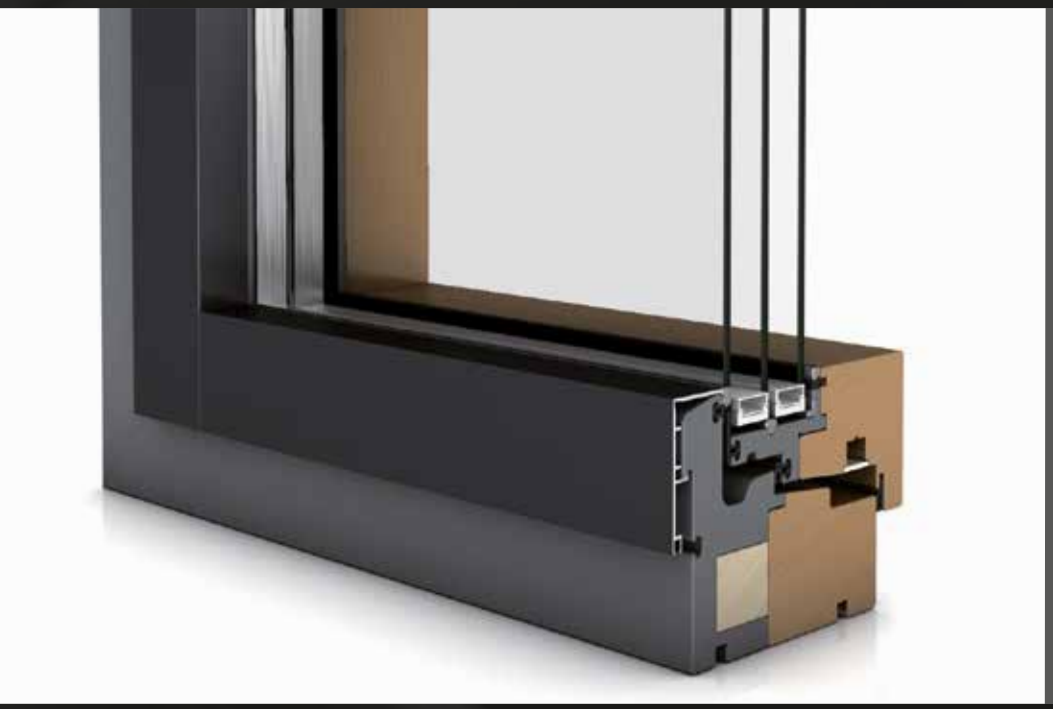
the passive house experts

Best performance values:
from U_w **0.45** to **0.59** W/m²K

ENERsign® primus

Passive House windows and doors

ENERsign®
FENSTER + TÜREN



Energy efficient and future-proof

More than two decades of specialization and experience with the highest performance windows lead to the certified superinsulated **ENER**sign®**primus** line of window and door products. These units are seamless in their aesthetic and technical integration and capable of handling all the physical stresses of a passive house window.

The patented **ENER**sign®**primus** System, developed by **ENER**sign GmbH is a wood-aluminum window perfectly designed to provide the best possible energy efficiency with minimal sight lines and clean overall aesthetics.

Excellent insulation values of the **ENER**sign®**primus** windows and doors can be used for energy retrofits, as well as in the construction of passive houses, zero energy and high performance energy efficient buildings.

Visionary performance and clean aesthetics

From the inside, the wall-integrated **ENER**sign®**primus** aluminum clad wood windows offer a high degree of both thermal and visual comfort from low conductivity native, natural woods. The surrounding slender visual frame profiles (100mm) create minimal sight lines while the extra deep (121mm) profile depth provides excellent lateral stability.

The frameless window sash design (integral frame) allows for a continuous glass sight line even where fixed and turn-and tilt elements mulled together. Extruded aluminum cladding (1.5mm thick) provides long term durability in the RAL color of your choice.

Product family

The **ENER**sign®**door** and **ENER**slide lift+slide door, as well as the barrier and thermal bridge free balcony doors are phA certified in the highest efficiency class. **ENER**store, **ENER**roll, **ENER**screen and **ENER**wave provide exterior 2 shading solutions integrated into the finished wall system.

Certified aluminum-wood passive house windows

ENERsign®primus

The **ENER**sign®primus wood-aluminum window with integral frame is the premium Passive House window with best insulation values, certified by the Passive House Institute in phA class for cold climates with Uw = 0.59 W / m²K according to EN 673.

- **Visible widths** of only 100 mm
- **Frame made of local woods** formed into a slim and elegant profile
- **High stability** due to 121 mm profile depth
- **Integral frame** (concealed sash)
- **Outer shell**: **ENER**foam insulation profil
- **Over-insulation** at window edge can create a "zero frame view" without thermal bridge or frame sight line
- **U-value** frame at the bottom, side, top: Uf = 0.59 W / m²K according to EN 10077
- **Triple glazing**: Ug = 0,531 W / m²K according to EN 673
- **Glass gap** filled with argon
- **Edge composite glass** with warm edge (Swisspacer Ultimate PU)
- **PSI glass** bottom, side and top: PSIg = 0.020 W / m²K
- **Static glass gluing** with circumferentially air-tight gluing
- **3 sealing levels** (glare frame, sash, stop) for optimum sound, heat and leakage values
- **Window sash** with **ENER**safe multipower: fully concealed fitting
- **Impermeability** to imperviousness and impact resistance to DIN 18055
- **Stress group C**
- **Increased burglar protectio**n and security by burglar resistant round mushroom-pin lock
- **Resistance class RC2** optional

ENERsign®primus

Leistungswerte

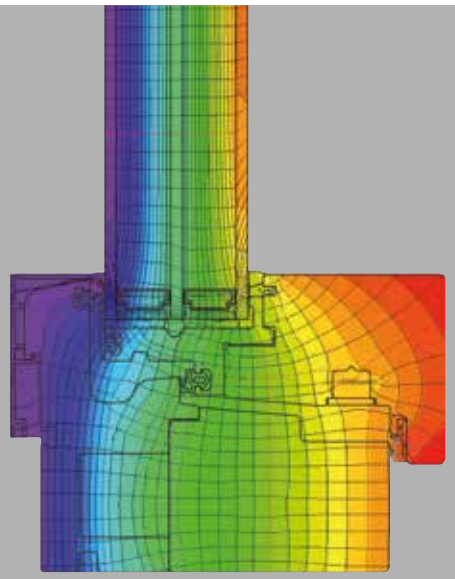
FIXED:

U-value window: **0.59** W/m²K
acc. EN 10077 (standard test size)
U-value frame: **0.58** W/m²K
acc. EN 10077
PSI-value glass: **0.019** W/mK

TURN-TILT:

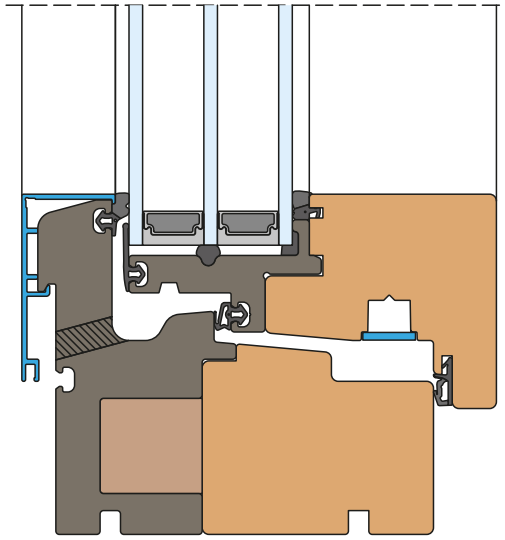
U-value window: **0.61** W/m²K
acc. EN 10077 (standard test size)
U-value frame: **0.64** W/m²K
acc. EN 10077
PSI-value glass: **0.020** W/mK

Isothermes



turn-tilt

bottom



Power values window

	U_f-value	width	PSI_g	$f_{RSI=0,25}$
	W/m^2K	mm	W/mK	(-)
spacer			swisspacer ultimate pu	
below	0,64	100	0,020	0,77
side / above	0,64	100	0,020	

Power values window

standard test size 1.260 x 1.480 mm		W/m^2K	mittlerer PSI_g	U_{window}
glass U-value	U_g	0,52	0,020	0,60
window U-value	U_w	0,60		
glass U-value	U_g	0,53	0,020	0,61
window U-value	U_w	0,61		

