

Energy savings

| Energy savings when installing new windows | | Explanation | |
|--|---------------------------|---|--------|
| U _w -value (old) | 3.50 W/(m ² K) | Heating degree days | 4,050 |
| U _w -value (new) | 0.68 W/(m ² K) | Conversion factor from kilogrammes in litres of heating oil | 1.19 |
| Window surface area | 30 m ² | Conversion heating value Wh/kg | 11,800 |
| Annual savings on heating oil | 1,109 L | Heating efficiency | 0.75 |
| Annual carbon dioxide reduction | 2,996 kg | | |

Security features

- Adhesive technology
- BASIC: Winkhaus activPilot with 2 security strike plates
- Optional: BASIC plus, IDEAL secure (RH2), RC2

Sound insulation

Window R_{wP} up to 41 dB

Glass thickness

Up to 48 mm

Colour of fittings

- White and F9, powder coated (without caps)
- Brown and F4 over caps

Colours

- PVC inside white or decor based on current price list according to plastic colour range
- Aluminium facing according to aluminium colour range



Available glazing strips:

- Standard: Classicline



- Optional: roundline



softline

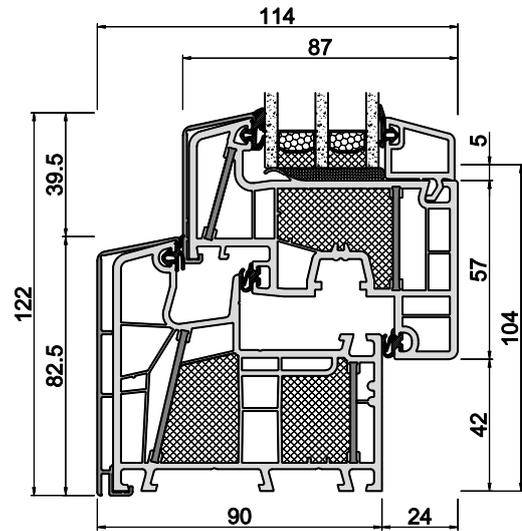


Seals

- Centre sealing system
- 3 sealing levels
- Available colours:
- Inside: papyrus white, or black with decor
- Outside: black

System values

- Air permeability: Class 3 (according to EN 12207)
- Water tightness Class 4A (according to EN 12208)
- Resistance to wind load: Class B3 (according to EN 12210)
- Please note:
- The classifications given here are minimum requirements.
- Please contact us if higher requirements are necessary.



WF 180x05 / WS 080x86

Fittings

BASIC:

- Winkhaus activPilot (3-dimensional adjustment)
- Integral fail-safe device
- Window casement lift
- Coated tapes (white or F9)
- 2 security strike plates
- Max. weight of casement 130 kg

Optional:

- activPilot Comfort PAD (parallel-locking fitting)
- Safety levels: BASIS plus, IDEAL secure (RH2), RC2
- IDEAL SELECT (concealed corner and stay bearings)
- "Tilt first" (tilt then turn)
- High Control (magnetic contact for electronic lock monitoring)

Thermal insulation

- Reference dimensions 1,230 x 1,480 mm
- $U_f = 0.79 \text{ W/(m}^2\text{K)}$
- Minimum requirements acc. to the German Energy Saving Ordinance (EnEV) 2014 $U_w = 1.3 \text{ W/(m}^2\text{K)}$
- SPH = suitable for passive houses
- CPC = certified passive house component (Passive House Institute Dr. Feist)
 - * $U_g \leq 0.7 \text{ W/m}^2\text{K}$
 - * Swisspacer Ultimate edge compound
 - * WCP 184247G_2K or equivalent

| U_g -glass ($\text{W/m}^2\text{K}$) EN 673 | U_w -window ($\text{W/m}^2\text{K}$) | | |
|--|--|--|--|
| | Insulated glazing edge compound | | |
| | Aluminium | KSH/KSD | Swispacer Ultimate |
| Double glazing | $\Psi_i = 0.066 \text{ (W/m}^2\text{K)}$ | $\Psi_i = 0.041 \text{ (W/m}^2\text{K)}$ | $\Psi_i = 0.032 \text{ (W/m}^2\text{K)}$ |
| 1.1 | 1.16 | 1.10 | 1.08 |
| 1.0 | 1.09 | 1.03 | 1.01 |
| Triple glazing | $\Psi_i = 0.064 \text{ (W/m}^2\text{K)}$ | $\Psi_i = 0.039 \text{ (W/m}^2\text{K)}$ | $\Psi_i = 0.030 \text{ (W/m}^2\text{K)}$ |
| 0.8 | 0.95 | 0.90 | 0.87 |
| 0.7 | 0.89 | 0.82 | 0.80 (CPC) |
| 0.6 | 0.82 | 0.76 (SPH) | 0.73 (CPC) |
| 0.5 | 0.75 (SPH) | 0.69 (SPH) | 0.67 (CPC) |

- U_w -values $< 1.0 \text{ W/(m}^2\text{K)}$ are shown with two decimal places in accordance with EN ISO 10077
- U_w -values $> 1.0 \text{ W/(m}^2\text{K)}$ are shown with one decimal place in accordance with EN ISO 10077 and here – for information only – with two decimal places
- The specified PSI values are taken from the data sheets of the working group "Warm Edge"

Sound insulation

Reference dimensions 1,230 x 1,480 mm
(components with test certificate)

| R_w R_{wP} = Test value window | R_{wR} = Calculated value window | R_{wP} = Test value glass | Test certificate No. |
|------------------------------------|------------------------------------|-----------------------------|----------------------|
| 33 dB | 31 dB | 29 dB | 175 42480/2 |
| 38 dB | 36 dB | 35 dB | 175 42480/2 |
| 41 dB | 39 dB | 42 dB | 175 42480/2 |

In Germany the following applies acc. to DIN 4109:1989-11 (German standard for sound insulation in buildings; requirements and testing): R_w equals R_{wP} ; $R_{wR} = R_{wP} - 2\text{dB}$