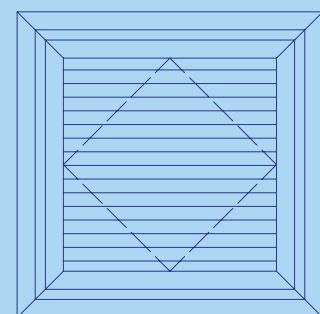


## Technical manual



86



## Aluminium Windows

# General Terms and Conditions

Stand: 09/20

<p><b>§ 1 General</b></p> <p>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).</p> <p>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.</p> <p>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.</p> <p><b>§ 2 Offer, Conclusion of Contract</b></p> <p>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.</p> <p>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.</p> <p><b>§ 3 Prices</b></p> <p>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.</p> <p>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 <a href="http://www.kiweb.de">www.kiweb.de</a>. 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.</p> <p><b>§ 4 Times of Delivery, Force Majeure</b></p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p><b>§ 5 Transport</b></p> <p>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.</p> <p><b>§ 6 Passing of Risk</b></p> <p>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.</p> <p><b>§ 7 Warranty and Liability</b></p> <p>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.</p> <p>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. 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 <a href="http://www.rodeca.de">www.rodeca.de</a>. 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.</p> <p>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.</p> <p>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.</p> <p>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.</p>	<p>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.</p> <p>7.8 Any Customer claims against the Supplier resulting from one of the manufacturer guarantees granted to him remain untouched.</p> <p>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.</p> <p><b>§ 8 Liability, Limitation of Liability</b></p> <p>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.</p> <p>8.2 The Supplier shall also be liable for any damages resulting from simple negligence, if said negligence regards the violation of essential contractual 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.</p> <p><b>§ 9 Retention of Title</b></p> <p>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.</p> <p>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.</p> <p>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 from 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.</p> <p>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 Supplier's written consent.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p><b>§ 10 Payment</b></p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p><b>§ 11 Miscellaneous Provisions</b></p> <p>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.</p> <p>11.2 Place of fulfillment is the relevant point of departure of the goods; for payment, it is Muelheim an der Ruhr.</p> <p>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 Muelheim an der Ruhr. However, the Supplier shall be entitled to file suit at the Customer's general place of jurisdiction.</p> <p>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.</p> <p>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.</p>
----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

# General information

## Windows

Stand: 09/20

### Storage/Transport

Window systems are to be protected against sun and moisture before installation and must be stored on a flat surface. Please consider that especially mill finish aluminium with oxidative staining is not accepted as reclamation reason. Take care that packaged windows do not sweat in packaging, otherwise spot discoloration of the mill finished or anodised aluminum may occur.

### Mounting instruction for aluminium

Metals such as e.g. Lead, copper or copper-containing alloys (such as brass) must not be installed together with aluminum. Galvanized steel parts, components made of stainless steel or zinc can be easily processed with aluminum. Aluminum components must not be exposed to scratching or impact stress. Their installation should be done only after completion of the masonry, stucco and plaster as well as stone work and plate work to avoid exposure to e.g. to avoid limescale and cement splashes on the surface. Impurities due to alkaline substances must be removed immediately. The attachment of aluminum profiles (such as metal window sills) must always be made with stainless steel V2A screws. Since aluminum has a different expansion behavior, no firm integration in plaster or building should be made. The attachment between aluminum and structure should be designed to be basically sliding.

### Mounting instruction for electric motors

Electronic components are only to be installed by qualified personnel and are not preassembled. National regulations for power operated windows must be observed. The manufacturer's instructions are mandatory. If necessary documents are missing, these are to be inquired about the Rodeca GmbH.

The use as well as the project-related suitability test of electronic components is the responsibility of the customer.

### Glazing on-site with Rodeca translucent building elements

If a window is glazed on site, this should be carried out on a suitable level surface. It must be excluded that the window warps during the disassembly of sash profiles. All dissolved components must be sealed again with suitable sealants by the customer during assembly, this applies in particular to the miter cuts of the aluminum.

### Maintenance and care

All gaskets must be checked and cleaned at regular intervals for correct seating. All moving fittings must be lubricated with acid-free or resin-free grease or oil at least once a year and retighten the fastening screws if necessary. All electronic components used are to be maintained by specialist companies at prescribed intervals.

### Cleaning of polycarbonate

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

### Cleaning of aluminium

In order to preserve the appearance of the aluminum components, cleaning is required at certain intervals, usually twice a year, depending on the level of pollution from environmental factors and the client's perceptions. After assembling the components, basic cleaning must be carried out to remove any dirt. These are clean towels or sponges. Anodized surfaces are to clean with warm water, a chlorine-free cleaning agent (e.g., rinse) is added. It should only be worked with a cloth or sponge and water. For heavily soiled surfaces we recommend the use of special anodising agents whose cleaning effect is achieved by abrasives. For powder-coated components, light soiling is described in the same way as for anodised components. After cleaning, rinse well with clean water. Also clean the frame rebate and check the weep holes in the windows - blockages must be removed immediately.

