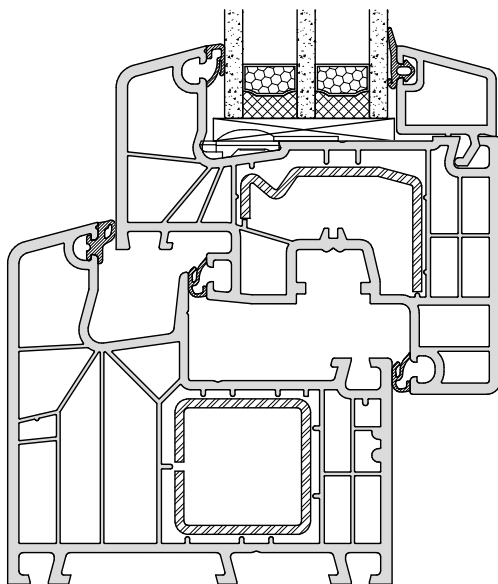




Energy savings

Energy savings when installing new windows		Explanation	
U _w -value (old)	3.50 W/(m²K)	Heating degree days	4,050
U _w -value (new)	0.67 W/(m²K)	Conversion factor from kilogrammes in litres of heating oil	1.19
Window surface area	30 m²	Conversion heating value Wh/kg	11,800
Annual savings on heating oil	1,082 L	Heating efficiency	0.75
Annual carbon dioxide reduction	2,922 kg		

Security features

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

Sound insulation

Window R_{wp} up to 44 dB

Glass thickness

up to 51 mm

Colour of fittings

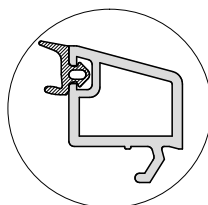
- White and F9, powder coated (without caps)
- Brown and F4 over caps

Colours

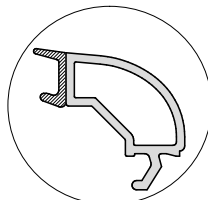
- White
- Decor based on current price list according to plastic colour range

Available glazing strips:

- Standard:
classiline



- Optional:
roundline



softline



Seals

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

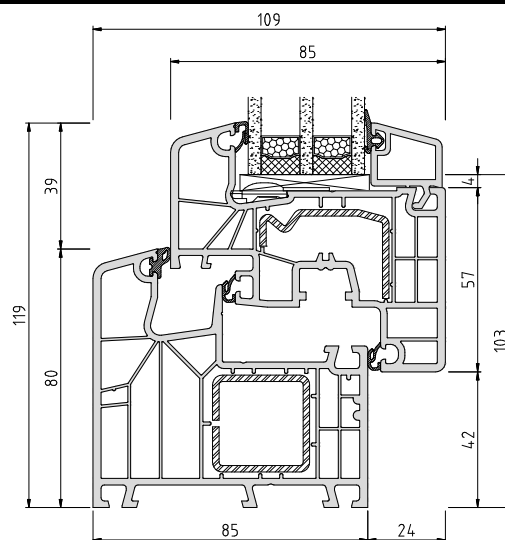
System values

- 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 / WC 180x20

Fittings

BASIC:

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

Optional:

- activPilot Comfort PAD (parallel action fitting)
- Security levels: BASIC 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
- $U_f = 1.0 \text{ W/(m}^2\text{K)}$
- 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

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	Swisspacer Ultimate
Double glazing	$\text{Psi} = 0.066 \text{ (W/mK)}$	$\text{Psi} = 0.041 \text{ (W/mK)}$	$\text{Psi} = 0.032 \text{ (W/mK)}$
1.1	1.23	1.17	1.15
1.0	1.16	1.10	1.08
Triple glazing	$\text{Psi} = 0.064 \text{ (W/mK)}$	$\text{Psi} = 0.039 \text{ (W/mK)}$	$\text{Psi} = 0.030 \text{ (W/mK)}$
0.8	1.02	0.96	0.94
0.7	0.95	0.89	0.87
0.6	0.89	0.82	0.80
0.5	0.82	0.76 (SPH)	0.74 (SPH)

- 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)

$R_{w, \Delta R_{WP}} = \text{Test value window}$	$R_{wR} = \text{Calculated value window}$	$R_{wP} = \text{Test value glass}$	Test certificate No.
34 dB	32 dB	32 dB	11-000823-PR01
38 dB	36 dB	36 dB	11-000823-PR01
39 dB	37 dB	38 dB	11-000823-PR01
42 dB	40 dB	41 dB	11-000823-PR01
44 dB	42 dB	45 dB	11-000823-PR01
46 dB	44 dB	48 dB	11-000823-PR01
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} ; $R_{wR} = R_{wP} - 2\text{dB}$			