Technical manual

ISOCLEAR 2560-12

Translucent Building Elements
Made of polycarbonate for mullion free glazings
System PC 2560-12 | PC 2560-12 AF 60 | PC 2560-12 AF 120
1. Area of Applicability

1.1 Deliveries, services and offers by the supplier shall take place subject only to these general terms and conditions, unless otherwise agreed between the future business partners or noted otherwise in writing by the supplier.

2. Offers and execution of Contract

2.1 Unless otherwise agreed in writing, general offers by the supplier are made without obligation. The offers made by supplier are valid for 30 days unless otherwise agreed.

3. Prices

3.1 All prices are net prices without VAT payable by the customer in addition to the statutory tax rate. The prices are ex warehouse of the supplier.

3.2 The supplier has the right to raise the prices reasonably if the period of time between entering into an agreement and the delivery was at least for 4 months or if after the conclusion of the contract there was an increase in the cost price for raw materials, other materials and supplies, in wages and salaries and other costs to be borne by the supplier. The customer has to take over all new or increased taxes, customs duties, fees and other charges which are caused by legal or official measures and directly or indirectly relate to the deliveries and services rendered by the supplier to the customer.

3.3 The customer has the right to withdraw from the contract if the prices of the supplier increase by more than 10% in accordance with clause 3.2 above. The customer has the same right of withdrawal whenever the contract is concluded on the day the supplier is unable to complete the performance of his obligation due to circumstances beyond the control of the supplier.

4. Delivery

4.1 Delivery dates or delivery times can be fixed on a binding or non-binding basis and have to be agreed in writing. The agreed time of delivery begins with the dispatch of the confirmation of the order, however, not before the supplier has fulfilled with the necessary documents, authorizations, securities and releases to be produced by the customer and not before an agreed deposit has been paid in time. If a fixed delivery time has been agreed, it is to be understood to mean a period of time, should the customer fail to punctually provide all the supporting material he is obliged to procure as above the agreed deposit.

4.2 Even if delivery dates and times have been agreed, the supplier is not liable for delays in delivery and services for reasons beyond his control, for example by force majeure or events which the supplier is considerably impeded or even impossible to deliver his goods or services unless the supplier's liability is caused by intention or gross negligence. Delayed deliveries entitle the customer to postpone the delivery or service for the time of the delay and to receive a reasonable payment in case of breach of contract from the customer partially or entirely with regard to that part of the contract which has not yet been fulfilled. The supplier shall inform the customer without delay about his inability to fulfill his contractual obligation and shall pay back to the customer any payments that he has already made in fulfillment of the contract.

4.3 If the delay caused by the above-mentioned circumstances lasts for more than 3 months the customer has the right, after a reasonable period of grace for the supplier, to withdraw from that part of the contract which has not yet been fulfilled. In the event of delayed delivery/partial delivery or if the supplier is released from his obligation the customer shall not be entitled to claim any compensation. The supplier can only use the reference to the special circumstances for his delay if he has informed the customer immediately.

4.4 If the supplier is responsible for not observing dates and times with a binding commitment or if he is in default the customer is entitled to demand a compensation for default of 0.5% for each completed week of default but in total not exceeding a maximum of 5% of the invoiced value of the delivery and service charges for the time of such delay. In case of major delays the contract can be terminated by the customer.

4.5 If the customer has not paid the respective sum of money, the customer shall bear all the costs of transportation to the amount of 2% of the invoice amount for the corresponding product from the first day of each following month. An extended liability pursuant to § 287 BGB is excluded.

5. Transport

Unless otherwise agreed, the shipment will be made at the expense of the customer who, at the request of the supplier, is to take delivery or arrange delivery in advance. Forwarding costs of the supplier shall only be for binding for the supplier if the supplier has given a confirmation in writing.

6. Panning of the Risk

The risk passes to the customer at the time the consignment is handed over to the forwarding agent or other consignee, or to the time the delivery makes a voyage or warehousing. If the delivery becomes impossible through no fault of the supplier, the risk passes to the customer at the time the supplier notifies the customer that the consignment is ready for dispatch.

7. Liability for Defects

7.1 The warranty period is one year beginning with the receipt of the consignment at the place of delivery. After one year all claims of the customer based on defects of the delivered goods expire by limitation.

7.2 In case the supplier is held liable for defects he is only liable for the removal of the defect by his own work. If the defect can be remedied by repair or replacement, the supplier is entitled to choose the method for remedying the defect.

8. Liability for Defects

8.1 If the delivery is delayed, the customer has the right to demand either a reduction of the purchase price or resiliation of the contract. In a minor breach of contract, especially with minor defects, the customer has no right of rescission.

7.4 The supplier is explicitly pointed out that the guarantee includes only correction of any defects present at the time of delivery and omission of other defects that have not been brought to the supplier's attention prior to delivery.

7.5 If the customer has not declared the defects in writing within the agreed time limit, the goods are considered to be accepted by the customer.

8.2 The supplier shall not be liable for defects that are not caused by improper installation, improper use of the contract products or the fact that the customer has not complied with the instructions for installation and use.

9. Payment

9.1 Unless otherwise agreed in writing, the invoice amounts shall be payable within 10 days from the date of the invoice less 2% (cash) discount and within 30 days net cash without any discount. The payment shall be deemed the day the money is at the supplier's free disposal.

9.2 We accept your order under the express reservation on the time of the delivery of more than 1 month, considering all for our benefit open invoice amounts, will not exceed the credit limit granted to you by your credit institution.

9.3 The supplier reserves the right to refuse cheques or bills of exchange for payment. Any acceptance is subject to the clearance of the order and the title to the delivery and to the customer's payment. Cheques shall be paid or bills of exchange exchanged within 10 days. In case of non-compliance with these conditions, the supplier shall bear any additional costs incurred by the customer arising from the acceptance of cheques or bills of exchange. The supplier is entitled to take back the goods if the customer does not comply with these conditions within 5 business days after delivery or if the purchase price is not paid as agreed.

9.4 In the event that the customer is in default in payment, the supplier shall be entitled to claim interest from the date of default at a rate which commercial banks charge for open current account borrowing rates but not less than 8% p.a. over the relevant base interest rate of the European Central Bank.

9.5 If the customer fails to comply with his financial obligation towards the supplier or one of his affiliated companies, especially if he does not check a bill or a cheque, suspend payments or if the supplier learns about other circumstances which call into question the creditworthiness of the customer, the supplier is then entitled to declare the unpaid balance of principal to be immediately due and repayable even if cheques had been accepted. In such a case the supplier is also entitled to ask for advance payment or provision of security.