### Miscellaneous

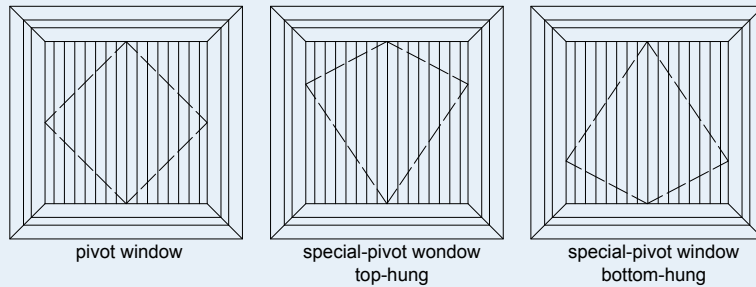
The aforesaid information and our application technological advice in words, written and through tries, are carried out to best of one's knowledge. This information is non-binding advice even in regards to property rights of third parties. Our advice does not release you from your responsibility to proof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

## 8.6.0.0

### Windows

Series 86 | thermally-broken window system

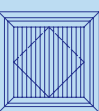
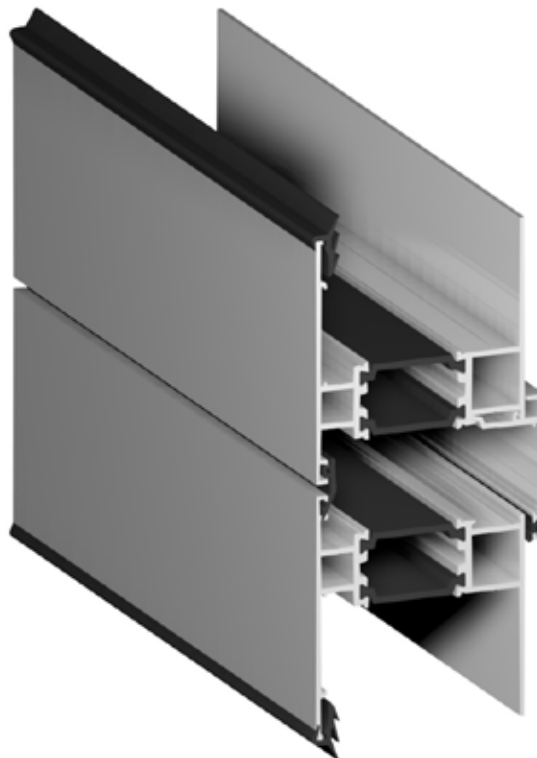
Stand: 09/20



### Series 86

Thermally-broken aluminium window system  
for polycarbonate glazing with a thickness of 40 mm / 50 mm / 60 mm

Pivot window  
Special-pivot window top-hung  
Special-pivot window bottom-hung

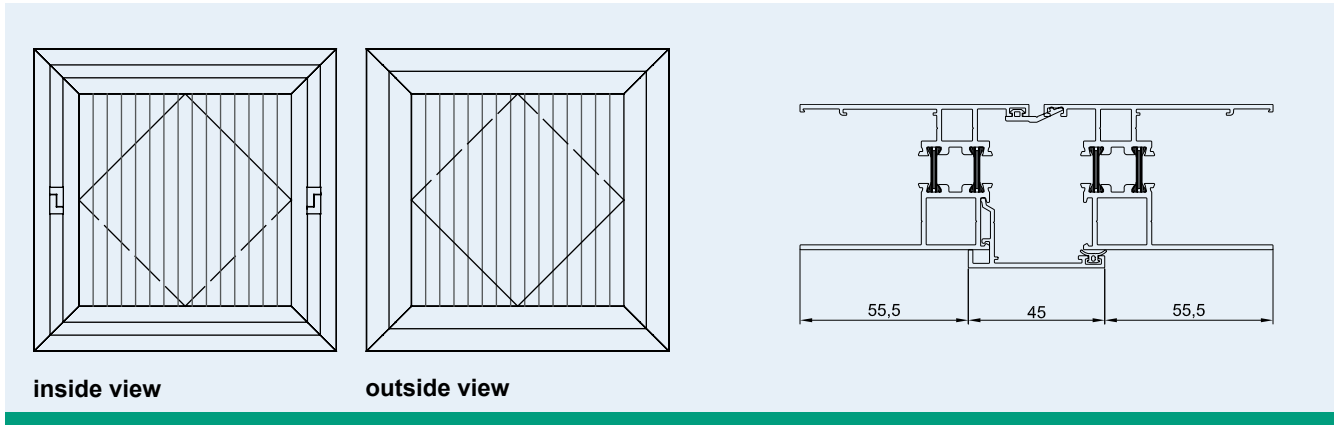


# 8.6.1.0

## Windows

### Series 86 | thermally-broken window system

Stand: 09/20



### Horizontal pivot window

Pivot window, inward opening at the top, consisting of thermal broken aluminium profiles, with a surrounding frame for Translucent Building Elements, or for mounting into Rodeca frame profiles.