Isothermes

[°C]
20
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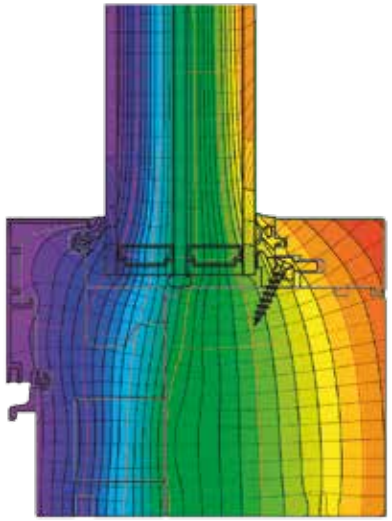
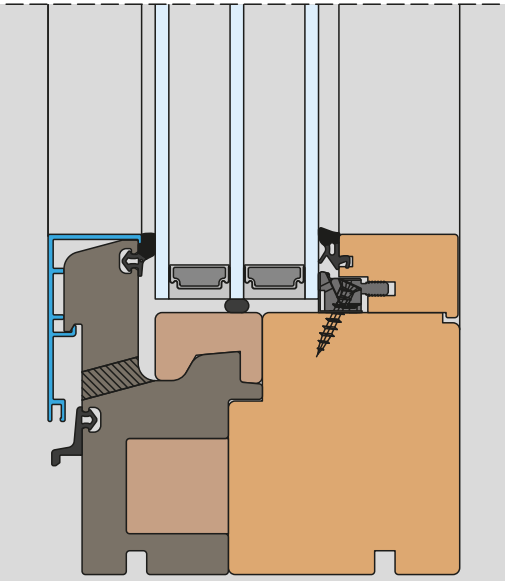


fix

bottom



Power values window

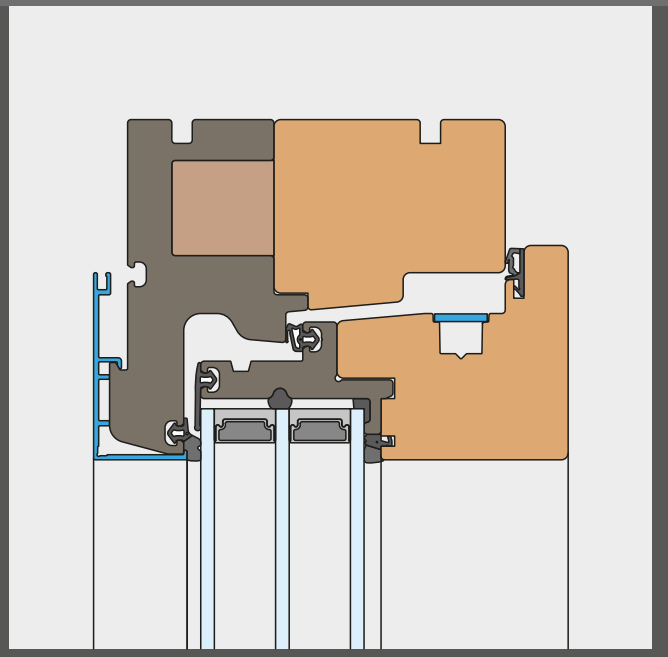
	U_f-value	width	PSI_g	$f_{RSI=0,25}$
	W/m^2K	mm	W/mK	(-)
spacer			swisspacer ultimate pu	
below	0,61	100	0,019	0,78
side / above	0,58	100	0,019	

Power values window

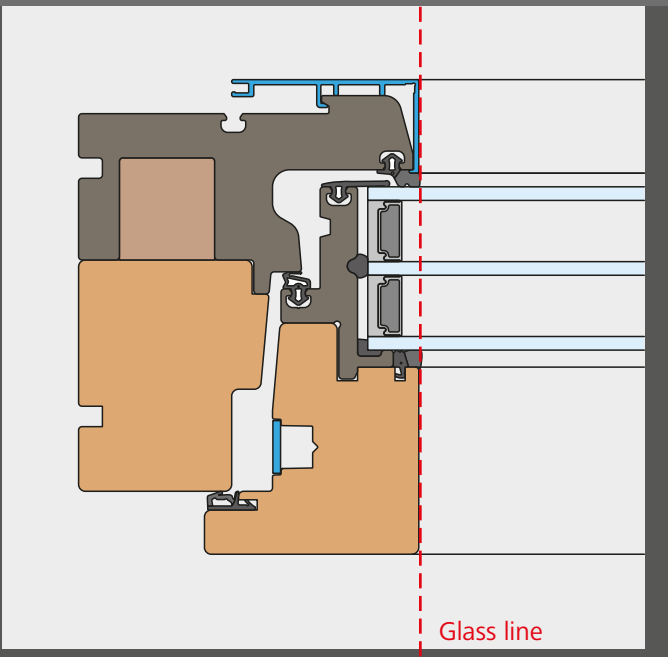
standard test size 1.260 x 1.480 mm		W/m^2K	middle PSI_g	U_{window}
glass U-value	U_g	0,52	0,019	0,58
window U-value	U_w	0,58		
glass U-value	U_g	0,53	0,019	0,59
window U-value	U_w	0,59		

