



WINDOWS 2022

valid from 15.11.2021



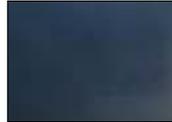
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The selection of **interior and exterior doors** and **technical doors** is available in separate publications..

COLOURS

TRANSPARENT PAINTS

DYES ON PINE										NEW
	5056 iroko	5062 cypress	0022 light teak	0044 dark teak	0046 walnut	1040 impregnated	1519 antique oak	9001 transparent white	009 transparent anthracite	
DYES ON PINE										NEW
	1710 antique olive	5219 antique teak	5063 stone pine	5060 old pine	5067 sapelli	5065 afrozoia	5059 cherry	9005 transparent black	nature* matt/semi-matt	
DYES ON OAK										NEW
	5056 iroko	5062 cypress	0022 light teak	0044 dark teak	0046 walnut	1040 impregnated	1519 antique oak	9001 transparent white	009 transparent anthracite	
DYES ON OAK										
	1710 antique olive	5219 antique teak	5063 stone pine	5060 old pine	5067 sapelli	5065 afrozoia	5059 cherry	9005 transparent black		

*colour available only in wood-aluminium windows

COVERING PAINTS

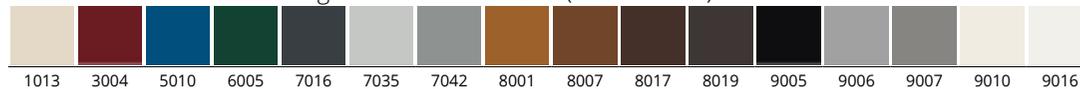
STANDARD COLOURS

Window prices according to modular price list calculated by Sales Department

	NEW	NEW		
white (RAL 9016)	anthracite RAL 7016	grey RAL 7047	brown (NCS s8010-Y90R)	RAL and NCS colours palettes (except for metallic ones)

RAL PALETTE

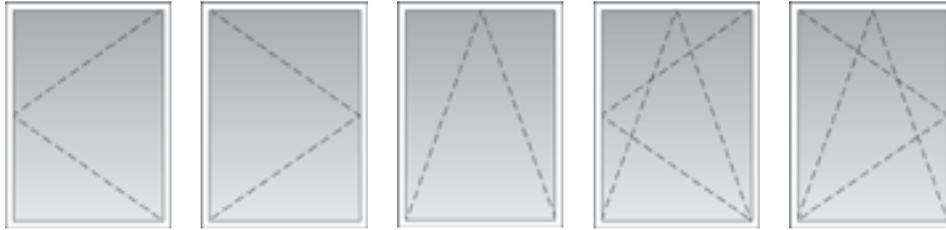
colours of aluminium cladding for wooden windows (matt version)



NOTE: The actual colours may vary from the colours printed in this catalogue. Differences between shades of the presented colours are possible due to the nature of wood.

OPENING CONFIGURATIONS

INWARD OPENING WINDOWS



side hung right-hand

side hung left-hand

tilt

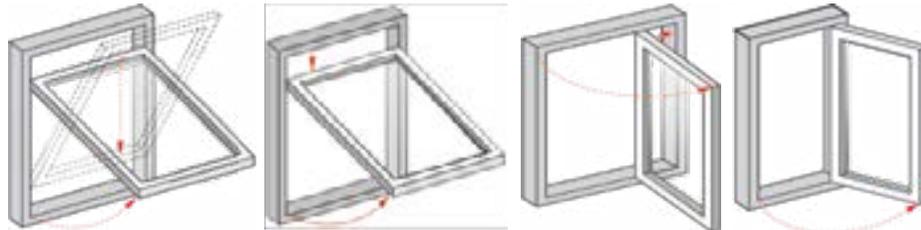
tilt and turn right-hand

tilt and turn left-hand



double frame window: side hung+side hung, tilt and turn + side hung, tilt and turn + tilt and turn