- Glazing: 40/50/60 mm polycarbonate panels
- Minimum width: 700 mm
- Minimum height: 700 mm
- Maximum width: 1560 mm
- Maximum height: 1500 mm
- System widths: 1060 / 1560 mm
- Standard dimensions: W\*H 1060 mm \* 1060 mm  
W\*H 1060 mm \* 1500 mm

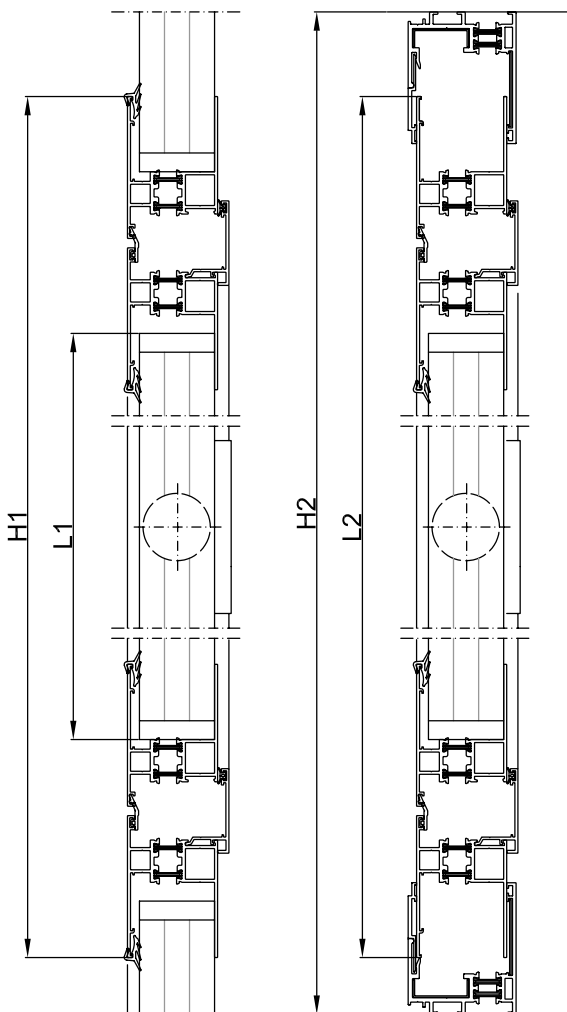
The system width can be used, if a window shall replace 2 or 3 panels in a facade.

Pivot windows are to be fixed to substructure torsion resistant. The installation instructions must be observed.

**Dimension `L1`:** height of polycarbonate glazing  
Outer dimension `H1` - 245 mm = height of glazing `L1`

**Dimension `L2`** for mounting into Rodeca frame profiles:  
`H2` = height incl. frame profile  
`L2` = height of window

Dimension for mounting into Rodeca frame profiles `H2` - x = L2



Mounting into Translucent Building Elements

Mounting into frame profiles

Frame profiles	top profile 414012 / 454012 415012 / 455012 / 456012	top profile 414002 / 454002 415002 / 455002 / 456002
base profile 414011 / 454011 415011 / 455011 456011	80 mm	100 mm
base profile 414001 / 454001 415001 / 455001 / 456001	110 mm	130 mm

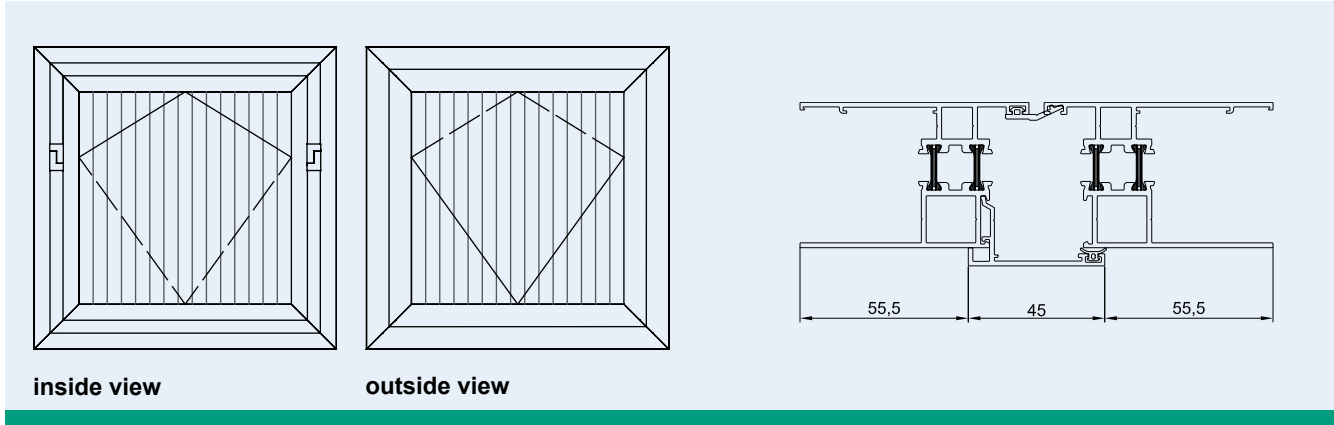
In case of using base profile 414001 / 454001 the window must be elevated and fixed inside of profile.