ENERsign®primus quattro

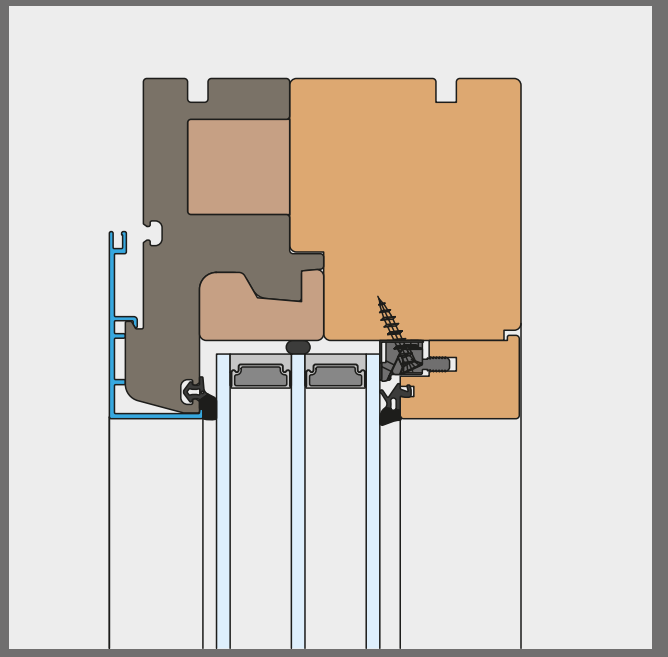
top



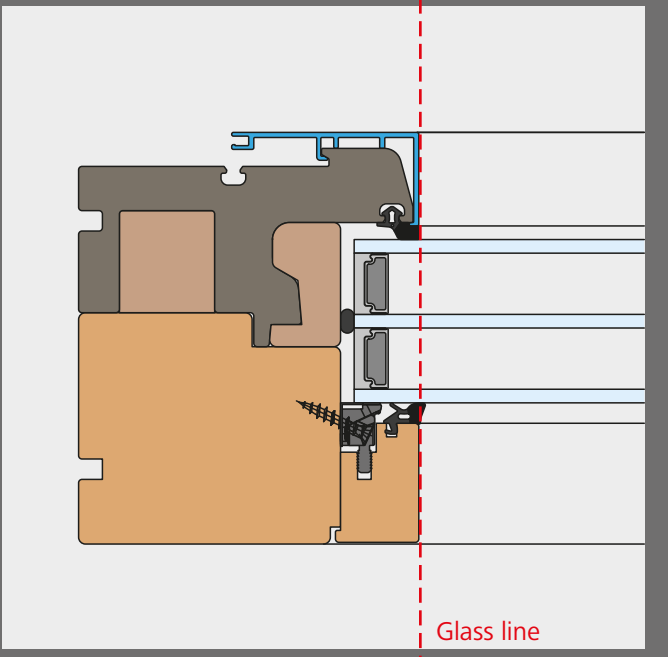
side



top



side



phA
advanced component

phB
basic component

phC
certifiable component

not suitable for Passive Houses

kaltes Klima

phA

ZERTIFIZIERTE KOMPONENTE

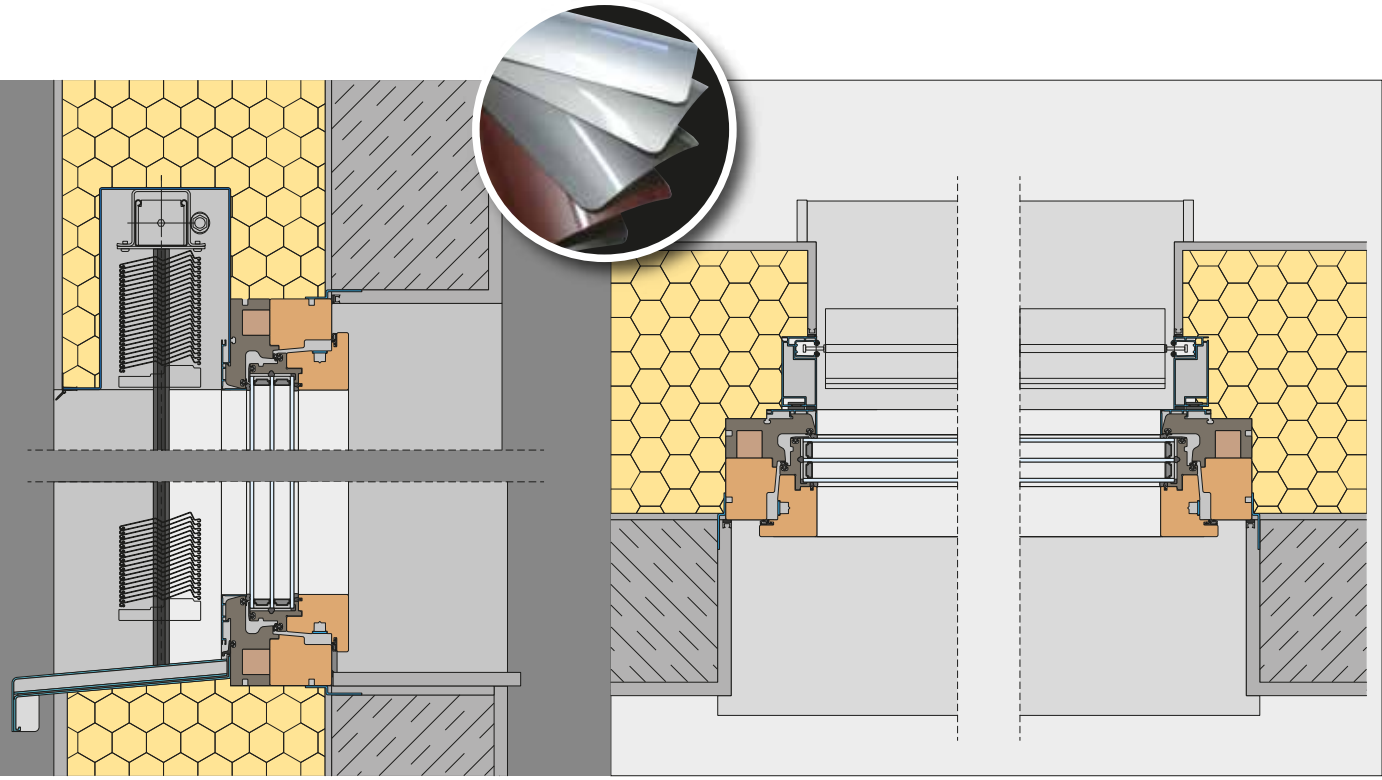
Passivhaus Institut

ENERstore

Wall-integrated venetian blinds

ENERstore is a filigree, perfect shading alternative. The stable 88 mm Z-slats with beaded edges, which are guided in running rails, reflect the solar radiation and guarantee very good wind stability.

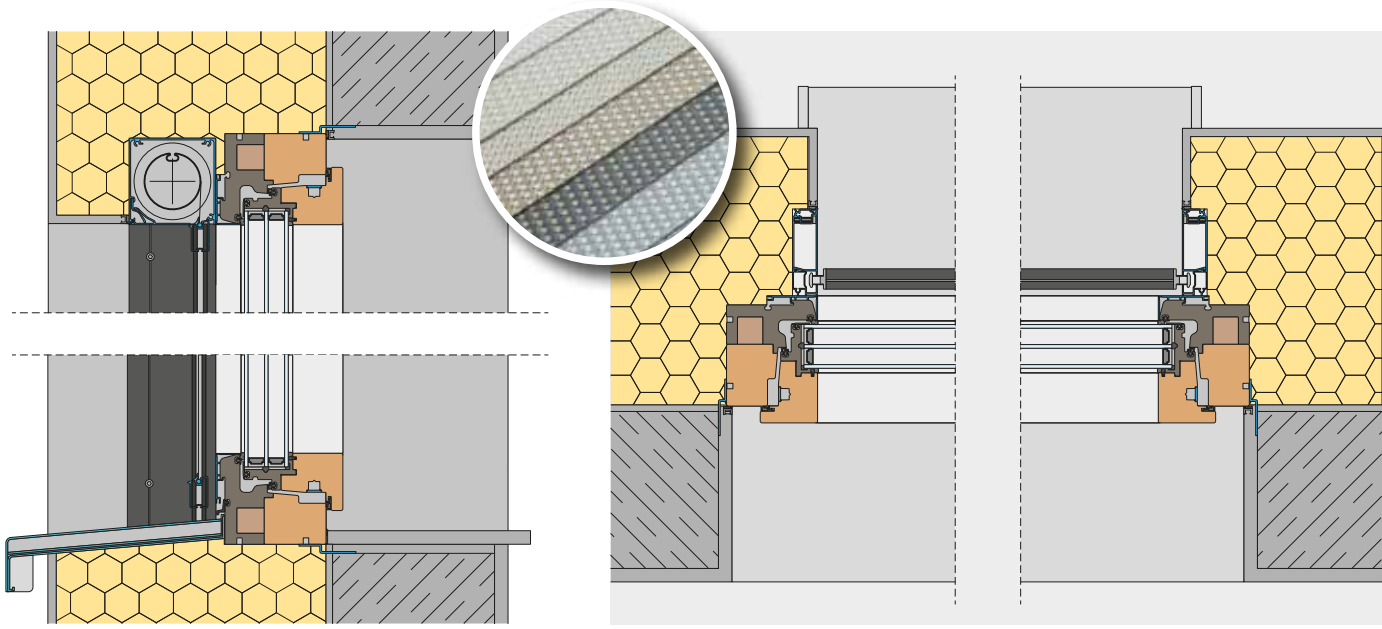
The side frames are connected to the window element. The blinds box, guides and frames are color identical with the windows. The aluminum slats are available in several colors.