9.6 The customer is only entitled to offset against, to retain or to reduce the purchase price, even if he gives a notice of defects or puts forward counterclaims, if these counterclaims have been declared as not well-founded or as non-controversial.

10. Limitation of Liability

Claims for damages for breach of obligations under the contract or tort are excluded against both the supplier and its vicarious agents, unless being subject to intentional or grossly negligent actions. The liability of the supplier is limited in any case to the average, foreseeable, typical and direct damages. This limitation of liability also applies to a third party's liability, the supplier and its vicarious agents, unless being subject to intentional or grossly negligent actions. The liability of the supplier is limited in any case to the average, foreseeable, typical and direct damages.

The above limitations do not affect claims of the customer from product liability. Further, the liability limitations do not apply to bodily or health or life loss of the customer.

11. Other Provisions

11.1 The legal relations of parties are subject to the laws of the Federal Republic of Germany.

11.2 The place of jurisdiction for all disputes directly arising in connection with the business relationship between the supplier and the customer is the court of the place of the supplier, unless the customer is a merchant possessing full commercial capacity, a legal person under public law or a special fund under public law. In this case the place of jurisdiction is the court of the customer's place of business.

11.3 Should one or more of the above provisions be or become invalid or unenforceable, it shall not affect the remaining provisions. The invalid or unenforceable provision shall rather be replaced by a valid and enforceable one which comes closest to the economic effect intended by both parties from the contract.

11.4 The customer is not entitled to assign to third parties his rights and obligations arising from contractual relationships with the supplier without the supplier's express written consent.

11.5 Changes or additions to these terms and conditions between the parties are to be made in writing. The same applies to agreements by which this procedural requirement should be abolished or relieved.
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10 year warranty statements longlife and longlife plus
Your specialist for translucent building elements

Product Range

Translucent Building Elements
Standard and Vision-Line

Standard – crystal and opal antiblind
PC 2560-12 ISOCLEAR  Up-Value from 0.71 to 0.77 W/m²K

Design Series - COLOR
PC 2560-12 ISOCLEAR  Up-Value from 0.71 to 0.77 W/m²K

Minimum order quantity of 300 m² necessary.

Building width 500 mm + 1/- 1 %

Next to the fire certification according to DIN 4102, our products are certified according to European norm and other national norms. Additionally to the demands of building approvals and fire certificates our products fulfill the demands of joint tightness and are resistently tested for ball throwing, for hail and pucks according to RODECA warranty statements and supplementary certification reports. We give a ten year product warranty.

Further technical information can be taken out of the single product data sheets.
![Product Range](image)

**Translucent Building Elements**

Recommended installation combinations of frame profiles

<table>
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<th>Sofit assembly</th>
<th>Curtain wall assembly</th>
<th>assembly as an inclined surface (min. 15 degrees)</th>
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<tbody>
<tr>
<td>Top Profile</td>
<td>Side Profile</td>
<td>Base Profile</td>
<td>Top Profile</td>
</tr>
<tr>
<td>406051</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**Frame profile Series 4060 – non-thermally broken**

- X = Please consider that instand depth lower than 40mm can reduce the span width up to 30%

*Because of production-based tolerances it might be possible that the composed profiles (aluminium profiles and polyamide ribs) misalign. Before the installation of the profiles this has to be checked and the profiles must be shortened by client where required.

Further technical information can be taken out of the single product data sheets.
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 homogenously 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

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 chambers). Due to in-house compounding and raw material refinement special requests and colours can be realized. Please inquiry 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 in connection with joint tightness, translucent. Facades with thermally broken aluminium profiles can be designed according to the newest requirements on Heat Insulation Ordinance.

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 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. It is proven per certificate that RODECA products do not have influence on reflection and do not affect radar-units.
General information
on Translucent Building Elements of Polycarbonate

Service temperature
Minus 40 °C up to plus 115 °C (temporarily up to 130 °C). Please take into consideration service temperature especially with curtain facades respectively the use of dark foils for deposition of translucent building elements. Adequate distances and sufficient ventilation need to be considered in planning. (Danger of heat accumulation and associated deformations.)

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 thermoplastic cannot be used anymore. Interesting to know is that white surfaces on roof applications can heat up to +100°C. (It is essential to respect thermal expansion/shrinking 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 Serie - transparent or semitransparent COLOURS, similar to RAL from approx. 300 m² on request
■ BICOLOR Serie - 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.
■ LONGLIFE quality for one sided UV protection (Northern Europe (northwards the Alps)
  (for UV radiation until max. 1400 Watt according to solar map)
■ LONGLIFE PLUS quality for one sided UV protection
  (for UV radiation > 1400 Watt according to solar map)
■ Please inquire separately nonstandard warranties (SUPERLIFE)

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 splitter, do not crumble and prevent risk injury through splinters. They comply with German regulations on workplaces (Arbeitsstättenverordnung).

Hail storm
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
PC has a very high ignition temperature of approx. 450 °C and in case of fire the smoke development is very little. Depending on element thickness and material composition RODECA products are according to DIN 4102 B 1 of low inflammability or B2 normally inflammable. Additionally the products are classified according to European fire test DIN EN 13501 and classified according to different national tests. Please inquire the test certificates in case of need.
General information

on Translucent Building Elements of Polycarbonate

Melted area according to DIN 18234
In many cases RODECA elements are used as melt-surface because their softening point is below 300°C.

Sound insulation
Polycarbonate elements have despite the 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 means the value that the panel achieves, 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. Particulars about chemical resistance of PC elements you can check on compatibility list. Please inquire this list if needed.

Painting
In case that the Polycarbonate Elements for advertising reasons or similar will be painted or screen printed the compatibility of the painting system needs necessarily be tested 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 don’t contain substances which harm and affect polycarbonate. Please clarify before usage the compatibility with the vinyl wrap supplier or the advertising company.

Cleaning
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 elements made of Polycarbonate have to be protected before sun and wet conditions before installation and must be stored on a plain 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 with 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 can be removed after processing and installation.

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).

Expansion/Shrinking
The expansion coefficient for 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: 3 mm 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 lengths expansion in its system accessories.
General information

on Translucent Building Elements of Polycarbonate

Sealing
Sealings and sealing tape need to be Polycarbonate compatible and approved for usage from respective producer elsewise damages on the elements 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 of the 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 flaw in quality. Depending from weather/climate this appearance is of temporary nature which is direct linked to temperature and humidity. Condensation doesn't effect the quality of the panels. (Double sided sealing reduces the appearance of condensation in the hollow chambers. (Expertise of the institute Fraunhofer)).