# 8.6.1.1

## Windows

### Series 86 | thermally-broken window system

Stand: 09/20



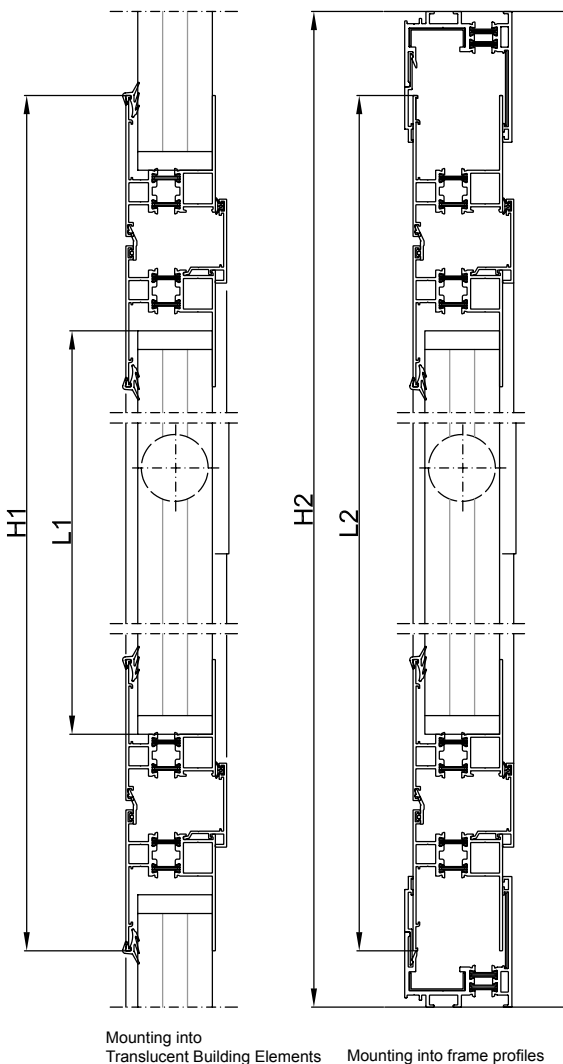
### Special-pivot window top-hung

Special-pivot window top-hung (eccentric displaced pivot bearing) 2/3 of the lower area open outwards, consisting of non-thermal broken aluminium profiles, with a surrounding frame for Translucent Building Elements, or for mounting into Rodeca frame profiles.

- Glazing: 40/50/60 mm polycarbonate panels
- Minimum width: 700 mm
- Minimum height: 700 mm
- Maximum width: 1560 mm
- Maximum height: 1500 mm
- System widths: 1060 mm / 1560 mm

The system widths can be used, if a window shall replace 2 or 3 panels in a facade. The installation instructions must be observed.

Special-pivot windows are to be fixed to substructure torsion resistant.

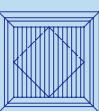


**Dimension `L1`:** height of polycarbonate glazing  
Outer dimension `H1` - 245 mm = height of glazing `L1`

**Dimension `L2`** for mounting into Rodeca frame profiles:  
`H2` = height incl. frame profile  
`L2` = height of window  
Dimension for mounting into Rodeca frame profiles `H2` - x = L2

Frame profiles	top profile 414012 / 454012 415012 / 455012 / 456012	top profile 414002 / 454002 415002 / 455002 / 456002
base profile 414011 / 454011 415011 / 455011 456011	80 mm	100 mm
base profile 414001 / 454001 415001 / 455001 / 456001	110 mm	130 mm

In case of using base profile 414001 / 454001 the window must be elevated and fixed inside of profile.