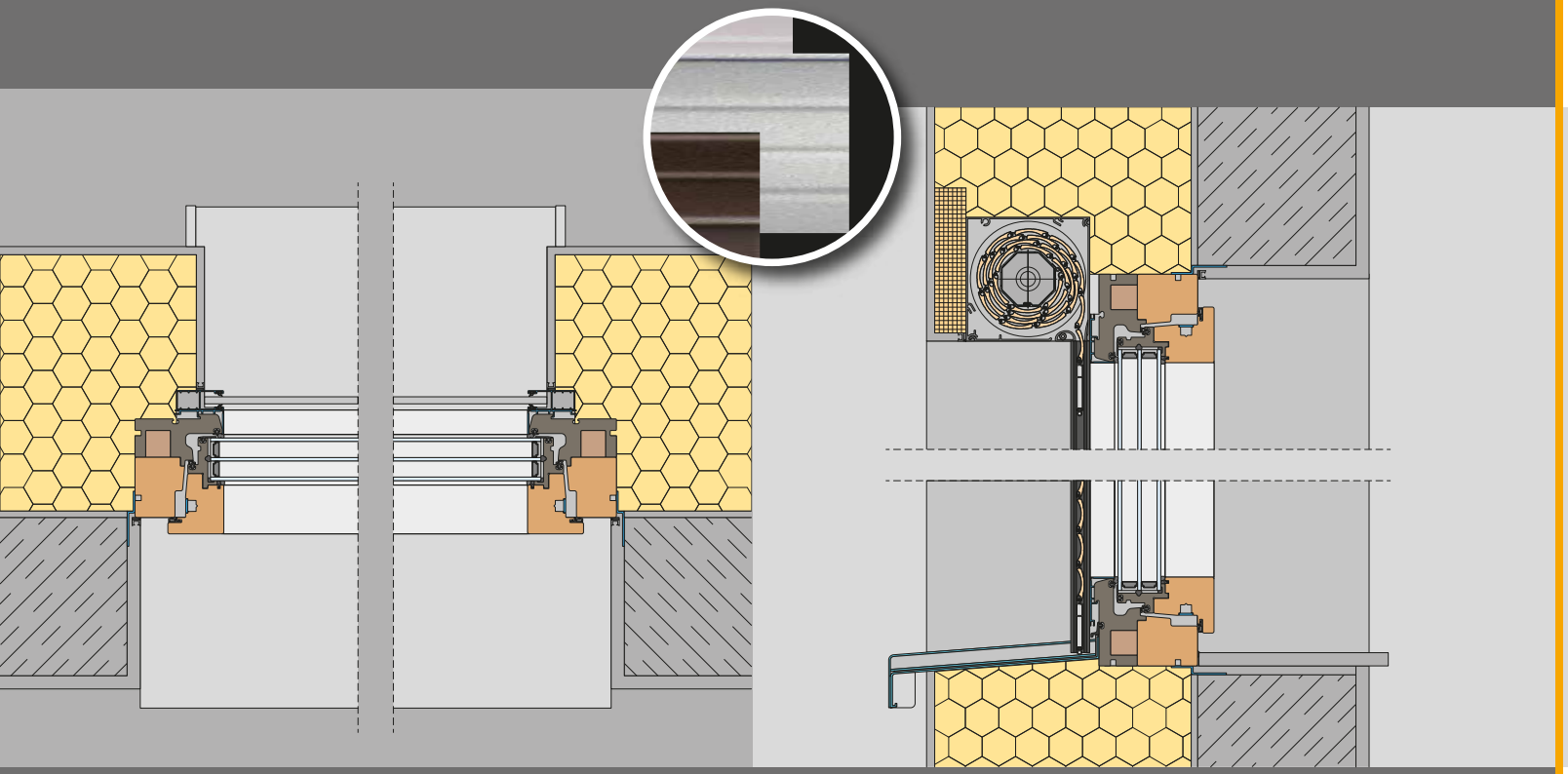


ENERscreen

Wall-integrated screen shading

ENERscreen is an ideal symbiosis of sun protection and privacy screen. The fabric of **ENER**screen shading is guided along the entire height and kept on wrinklefree tension. Several fabrics and colors are available. The drive is motorized. The blinds box, the guides and the frames are color identical with the windows.

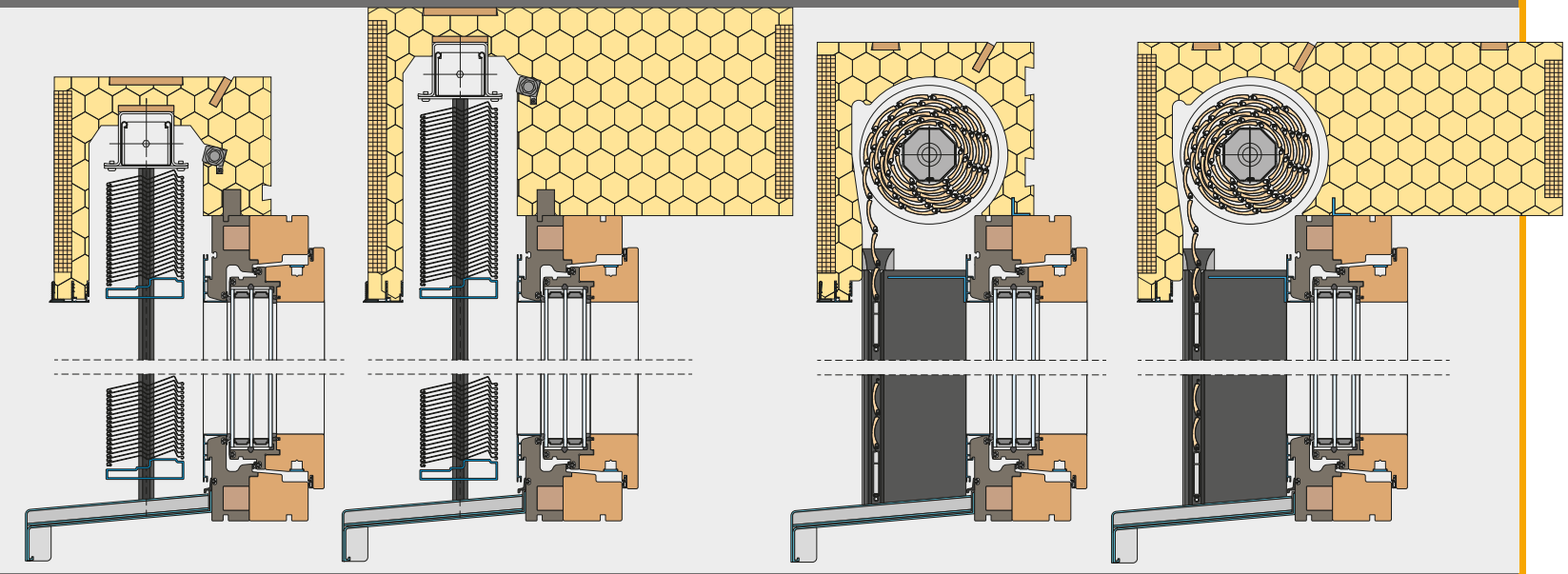




ENERroll

Wall integrated blinds

Roller shutters are the perfect sun, weather and sight protection for your house. With **ENER**roll, you can completely darken your rooms. More crucial is the stability of the roller shutter. The roller shutter rods used by **ENE**Rroll are hard foamed aluminum profiles. The shading drive is motor-controlled. Our blinds are available in several colors. The roller shutter box and the guide are color-identical with the windows.



ENERstore foamcase

Heat-insulated shading system boxes

Neopor box (WLZ 0.032 W/mK) with aluminum closing rail and integrated structural plates for fixing windows and shading system. Alternatively, as a containment or as a wall-based structure for optimal insulation.

· for wall thicknesses from 250 to 500 mm
· for systems up to 5,000 mm wide
· for window elevation up to 3.260 mm

ENERsign®primus

Barrierfree threshold

The phA certified balcony door with barrierfree threshold is another highlight in the highly heat-insulated **ENER**sign® product family.

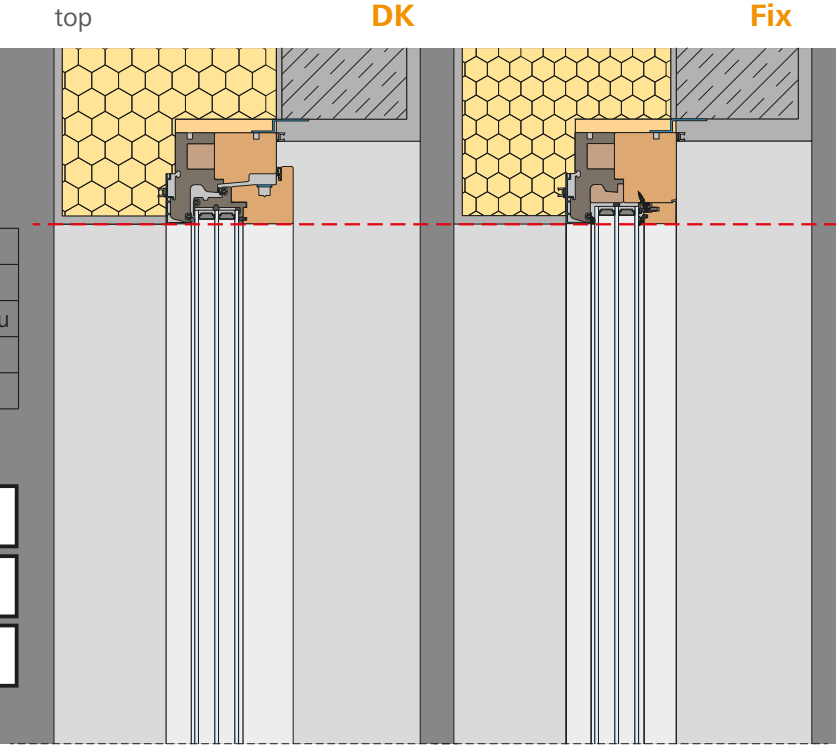
Thermal separation is crucial for optimal thermal insulation from inside to outside. This is guaranteed by the barrierfree **ENER**sign®**primus** balcony door due to its advanced design.