OUTWARD OPENING WINDOWS



TOP SWING

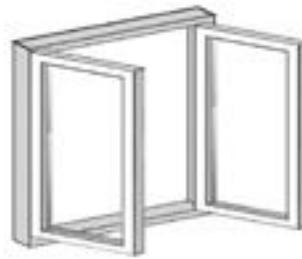
TOP HUNG

SIDE HUNG I MODULES

SIDE HUNG II HINGES

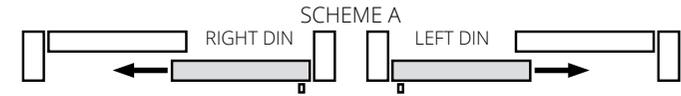


side hung balcony window



double side hung balcony window

HS TERRACE WINDOWS



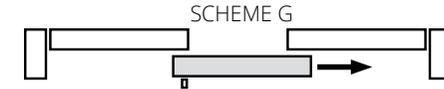
SCHEME A

RIGHT DIN

LEFT DIN



SCHEME C



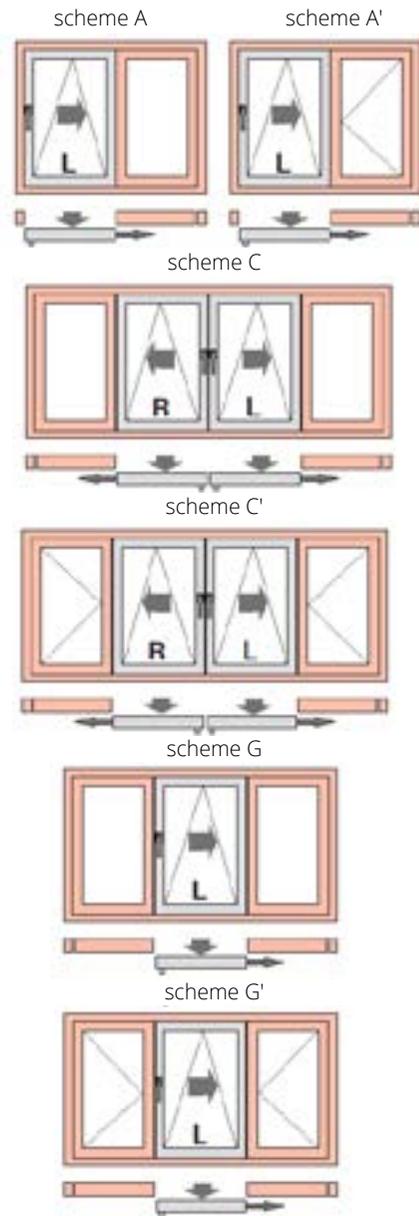
SCHEME G



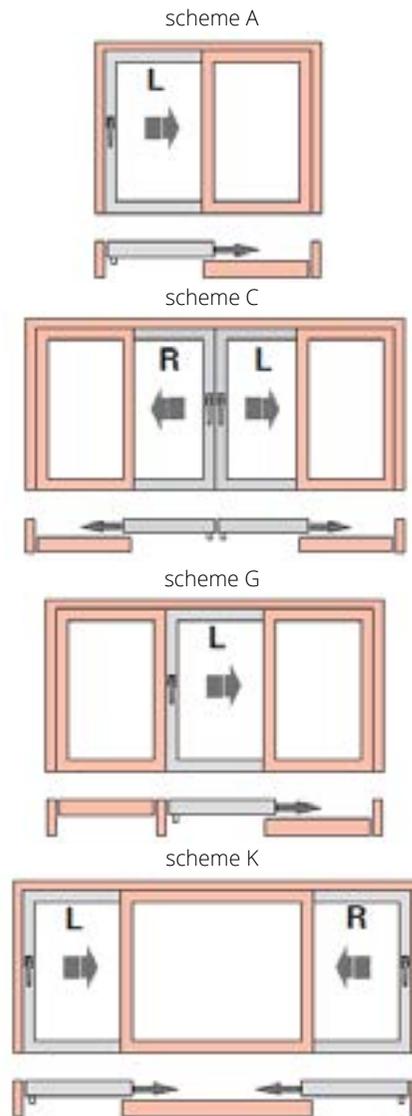
SCHEME K

OPENING CONFIGURATIONS

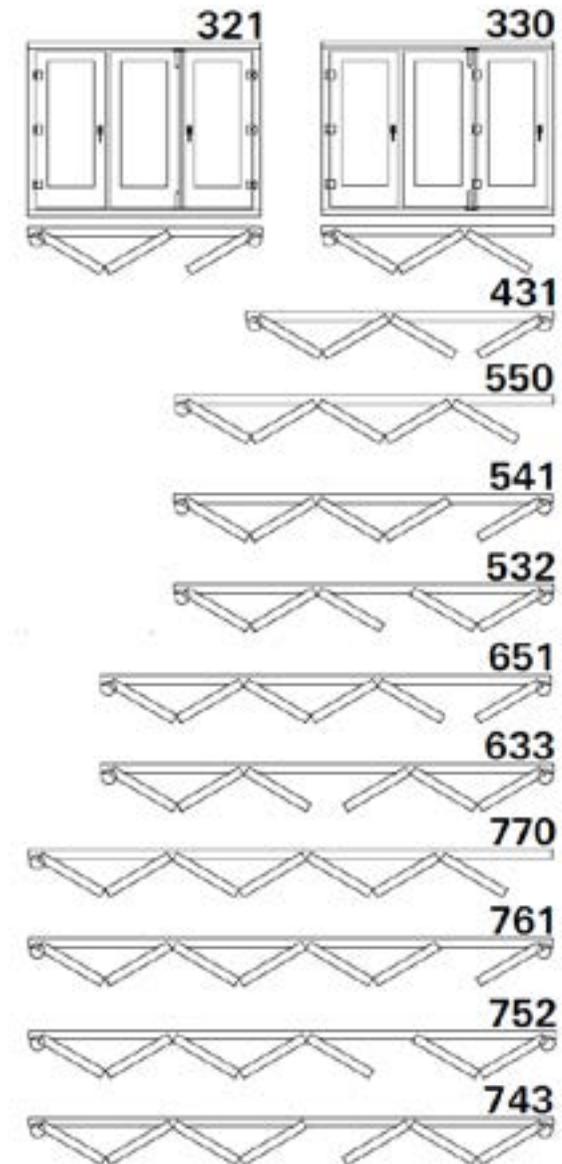
PATIO ALVERSA



PATIO INOVA



PATIO FOLD



STANDARD



TYPE C

OPTIONAL



S-SYSTEM



ENERGY CONCEPT 90

WOODEN

WINDOWS MEET THE
REQUIREMENTS OF THE CLEAN
AIR PROGRAMME

WINDOWS DESIGNED FOR
ENERGY-EFFICIENT BUILDINGS

STRUCTURE

single frame window, sash and frame thickness 90 mm, glazing bead Type C; optional S-System

MATERIAL

glued laminated pine, oak available as an option

FINISH

water soluble paints (covering or transparent), a three-layer covering system, a four-layer transparent system

STANDARD OF CONSTRUCTION

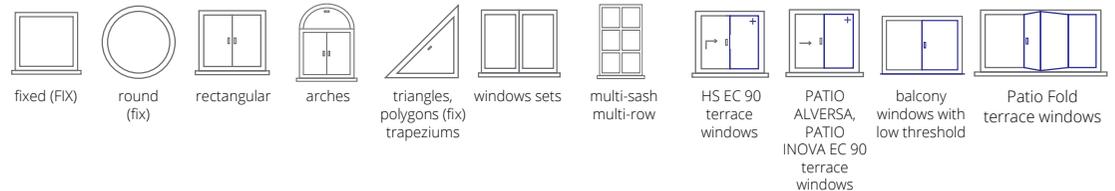
- triple glazed unit 4/16Ar/4/16Ar/4 Ug=0,5 W/m²K with warm edge spacer bars (colours of warm frames p. 32), optional thermopanel in balcony windows.
- Roto NX circumferential fittings with microventilation function (for rectangular Tilt&Turn windows) and three-plane adjustment, with anti-theft protection, handle misplacement lock
- hinge caps - available colours p. 36
- three profile seals available in white or brown
- drip cap - aluminium with thermal insert and mini drip cap (external aluminium glazing bead) - p. 41
- handles - available models and colours page 37

ADDITIONAL ACCESSORIES

glazing units - p. 32
fitting accessories - p. 42-45
air inlets - p. 41

sill plates and heat-insulated window sills - p. 50
decorations for sash stops - p. 49
muntins - p. 46

AVAILABLE VARIANTS



The FSC® 100% certificate has been granted to: single-frame windows and terrace windows without a thermopanel - pine and oak



Warranty up to 5 years - detailed conditions available at www.pol-skone.eu.



thermal transmittance*: 0,80 W/(m²K)



water tightness: E900



air permeability: 4



resistance to wind load: C3



acoustic properties: 34 (-1;-5) dB

(*) The provided values of the heat and acoustic insulation apply to the reference window with the dimensions of 1,23 x 1,48 m

STANDARD



TYPE C

OPTIONAL



S-SYSTEM



TYPE C PLUS

WOODEN

STRUCTURE

single frame window, sash and frame thickness 78 mm, glazing bead type C; optional S-System

MATERIAL

glued laminated pine wood, oak available as an option

FINISH

water soluble paints (covering or transparent), a three-layer covering system, a four-layer transparent system

STANDARD OF CONSTRUCTION

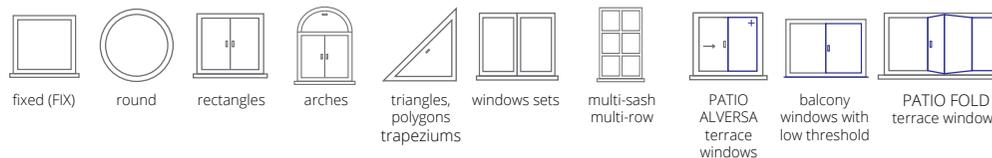
- Triple glazed window 4/14Ar/4/14Ar/4 Ug=0,6 W/m²K with warm edge spacer bars (warm frame colours p. 34), optional thermopanel in balcony windows
- Roto NX peripheral fittings with microventilation function (for rectangular Tilt&Turn windows) and three-plane adjustment, with anti-theft protection, handle misplacement lock.
- hinge caps - available colours p. 36
- three profile seals available in white or brown
- drip cap - aluminium with thermal insert and mini drip cap (external aluminium glazing bead) - p. 41
- handles - available models and colours page p. 37

ADDITIONAL ACCESSORIES

glazing units - p. 33
fitting accessories - p. 42-45
air inlets - p. 41

decorations for sash stops - p. 49
casing colours - p. 36
muntins - p. 46

AVAILABLE VARIANTS



The FSC® 100% certificate has been granted to: single-frame windows and terrace windows without a thermopanel - pine and oak



Warranty up to 5 years - detailed conditions available at www.pol-skone.eu.



thermal transmittance*: 0,90 W/(m²K)



water tightness: E900



air permeability: 4



resistance to wind load: C2



acoustic properties: 33 (-1;-6) dB

(*) The provided values of the heat and acoustic insulation apply to the reference window with the dimensions of 1,23 x 1,48 m

STANDARD



TYPE C

OPTIONAL



S-SYSTEM



TYPE C

WOODEN

STRUCTURE

single frame window, sash and frame thickness 68 mm, glazing bead type C; optional S-System

MATERIAL

glued laminated pine wood, oak available as an option

FINISH

water soluble paints (covering or transparent), a three-layer covering system, a four-layer transparent system

STANDARD OF CONSTRUCTION

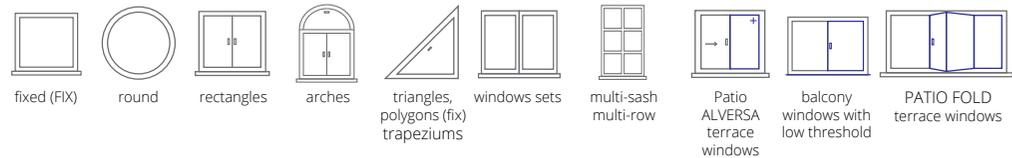
- Double glazed window 4/16Ar/4 Ug=1,0 W/m²K with warm edge spacer bars (warm frame colours p. 34) or triple 4/10Ar/4/10Ar/4 Ug=0,8 W/m²K, optional thermopanel in balcony windows
- Roto NX peripheral fittings with microventilation function (for rectangular Tilt&Turn windows) and three-plane adjustment, with anti-theft protection, handle misplacement lock.
- hinge caps - available colours p. 36
- three profile seals available in white or brown
- drip cap - aluminium with thermal insert and mini drip cap (external aluminium glazing bead) - p. 41
- handles - available models and colours page p. 37

ADDITIONAL ACCESSORIES

glazing units - p. 33
fitting accessories - p. 42-45
air inlets - p. 41

muntins - p. 46
decorations for sash stops - p. 49

AVAILABLE VARIANTS



thermal transmittance*: 1,3 W/(m²K)
thermal transmittance: 1,1 W/(m²K)**



water tightness: E900



air permeability: 4



resistance to wind load: C2



acoustic properties*: 33 (-1;-5) dB
acoustic properties: 33 (-1;-5) dB**

(*) The provided values of the heat and acoustic insulation apply to the reference window with the dimensions of 1,23 x 1,48 m with glazing unit Ug=1,0 W/m²K
(**) The provided values of the heat and acoustic insulation apply to the reference window with the dimensions of 1,23 x 1,48 m with glazing unit Ug=0,8 W/m²K



The FSC® 100% certificate has been granted to: single-frame windows and terrace windows without a thermopanel - pine and oak



Warranty up to 5 years - detailed conditions available at www.pol-skone.eu.