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

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 silicone joint sealing and additional sealing methods the optical properties of the translucent building materials can be maintained. Every element needs to be sealed singularly.

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 -0 to 15 mm (depending on length)
Thickness ± 1 %
Width ± 1 %
Flection vertical in running direction ± 0.5 % of length
All tolerances based on room temperature of 20 °C

Disposal of waste/Environmental protection
RODECA takes leftovers from 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 with over 90 % and passed project wise blower door tests for the whole construction.
General information

on Translucent Building Elements of Polycarbonate

System accessories
For almost all installation situations RODECA supplies appropriate and well engineered accessories as well as Ventilation flaps or smoke and heat exhaust flaps in many different versions.

Certification/Quality standard
RODECA products are tested according to different criteria and are both external controlled (inspection mark) and internally controlled through laboratory and quality controls. Please note that translucent building elements are presumed to be unregulated building materials and are subject to the regulation of the rules of Building Elements A part 2.

The outcome of the requirement to the usability proof in combination with local regulation need to be considered by designer/installer. 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 at our current general sales and delivery conditions. Please check before handling if our products are applicable for the intended purpose.
Translucent Building Elements
Product properties

Up-Value from 0.71 W/m²K to 0.77 W/m²K
Depending on horizontal or vertical installation situation as interior or exterior application

Flammability classification:
PC 2560-12 ISOCLEAR
Fire class B 2 according to DIN 4102

Building width: 500 mm +/- 1 %
Thickness: 60 mm +/- 1 %
Weight: approx. 5.5 kg/m²
Number of layers: 12 layers / 11 chambers
Modulus of elasticity: 2,400 N/mm²
Coefficient of linear expansion: 0.065 mm/m/°C
UV admission: > 1 %, wave length until 380 nm stopped almost a 100 %
Length: - 0/+ 15 mm (at room temperature)
Flection: +/- 0.5 %

Versions:
Standard: Colour: crystal, opal antiblind

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.

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1.3.1.2

Translucent Building Elements
Product properties - Physical properties

**Up-Value from 0.71 W/m²K to 0.77 W/m²K**

Depending on horizontal or vertical installation situation as interior or exterior application

**Up-Values:**
- Isotherm- and temperature pattern from -10 °C outside and 20 °C inside at vertical assembly
- Installation situation interior:
  - Up-Value 0.71 W/m²K vertical
  - Up-Value 0.74 W/m²K horizontal
- Installation situation exterior:
  - Up-Value 0.75 W/m²K vertical
  - Up-Value 0.77 W/m²K horizontal

**Sound insulation:**
- Rw 27 dB according to DIN EN ISO 140-3 in testing facility

**Transmission:**
- Standard:
- Colour: crystal 41 % TNO
- Colour: opal antiblind 30 % TNO

Depending on colour

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.

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1.3.1.3

Translucent Building Elements
Product properties - Physical properties

Up-Value from 0.71 W/m²K to 0.77 W/m²K
Depending on horizontal or vertical installation situation as interior or exterior application

Solar gain values g

Standard:
- Colour: crystal  0.43 TNO
- Colour: opal antiblind  0.37 TNO

Colour:
Depending on colour

(The g values are interpolated and may vary depending on the angle of sunshine incidence on the building surface. Basis is the test according to DIN 5036 made on the 40mm translucent building elements executed by the Technical University of Berlin. TNO values = facility tested values.)

Flammability classifications don’t have influence to the aspects of stability.

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

PC 2560-12  For single field constructions
PC 2560-12 AF 60  For two or multi field constructions with aluminium flat frame fastener in 60mm length
PC 2560-12 AF 120  For two or multi field constructions with aluminium flat frame fastener in 120mm length

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General
The RODECA flat fasteners consist of aluminium EN AW 6060 - Status T66 according to DIN EN 755-2.

The proof of usability and the static values are documented in the “General German Building Approval Z-10.1-466” (currently in the final documentation phase).

We recommend the installation of the aluminium flat fasteners with stainless steel screws and sealing discs. The fixing materials need to be chosen in type and finish adequately to the substructure.

The maximum projection of the aluminium flat fastener over the substructure may not exceed 5 mm.
The spans listed below (single span) are based on the discriminatory values of 2560-12 and are valid as well for versions PC 1560-12 and PC 3560-12. The values are valid only in conjunction with the RODECA thermal and non-thermally broken aluminium profiles of Series 4460 and 4060. When the profile 446040 is installed with lower instant than 40 mm, the spans must be reduced.

The graph shows the allowable spans for wind pressure and suction in kN/m², with the x-axis representing the allowable span.
1.3.2.2

Translucent Building Elements
Span widths | System PC 2560-12 AF 60 Three field construction

The spans listed below (two span / multi-span) are based on the component tests of 2560-12 and are valid as well for versions PC 1560-12 and PC 3560-12 and include a safety factor for aging of 25%. The national building codes and safety factors for wind and snow load must be considered. The values are valid only in conjunction with the RODECA thermal and non-thermally broken aluminium profiles of Series 4460 and 4060. When the profile 446040 is installed with lower instant than 40 mm, the spans must be reduced.
1.3.2.3

Translucent Building Elements
Span widths | System PC 2560-12 AF 120 Three field construction

The spans listed below (two span / multi-span) are based on the component tests of 2560-12 and are valid as well for versions PC 1560-12 and PC 3560-12 and include a safety factor for aging of 25%. The national building codes and safety factors for wind and snow load must be considered. The values are valid only in conjunction with the RODECA thermal and non-thermally broken aluminium profiles of Series 4460 and 4060. When the profile 446040 is installed with lower instant than 40 mm, the spans must be reduced.

![Graph showing wind suction vs. allowable span]
1.3.3.2
Translucent Building Elements
Series 4460 I Frame system thermally broken

General
The frame system series 44 is 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 EPDM or TPE.