Power values window

	U_f-value	width	PSI_g	$f_{RSI=0,25}$
	W/m²K	mm	W/mK	(-)
spacer			swisspacer ultimate pu	
below	1,09	100	0,022	0,73
side /above	0,64	100	0,020	0,77

Power values window

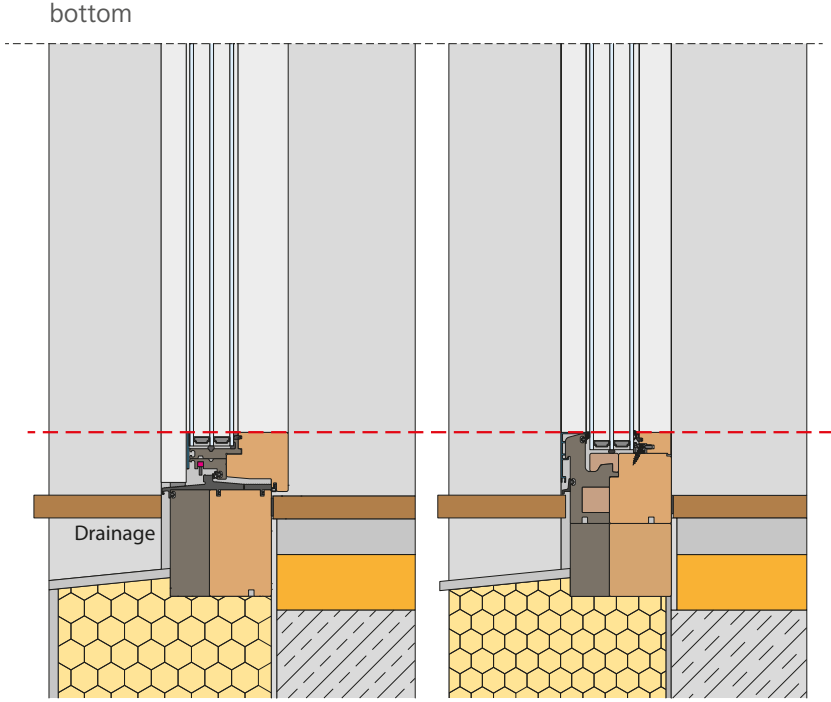
standard testing size 1.230 x 1.480 mm		W/m²K	middle PSI_g	U_{window}
glass U-value	U_g	0,52	0,020	
window U-value	U_w	0,63		0,63
glass U-value	U_g	0,53	0,020	
window U-value	U_w	0,64		0,64



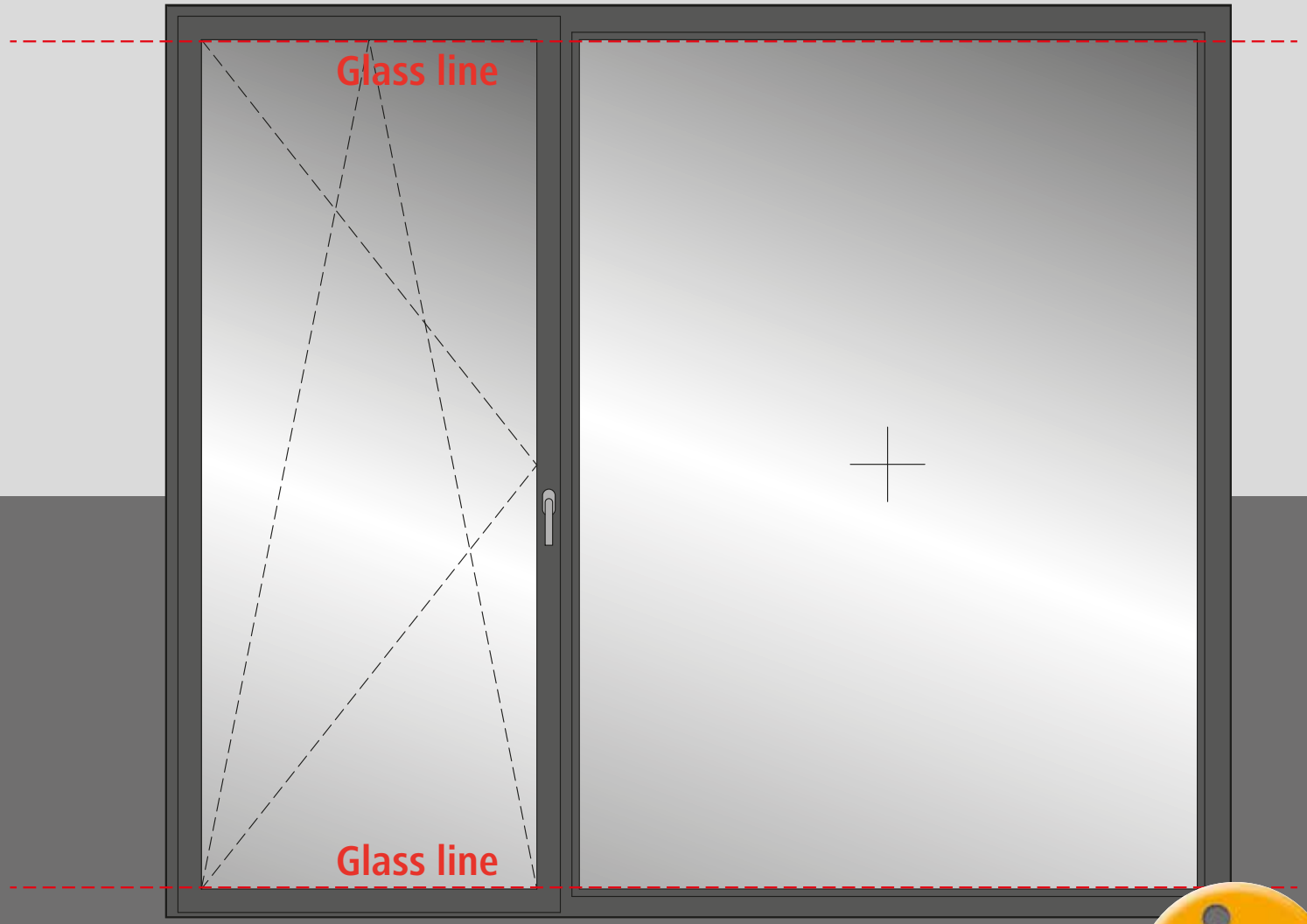
The surface temperature on the inside of the optimally thermally separated lower sash profile corresponds almost to room temperature. This reduces the risk of condensation and mold formation in areas close to the ground.

The **ENER**sign®**primus** balcony door also fulfills all requirements such as impact resistance, stability and break-in safety. Visually, the comfort threshold and the circumferentially slender profile form a harmonious unit.

barrier-free



view inside



barrier-free

Standard safety

Relatively quickly, burglars with simple tools can lever out a window. According to statistics, in about 80% of the cases, burglars enter through windows or balcony doors.

With the **ENER**safe fitting system, **ENER**sign (offers increased protection) even from technically experienced burglars. The standard safety mushroom pegs and burglar resistant locking parts make a levering considerably more difficult.

ENERsign®**primus**
Passive House wood-alu-windows

ENERslide primus

Convenience and technology at the highest level

The Passive House wood-aluminum lift-and-slide door **ENER**slide with barrierfree threshold combines a first-class processing level with a statically balanced construction. In addition, it offers high sealing, excellent thermal insulation and reliable burglar protection.

The **ENER**slide is a dream and eyecatcher in every house thanks to the sophisticated technology, the large glass surfaces and the narrow visible widths of 94 mm.

Due to the exact guidance at the top and bottom, even large sliding sash can be opened and closed with ease.
The **ENER**slide also sets new standards in height (up to 2,800 mm) and width (up to 6,000 mm) as a certified passive house lift-and-slide door.

Insulation at "zero frame view"

The **ENER**slide plus outer shell consists of a proprietary **ENER**foam insulation profile with a narrow aluminum profile, insulation at "zero-frame view" is optically perfectly possible without thermal bridges.