EC 90 EI 30

WOODEN

STRUCTURE

single frame window, sash and frame thickness 90 mm, glazing bead type C

MATERIAL

glued laminated pine wood

FINISH

water soluble paints (covering or transparent), a three-layer covering system, a four-layer transparent system

STANDARD OF CONSTRUCTION

- glazing unit: VSG 44,2 Thermofloat 1,0 kl. P2A/16 Argon/PYROBEL 16, with a warm inter-pane frame Termo TGI, $U_g=1,0$ W/m²K; $g=npd$; $Lt=npd$ (warm frame colours p. 34)
- Roto NX WK2 fittings with three-level adjustment, anti-theft strikers, V-shaped rollers, handle misplacement lock, passive sash of double-sashed windows and balcony doors, equipped with a central cremone bolt with concealed handle
- hinge caps - available colours p. 36
- ROTO Line handle - available colours p. 37
- three profile seals available in white or brown
- intumescent seals in casement and frame
- ceramic and intumescent seals around the perimeter of the glazing unit
- drip cap - aluminium with thermal insert and mini drip cap (external aluminium glazing bead) - p. 41

ADDITIONAL ACCESSORIES

on-clasp muntins - p. 46

AVAILABLE VARIANTS



rectangles
single and
double sash

windows
sets*



* after obtaining individual approval for the facility from the Building Research Institute

The FSC® 100% certificate has been granted to: single-frame windows and terrace windows without a thermopanel - pine and oak



Warranty up to 5 years - detailed conditions available at www.pol-skone.eu.



thermal transmittance*: 1,2 W/(m²K)



water tightness: E900



air permeability: 4



resistance to wind load: C3



fire resistance: 30 min

(* The provided values of the heat and acoustic insulation apply to the reference window with the dimensions of 1,23 x 1,48 m

STANDARD



TYPE C



EC 90 EX

WOODEN

STRUCTURE

single frame window, sash and frame thickness 90 mm, glazing bead Type C

MATERIAL

glued laminated pine wood

FINISH

water soluble paints (covering or transparent), a three-layer covering system, a four-layer transparent system

STANDARD OF CONSTRUCTION

- glazing unit: VSG 44,2 Thermofloat 1,0 kl. P2A / 16 Argon / PYROBEL 16, with a warm inter-pane frame Termo TGI, $U_g=1,0$ W/m²K; $g=npd$; $Lt=npd$ (warm frame colours p. 34)
- ceramic and intumescent seals around the perimeter of the glazing unit
- drip cap (external aluminium glazing bead) - p. 48

ADDITIONAL ACCESSORIES

on-clasp muntins - str. 44

AVAILABLE VARIANTS



rectangles
(fix) windows sets



thermal transmittance*: 1,2 W/(m²K)



fire resistance: 30 min**



acoustic properties: 46 (-1;-5) dB

(*) The provided values of the heat and acoustic insulation apply to the reference window with the dimensions of 1,23 x 1,48 m.

(**) Fire resistance EI 30 confirmed by a report NR LZP01-00750/20/R258NZP



The FSC® 100% certificate has been granted to: single-frame windows and terrace windows without a thermopanel - pine and oak



Warranty up to 5 years - detailed conditions available at www.pol-skone.eu.

STANDARD



TYPE C

OPTIONAL



S-SYSTEM



EC 90 SR 46

WOODEN

STRUCTURE

single frame window, sash and frame thickness 90 mm, glazing bead Type C; optional S-System

MATERIAL

glued laminated pine wood

FINISH

water soluble paints (covering or transparent), a three-layer covering system, a four-layer transparent system

STANDARD OF CONSTRUCTION

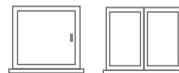
- glazing unit with increased acoustic insulation R_w 51,(-2; -7) dB, construction: VSG 66,2 Akustic / 20 Argon / VSG 44,2 Thermofloat 1,1 Akustic $U_g=1,1$ W/m²K wg EN 673 $g=55\%$; $L_t=78\%$ wg EN 410
- hinge caps - available colours p. 36
- Roto NX peripheral fittings with microventilation function (for rectangular Tilt&Turn windows) with three-level adjustment, with anti-theft protection, handle misplacement lock.
- three profile seals available in white or brown
- drip cap - aluminium with thermal insert and mini drip cap (external aluminium glazing bead) - p. 41
- handles - available models and colours page p. 37

ADDITIONAL ACCESSORIES

warm frame colours - p. 34
fitting accessories - p. 42-45

on-clasp muntins - p. 46

AVAILABLE VARIANTS



rectangles
single and
double sash



The FSC® 100% certificate has been granted to: single-frame windows and terrace windows without a thermopanel - pine and oak



Warranty up to 5 years - detailed conditions available at www.pol-skone.eu.



thermal transmittance*: 1,3 W/(m²K)



water tightness: E900



air permeability: 4



acoustic properties: 46 (-1;-4)**

(*) The provided values of the heat and acoustic insulation apply to the reference window with the dimensions of 1,23 x 1,48 m. Acoustic insulation $R_w=46$ dB applies to the window with the dimensions 1,50 x 1,50 m

(**) applies to single leaf window with total surface area $\leq 2,7$ m²

SCANDINAVIAN SYSTEM

WOODEN

OUTWARD OPENING WINDOWS

STANDARD



S-SYSTEM

OPTIONAL



TYPE C



STRUCTURE

single frame window, the sash thickness 68 mm, frame thickness 104 mm, glazing bead S-system, Type C as an option

MATERIAL

glued laminated pine wood, oak available as an option

FINISH

water soluble paints (covering or transparent), a three-layer covering system, a four-layer transparent system

STANDARD OF CONSTRUCTION

- Double glazed window 4/16Ar/4/ Ug=1,0 W/m²K with warm edge spacer bars (warm frame colours p. 34) or triple 4/10Ar/4/10Ar/4 Ug=0,8 W/m²K, optional thermopanel in balcony windows
- windows - Roto PN fittings with anti-theft security (windows on scissor modules or window hinges), hotel security (Top-Swing windows),
- balcony windows with Roto NX fittings, external hinges protected against corrosion and adjustable in two planes
- profile seal in white or brown, grey brush seal in the frame
- mini drip cap (external aluminium glazing bead) - p. 48
- handles - available models and colours page p. 39

ADDITIONAL ACCESSORIES

glazing units - p. 33
fitting accessories - p. 42-45
air inlets - p. 41

decorations for sash stops - p. 49
muntins: Vienna, on clasps, hinged, inter-pane and structural - p. 46

AVAILABLE VARIANTS



fixed (FIX)



rectangles



triangles (fix)
polygons (fix)
trapeziums



windows sets



multi-sash
multi-row



balcony
windows with
low threshold



thermal transmittance*: 1,2 W/(m²K)
thermal transmittance: 1,1 W/(m²K)**



water tightness: 4A



air permeability: 4



resistance to wind load: C2



acoustic properties*: 33 (-1;-5) dB
acoustic properties: 33 (-1;-5) dB**

(*) The provided values of the heat and acoustic insulation apply to the reference window with the dimensions of 1,23 x 1,48 m with glazing unit Ug=1,0 W/m²K

(**) The provided values of the heat and acoustic insulation apply to the reference window with the dimensions of 1,23 x 1,48 m with glazing unit Ug=0,8 W/m²K



The FSC® 100% certificate has been granted to: single-frame windows and terrace windows without a thermopanel - pine and oak



Warranty up to 5 years - detailed conditions available at www.pol-skone.eu.

