation time and effort.

Initial lengths/-units

Prefabricated corner profile
incl. front plates and profile connectors

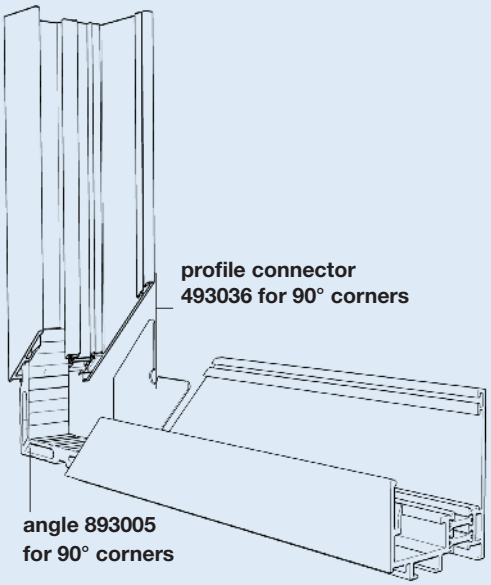
Length 0.55 m	1 pc. PU
Profile connector 493003	4 pcs. PU
Angle for 90° corner 893005	4 pcs. PU
TPE gaskets, grey or black	50 m rolls

or special colour on request

Article numbers

455005 = 90° corner connection prefabricated incl. profile connectors and front plate, fits to profile 455001 & 455002
493003 = profile connector for a 90° corner of profile 455001/02
893005 = angle for a 90° corner of profile 455001/02

90° corner connection 455015



fits to profiles 455011 / 455012

455015 = 90° corner connection prefabricated incl. profile connectors and front plate, fits to profile 455011 & 455012
493036 = profile connector for a 90° corner of profile 455011/12
893005 = angle for a 90° corner of profile 455011/12

Versions
Aluminium - mill finish
Aluminium - anodized E6/EV1
Aluminium - powder coated according to RAL

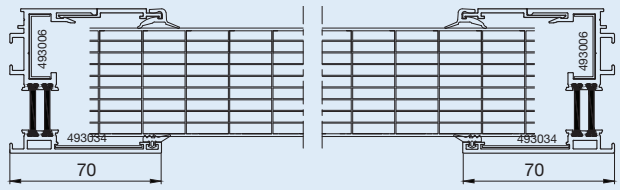
1.1.5.5

Translucent Building Elements

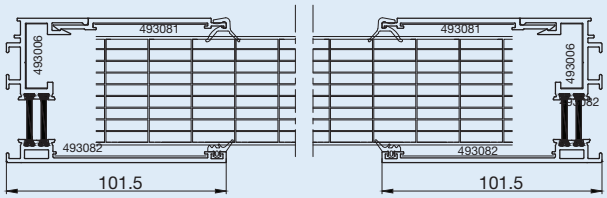
Frame system thermally broken
Lateral framing

Stand: 07/16

Side connection



frame profile 455012
with front plate 492042/43



frame profile 455002
with front plate 492093

Article numbers

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

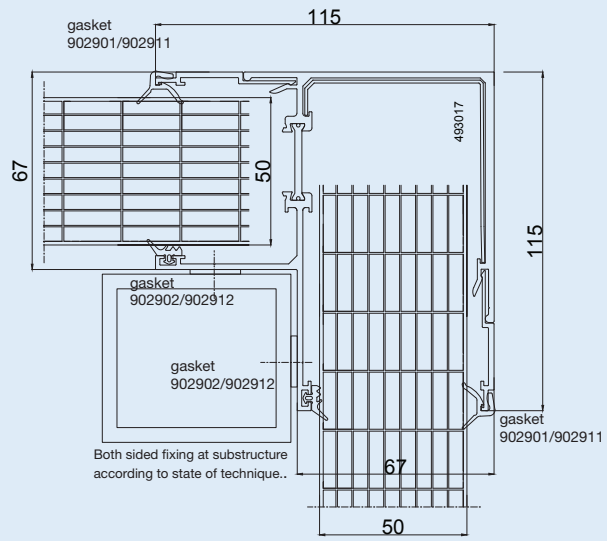
455002 = Top and side frame profile
493082 = Profile connector for 455002
493006 = Profile connector for 455002

