

Technical Description

OPTIWIN MOTURA

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1. Product "OPTIWIN MOTURA" General Description

The OPTIWIN MOTURA is a lift and slide door system, which is based on the OPTIWIN PURISTA. This sliding door system has bonded glazing in the sashes. No surrounding aluminium profile is mounted on the sashes. Therefore, this system is defined as an all-glass optical system.

Furthermore, this system has a second drainage level and a circumferential seal level as well as other sealing areas. The lower profile is made entirely of a special fibreglass profile. This fibreglass profile below forms the guide for the trolley and drainage. In the upper profile the same GRP profile serves to guide the sash.

The total width of the system is 43–126 mm, depending on the location of the profile. The depth of the window is 251 mm and includes a 40 mm outer layer.

The window system has a passive house certificate and is listed by PHI Darmstadt in the category "Advanced Component A".

2. Materials

2.1. Wood

- Any approved timber (multi-layer bonding) can be used. Special woods are available on request.
- The lower area consists almost entirely of fibreglass, making it durable and permanent
- The outer shell consists of softwood with a narrow aluminium cover
- Finger-jointing in the length and laminated scantlings is permitted
- The corner joints are connected with push-in studs, dowelled or have counter rotating millings with screws
- Ecological insulation, wood fibre insulation and sheep's wool
- EN 942 applies to the quality of the wood in conjunction with the VFF information sheet HO.02 (Selection of wood quality for wood windows and doors), HO.06 (wood types for window construction - requirements, types of wood table) and HO.07 (wood types, specific purchasing recommendations), Association of Window and Façade Manufacturers, Frankfurt am Main.
- The moisture content should be 12%. The scatter range of the wood moisture must not exceed +/- 2%.

2.2. Surface

2.2.1. Inside

- The priming for thin glaze or thick glaze is done by dipping or flow coating process, insofar as the size of the window elements allows. The same applies to the border material.
- 2 x oiled or thick-film or thin-film glaze
- The surface treatment is carried out before application of the outer layer
- The coating is carried out according to the "Technical Guidelines for Window Finishes" and the guidelines of the product supplier.
- Fittings and other metal parts are attached after the final coating.

2.2.2. Outer shell

- Aluminium RAL coated or anodised, according to the standard colour chart. All visible surfaces of the aluminium parts are painted.
- Coating systems of polyester and polyurethane-based powder paint coating
- The frames can be also welded on request. This leads to extended delivery times and must be requested separately.

2.3. Glazing

- Standard: Triple heat protection insulating glass 4/18/4/18/4
- U_g value from 0.5 W/m²K according to EN 673, g value > 50% according to EN 410 (depending on pane thickness and space between panes)
- Depending on requirements glass packages with total thickness of up to 54 mm are possible
- Spaces between are filled with 90% argon as standard
- Colourless, selectively radiolucent metal oxide or noble metal-layer system on the inner and outer panes. The panes can also be made of white glass if required.
- Sound, sun and burglary protection glass is possible (safety glass is extra). Requirements shall be separately defined locally and regionally by the planner or the client
- Air and moisture-proof edge bond with metal profiles or plastic as well as silicone foam are possible. (Stainless steel - e.g. Chromatec).
- The glazing of the sash is carried out as wet glazing without window bars. The glazing is bonded all round to the window frame in the rebate.
- In rare cases spontaneous fractures are possible with single-pane safety glass. This risk can be reduced significantly through the use of a heat-soak test. The extra cost for this will be provided on request. A heat soak test must be offered separately.

2.4. Seals

- acrylic resistant, seals (not welded) are standard in the system.
- The sealing profiles are basically comprised of EPDM or silicone and comply with the requirements under DIN EN12207, DIN EN 12208 and DIN EN 12365, Parts 2 to 4.