STANDARD



TYP C

OPTIONAL



S-SYSTEM



ENERGY CONCEPT 90

ALU-EFFECT

WOOD-ALUMINIUM

WINDOWS MEET THE
REQUIREMENTS OF THE CLEAN
AIR PROGRAMME

WINDOWS DESIGNED FOR
ENERGY-EFFICIENT BUILDINGS

STRUCTURE

single frame window, wood and aluminium with a thermal insert, sash and frame thickness 90 mm, with cladding 103 mm, glazing bead Type C, optional S-System

MATERIAL

glued laminated pine wood, oak available as an option

FINISH

water soluble paints (covering or transparent), a three-layer covering system, a four-layer transparent system, powder painted aluminium, the RAL basic colours 9016, 9010, 9007, 9006, 9005, 8019, 8017, 8007, 8001, 7042, 7035, 7016, 6005, 5010, 3004, 1013 the other colours of the RAL palette are available at extra charge

STANDARD OF CONSTRUCTION

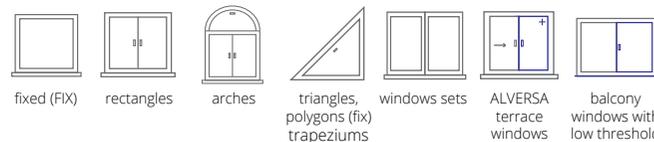
- Triple glazed window 4/16Ar/4/16Ar/4 Ug=0,5 W/m²K with warm edge spacer bars (warm frame colours p. 32), optional thermopanel with aluminium sheet on the outside of the balcony windows
- Roto NX peripheral fittings with microventilation function (for rectangular Tilt&Turn windows) with three-level adjustment, with anti-theft protection, handle misplacement lock
- three profile seals available in white or brown
- additional seal between the frame cladding and the sash cladding
- drip cap - aluminium with thermal insert - p. 41
- aluminium cladding on the outside
- hinge caps - available colours p. 36
- handles - available models and colours page p. 37

ADDITIONAL ACCESSORIES

glazing units - p. 32
fitting accessories - p. 42-45
air inlets - p. 41

sill plates and heat-insulated window sills - p. 50
decorations for sash stops - p. 49
muntins: Vienna, on clasps, inter-pane and structural - p. 46

AVAILABLE VARIANTS



fixed (FIX)

rectangles

arches

triangles,
polygons (fix)
trapeziums

windows sets

ALVERSA
terrace
windowsbalcony
windows with
low threshold

The FSC® 100% certificate has been granted to: single-frame windows and terrace windows without a thermopanel - pine and oak



Warranty up to 5 years - detailed conditions available at www.pol-skone.eu.

thermal transmittance*: 0,78 W/(m²K)

water tightness: E900

air permeability: 4

resistance to wind load: C3

acoustic properties: 34 (-1;-5)

(*) The provided values of the heat and acoustic insulation apply to the reference window with the dimensions of 1,23 x 1,48 m

TYPE C PLUS ALU-EFFECT

WOOD-ALUMINIUM

STANDARD



TYPE C

OPTIONAL



S-SYSTEM



STRUCTURE

single frame window, the sash and frame thickness 78 mm, with cladding 91 mm, glazing bead type C; S-System as an option

MATERIAL

glued laminated pine wood, oak available as an option

FINISH

water soluble paints (covering or transparent), a three-layer covering system, a four-layer transparent system, powder painted aluminium, the RAL basic colours 9016, 9010, 9007, 9006, 9005, 8019, 8017, 8007, 8001, 7042, 7035, 7016, 6005, 5010, 3004, 1013, the other colours of the RAL palette are available at extra charge

STANDARD OF CONSTRUCTION

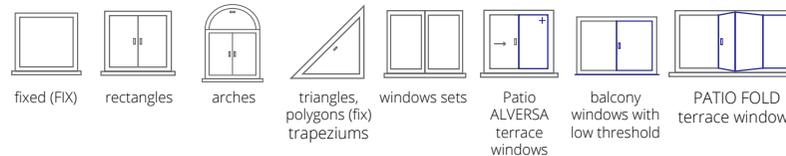
- Triple glazed window 4/14Ar/4/14Ar/4 Ug=0,6 W/m²K with warm edge spacer bars (warm frame colours p. 34), optional thermopanel with aluminium sheet on the outside of the balcony windows
- Roto NX peripheral fittings with microventilation function (for rectangular Tilt&Turn windows) with three-level adjustment, with anti-theft protection, handle misplacement lock
- hinge caps - available colours p. 36,
- three profile seals available in white or brown,
- additional seal between the frame cladding and the sash cladding,
- aluminium cladding on the outside
- handles - available models and colours page p. 37

ADDITIONAL ACCESSORIES

glazing units - p. 33
fitting accessories - p. 42-45
air inlets - p. 41

muntings: Vienna, on clasps, inter-pane and structural - p. 46

AVAILABLE VARIANTS



The FSC® 100% certificate has been granted to: single-frame windows and terrace windows without a thermopanel - pine and oak



Warranty up to 5 years - detailed conditions available at www.pol-skone.eu.



thermal transmittance*: 0,90 W/(m²K)



water tightness: E900



air permeability: 4



acoustic properties: 33 (-1;-6)

(*) The provided values of the heat and acoustic insulation apply to the reference window with the dimensions of 1,23 x 1,48 m

STANDARD



TYPE C

OPTIONAL



S-SYSTEM



TYPE C ALU-EFFECT

WOOD-ALUMINIUM

STRUCTURE

single frame window, the sash and frame thickness 68 mm, with cladding 81 mm, glazing bead type C; optional S-System

MATERIAL

glued laminated pine wood, oak available as an option

FINISH

water soluble paints (covering or transparent), a three-layer covering system, a four-layer transparent system, powder painted aluminium, the RAL basic colours RAL 9016, 9010, 9007, 9006, 9005, 8019, 8017, 8007, 8001, 7042, 7035, 7016, 6005, 5010, 3004, 1013 the other colours of the RAL palette are available at extra charge

STANDARD OF CONSTRUCTION

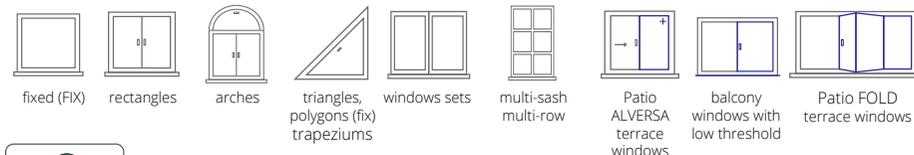
- Double glazed window 4/16Ar/4/ Ug=1,0 W/m²K with warm edge spacer bars (warm frame colours p. 34) or triple 4/10Ar/4/10Ar/4 Ug=0,8 W/m²K, optional thermopanel with aluminium sheet on the outside of the balcony windows
- Roto NX peripheral fittings with microventilation function (for rectangular Tilt&Turn windows) with three-level adjustment, with anti-theft protection, handle misplacement lock
- hinge caps - available colours p. 36,
- three profile seals available in white or brown,
- additional seal between the frame cladding and the sash cladding,
- aluminium cladding on the outside
- handles - available models and colours page p. 37

ADDITIONAL ACCESSORIES

glazing units - p. 33
fitting accessories - p. 42-45
air inlets - p. 41

muntins: Vienna, on clasps, inter-pane and structural - p. 46

AVAILABLE VARIANTS



The FSC® 100% certificate has been granted to: single-frame windows and terrace windows without a thermopanel - pine and oak



Warranty up to 5 years - detailed conditions available at www.pol-skone.eu.



thermal transmittance*: 1,2 W/(m²K)
thermal transmittance: 1,1 W/(m²K)**



water tightness: E900



air permeability: 4



resistance to wind load: B2



acoustic properties*: 33 (-1;-5) dB
acoustic properties: 33 (-1;-5) dB**

(*) The provided values of the heat and acoustic insulation apply to the reference window with the dimensions of 1,23 x 1,48 m with glazing unit Ug=1,0 W/m²K

(**) The provided values of the heat and acoustic insulation apply to the reference window with the dimensions of 1,23 x 1,48 m with glazing unit Ug=0,8 W/m²K

STANDARD



TYP C



2+1 DUO

WOOD-ALUMINIUM

STRUCTURE

composite window, wood-aluminium; the sash and frame thickness 68 mm, frame with cladding 80 mm, additional aluminium leaf fixed on wooden leaf, glazing bead R=3 mm

MATERIAL

glued laminated pine wood, oak available as an option

MATERIAL OF EXTRA LEAF

aluminium

FINISH

water soluble paints (covering or transparent), a three-layer covering system, a four-layer transparent system; powder painted aluminium, the RAL basic colours RAL 9016, 9010, 9007, 9006, 9005, 8019, 8017, 8007, 8001, 7042, 7035, 7016, 6005, 5010, 3004, 1013 the other colours of the RAL palette are available at extra charge

STANDARD OF CONSTRUCTION

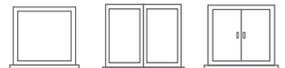
- Double glazed window 4/16Ar/4/ Ug=1,0 W/m²K with warm edge spacer bars (warm frame colours p. 34), 4 mm toughened glass in aluminium sash, optional thermopanel with aluminium sheet on the outside of the balcony windows
- hinge caps - available colours p. 36
- Roto NX peripheral fittings with microventilation function (for rectangular Tilt&Turn windows) with three-level adjustment, with anti-theft protection, handle misplacement lock
- three profile seals available in white or brown
- additional seal between the frame cladding and the sash cladding,
- aluminium cladding on the outside
- handles - available models and colours page p. 37

ADDITIONAL ACCESSORIES

glazing units - p. 33
fitting accessories - p. 42-45
air inlets - p. 41

colours of louvre slats - p. 45
muntins: inter-pane and structural - p. 46

AVAILABLE VARIANTS



fixed (FIX) windows sets rectangles
single and
double frame



The FSC® 100% certificate has been granted to: single-frame windows and terrace windows without a thermopanel - pine and oak



Warranty up to 5 years - detailed conditions available at www.pol-skone.eu.