Initial lengths/-units
<table>
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<tr>
<th>Description</th>
<th>Length</th>
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<tbody>
<tr>
<td>Aluminium profiles</td>
<td>6.00 m</td>
</tr>
<tr>
<td>Clamp batten</td>
<td>2.0 and 3.0 m</td>
</tr>
<tr>
<td>EPDM gaskets, black</td>
<td>50 m rolls</td>
</tr>
<tr>
<td>Alternatively: TPE gasket, grey or special colour on request</td>
<td>50 m rolls</td>
</tr>
<tr>
<td>Profile connector</td>
<td>10 cm</td>
</tr>
</tbody>
</table>

Article numbers
- 446040 = Top frame profile
- 493011 = Profile connector for 446040
- 493012 = Profile connector for 446040
- 492042 = Clamp batten in L = 2.0 m
- 492043 = Clamp batten in L = 3.0 m
- 446041 = Base profile without windowsill
- 493041 = Profile connector for 446041
- 493042 = Profile connector for 446041
- 492042 = Clamp batten in L = 2.0 m
- 492043 = Clamp batten in L = 3.0 m

Versions
- Aluminium - mill finish
- Aluminium - anodized E6/EV1
- Aluminium - powder coated according to RAL 902101 / 902901
- 902102 = Inner EPDM lip gasket
- 902101/902901 = Outer plug gasket optional out of EPDM / TPE

Installation of the aluminium profiles with stainless steel screws and sealing disc. Dimensions and size according to substructure and extract values of fixing materials.

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

Calculation of panel length:
L in mm = Height H in mm
Less 85 mm at H > = 2,500 mm
Less 90 mm at H < = 2,500 mm

The details refer to our current state of knowledge and do not claim to be complete. Data subject to technical change.
1.3.3.3

Translucent Building Elements
Series 4460 | Frame system thermally broken

General
The frame system series 44 is made of extruded aluminium profiles consisting of aluminium EN AW-6060, status T66 according to DIN EN 755-2. The ribs are made of fibre glass reinforced polyamide PA 66 with fibre glass part of 25%. The gaskets are made of EPDM or TPE.

Initial lengths/-units
- Aluminium profiles: 6.00 m
- Clamp batten: 2.0 and 3.0 m
- EPDM gaskets, black: 50 m rolls
  Alternatively: TPE gasket, grey or special colour on request: 50 m rolls
- Profile connector: 10 cm

Article numbers
- 446090 = Top frame profile
- 493011 = Profile connector for 446090
- 493082 = Profile connector for 446090
- 492082 = Clamp batten in L = 2.0 m
- 493081 = Profile connector for 492082
- 492083 = Clamp batten in L = 3.0 m
- 493081 = Profile connector for 492083
- 446041 = Base profile without windowsill
- 493041 = Profile connector for 446041
- 493042 = Profile connector for 446041
- 492042 = Clamp batten in L = 2.0 m
- 492043 = Clamp batten in L = 3.0 m

Versions
- Aluminium - mill finish
- Aluminium - anodized E6/EV1
- Aluminium - powder coated according to RAL 902101 / 902901
- Outer plug gasket: 902101 / 902901
  optional out of EPDM / TPE
- Inner EPDM lip gasket: 902102

Installation of the aluminium profiles with stainless steel screws and sealing disc. Dimensions and size according to substructure and extract values of fixing materials.

Please note:
The coefficient of linear expansion for aluminium profiles = 0.023 mm/m°C.
Polycarbonate panels = 0.065 mm/m°C.
1.3.3.4

Translucent Building Elements
Series 4460 | Frame system thermally broken

General
The frame system series 44 is 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 EPDM or TPE.

Initial lengths/-units
Aluminium profiles 6.00 m
Clamp batten 2.0 and 3.0 m
EPDM gaskets, black 50 m rolls
Alternatively: TPE gasket, grey or special colour on request 50 m rolls
Profile connector 10 cm

Article numbers
446040 = Top frame profile
493011 = Profile connector for 446040
493012 = Profile connector for 446040
492042 = Clamp batten in L = 2.0 m
492043 = Clamp batten in L = 3.0 m
446062 = Traverse profile
493062 = Profile connector for 446062
493063 = Profile connector for 446062
493064 = Profile connector for 446062
493065 = Profile connector for 446062
492042 = Clamp batten in L = 2.0 m
492043 = Clamp batten in L = 3.0 m

Versions
Aluminium - mill finish
Aluminium - anodized E6/EV1
Aluminium - powder coated according to RAL
902101 / 902901 = Outer plug gasket
optional out of EPDM / TPE
902102 = Inner EPDM lip gasket

Installation of the aluminium profiles with stainless steel screws and sealing disc. Dimensions and size according to substructure and extract values of fixing materials.

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

The details refer to our current state of knowledge and do not claim to be complete.
Data subject to technical change.
1.3.3.5

Translucent Building Elements
Series 4460 | Frame system thermally broken

General
The frame system series 44 is made of extruded Aluminium profiles consisting of aluminium EN AW-6060, status T66 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 EPDM or TPE.

Initial lengths/-units
- Aluminium profiles: 6.00 m
- Clamp batten: 2.0 and 3.0 m
- EPDM gaskets, black: 50 m rolls
- Alternatively: TPE gasket, grey or special colour on request: 50 m rolls
- Profile connector: 10 cm

Article numbers
- 446090 = Top frame profile
- 493011 = Profile connector for 446090
- 493081 = Profile connector for 446090
- 493082 = Profile connector for 446090
- 492082 = Clamp batten in L = 2.0 m
- 492083 = Clamp batten in L = 3.0 m
- 493081 = Profile connector for 492082/83
- 446062 = Traverse profile
- 493062 = Profile connector for 446062
- 493063 = Profile connector for 446062
- 493064 = Profile connector for 446062
- 493065 = Profile connector for 446062
- 492042 = Clamp batten in L = 2.0 m
- 492043 = Clamp batten in L = 3.0 m

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

902101 / 902901 = Outer plug gasket
optional out of EPDM / TPE
902102 = Inner EPDM lip gasket

Installation of the aluminium profiles with stainless steel screws and sealing disc. Dimensions and size according to substructure and extract values of fixing materials.

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

The details refer to our current state of knowledge and do not claim to be complete. Data subject to technical change.
1.3.4.1

Translucent Building Elements
Series 4460 | Frame system thermally broken

General
The frame system series 44 is 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 EPDM or TPE.