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

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

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

Side connection 90° corner



Corner profile 445072

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

Side connection 90° corner with profile 445072

Article numbers

445072 = Corner profile
493017 = Profile connector for 445072

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

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

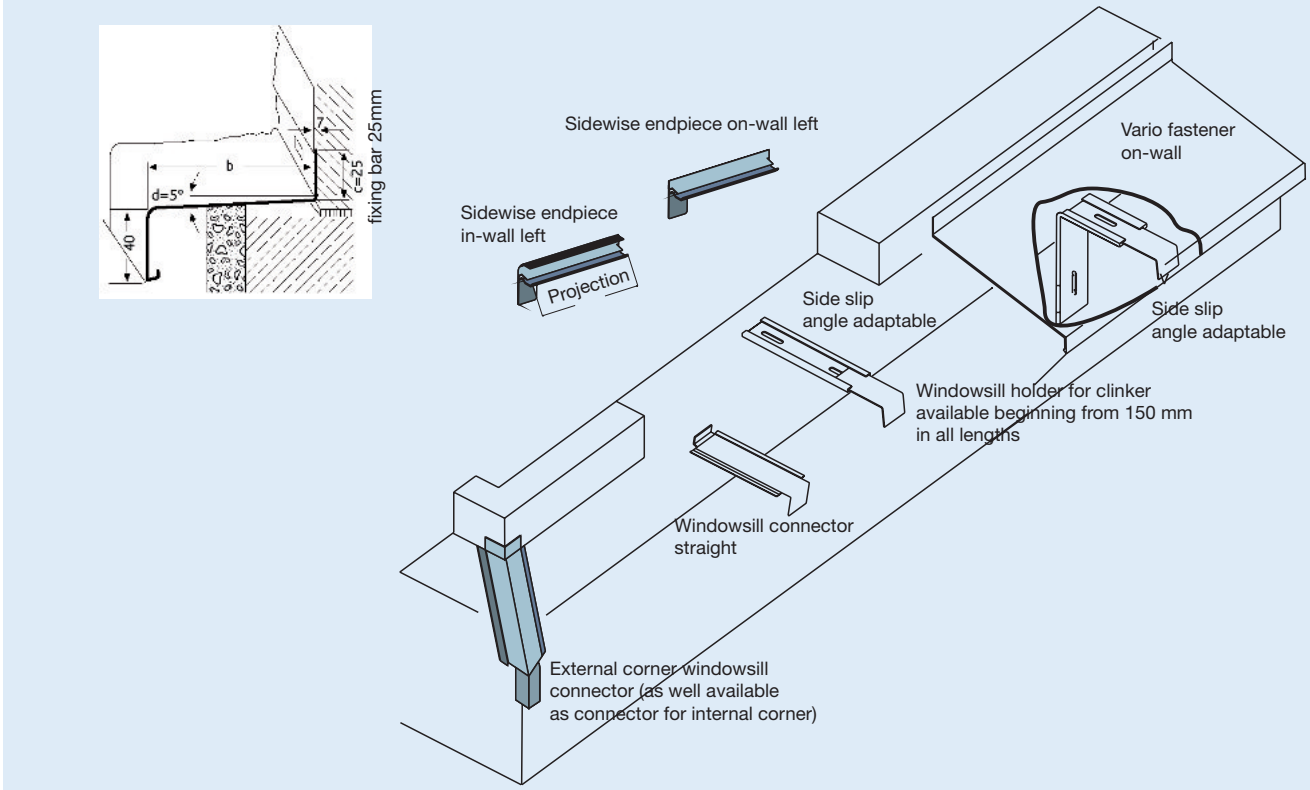
902902 = Inner lip gasket TPE grey
902912 = Inner lip gasket TPE black

1.1.6.0

Translucent Building elements

Windowsills and accessories

Stand: 07/16



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 absorbtive 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 (depending on the projection from zero up to two adapters can be used under the profiles) are installed to the supporting substructure. The side elements are to be clipped on in advance. After clipping on the side elements and fastening the windowsill, seal the connection points all around. Please leave at least 5 mm on each side of the windowsill for the thermal expansion.