thermal transmittance*: 1,0 W/(m²K)



water tightness: E1050



resistance to wind load: C2



air permeability: 4

(*) The provided values of the heat and acoustic insulation apply to the reference window with the dimensions of 1,23 x 1,48 m

STANDARD



S-SYSTEM



DUAL NORD

WOOD-ALUMINIUM

**OUTWARD OPENING
WINDOWS**

STRUCTURE

single frame window, the sash thickness 68 mm with cladding 81 mm, frame 104 mm with cladding 117 mm, glazing rebate S-System

MATERIAL

glued laminated pine wood, oak available as an option

FINISH

water soluble paints (covering or transparent), a three-layer covering system, a four-layer transparent system
powder painted aluminium, the RAL basic colours RAL 9016, 9010, 9007, 9006, 9005, 8019, 8017, 8007, 8001, 7042, 7035, 7016, 6005, 5010, 3004, 1013 the other colours of the RAL palette are available at extra charge

STANDARD OF CONSTRUCTION

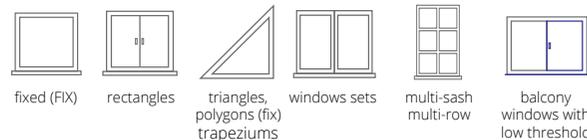
- Double glazed window 4/16Ar/4/ Ug=1,0 W/m²K with warm edge spacer bars (warm frame colours p. 34) or triple 4/10Ar/4/10Ar/4 Ug=0,8 W/m²K, optional thermopanel with aluminium sheet on the outside of the balcony windows
- windows - Roto PN fittings with anti-theft protection (windows on scissor modules or window hinges), hotel security (Top-Swing windows),
- balcony windows with Roto NX fittings, external hinges protected against corrosion and adjustable in two planes,
- profile seal in white or brown, brush seal in frame in grey
- aluminium cladding on the outside
- handles - available models and colours page p. 39

ADDITIONAL ACCESSORIES

glazing units - p. 33
fitting accessories - p. 42-45
air inlets - p. 41

muntings: Vienna, on clasps, inter-pane and structural - p. 46

AVAILABLE VARIANTS



The FSC® 100% certificate has been granted to: single-frame windows and terrace windows without a thermopanel - pine and oak



Warranty up to 5 years - detailed conditions available at www.pol-skone.eu.



thermal transmittance*: 1,2 W/(m²K)
thermal transmittance: 1,0 W/(m²K)**



water tightness: 5A



air permeability: 4



resistance to wind load: C2



acoustic properties*: 33 (-1;-5) dB
acoustic properties: 33 (-1;-5) dB**

(*) The provided values of the heat and acoustic insulation apply to the reference window with the dimensions of 1,23 x 1,48 m with glazing unit Ug=1,0 W/m²K
(**) The provided values of the heat and acoustic insulation apply to the reference window with the dimensions of 1,23 x 1,48 m with glazing unit Ug=0,8 W/m²K

STANDARD



S-SYSTEM



DUAL NORD 0,5

WOOD-ALUMINIUM

**OUTWARD OPENING
WINDOWS**

STRUCTURE

single frame window and balcony door, the sash thickness 68 mm with cladding 81 mm, frame 104 mm with cladding 117 mm, glazing rebate S-System

MATERIAL

glued laminated pine wood, oak available as an option

FINISH

water soluble paints (covering or transparent), a three-layer covering system, a four-layer transparent system
powder painted aluminium, RAL basic colours 9016, 9010, 9007, 9006, 9005, 8019, 8017, 8007, 8001, 7042, 7035, 7016, 6005, 5010, 3004, 1013, other colours of the RAL palette are available at extra charge

STANDARD OF CONSTRUCTION

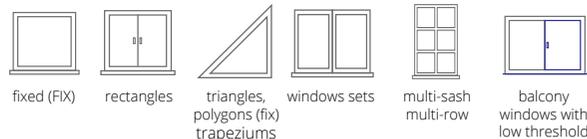
- Triple glazed window 4/16Ar/4/16Ar/4 Ug=0,5 W/m²K with warm edge spacer bars (warm frame colours p. 32), optional thermopanel with aluminium sheet on the outside of the balcony windows
- windows - Roto PN fittings with anti-theft protection (windows on scissor modules or window hinges), hotel security (Top-Swing windows),
- balcony windows with Roto NX fittings, external hinges protected against corrosion and adjustable in two planes,
- profile seal in white or brown, brush seal in frame in grey
- aluminium cladding on the outside
- handles - available models and colours page p. 39

ADDITIONAL ACCESSORIES

glazing units - p. 32
fitting accessories - p. 42-45
air inlets - p. 41

muntings: Vienna, on clasps, inter-pane and structural - p. 46

AVAILABLE VARIANTS



fixed (FIX)

rectangles

triangles,
polygons (fix)
trapeziums

windows sets

multi-sash
multi-rowbalcony
windows with
low threshold

The FSC® 100% certificate has been granted to: single-frame windows and terrace windows without a thermopanel - pine and oak



Warranty up to 5 years - detailed conditions available at www.pol-skone.eu.



thermal transmittance*: 0,83 W/(m²K)



water tightness: 5A



air permeability: 4



resistance to wind load: C2



acoustic properties*: 34 (-1;-5) dB

(* The provided values of the heat and acoustic insulation apply to the reference window with the dimensions of 1,23 x 1,48 m

PATIO FOLD

WOODEN/ WOOD-ALUMINIUM

PATIO FOLD (folding) terrace windows allow for obtaining maximum space in the passage after folding the sashes. PATIO FOLD window sashes fold inwards.

STRUCTURE

WOODEN: single frame terrace window, the sash and frame thickness depending on the system: ENERGY CONCEPT 90 - 90 mm, TYPE C PLUS - 78 mm, TYPE C - 68 mm, glazing bead Type C; optional S-System

WOOD-ALUMINIUM: single frame terrace window, the sash and frame thickness depending on the system: ENERGY CONCEPT 90 ALU-EFFECT: 90 mm, with cladding 103 mm, TYPE C PLUS ALU-EFFECT: 78 mm, with cladding 91 mm, TYPE C ALU-EFFECT: 68 mm, cladding 81 mm, glazing bead Type C; optional S-System

MATERIAL

glued laminated pine wood, oak available as an option

FINISH

water soluble paints (covering or transparent), a three-layer covering system, a four-layer transparent system; powder painted aluminium, RAL basic colours 9016, 9010, 9007, 9006, 9005, 8019, 8017, 8007, 8001, 7042, 7035, 7016, 6005, 5010, 3004, 1013, other colours of the RAL palette are available at extra charge

STANDARD OF CONSTRUCTION

- Glazing unit according to the window system,
- Roto Patio Fold fittings with anti-theft catch and handle misplacement lock,
- number of seals depends on the window system,
- adjustable system hinges,
- bottom and top rail with sash carriages,
- drip cap and mini drip cap (external aluminium glazing bead) in wooden systems - p. 48
- aluminium drip cap and aluminium cladding in wood-aluminium systems - p. 41
- handles - available models and colours page p. 38

ADDITIONAL ACCESSORIES

low aluminium threshold
warm frame colours - p. 34
fitting accessories - p. 42-45

glazing units - p. 32
air inlets - p. 41
muntins: Vienna, on clasps, inter-pane and structural - p. 46

OPENING CONFIGURATIONS

321, 330, 431, 550, 541, 532, 651, 633, 770, 761, 752, 743 - p. 6



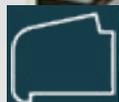
The FSC® 100% certificate has been granted to: single-frame windows and terrace windows without a thermopanel - pine and oak



Warranty up to 5 years - detailed conditions available at www.pol-skone.eu.



S-SYSTEM



TYPE C



PARAMETERS DEPENDING ON THE VARIANT OF CONSTRUCTION AND THE WINDOW SYSTEM



bottom rail with sash running carriage

top-hung sash rail



optionally: aluminium low threshold with sash running carriage



PATIO FOLD system hinge

PATIO ALVERSA

WOODEN/
WOOD-ALUMINIUM

PATIO ALVERSA terrace windows (offset-sliding doors) take up less space and open more comfortably than traditional inward opening patio doors.