Power values window

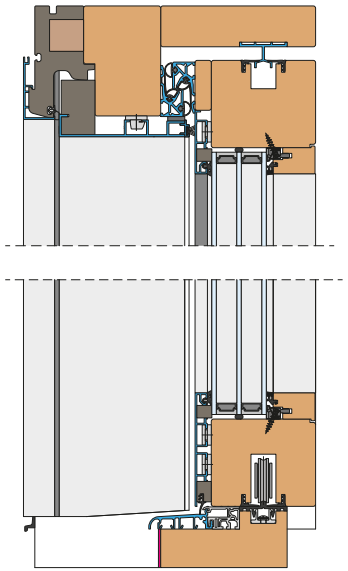
door size 2.400 x 2.500 mm		W/m²K	middle PSI$_g$	U_{window}
glass U-value	U_g	0,52	0,024	0,62
window U-value	U_w	0,62		
glass U-value	U_g	0,53	0,024	0,63
window U-value	U_w	0,63		

Power values window

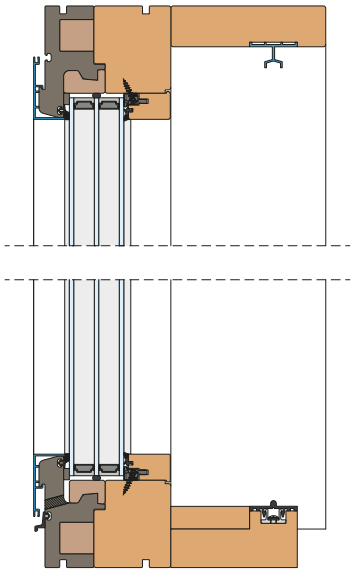
door size 4.500 x 2.800 mm		W/m²K	middle PSI$_g$	U_{window}
glass U-value	U_g	0,52	0,024	0,59
window U-value	U_w	0,59		
glass U-value	U_g	0,53	0,024	0,60
window U-value	U_w	0,60		

vertical

A-A

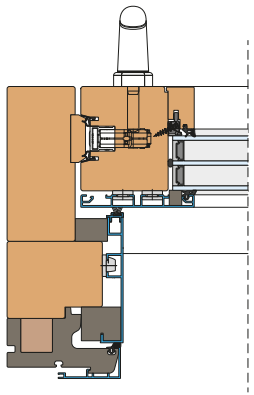


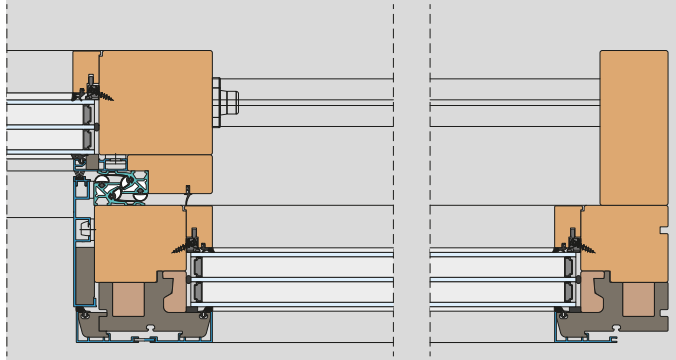
B-B



horizontal

C-C





Passive House - Lift-and-slide door: Best in class construction

The most problematic areas for lifting doors are the transition between sliding sash and fixed element, as well as the threshold design. The tightness is crucial. Sophisticated specials and custom solutions are necessary, especially for large elements.

ENERsign GmbH has developed this overall level of quality and ease of operation in large format, certified doors through years of experience.
The **ENER**slide lift-and-slide door is certified in efficiency class **phA** and is a technically mature solution for passive houses.

ENERsign®**primus**
Passive House wood-alu-windows

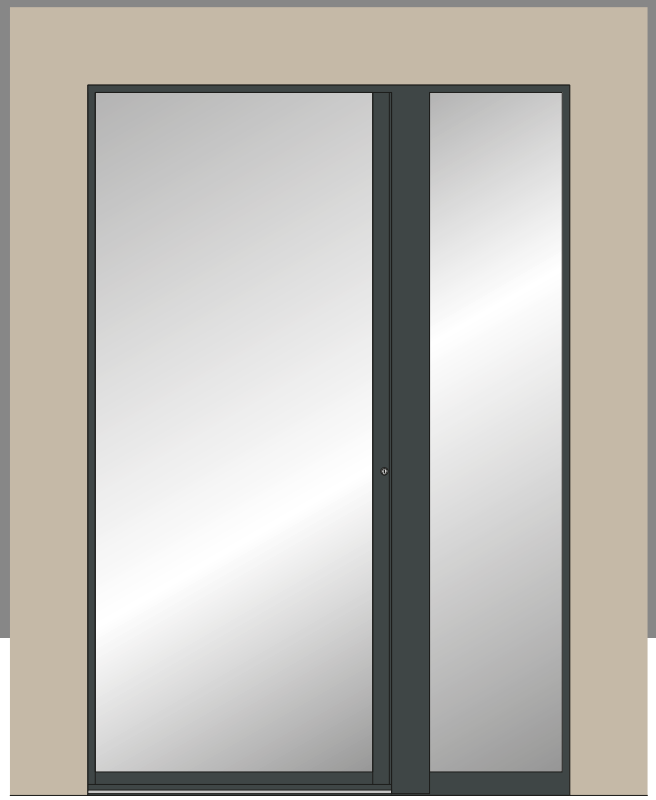
ENERsign®primus door

Modern and Unique Aesthetic

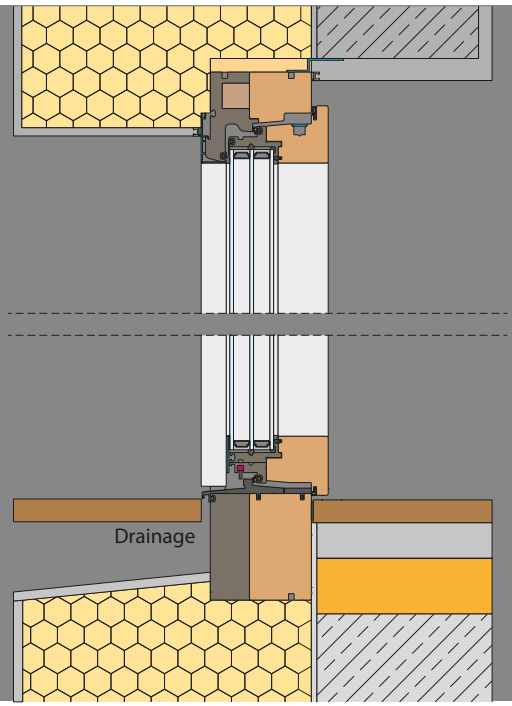
The exceptionally insulated certified passive **ENER**sign®**primus** door meets every technical need with a uniquely minimal sight line aesthetic. The **ENER**sign®**primus** door offers maximum glass content, with maximum anti-wraping stability. The base profile is pleasantly low and the threshold height is barrier-free.

The outer shell consists of a proprietary **ENER**foam insulation profile with a narrow aluminum profile cladding.

view outside



vertical

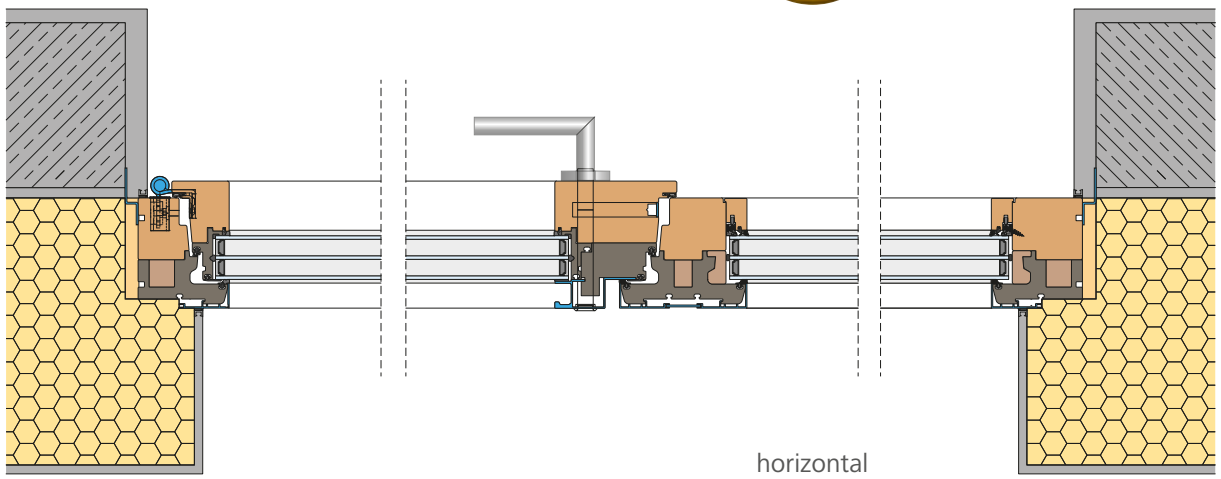


ENERsign®primus door glass

Power values window

door size 1.100 x 2.200 mm		W/m²K	middle PSI$_g$	U_{door}
glass U-value	U_g	0,52	0,021	0,64
door U-value	U_d	0,64		
glass U-value	U_g	0,53	0,021	0,64
door U-value	U_d	0,64		