Initial lengths/units
- Aluminium profiles: 6.00 m
- Clamp batten: 2.0 and 3.0 m
- EPDM gaskets, black: 50 m rolls
  Alternatively: TPE gasket, grey or special colour on request: 50 m rolls
- Profile connector: 10 cm

Article numbers
- 446040: Top frame profile
- 493011: Profile connector for 446040
- 493012: Profile connector for 446041
- 492042: Clamp batten in L = 2.0 m
- 492043: Clamp batten in L = 3.0 m
- 446041: Base profile without windowsill
- 493041: Profile connector for 446041
- 493042: Profile connector for 446041
- 492042: Clamp batten in L = 2.0 m
- 492043: Clamp batten in L = 3.0 m

Versions
- Aluminium - mill finish
- Aluminium - anodized E6/EV1
- Aluminium - powder coated according to RAL 902101 / 902901
  Outer plug gasket
  optional out of EPDM / TPE
  902102 = Inner EP DM lip gasket

Calculation of panel length:
L in mm = Height H in mm
Less 85 mm at H >= 2,500 mm
Less 90 mm at H <= 2,500 mm

The details refer to our current state of knowledge and do not claim to be complete. Data subject to technical change.
1.3.4.2

Translucent Building Elements
Series 4460 | Frame system thermally broken

**General**
The frame system series 44 is 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 EPDM or TPE.

**Initial lengths/-units**
- Aluminium profiles: 6.00 m
- Clamp batten: 2.0 and 3.0 m
- EPDM gaskets, black: 50 m rolls
  - Alternatively: TPE gasket, grey or special colour on request: 50 m rolls
- Profile connector: 10 cm

**Article numbers**
- 446090 = Top frame profile
- 492082/83 = Clamp batten in L = 2.0 m
- 492083 = Clamp batten in L = 3.0 m
- 493081 = Profile connector for 492082/83
- 446041 = Base profile without windowsill
- 492042/43 = Clamp batten in L = 2.0 m / 3.0 m
- 493042 = Profile connector for 446041

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

902101 / 902901 = Outer plug gasket
902102 = Inner EPDM lip gasket

Installation of the aluminium profiles with stainless steel screws and sealing disc. Dimensions and size according to substructure and extract values of fixing materials.

**Please note:**
The coefficient of linear expansion for Aluminium profiles = 0.023 mm/m°C. Polycarbonate panels = 0.065 mm/m°C.
Translucent Building Elements
Series 4460 | Frame system thermally broken

1.3.4.3

General
The frame system series 44 is made of extruded aluminium profiles consisting of aluminium EN AW-6060, status T66 according to DIN EN 755-2. The ribs are made of fibre glass reinforced polyamide PA 66 with fibre glass part of 25%. The gaskets are made of EPDM or TPE.

Initial lengths/-units
- Aluminium profiles: 6.00 m
- Clamp batten: 2.0 and 3.0 m
- EPDM gaskets, black: 50 m rolls
- Alternatively: TPE gasket, grey or special colour on request: 50 m rolls
- Profile connector: 10 cm

Article numbers
- 446062 = Traverse profile
- 493062 = Profile connector for 446062
- 493063 = Profile connector for 446062
- 493064 = Profile connector for 446062
- 493065 = Profile connector for 446062
- 492042 = Clamp batten in L = 2.0 m
- 492043 = Clamp batten in L = 3.0 m
- 446041 = Base profile without windowsill
- 493041 = Profile connector for 446041
- 493042 = Profile connector for 446041
- 492042 = Clamp batten in L = 2.0 m
- 492043 = Clamp batten in L = 3.0 m

Versions
- Aluminium - mill finish
- Aluminium - anodized E6/EV1
- Aluminium - powder coated according to RAL 902101 / 902901

Optional out of EPDM / TPE
- 902102 = Inner EPDM lip gasket

Installation of the aluminium profiles with stainless steel screws and sealing disc. Dimensions and size according to substructure and extract values of fixing materials.

Please note:
The coefficient of linear expansion for aluminium profiles = 0.023 mm/mm°C. Polycarbonate panels = 0.065 mm/mm°C.

If the panel is longer than 5.0 m the base profile needs extra support.

Calculation of panel length: L in mm = Height H in mm - 90 mm

The details refer to our current state of knowledge and do not claim to be complete. Data subject to technical change.
Translucent Building Elements
Series 4460 | Frame system thermally broken

General
The frame system series 44 is 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 EPDM or TPE.

Initial lengths/-units
- Aluminium profiles: 6.00 m
- Clamp batten: 2.0 and 3.0 m
- EPDM gaskets, black: 50 m rolls
  Alternatively: TPE gasket, grey or special colour on request: 50 m rolls
- Profile connector: 10 cm

Article numbers
- 446062 = Traverse profile
- 493062 = Profile connector for 446062
- 493063 = Profile connector for 446062
- 493064 = Profile connector for 446062
- 493065 = Profile connector for 446062
- 492042 = Clamp batten in L = 2.0 m
- 492043 = Clamp batten in L = 3.0 m

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

Installation of the aluminium profiles with stainless steel screws and sealing disc. Dimensions and size according to substructure and extract values of fixing materials.

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

The details refer to our current state of knowledge and do not claim to be complete. Data subject to technical change.
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1.3.4.5

Translucent Building Elements
Series 4460 | Frame system thermally broken

General
The frame system series 44 is 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 EPDM or TPE.

Initial lengths/-units
Aluminium profiles 6.00 m
Clamp batten 2.0 and 3.0 m
EPDM gaskets, black 50 m rolls
Alternatively: TPE gasket, grey or special colour on request 50 m rolls
Profile connector 10 cm

Article numbers
446040 = Top frame profile
493011 = Profile connector for 446040
493012 = Profile connector for 446040
492042 = Clamp batten in L = 2.0 m
492043 = Clamp batten in L = 3.0 m
446062 = Traverse profile
493062 = Profile connector for 446062
493063 = Profile connector for 446062
493064 = Profile connector for 446062
493065 = Profile connector for 446062
492042 = Clamp batten in L = 2.0 m
492043 = Clamp batten in L = 3.0 m

Versions
Aluminium - mill finish
Aluminium - anodized E6/EV1
Aluminium - powder coated according to RAL
902101 / 902901 = Outer plug gasket
optional out of EPDM / TPE
902102 = Inner EPDM lip gasket

Installation of the aluminium profiles with stainless steel screws and sealing disc. Dimensions and size according to substructure and extract values of fixing materials.

Please note:
The coefficient of linear expansion for Aluminium profiles = 0.023 mm/m°C.
Polycarbonate panels = 0.065 mm/m°C.
Curtain wall installation
Installation situation for panel length up to 12.00 m*
*at Central European temperature conditions

General
The frame system series 44 is 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 glass fiber reinforced polyamide PA 66 with glass fiber part of 25%. The gaskets are made of EPDM or TPE.