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

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

* Size of the screw head – 3.9 mm

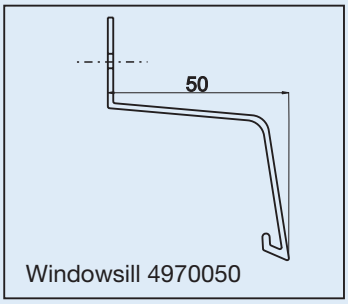
1.1.6.1

Translucent Building elements

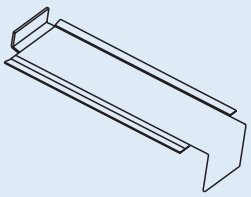
Windowsills and accessories

Stand: 07/16

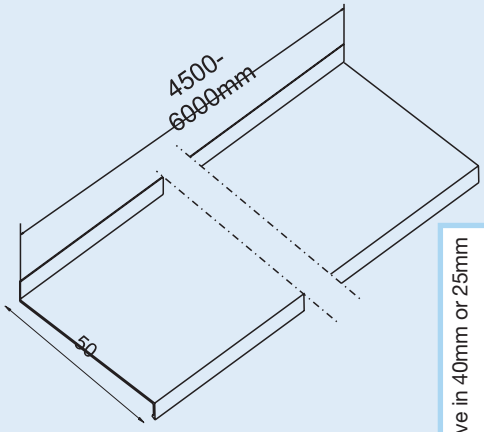
Example for construction group:



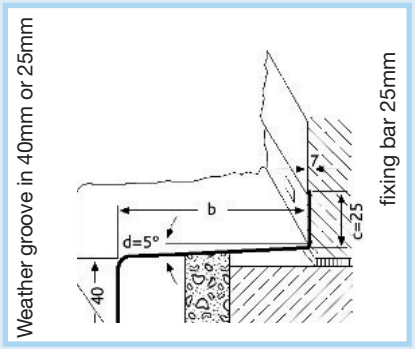
Windowsill 4970050



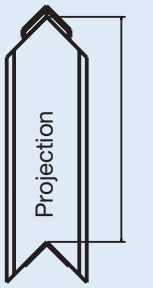
Profile connector for direct fitting edge 4972051

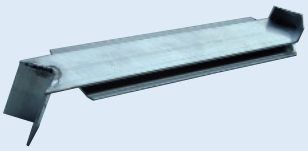


Windowsill projection

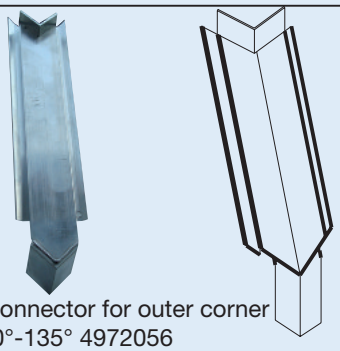


Example: article numbers for a 50 mm windowsill projection:

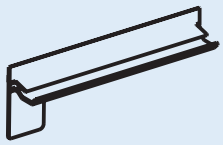




Profile connector for inner corner angle 90°-135° 4972052

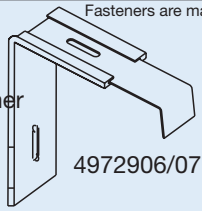


Profile connector for outer corner angle 90°-135° 4972056



Side endpiece on-wall (left / right) 4972053

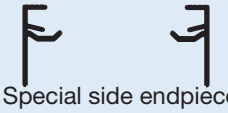
Fasteners are mandatory from a projection of 150mm



Vario-fastener 4972906/07

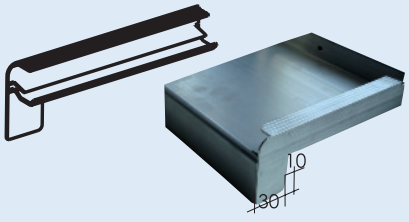
clinker-fastener 4972908

Variable sideslip angle, put fastener every 800 to 1,000 mm



Special side endpiece on-wall (left/right) 4972054

- Aluminium windowsills should project approximately 40 mm over the ready facade. Accordingly the profile width needs to be measured. This is only valid if side endpieces are installed too. Without side endpieces in place the windowsill should not project less than 20 mm over the ready facade.