STRUCTURE

PATIO ALVERSA KS:

- tilt of the sash in the horizontal handle position,
- the sash moves in the vertical handle position (upwards),
- sash ventilation in tilt position

PATIO ALVERSA PS:

- tilt of the sash in the horizontal handle position
- system facilitating insertion of the sash into the frame
- microventilation

WOODEN: single frame terrace window, the sash and frame thickness depending on the system: ENERGY CONCEPT 90 - 90 mm, TYPE C PLUS - 78 mm, TYPE C - 68 mm, glazing bead Typ C; optional S-System

WOOD-ALUMINIUM: single frame terrace window, the sash and frame thickness depending on the system:

ENERGY CONCEPT 90 ALU-EFFECT: 90 mm, with cladding 103 mm, TYPE C PLUS ALU-EFFECT: 78 mm, with cladding 91 mm
TYPE C ALU-EFFECT: 68 mm, with cladding 81 mm, glazing bead Type C; optional S-System

MATERIAL

glued laminated pine wood, oak available as an option

FINISH

water soluble paints (covering or transparent), a three-layer covering system, a four-layer transparent system;
powder painted aluminium, RAL basic colours 9016, 9010, 9007, 9006, 9005, 8019, 8017, 8007, 8001, 7042, 7035, 7016, 6005, 5010, 3004, 1013, other colours of the RAL palette are available at extra charge

STANDARD OF CONSTRUCTION

- Glazing unit according to the window system;
- Roto Patio Alversa fittings with an anti-theft catch and a handle misplacement lock,
- number of seals depending on the window system,
- drip cap and mini drip cap (external aluminium glazing bead) in wooden systems - p. 48
- aluminium drip cap and aluminium cladding in wood-aluminium systems - p. 41
- handles - available models and colours page p. 38

ADDITIONAL ACCESSORIES

glazing units - p. 32
air inlets - p. 41

warm frame colours - p. 34
muntins: Vienna, on clasps, inter-pane and structural - p. 46

OPENING CONFIGURATIONS

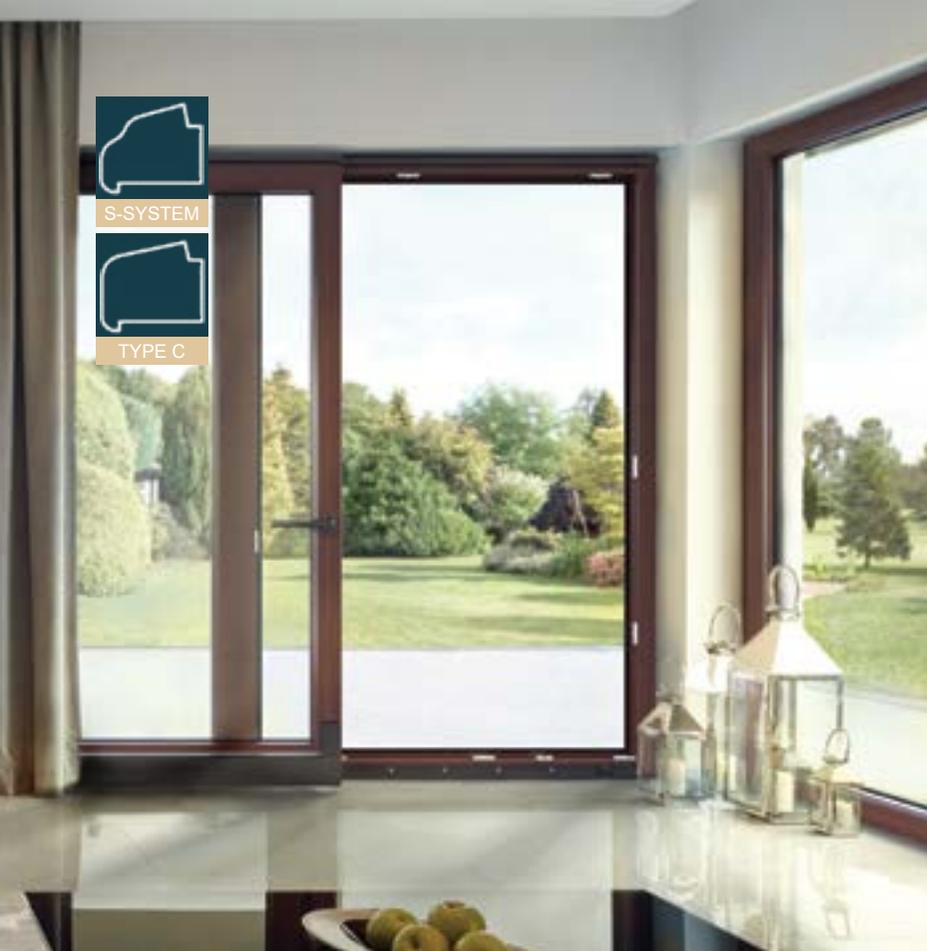
SCH. A, SCH. A', SCH. C, SCH. C', SCH. G, SCH. G' - p. 6



The FSC® 100% certificate has been granted to: single-frame windows and terrace windows without a thermopanel - pine and oak



Warranty up to 5 years - detailed conditions available at www.pol-skone.eu.



PARAMETERS DEPENDING ON THE VARIANT OF CONSTRUCTION AND THE WINDOW SYSTEM

PATIO INOVA

EC 90

WOODEN

PATIO INOVA is a system of terrace windows with a sliding outer sash, thanks to which the system is characterised by exceptional tightness. The advantage of the system is an innovative fixed glazing in PANORAMA version (glass mounted directly in the threshold and lintel of the window), which allows maximum room illumination.

STRUCTURE

single frame terrace window, the sash and frame thickness depending on the system: Energy Concept 90: leaf 90 mm, frame 200 mm, glazing bead Type C optional S-System, oak doorstep cap on the inside, aluminium doorstep cap on the outside, wooden drip cap in the lintel

MATERIAL

glued laminated pine wood, oak available as an option

FINISH

water soluble paints (covering or transparent), a three-layer covering system, a four-layer transparent system

STANDARD OF CONSTRUCTION

- Triple glazed window 4/16Ar/4/16Ar/4 Ug=0,5 W/m²K with warm edge spacer bars (warm frame colours p. 32), optional thermopanel
- Roto Patio Inova fittings with anti-theft strike,
- drip cap (external aluminium glazing bead) in the sliding sash - p. 48
- aluminium outside handle allowing the sash to be slid from the outside
- frame seal around the sash
- handles - available models and colours page p. 38

ADDITIONAL ACCESSORIES

glazing units - p. 32
muntins: Vienna, on clasps, inter-pane and structural - p. 46

Soft Open and **Soft Close** system - a hidden system braking the sash when opening and closing and which pulls it to the final position, increases the comfort of use by gently opening and closing the sash

OPENING CONFIGURATIONS

SCH. A, SCH C, SCH G, SCH K - p. 6



The FSC® 100% certificate has been granted to: single-frame windows and terrace windows without a thermopanel - pine and oak



Warranty up to 5 years - detailed conditions available at www.pol-skone.eu.



thermal transmittance*: 0,75 W/(m²K)



water tightness: 7A



air permeability: 4



resistance to wind load: C2

(*) The provided values of the heat and acoustic insulation apply to the reference window with the dimensions of 3,00 x 2,20 m

HS EC 90 WOODEN

Terrace windows HS EC 90 is a system of lift and slide windows characterized by comfortable handling of very large and heavy sashes (up to 400 kg). HS EC 90 windows have a standard heat-insulated low threshold, which allows for installation into the floor and blending with the floor surface.

STRUCTURE

single frame terrace window, the sash thickness 90 mm, frame thickness 210 mm, glazing bead Type C; optional S-System

MATERIAL

glued laminated pine wood, oak available as an option

FINISH

water soluble paints (covering or transparent), a three-layer covering system, a four-layer transparent system;

STANDARD OF CONSTRUCTION

- Triple glazed window 4/16Ar/4/16Ar/4 Ug=0,5 W/m²K with warm edge spacer bars (warm frame colours p. 32)
- silicone system seals
- flush top guide bar - no protruding fittings parts in the window lintel
- fibreglass threshold with 15 mm running rail
- handles - available models and colours page p. 38

ACCESSORIES AND EQUIPMENT

glazing units - p. 32

sash lowering shock absorber - an invisible sash shock absorber reduces the resistance force and causes a gentle return of the handle designed for heavy sashes - p. 26

muntins: Vienna, on clasps, inter-pane and structural - p. 46

cremone bolts with insert - p. 42

Comfort Stop sash damper - brakes the sash during opening and closing just before the end position and gently stops it - p. 26

reed relays - str. 42

OPENING CONFIGURATIONS

SCH. A, SCH. C, SCH. D, SCH. G, SCH. K - p. 5



The FSC® 100% certificate has been granted to: single-frame windows and terrace windows without a thermopanel - pine and oak



Warranty up to 5 years - detailed conditions available at www.pol-skone.eu.



thermal transmittance*: 0,75 W/(m²K)



water tightness: 4A



air permeability: 4



resistance to wind load: C2

(* The provided values of the heat and acoustic insulation apply to the reference window with the dimensions of 3,0 x 2,20 m



HS DUAL

WOOD-ALUMINIUM

Terrace windows HS DUAL is a system of lift and slide windows characterized by comfortable handling of very large and heavy sashes (up to 400 kg). HS DUAL windows have a standard heat-insulated low threshold, which allows for installation into the floor and blending with the floor surface.