Initial lengths/-units
- Aluminium profiles: 6.00 m
- Clamp batten: 2.0 and 3.0 m
- EPDM gaskets, black: 50 m rolls
- Alternatively: TPE gasket, grey or special colour on request: 50 m rolls
- Profile connector: 10 cm

Article numbers
- 446090 = Top frame profile
- 493011 = Profile connector for 446090
- 493082 = Profile connector for 446090
- 492082 = Clamp batten in L = 2.0 m
- 492083 = Clamp batten in L = 3.0 m
- 493081 = Profile connector for 492082/83
- 446062 = Traverse profile
- 493062 = Profile connector for 446062
- 493063 = Profile connector for 446062
- 493064 = Profile connector for 446062
- 493065 = Profile connector for 446062
- 492042 = Clamp batten in L = 2.0 m
- 492043 = Clamp batten in L = 3.0 m

Versions
- Aluminium - mill finish
- Aluminium - anodized E6/EV1
- Aluminium - powder coated according to RAL 902101 / 902901 = Outer plug gasket
- optional out of EPDM / TPE
- 902102 = Inner EPDM lip gasket

Installation of the aluminium profiles with stainless steel screws and sealing disc. Dimensions and size according to substructure and extract values of fixing materials.

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

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

The details refer to our current state of knowledge and do not claim to be complete. Data subject to technical change.
Connection with composite panel

Base connection with edged piece provided from client
Installation situation vertical
60 mm panel / 80 mm - 100 mm composite panel

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

General
The frame system series 44 is 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 EPDM or TPE.

Initial lengths/-units
Aluminium profiles 6.00 m
Clamp batten 2.0 and 3.0 m
EPDM gaskets, black 50 m rolls
Alternatively: TPE gasket, grey or special colour on request 50 m rolls
Profile connector 10 cm

Article numbers
4460003 = Base connection profile
4460103 = Top frame profile including system angle for 100 mm composite panels
4460003 = Base frame profile for installation with an edged piece provided from client
492042 = Clamp batten in L = 2.0 m
492043 = Clamp batten in L = 3.0 m
493063 = Profile connector for 4460003
493064 = Profile connector for 4460003
493011 = Profile connector for 4460003

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

902101 / 902901 = Outer plug gasket optional out of EPDM / TPE
902102 = Inner EPDM lip gasket

Installation of the aluminium profiles with stainless steel screws and sealing disc. Dimensions and size according to substructure and extract values of fixing materials.

The details refer to our current state of knowledge and do not claim to be complete. Data subject to technical change.
**General**

The frame system series 44 is 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 fibre glass reinforced polyamide PA 66 with fibre glass part of 25%. The gaskets are made of EPDM or TPE.

**Initial lengths/-units**

- Aluminium profiles: 6.00 m
- Clamp batten: 2.0 and 3.0 m
- EPDM gaskets, black: 50 m rolls
- Alternatively: TPE gasket, grey or special colour on request: 50 m rolls
- Profile connector: 10 cm

**Article numbers**

- 4460003 = Base connection profile
- 4460103 = Side frame profile including system angle for 100 mm composite panels
- 492042 = Clamp batten in L = 2.0 m
- 492043 = Clamp batten in L = 3.0 m
- 493062 = Profile connector for 4460003
- 493064 = Profile connector for 4460003
- 493011 = Profile connector for 4460003

**Versions**

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

**Technical advice:**

This technical information is valid for composite panels which have to be fixed at substructure without distance. The differences of mounting plane of the composite panel to PC panel depend from fixing requirements from the composite panel and can differ from this example. The connection profile doesn’t serve to transfer incoming loads of the composite panel. Please check the usability of this detail depending on the composite panel planned for use and its mounting planes. Right from planning phase of the substructure need to be considered that the substructure of the PC panels (due to the flat fastener fitting) moves 8 mm compared to UK composite panels.

Installation of the aluminium profiles with stainless steel screws and sealing disc. Dimensions and size according to substructure and extract values of fixing materials.

The details refer to our current state of knowledge and do not claim to be complete. Data subject to technical change.
Translucent Building Elements
Series 4460 and 4060

General
The frame system series 44 and series 40 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 EPDM or TPE.

**Initial lengths/units**
- Aluminium profiles: 6.00 m
- Clamp batten: 2.0 and 3.0 m
- EPDM gaskets, black: 50 m rolls
  Alternatively: TPE gasket, grey or special colour on request: 50 m rolls
- Profile connector: 10 cm

**Article numbers**
- 446040 = Top frame profile
- 493011 = Profile connector for 446040
- 493012 = Profile connector for 446040
- 492042 = Clamp batten in L = 2.0 m
- 492043 = Clamp batten in L = 3.0 m
- 406051 = Shed profile
- 493018 = Profile connector for 406051
- 492082 = Clamp batten in L = 2.0 m
- 492083 = Clamp batten in L = 3.0 m
- 493081 = Profile connector for 492082/83

**Versions**
- Aluminium - mill finish
- Aluminium - anodized E6/EV1
- Aluminium - powder coated according to RAL 902101 / 902901 = Outer plug gasket optional out of EPDM / TPE
- 902102 = Inner EPDM lip gasket

Installation of the aluminium profiles with **stainless steel** screws and sealing disc. Dimensions and size according to substructure and extract values of fixing materials.

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

The details refer to our current state of knowledge and do not claim to be complete. Data subject to technical change.
1.3.5.3

Translucent Building Elements
Series 4460 and 4060

General
The frame system series 44 and series 40 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 fibre glass reinforced polyamide PA 66 with fibre glass part of 25%. The gaskets are made of EPDM or TPE.

Initial lengths/-units
Aluminium profiles 6.00 m
Clamp batten 2.0 and 3.0 m
EPDM gaskets, black 50 m rolls
Alternatively: TPE gasket, grey or special colour on request 50 m rolls
Profile connector 10 cm

Article numbers
446090 = Top frame profile
493011 = Profile connector for 446090
493082 = Profile connector for 446090
492082 = Clamp batten in L = 2.0 m
492083 = Clamp batten in L = 3.0 m
493081 = Profile connector for 492082
406051 = Shed profile
493018 = Profile connector for 406051
492082 = Clamp batten in L = 2.0 m
492083 = Clamp batten in L = 3.0 m
493081 = Profile connector for 492082/83

Versions
Aluminium - mill finish
Aluminium - anodized E6/EV1
Aluminium - powder coated according to RAL 902101 / 902901 = Outer plug gasket
optional out of EPDM / TPE
902102 gasket sealed panel
sealed panel
902102 gasket drainage

Installation of the aluminium profiles with stainless steel screws and sealing disc. Dimensions and size according to substructure and extract values of fixing materials.

Please note:
The coefficient of linear expansion for Aluminium profiles = 0.023 mm/m°C.
Polycarbonate panels = 0.065 mm/m°C.
1.3.5.4

Translucent Building Elements
Series 4460 and 4060

General
The frame system series 44 and series 40 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 EPDM or TPE.