barrier-free

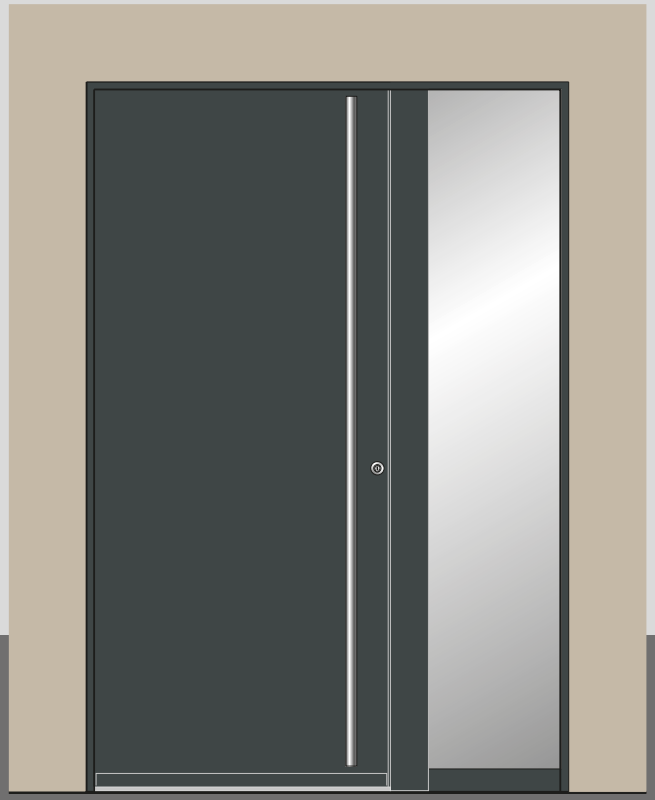


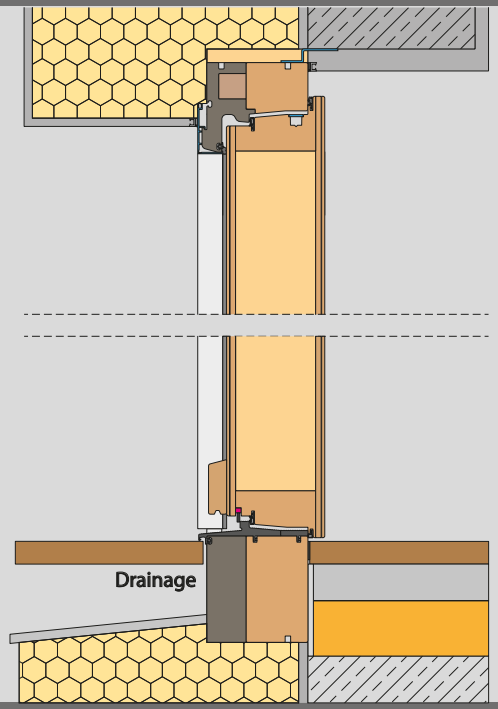
horizontal

Insulation at "zero frame view"

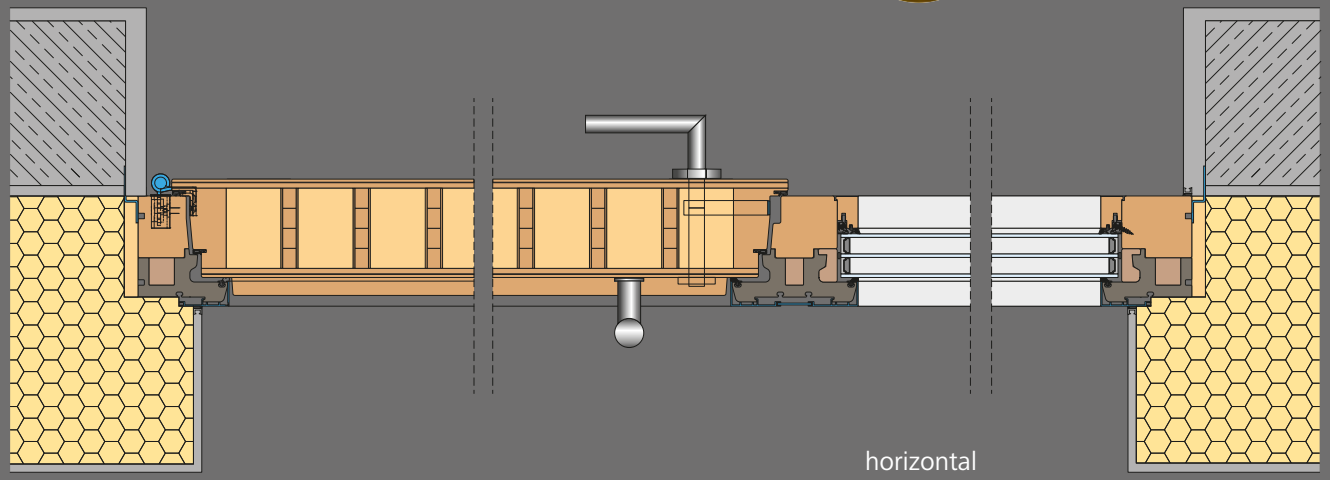
Due to the added narrow aluminum profile (30 mm), insulation at **"zero-frame view"** is optically perfectly possible without thermal bridges.

vertical





barrier-free



horizontal

Safety and convenience

Increased burglar protection with the **ENER**lock system: The lock automatically locks the front door at the primary latch, as well as in two additional locks, each in the upper and lower areas of the door. Thus the door is locked at 3 points - a maximum of safety, also when not locked.

Three to four pieces of asymmetrically arranged solid special tapes also ensure the best possible safety. With the invisible built-in A-opener, the door can be comfortably opened motor-controlled on impulse. Suitable for code input, fingerprint reader, radio transmitter or button.

ENERsign®primus door Opak

Power values window

door size 1.100 x 2.200 mm		W/m²K	U_{door}
panel U-value	U_{panel}	0,46	0,54
Tür U-value	U_d	0,54	

Also **ENER**sign®**primus** door models with an opaque panel offer a wide range of exterior and interior finish material design options.

ENERsign®primus
Passive House wood-alu-windows

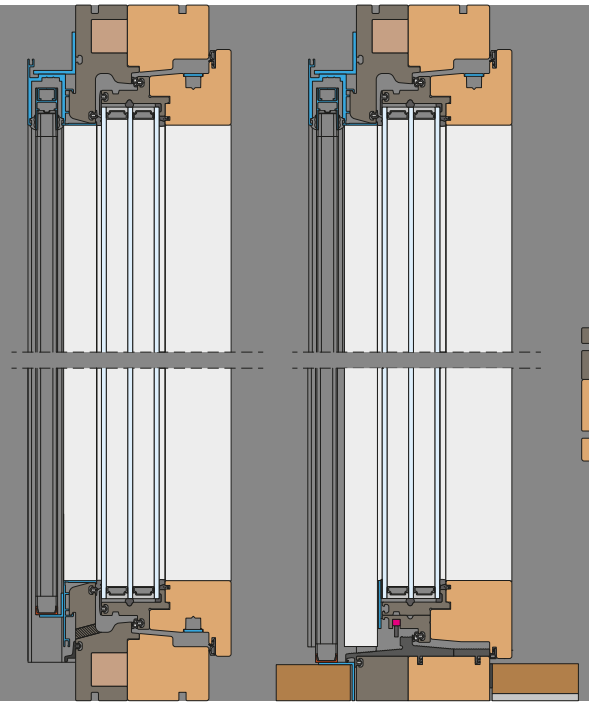
ENERsign® flylock

Almost invisible but highly effective

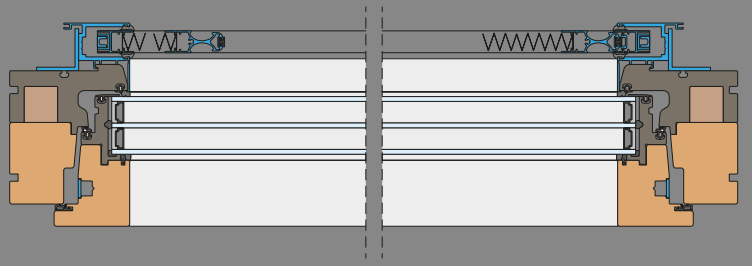
Outside and integrated insect repellent system with screen material in a horizontal accordian format including brake control is available for both windows and doors.