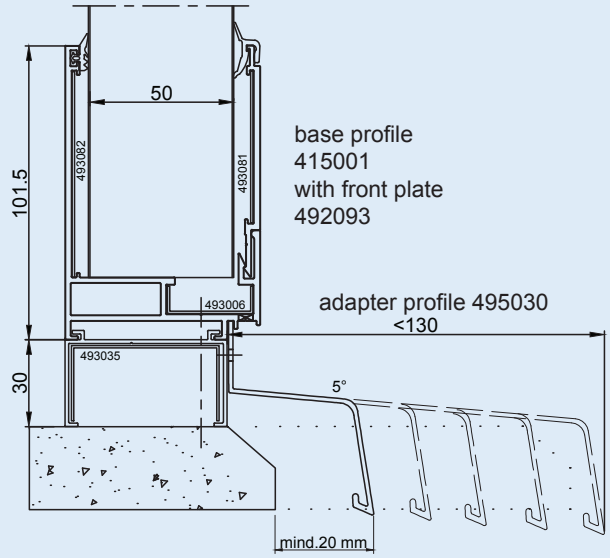
1.1.6.2

Translucent Building elements

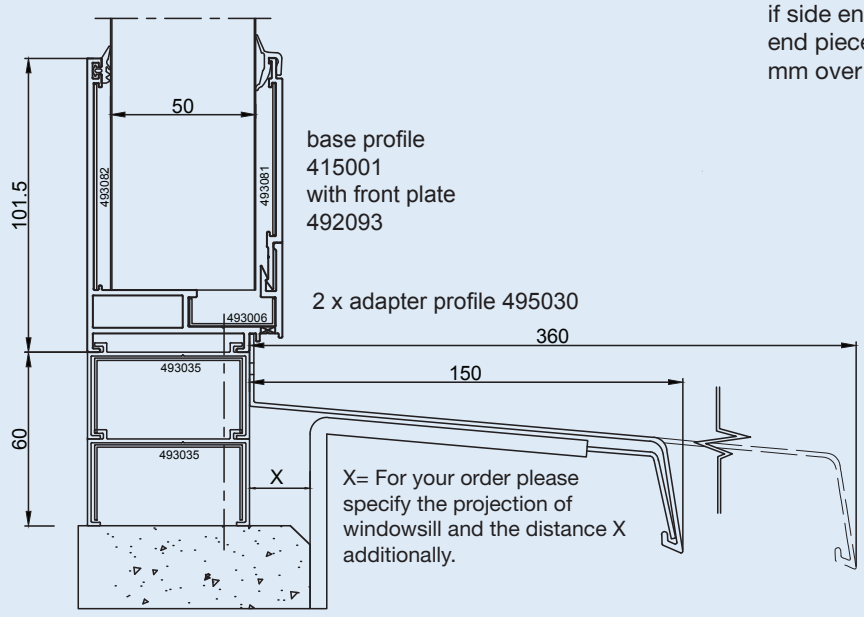
Windowsills and accessories
Framing system non-thermally broken

Stand: 07/16

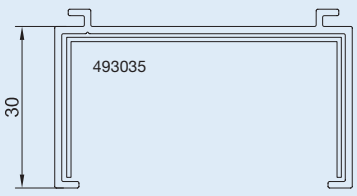
Aluminium windowsills for non-thermally broken frame profiles with adapter profiles



Base profile 415001 (also 415011) with adapter profile 495030 for windowsill projetions from 50 mm to 130 mm.



Base profile 415001 (also 415011) with 2 x adapter profile 495030 for windowsill projections from 150 to 360 mm.



adapter profile 495030

General
Comaptible 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 70mm projection
4971110 = windowsill 110mm projection
4971150 = windowsill 150mm projection

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

495030 = adapter profile for profile 415011 and 415001
493035 = Profile connector for 495030

For use with adapter profile 495030 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.