Initial lengths/units
Aluminium profiles 6.00 m
Clamp batten 2.0 and 3.0 m
EPDM gaskets, black 50 m rolls
Alternatively: TPE gasket, grey or special colour on request 50 m rolls
Profile connector 10 cm

Article numbers
446040 = Top frame profile
493011 = Profile connector for 446040
493012 = Profile connector for 446040
492042 = Clamp batten in L = 2.0 m
492043 = Clamp batten in L = 3.0 m
406051 = Shed profile
493018 = Profile connector for 406051
492082 = Clamp batten in L = 2.0 m
492083 = Clamp batten in L = 3.0 m
493081 = Profile connector for 492082/83

Versions
Aluminium - mill finish
Aluminium - anodized E6/EV1
Aluminium - powder coated according to RAL 902101 / 902901 = Outer plug gasket optional out of EPDM / TPE
902102 = Inner EPDM lip gasket

Installation of the aluminium profiles with stainless steel screws and sealing disc. Dimensions and size according to substructure and extract values of fixing materials.

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

The details refer to our current state of knowledge and do not claim to be complete. Data subject to technical change.
1.3.5.5

Translucent Building Elements
Series 4460 and 4060

General
The frame system series 44 and series 40 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 EPDM or TPE.

Initial lengths/-units
- Aluminium profiles: 6.00 m
- Clamp batten: 2.0 and 3.0 m
- EPDM gaskets, black: 50 m rolls
- Alternatively: TPE gasket, grey or special colour on request: 50 m rolls
- Profile connector: 10 cm

Article numbers
- 446090 = Top frame profile
- 493011 = Profile connector for 446090
- 493082 = Profile connector for 446090
- 492082 = Clamp batten in L = 2.0 m
- 492083 = Clamp batten in L = 3.0 m
- 493081 = Profile connector for 492082/83
- 406051 = Shed profile
- 493018 = Profile connector for 406051
- 492082 = Clamp batten in L = 2.0 m
- 492083 = Clamp batten in L = 3.0 m
- 493081 = Profile connector for 492082/83

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

802101 / 902901 = Outer plug gasket
optional out of EPDM / TPE
902102 = Inner EPDM lip gasket

Installation of the aluminium profiles with stainless steel screws and sealing disc. Dimensions and size according to substructure and extract values of fixing materials.

Please note:
The coefficient of linear expansion for Aluminium profiles = 0.023 mm/m°C.
Polycarbonate panels = 0.065 mm/m°C.
1.3.9.1

Translucent Building Elements
Series 4460 | Frame system thermally broken

General
The frame system series 44 is 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 fibre glass reinforced polyamide PA 66 with fibre glass part of 25%. The gaskets are made of EPDM or TPE.

Initial lengths/-units
- Aluminium profiles: 6.00 m
- Clamp batten: 2.0 and 3.0 m
- EPDM gaskets, black: 50 m rolls
  Alternatively: TPE gasket, grey or special colour on request: 50 m rolls
- Profile connector: 10 cm

Article numbers
- 446040 = Top and side frame profile
- 493011 = Profile connector for 446040
- 493012 = Profile connector for 446040
- 492042 = Clamp batten in L = 2.0 m
- 492043 = Clamp batten in L = 3.0 m
- 446072 = Corner profile
- 493020 = Profile connector for 446072
- 492042 = Clamp batten in L = 2.0 m
- 492043 = Clamp batten in L = 3.0 m

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

Installation of the aluminium profiles with stainless steel screws and sealing disc. Dimensions and size according to substructure and extract values of fixing materials.

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

The details refer to our current state of knowledge and do not claim to be complete. Data subject to technical change.
1.3.9.2

Translucent Building Elements
Series 4450 | Frame system thermally broken

General
The frame system series 44 is 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 EPDM or TPE.

Initial lengths/-units
- Aluminium profiles: 6.00 m
- Clamp batten: 2.0 and 3.0 m
- EPDM gaskets, black: 50 m rolls
  Alternatively: TPE gasket, grey or special colour on request: 50 m rolls
- Profile connector: 10 cm

Article numbers
- 446090 = Side frame profile
- 493011 = Profile connector for 446090
- 493082 = Profile connector for 446090
- 492082 = Clamp batten in L = 2.0 m
- 493081 = Profile connector for 492082
- 492083 = Clamp batten in L = 3.0 m
- 493081 = Profile connector for 492083

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

902101 / 902901 = Outer plug gasket optional out of EPDM / TPE
902102 = Inner EPDM lip gasket

Installation of the aluminium profiles with stainless steel screws and sealing disc. Dimensions and size according to substructure and extract values of fixing materials.

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

The details refer to our current state of knowledge and do not claim to be complete. Data subject to technical change.
**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 make out about 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 above 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 fall below 20 mm.

- **From a projection/profile depth of 150 mm holders (Vario fastener or clinker fastener) are necessary to be used on the structure (every 800 to 1,000 mm).**

**Note for installation:**

Before installation of the side elements stick the sound absorbitive 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 window sill 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
1.3.10.2

Translucent Building Elements
Series 4975 | Windowsills and Accessories

Example for construction group:

- Windowsill 4970050
- Profile connector for direct fitting edge 4972051
- 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
- Special side endpiece on-wall (left/right) 4972054

Example: article numbers for a 50 mm windowsill projection:

- Profile connector for outer corner angle 90°-135° 4972056
- Side endpiece on wall (left/right) 4972053
- Special side endpiece on-wall (left/right) 4972054

- Aluminium windowsills should project approximately 40 mm over the ready façade. 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 façade.

Data subject to technical change.
Adaptable aluminium windowsills for RODECA base profiles 445041 and 446041 - no application with adapter profiles. For additional information about the construction groups Please see our price lists.

Base profile 445041 with clamp batten 492042
For windowsill projections from 50 to 110 mm.

Aluminium windowsills should project approx. 40 mm over the ready facade.

Accordingly the profile width needs to be measured. This is only valid if side end pieces are installed as well. Without side end pieces in place the windowsill must project 20 mm over the ready facade. (refer to 1.3.10.2 below).

Base profile 446041 with clamp batten 492042
for windowsill projections from 50 to 110 mm.
Adaptable aluminium windowsills for RODECA base profiles 445041 and 446041 - no application of adapter profiles. From a windowsill projection of 110 mm both base profiles of the Series 4450 and 4460 need elevation provided from client.