STRUCTURE

single frame terrace window, the sash thickness 68 mm with cladding 84 mm, frame thickness 180 mm with cladding 198 mm, glazing bead Type C; optional S-System

MATERIAL

glued laminated pine wood, oak available as an option

FINISH

water soluble paints (covering or transparent), a three-layer covering system, a four-layer transparent system; powder painted aluminium, RAL basic colours 9016, 9010, 9007, 9006, 9005, 8019, 8017, 8007, 8001, 7042, 7035, 7016, 6005, 5010, 3004, 1013, other colours of the RAL palette are available at extra charge

STANDARD OF CONSTRUCTION

- Triple glazed window 4/16Ar/4/16Ar/4 Ug=0,5 W/m²K with warm edge spacer bars (warm frame colours p. 32)
- silicone system seals
- flush top guide bar - no protruding fittings parts in the window lintel
- fibreglass threshold with 15 mm running rail
- handles - available models and colours page p. 38

ACCESSORIES AND EQUIPMENT

glazing units - p. 32

sash lowering shock absorber - an invisible sash shock absorber reduces the resistance force and causes a gentle return of the handle designed for heavy sashes - p. 26

muntins: Vienna, on clasps, inter-pane and structural - p. 46

cremone bolts with insert - p. 43

Comfort Stop sash damper - brakes the sash during opening and closing just before the end position and gently stops it - p. 26

reed relays - str. 42

OPENING CONFIGURATIONS

SCH. A, SCH. C, SCH. D, SCH. G, SCH. K - p. 5



The FSC® 100% certificate has been granted to: single-frame windows and terrace windows without a thermopanel - pine and oak



Warranty up to 5 years - detailed conditions available at www.pol-skone.eu.



thermal transmittance*: 0,82 W/(m²K)



water tightness: 4A



air permeability: 4



resistance to wind load: C2

(* The provided values of the heat and acoustic insulation apply to the reference window with the dimensions 3,0 x 2,20 m

STANDARD



TYPE C



HS

PANORAMA DUAL

WOOD-ALUMINIUM

An innovative version of HS windows characterised by panoramic fixed glazing. The glazing of the fixed sash is embedded in the threshold and thus flush with the floor. In addition, frameless fixed glazing on the side and top provides maximum light into the room and a panoramic view of the garden. The modern character of the window is complemented by the external aluminium cladding with a modern profile.

STRUCTURE

single frame terrace window, the sash thickness 78 mm with cladding 91 mm, frame thickness 198 mm with cladding 211 mm, system without glazing beads on the inside

MATERIAL

glued laminated pine wood, oak available as an option

FINISH

water soluble paints (covering or transparent), a three-layer covering system, a four-layer transparent system; aluminium powder painted aluminium, the RAL basic colours 9016, 9010, 9007, 9006, 9005, 8019, 8017, 8007, 8001, 7042, 7035, 7016, 6005, 5010, 3004, 1013 the other colours of the RAL palette are available at extra charge

STANDARD OF CONSTRUCTION

- Triple glazed window 4/16Ar/4/16Ar/4 Ug=0,5 W/m²K with warm edge spacer bars (warm frame colours p. 32)
- silicone system seals
- MACO Rail-System fittings: bogies with brushes for clean running rail and therefore smooth sash movement, hooked cremone bolt with recessed catches for high mechanical anti-burglary properties and modern window design
- flush top guide bar - no protruding elements of fittings in the window lintel
- fibreglass threshold with heat-insulated inserts with 5 mm running rail
- handles - available models and colours page p. 38

ACCESSORIES AND EQUIPMENT

glazing units - p. 32

sash lowering shock absorber - an invisible sash shock absorber reduces the resistance force and causes a gentle return of the handle designed for heavy sashes - p. 27

reed switches - p. 42

cremone bolts with insert - p. 43

Comfort Stop sash damper - brakes the sash during opening and closing just before the end position and gently stops it - p. 27

OPENING CONFIGURATIONS

SCH. A, SCH. C, SCH. D, SCH. G, SCH. K - p. 5



The FSC® 100% certificate has been granted to: single-frame windows and terrace windows without a thermopanel - pine and oak



Warranty up to 5 years - detailed conditions available at www.pol-skone.eu.



thermal transmittance*: 0,73 W/(m²K)



water tightness: 4A



air permeability: 4



resistance to wind load: C2



acoustic properties:

(*) The provided values of the heat and acoustic insulation apply to the reference window with the dimensions 3,0 x 2,20 m

CONSTRUCTION STANDARDS

HS EC 90 / HS DUAL



MACO RAIL-SYSTEM FITTINGS
boogies with brushes for a clean running rail and thus a smooth sash movement.



FLUSH TOP GUIDE BAR
no protruding elements of fittings in the window lintel.

OPTIONALLY

SASH DAMPING DEVICE

invisible sash shock absorber reduces the resistance force and causes gentle return of the handle designed for heavy sashes.



HOOK CREMONE BOLT

with recessed hooks providing high mechanical anti-burglary properties and modern window design.



FIBREGLASS THRESHOLD

with a 15 mm running rail and with a threshold levelling plate allowing an almost perfect leveling of the floor inside and outside the house, HS EC 90 threshold width 240 mm height 42 mm, HS DUAL threshold width 180 mm height 62 mm.

OPTIONALLY

COMFORT STOP SASH DAMPER

brakes the sash during opening and closing just before the end position and gently stops it.



CONSTRUCTION STANDARDS

HS PANORAMA



MACO RAIL-SYSTEM FITTINGS
boogies with brushes for a clean running rail and thus a smooth sash movement.



FLUSH TOP GUIDE BAR
no protruding elements of fittings in the window lintel.

OPTIONALLY

SASH LOWERING SHOCK ABSORBER - an invisible sash shock absorber reduces the resistance force and causes a gentle return of the handle designed for heavy sashes



HOOK CREMONE BOLT
with recessed hooks providing high mechanical anti-burglary properties and modern window design.



FIBREGLASS THRESHOLD
fibreglass threshold with heat-insulated inserts with 5 mm running rail and with a threshold levelling plate allowing almost perfect leveling of the floor inside and outside the house, threshold width 240 mm height 42 mm.

OPTIONALLY

COMFORT STOP SASH DAMPER
brakes the sash during opening and closing just before the end position and gently stops it.



FIBREGLASS THRESHOLD
with heat-insulated inserts with 5 mm running rail and with a threshold levelling plate allowing almost perfect leveling of the floor inside and outside the house, threshold width 240 mm height 42 mm.



PANORAMA FIXED GLAZING
for safety reasons, the use of safety glass (laminated or tempered) is recommended

WINDOW SHUTTERS



FSC® 100% certified:
single sash and double sash pine
and oak shutters



Warranty up to 5 years - detailed conditions available at
www.pol-skone.eu.



resistance to wind load: 1

WINDOW SHUTTERS

STRUCTURE

Fixed slats (13x46mm) built into a 42 mm thick wooden frame

MATERIAL

wood: pine, oak

FINISH

water soluble paints (covering or transparent), a three-layer covering system, a four-layer transparent system

FITTINGS



Option 1
standard hinge



Option 2
hinge with decorative
metal plate



Option 3
hinge with corner metal plate

CLOSING MECHANISM



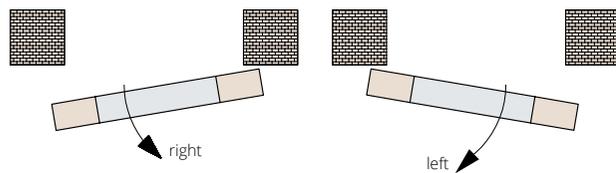
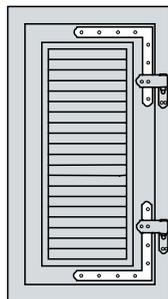
single closing set for
single sash
shutters



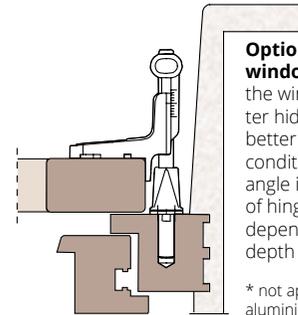
single closing set for
double
sash shutters

WAY OF OPENING

Single sash shutter

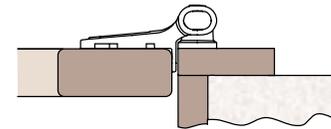


WAY OF OPENING



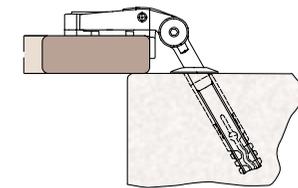
Option 1 - fitted to the window frame*. After closing the window shutter, the entire shutter hides in the wall which provides better protection from weather conditions. The shutter opening angle is 180 degrees. **Note!** The type of hinges should be selected depending on the embrasure depth (0-275mm)

* not applicable to windows with aluminium cladding from outside



Option 2 - fitted on the shutter frame.