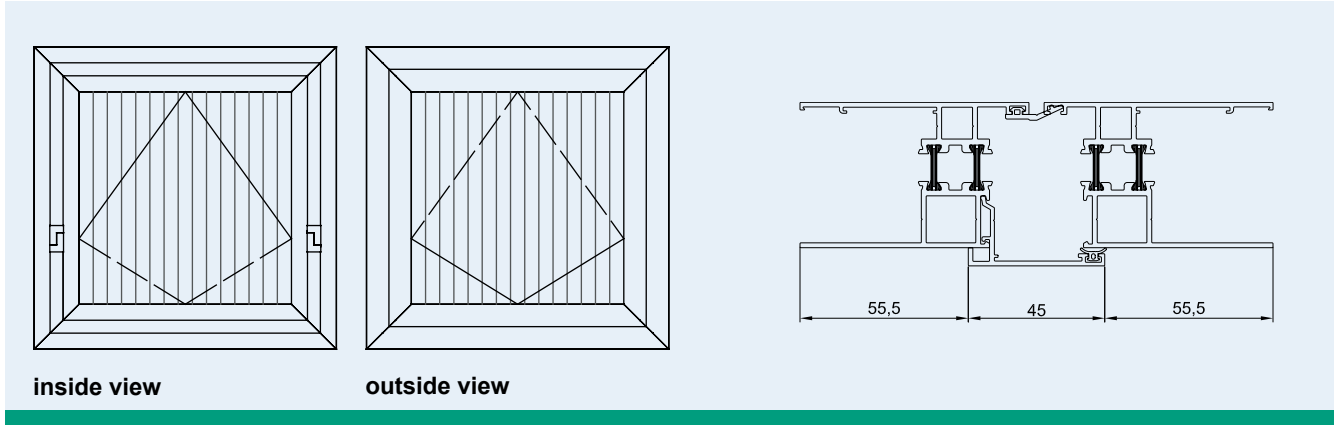


# 8.6.1.2

## Windows

### Series 86 | thermally-broken window system

Stand: 09/20



### Special-pivot window bottom-hung

Special-pivot window bottom-hung (eccentric displaced pivot bearing) 2/3 of the upper area open inwards, consisting of thermal broken aluminium profiles, with a surrounding frame for Translucent Building Elements, or for mounting into Rodeca frame profiles.

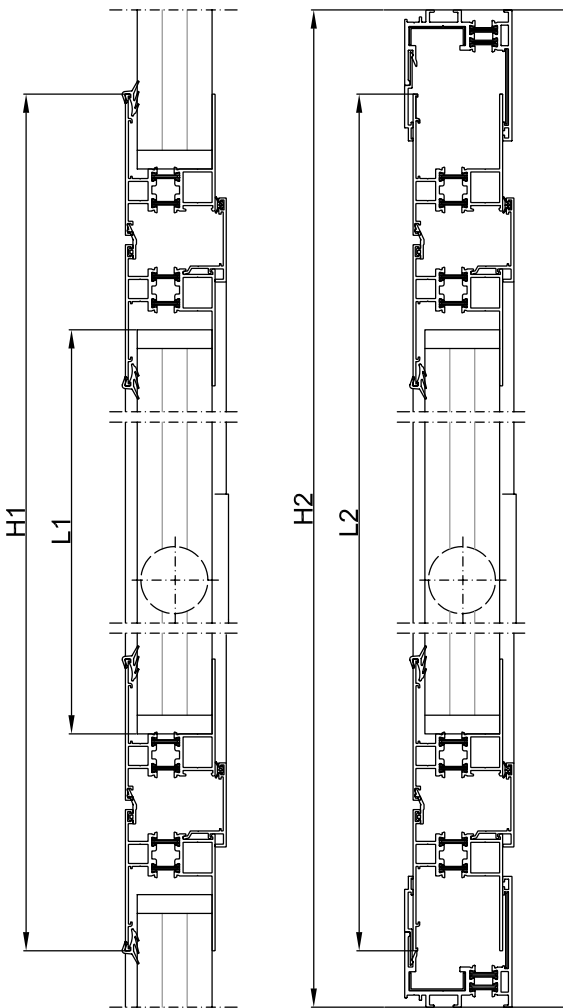
- Glazing: 40/50/60 mm polycarbonate panels
- Minimum width: 700 mm
- Minimum height: 700 mm
- Maximum width: 1560 mm
- Maximum height: 1500 mm
- System width: 1060 mm / 1560 mm

The system width can be used, if a window shall replace 2 or 3 panels in a facade.

Special-pivot windows are to be fixed to substructure torsion resistant. The installation instructions must be observed.