Aluminium windowsills should project approx. 40 mm over the ready facade.

Accordingly the profile width needs to be measured. This is only valid if side end pieces are installed as well. Without side end pieces in place the windowsill must project approximately 20 mm over the ready facade. (refer to 1.3.10.2 below)

For a projection / profile depth of more than 150 mm additional fasteners (Vario-fastener or Clinker-fastener) are necessary on structure. (every 800 to 1,000 mm)
10-years warranty
LBE / MFP / U-Panels longlife

The limited warranty assumed by RODECA vis-à-vis the purchaser shall be in effect in addition to the statutory liability for defects of the seller which shall remain completely unaffected thereby.

1.0 Subject Matter of the Warranty
RODECA warrants to the purchaser that the panels manufactured by RODECA (LBE / MFP / U-Panels) of the type “longlife plus” and as from the thickness of 3 mm and as from 1.50 kg/m² (Subject Matter of the Warranty) shall possess the following properties during the warranty period:

1.1 Transparency
The UV protected surface retains its transparency. The loss of the light transmission level on the entire panel width is not more than 8 % (eight percent) after expiry of 10 years after delivery according to ASTM D 1003 standard (measured by the average value over the entire panel width) in comparison to the original sample.

1.2 Yellowing Resistance
The yellowing factor, measured by the industrial standard ASTM D 1925, shall not change in the course of ten years after delivery of the LBE / MFP / U-Panels by more than 10 Delta (measured by the average value over the entire panel width) in comparison to the original sample. The optical properties under 1.1 and 1.2 are only to be measured with cleaned and scratch-free panels over the entire panel width.

1.3 Breakage Resistance
During the term of the warranty, hail shall not cause breakage. Breakage by hail within the meaning of this provision shall exist if, with a simulated hail test of 20 mm thick artificial hailstones are shot into the UV protected elementary surface at a speed of 21 m/sec and the surface is penetrated thereby. In case of breakage due to hail, RODECA can have the justification for the complaint examined by a simulated hail test undertaken on a non-damaged panel.

2.0 Warranty Period
The warranty period begins upon the delivery of the LBE / MFP / U-Panels and is for 10 years.

3.0 Substitute Replacement Materials
The warranty obligation of RODECA in terms of scope is limited as follows: In cases of a justified complaint, RODECA can, at its option, provide substitute replacement materials ex works or reimburse the purchaser the purchase price according to the following provisions.

RODECA shall grant with transparency/yellowing with breakage
up to 5th year 100 % Replacement/reimbursement 100 % Replacement/reimbursement
in the 6th year 75 % Replacement/reimbursement 50 % Replacement/reimbursement
in the 7th year 60 % Replacement/reimbursement 40 % Replacement/reimbursement
in the 8th year 45 % Replacement/reimbursement 30 % Replacement/reimbursement
in the 9th year 30 % Replacement/reimbursement 20 % Replacement/reimbursement
in the 10th year 15 % Replacement/reimbursement 10 % Replacement/reimbursement

4.0 Validity
The manufacturer’s warranty shall apply for installation of the goods inside Europe.

5.0 Warranty Preconditions
5.1 This manufacturer’s warranty shall only be valid if the following conditions exist cumulatively:
5.1.1 the goods have been paid for;
5.1.2 the purchaser examines the goods without undue delay after receipt and immediately gives notice of any defects;
5.1.3 the purchaser gives written notice of the defect within one week of the determination thereof with presentation of the invoice;
5.1.4 the purchaser makes an inspection by RODECA possible;
5.1.5 the warranty object objected to was stored, transported, processed and laid in accordance with the technical information announced by RODECA and in accordance with the DIN standards applicable at the date of the delivery;
5.1.6 the assembly and servicing guidelines of RODECA have been complied with;
5.1.7 The LBE / MFP / U-Panels may only be exposed to the normal interior and exterior temperatures (the Delta between internal and external temperature does not exceed 10°C) but may not, however, be brought in contact with other heat sources.
5.1.8 The LBE / MFP / U-Panels have not been thermically shaped and have not been used there where the influence of wind and fine sand can cause damage or deterioration to the elements and by which the technical or aesthetic properties of the elements can be influenced.
5.1.9 The light transmission value of the LBE / MFP / U-Panels is higher than 40% and sufficient ventilation is considered.

6.0 Exemption from Liability
The warranty is precluded if the defect has occurred as a consequence of acts of violence, unqualified interferences or force majeure with the exception of hail. An unqualified interference exists, in particular, if the following provisions are not observed:
6.1 The LBE / MFP / U-Panels must be protected against disadvantageous effects of chemicals.
6.2 With the application of the elements, no scratches and dents may occur.
6.3 The LBE / MFP / U-Panels may not be installed with equipment other than RODECA System equipment.
6.4 No unsuitable connection, fastening and sealing elements may be used.
6.5 Neither non-contractual adhesives nor non-contractual sealants may be applied.
6.6 The LBE / MFP / U-Panels may be exposed to weather only with the UV protected surface.
6.7 The permissible cold bending radius is dependent upon the panel and may not fall below this value (cf. product data sheets).

7.0 Replacement Performance
Should a replacement performance occur pursuant to § 3 of this Warranty, claims of the purchaser from this warranty with regard to the delivered replacement material shall exist only within the warranty period still remaining at the date of the replacement delivery. The notification of damage shall not inhibit or interrupt the running of the warranty period.

8.0 Miscellaneous
8.1 The law of the FRG shall apply for all legal relationships of the Parties from the warranty agreement.
8.2 The warranty terms 05/2010 shall apply for all contracts as of May 2010 and substitute all former warranty terms.
8.3 Jurisdiction for all claims from the warranty is Mülheim an der Ruhr, FRG.
10-years warranty  
LBE / MFP / U-Panels longlife plus

The limited warranty assumed by RODECA vis-à-vis the purchaser shall be in effect in addition to the statutory liability for defects of the seller which shall remain completely unaffected thereby.

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<tr>
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Unfold your creativity plan with us!

The new generation of multi-wall polycarbonate elements

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 1.0 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.

Other RODECA products:
- RODECA Translucent Building Elements
  - 30 mm, 40 mm and 60 mm
- RODECA multi-wall sheets from 4 mm up to 50 mm
- RODECA Multi-Functional Panels
- RODECA U-panels from Polycarbonate
- RODECA RT - Roof light systems
- RODECA Roof light systems for ISO-Panel for roof and facade application
- RODECA Windows for Roof and Façade
- RODECA Smoke and Heat Exhaust Vent Systems

So when do you start planning with us?