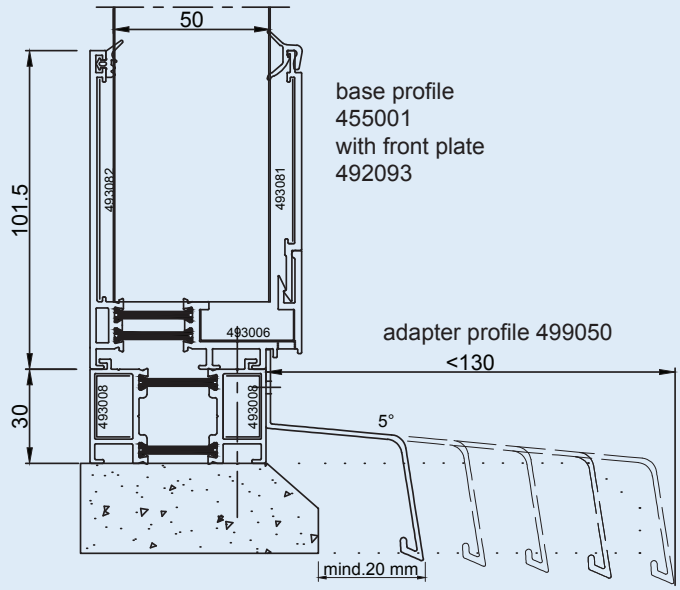
1.1.6.3

Translucent Building elements

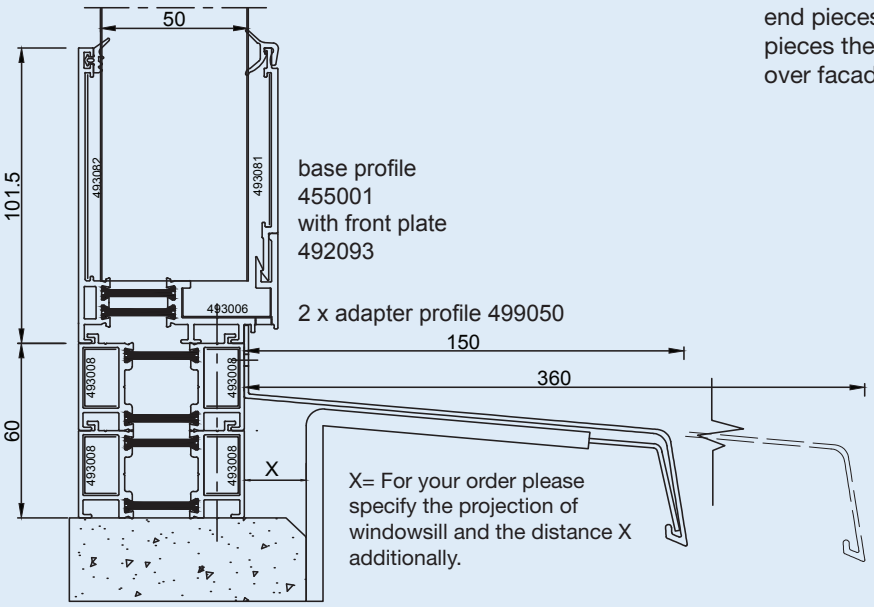
Windowsills and accessories
Framing system thermally broken

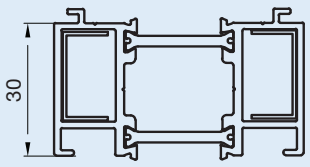
Stand: 07/16

Aluminium windowsills for thermally broken frame profiles with adapter profiles



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





adapter profile 499050

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

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

Initial lengths/-units

Aluminium profile	6.00 m
Profile connector	10 cm

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

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

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

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

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

Your specialist for translucent building elements

rodeca®
Translucent Building Elements

Unfold your creativity plan with us!

The new generation of multi layered polycarbonate panels

The RODECA principle

Simpler design
The proven geometry of the translucent building elements and optimized fasteners essentially increase the load capacities of panels. Furthermore premium quality frame and window systems for facade and roof applications have been developed to make the system universally applicable.

Translucent heat insulation
ISOCLEAR Series with a U-Value of 0.77 W/m²K - 3.0 W/m²K (depending on the type of installation) defines new standards in thermal insulation for the facades and roof glazing. The new heat insulation values established by the Thermal Regulation are achieved and even exceeded by the products of ISOCLEAR Series. In view of rising energy costs this is a decisive criterion in selecting appropriate glazing materials for energy-efficient buildings.

RODECA GmbH
Freiherr-vom-Stein-Str. 165
45473 Mülheim an der Ruhr
Tel. 0208-76502-0
Fax 0208-76502-11
Mail info@rodeca.de

www.rodeca.de

Other RODECA products:

- RODECA Translucent Building Elements 30mm, 40mm and 60mm
- RODECA Multi Wall Sheets from 4mm up to 50mm
- RODECA Multi Function Panels
- RODECA U-Panels from Polycarbonate
- RODECA RT-SYSTEMS - Curved and flat roof light systems
- RODECA RT-THERMOLIGHT - Roof light systems for ISO-Panel for roof and facade applications
- RODECA Windows for Roof and Façade
- RODECA Do It Yourself product range

So when do you start planning with us?