**Dimension `L1`:** height of polycarbonate glazing  
Outer dimension `H1` - 245 mm = height of glazing `L1`

**Dimension `L2`** for mounting into Rodeca frame profiles:  
`H2` = height incl. frame profile  
`L2` = height of window  
Dimension for mounting into Rodeca frame profiles `H2` - x = L2

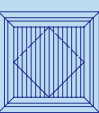


Mounting into Translucent Building Elements

Mounting into frame profiles

Frame profiles	top profile 414012 / 454012 415012 / 455012 / 456012	top profile 414002 / 454002 415002 / 455002 / 456002
base profile 414011 / 454011 415011 / 455011 456011	80 mm	100 mm
base profile 414001 / 454001 415001 / 455001 / 456001	110 mm	130 mm

In case of using base profile 414001 / 454001 the window must be elevated and fixed inside of profile.

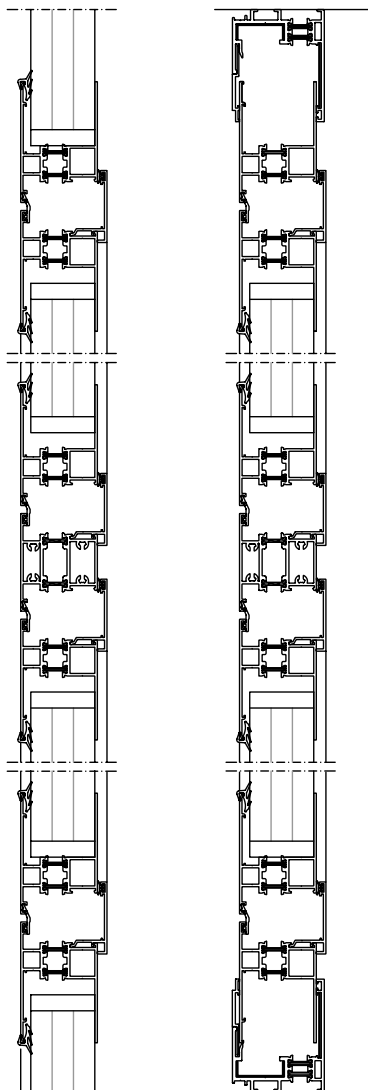
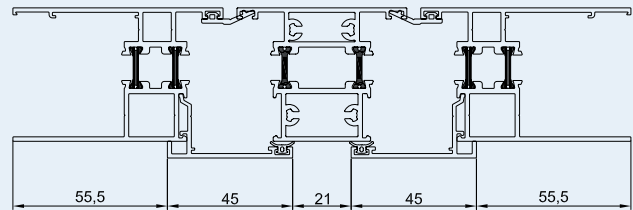
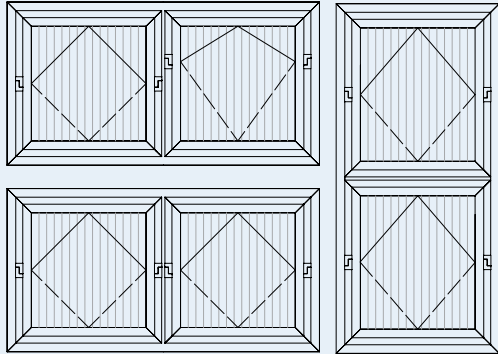


# 8.6.1.3

## Windows

### Series 86 | thermally-broken window system

Stand: 09/20



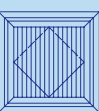
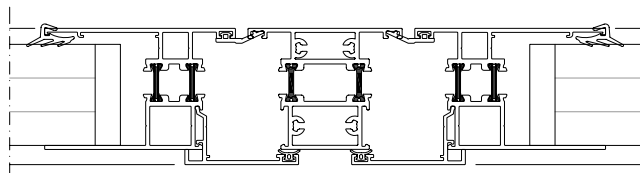
Mounting into Translucent Building Elements    Mounting into frame profiles

### Combining element

Combining element, consisting of thermal broken aluminium profiles, with a surrounding frame for Translucent Building Elements, or for mounting into Rodeca frame profiles. Combination of all opening versions is possible.

- Glazing: 40/50/60 mm polycarbonate panels
- Minimum width of single element: 700 mm
- Minimum height of single element: 700 mm
- Maximum width of single element: 1500 mm
- Maximum height of single element: 1500 mm
- Maximum height of combining element: 3000 mm
- Maximum width of combining element: 3000 mm
- Other dimensions on request

Combining elements are to be fixed to substructure torsion resistant. The installation instructions must be observed.





# 8.6.2.0





## Windows





Series 86 | thermally-broken window system




Stand: 09/20

### Operations electrical



					
chain drive 230 V grey					
Chain drive with adjustable stroke between 90 - 400 mm. 230 V, Power consumption 150 W, current consumption 0,8 Aac. Degree of protection IP 20.					

					
chain drive 230V grey twin-version					
Chain drive twin-version for width of window $\geq 1.25$ m with adjustable stroke between 90 - 400 mm. 230 V, Power consumption 150 W, current consumption 0.8 Aac. Degree of protection IP 20.					

					
spindle drive 230 V grey from a window height of > 1500 mm a horizontal traverse has to be used					
Spindle drive with stroke 300 mm or 500 mm. Connection voltage 230 V. Power consumption 160 W. current consumption 0,7 Aac. Degree of protection IP 65.					