Flylock is available for one- or two-sided elements. The lower guide rail with a height of 9 mm facilitates the screen slide. The screen material comes standard in black.

vertical window / door



horizontal

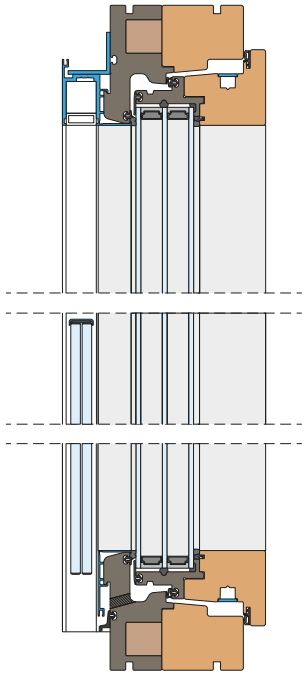


ENERsign glasguard

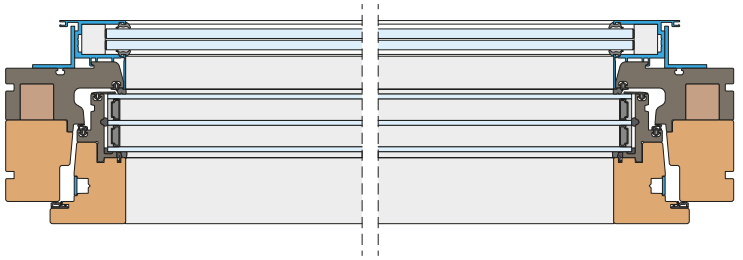
Window frame integrated parapet

ENERsign® **glas**quard forms together with the passive house window **ENER**sign® **primus** a technically perfect solution.
With the all-glass parapet safety for floor-to-ceiling elements, we offer an architectural and smart solution. A very narrow glass edge protection finished the glass.

The glass parapet is barely visible from the inside and allows an unobstructed view outside. Likewise, the overall look of the façade is hardly compromised.



horizontal



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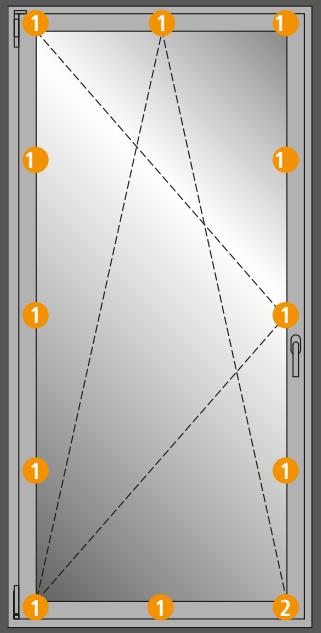
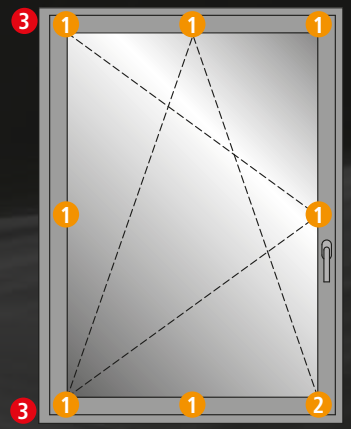
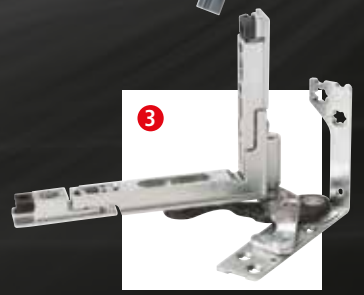
Transparent Parapet



ENERsafe tronic
electronic
closure monitoring

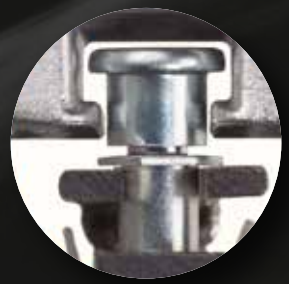




1 **ENER**safe **[comfort]**
Burglar-resistant mushroom pegs, interlock and burglar-resistant closing parts

2 **ENER**safe **[comfort]**
Burglar-resistant mushroom plugs, locking and burglar-resistant closing parts, secure tilt position

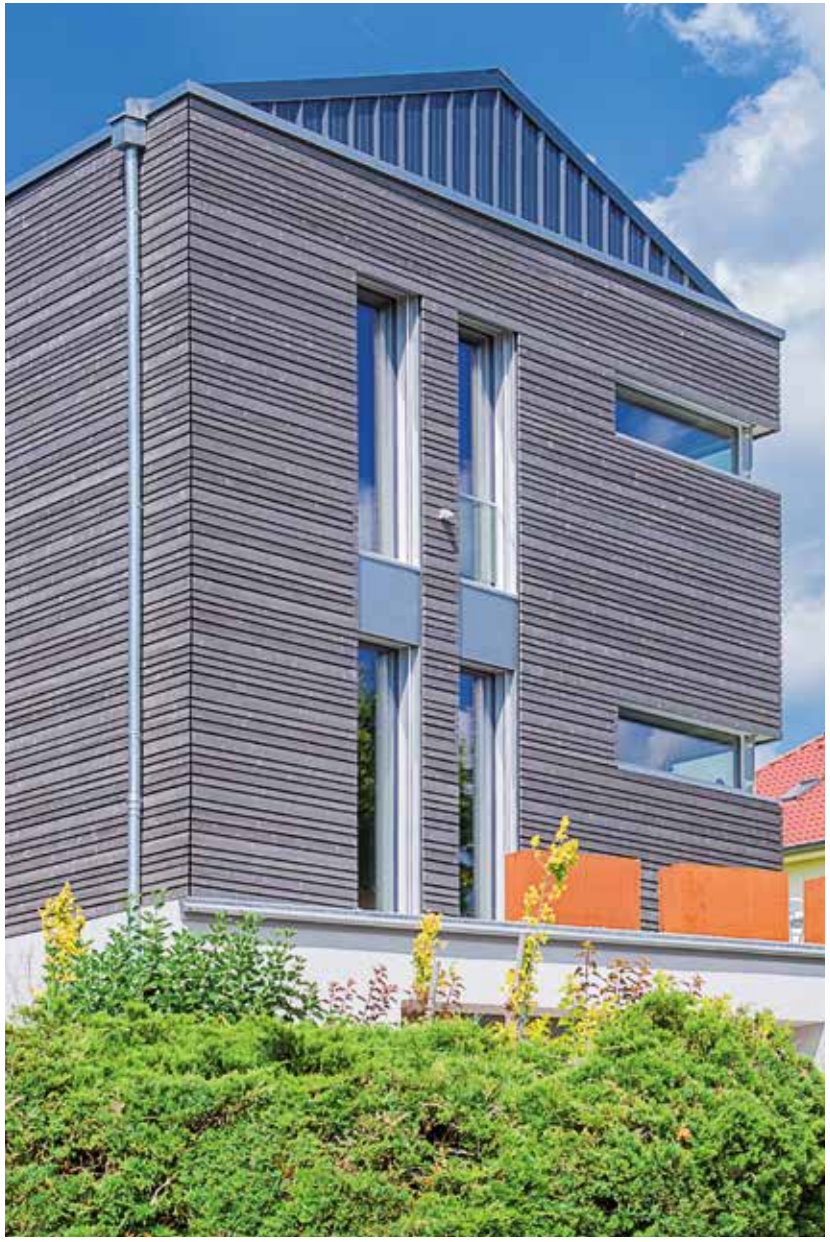
3 **ENER**safe multi power **[comfort]**
Fully hidden brackets, corner brackets and stay hitch for windows



ENERsafe
Mushroom plug

ENERsafe
all-round more safety

references



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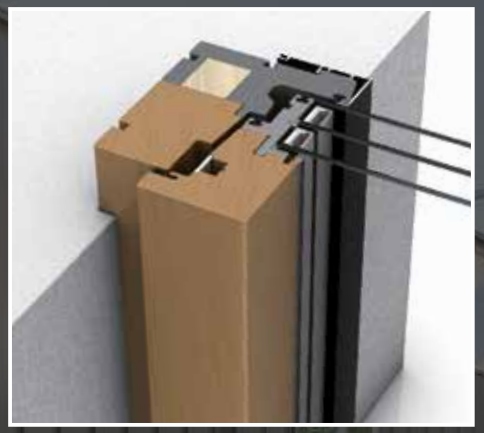

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