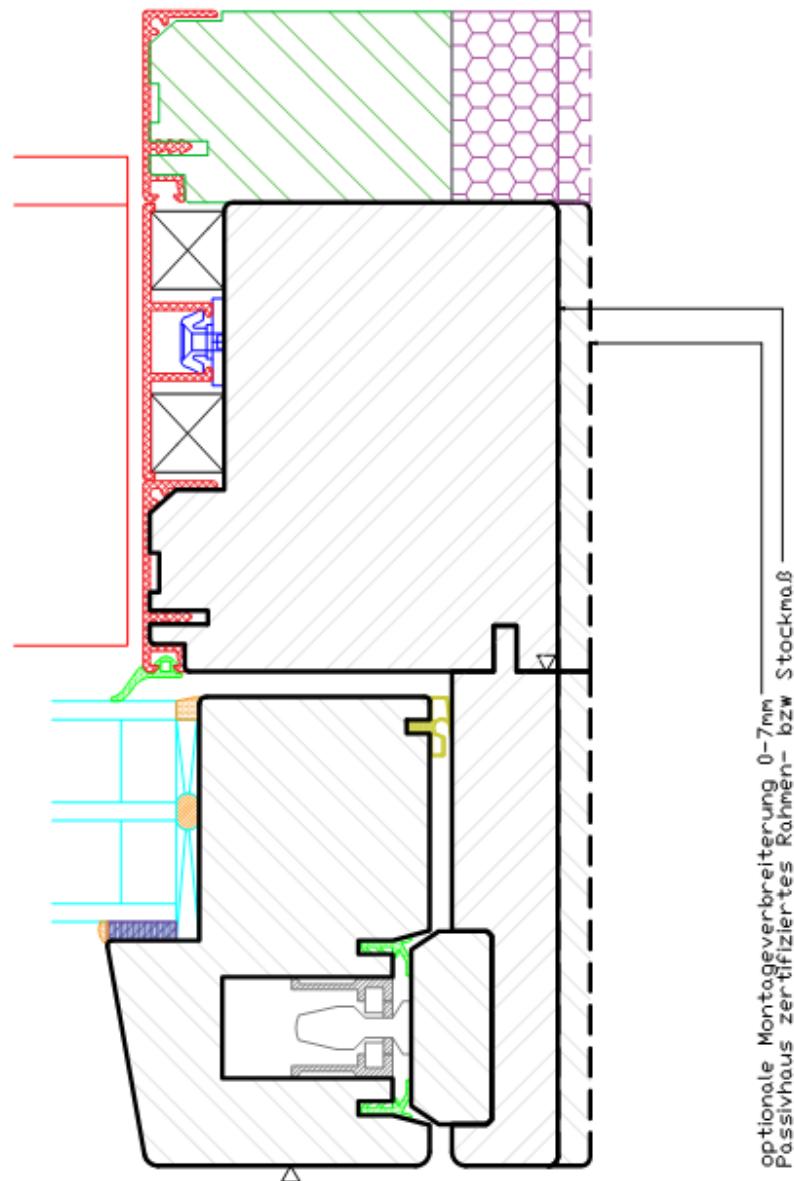
2.5. Fittings and guides

- A specially developed in-house OPTIWIN guide rail serves as the upper guide of the element and stiffens the structure.
- A specially developed in-house OPTIWIN guide rail serves as the lower guide and simultaneously provides drainage at two levels.
- Matching, quality rails and fittings are combined with these rails.

3. Installation situation

- The blind frame must be completely covered. The aluminium profile defines the boundary of the exterior plaster or the façade
- Spacers for shutters or due to floor construction must be defined and ordered separately.
- Blind drains and drainage are to be defined by the planner. Likewise their professional installation and operability on site must be ensured.
- Thermal bridges due to improper installation of the window should be avoided. We would be happy to make you an offer for the calculation of Ψ installation values for the products.

The reference limit for the PHPP is the outer edge of the certified window dimension. Enlargements outside of these dimensions are cavities and therefore to be recorded in the Ψ installation values for the building. Hence the information on the passive house certificate U_f values and dimensions are binding.



4. Testing and certification

The window system is a passive house certified lifting and sliding door system. The window system has been categorised by PHI in the "Advanced Component A" range

As part of the CE marking, the product was tested by PFB Rosenheim according to EN 14351-1 with the following results. The following variants are available:

- Resistance to wind load – Test pressure: Class 5
- Resistance to wind load – Frame deflection: Class: C
- Rain impermeability - unprotected (A): Class E900
- Heat transfer coefficient: < 0.80 W/m²K at Ug 0.7 W/m²K
- Air permeability: Class 4

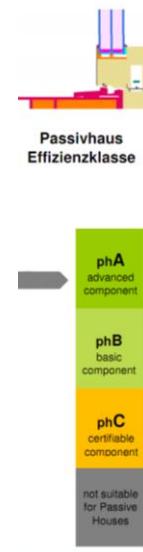
Remarks:

The values indicated above refer to the tested door dimensions of 4000 mm x 2500 mm. The guaranteed values in the performance specification correspond to the regionally defined minimum requirements unless separately defined and certified by a separate declaration of performance by the company.

You can find the passive house certificate of PHI Darmstadt under www.passiv.de
http://www.passiv.de/alte_komponentendatenbank/files/pdf/zertifikate/zd_optiwin_motura_de.pdf

Folgende kennwerte wurden ermittelt:

	U_f-Wert [W/(m ² K)]	Breite [mm]	Ψ_g [W/(mK)]	f_{Rsi=0,25} [-]
Abstandhalter	acs+*			
Unten Fix	1,14	43	0,025	
Unten S	1,11	126	0,023	
Oben Fix	0,66	87	0,023	
Oben S	0,92	87	0,024	
Seitlich Fix	0,54	90	0,022	
Seitlich S	0,70	98	0,025	
Pfosten	1,26	100	0,025	



5. Assembly

- The assembly of the elements is carried out by the manufacturer or a partner of the manufacturer if one is commissioned.
- The definition of the installation situation is the responsibility of the customer and must be made available by the respective planner. Specific and special construction requirements are to be reported to the manufacturer when placing the order.
- Standard joint insulation is done with PUR, or on request with organic and optionally sustainable insulation and materials.
- The assembly is to be performed in accordance with ÖNORM B5320 or DIN 4108, Part 7, should no special requirements or requests be presented to the manufacturer.
- Masonry or side connections must be prepared for vapour-proof assembly. No construction adhesive should be used for this, a fine interior plaster should be used instead.