The electrical operations shown above, are standard items from stock and must be installed and connected on site by appropriate specialist companies.

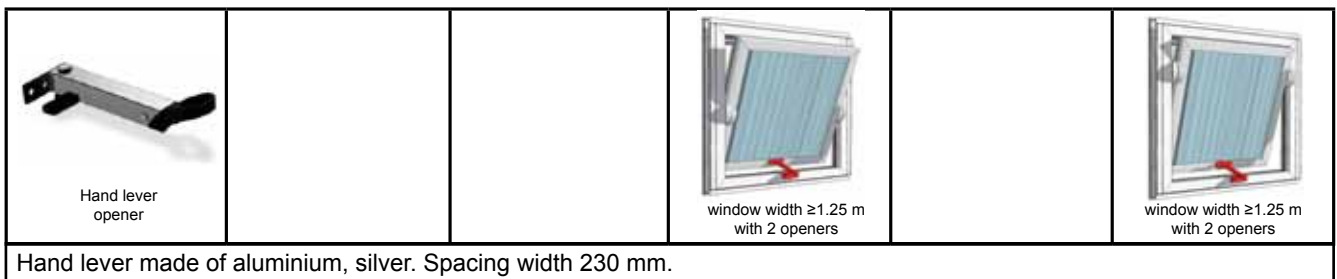
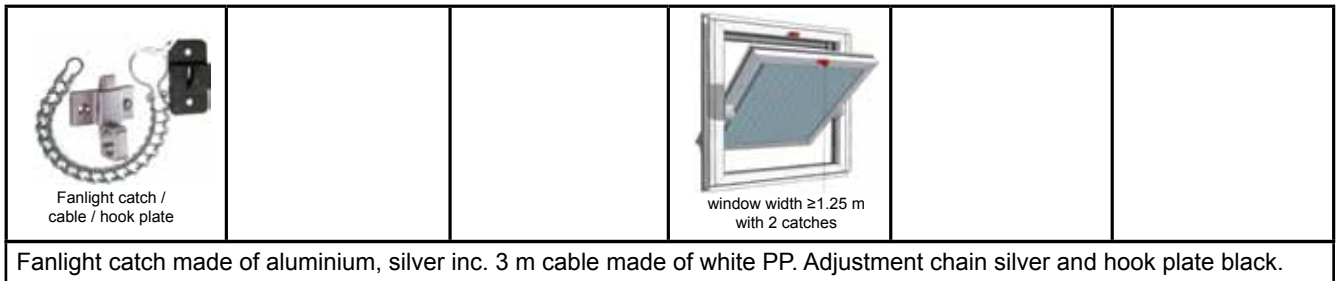
# 8.6.2.1

## Windows

Series 86 | thermally-broken window system

Stand: 09/20

### Operations manual



More operations possible on request.

# 8.6.2.2

## Windows

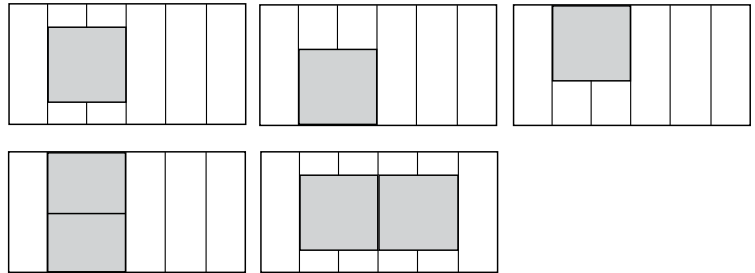
Series 86 | thermally-broken window system

Stand: 09/20

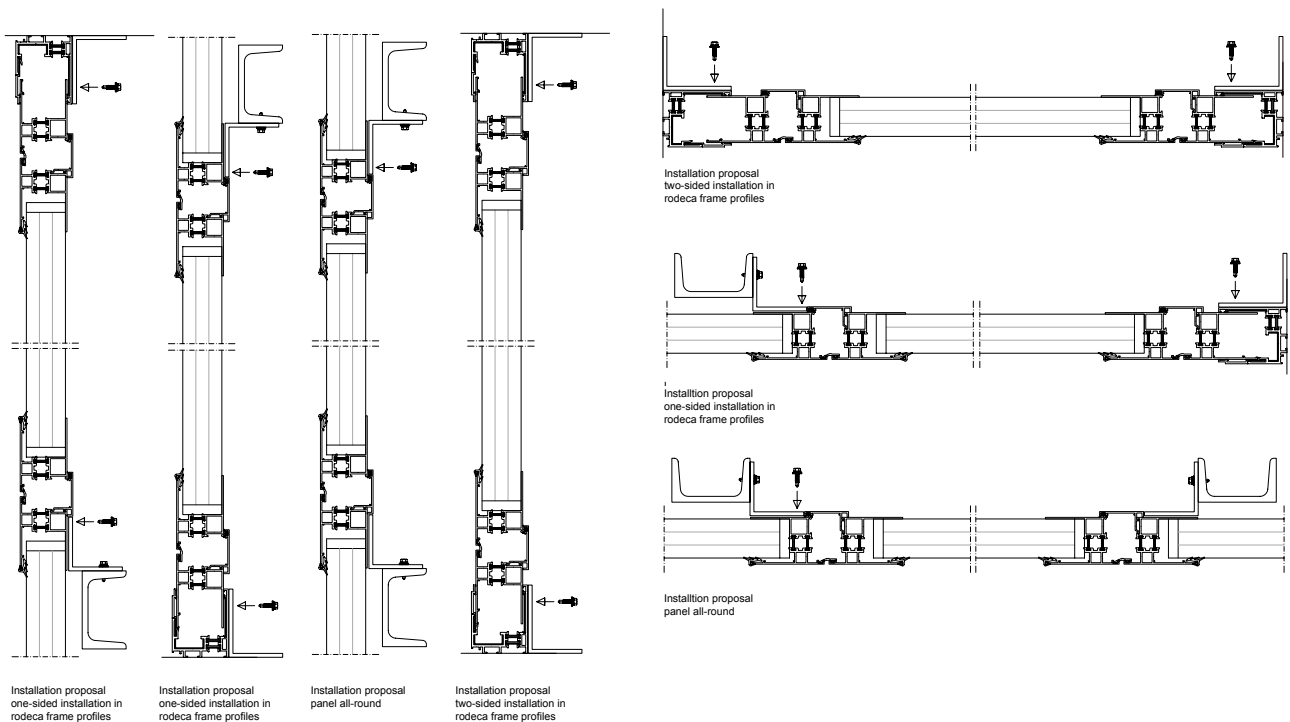
### Installation instructions / options

#### Installation options

Windows of series 86 can be connected either peripherally to panel glazing or to rodeca frame profiles on several sides. Horizontally or vertically divided combining elements are possible. When placing an order, indicate the appropriate installation situation.



#### Installation examples



Windows are to be fixed torsion-resistant to an on-site substructure. The self-weight of window may not be transferred to the frame profile. The mounting level of window is the window frame. The position, quantity and dimensioning of the substructure must be adapted to the size ratio of the window sash, as well as the project-related load assumptions. An all-round fixing is recommended. Translucent Building Elements may not be used as stiffening elements. Dimensions of used fasteners have to be calculated according to the substrate and load assumptions. Static has to be verified on site according to the project-related loads. Depending on used base profile, the window must be elevated inside of profile. Depending on the used frame profiles, the front plate must be set before or inserted from the side and secured to the upper frame profile by a screw connection. Furthermore, when mounting in Rodeca frame profiles, the inner and outer gaskets of the frame profiles must be removed. The mounting level of the window is to be checked on site. It is mandatory to observe the installation instructions and the care and maintenance instructions..

# Order form S86

## Windows

Series 86 | thermally-broken window system

Stand: 09/20

Customer: \_\_\_\_\_

Order no.: \_\_\_\_\_ Seller: \_\_\_\_\_

**Window type:**

Pivot   
 Special-pivot  top-hung  bottom-hung   
 Combining-element   
 to specify under miscellaneous

Quantity: \_\_\_\_\_

**Finish:**

mill finish   
 E6/EV1   
 RAL  RAL No.: \_\_\_\_\_

**Dimension:**

Width x height: \_\_\_\_\_ mm \* \_\_\_\_\_ mm

**For translucent building elements:**

**Glazing of window sash:**

40 mm <input type="checkbox"/>	40 mm <input type="checkbox"/>
50 mm <input type="checkbox"/>	50 mm <input type="checkbox"/>
60 mm <input type="checkbox"/>	60 mm <input type="checkbox"/>
without glazing <input type="checkbox"/>	glazed <input type="checkbox"/> panel _____

**Position of installation:**

Framed by panels

Top	frame profile: _____
Bottom	frame profile: _____
Left side (outside view)	frame profile: _____
Right side (outside view)	frame profile: _____

**Installation in Rodeca frame profiles:**

Height over all: \_\_\_\_\_ mm

**Manual operation:**

Fanlight catch  hand lever opener

**Electrical operation:**  230 V  24 V

**Chain drive**  stroke: \_\_\_\_\_ mm

**Spindle drive**  stroke: \_\_\_\_\_ mm

**Miscellaneous:** \_\_\_\_\_