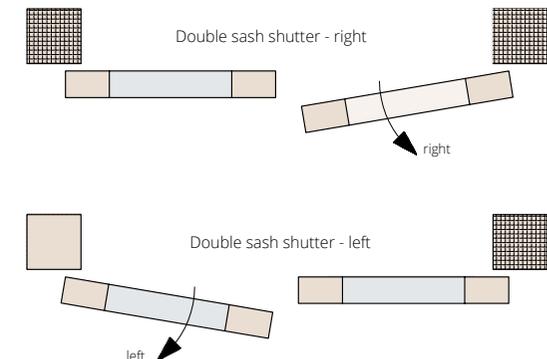
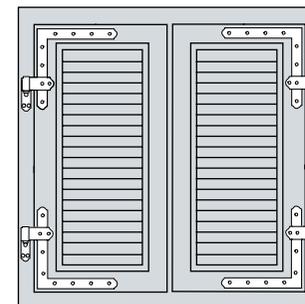
Additionally, the entire window hole should be additionally covered with 24 mm x 80 mm wooden slats (the window shutter frame). Fittings should be fitted to the frame according to the drawing. This way of fitting the window shutter ensures the aesthetic look while keeping it functional.



Option 3 - fitted to the wall.

The most traditional way of fitting window shutters. The shutter fittings is fitted directly to the wall. It should be remembered, however, that before the elevation repair works, e.g. laying the exterior wall insulation, the wooden beams should be fitted beside the window to reduce the gap between the wall and the window shutter fittings.

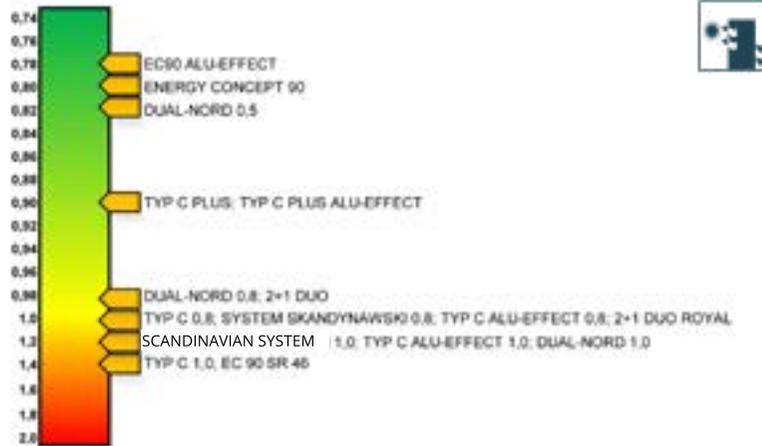
Double sash shutter



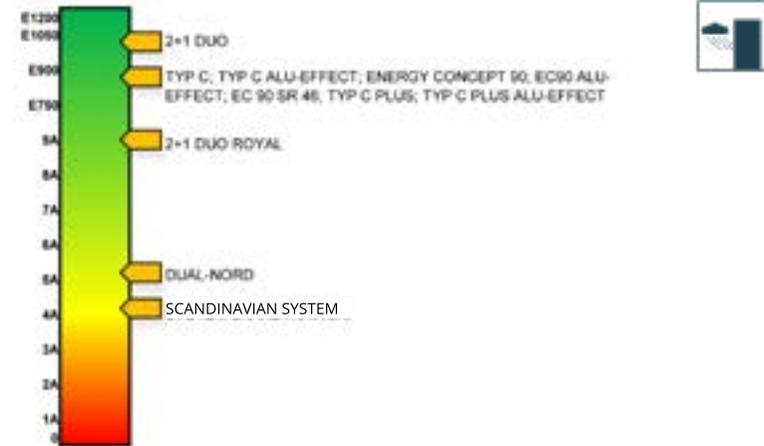
WINDOW PARAMETERS

WINDOW SYSTEMS

THERMAL TRANSMITTANCE U_w [W/m^2K]*



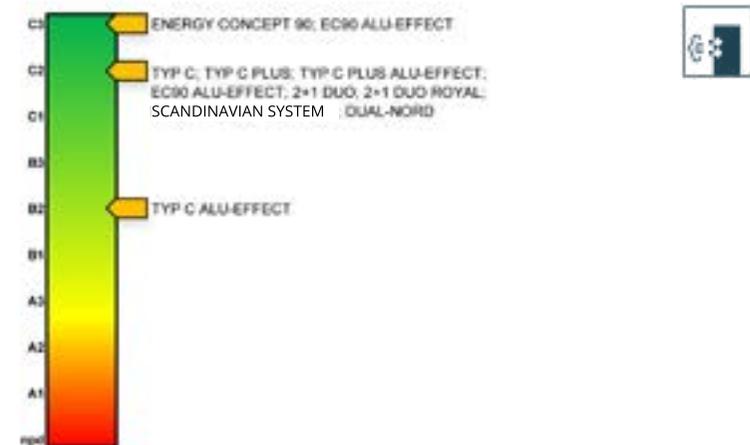
WATER TIGHTNESS



ACOUSTIC PROPERTIES [DB]**



RESISTANCE TO WIND LOAD



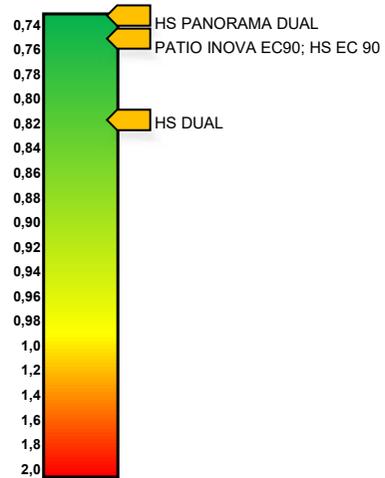
*single sash window - 1,23 x 1,48 [m]

**applies to a window with total surface area $\leq 2,7 m^2$

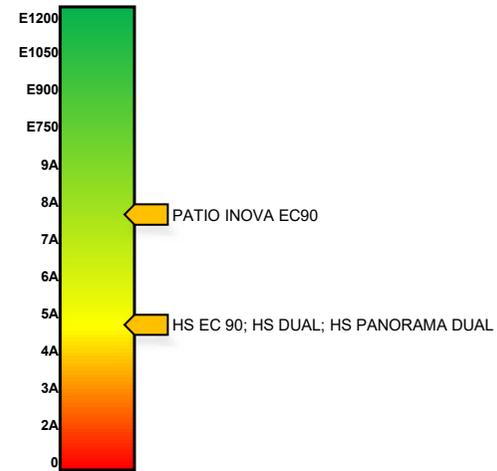
WINDOW PARAMETERS

TERRACE WINDOW SYSTEMS

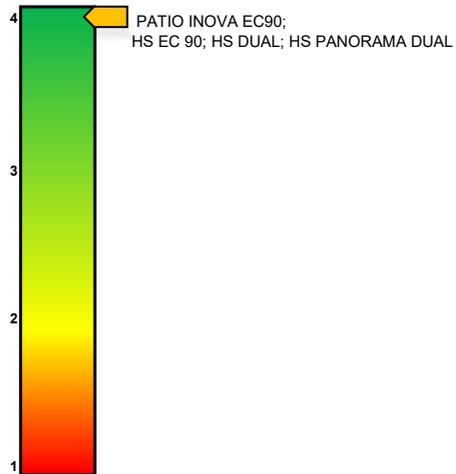
THERMAL TRANSMITTANCE U_w [W/m^2K]*



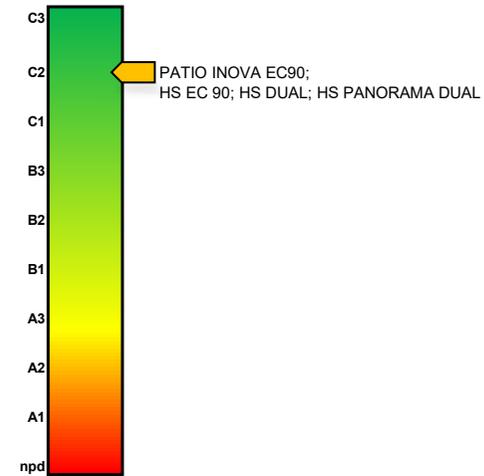
WATER TIGHTNESS



AIR PERMEABILITY



RESISTANCE TO WIND LOAD



*scheme A - 3,00 x 2,20 [m]

GLAZING UNITS



DESIGNED FOR SYSTEMS:

- ENERGY CONCEPT 90
- ENERGY CONCEPT 90 ALU-EFFECT
- DUAL NORD 0,5
- PATIO FOLD ENERGY CONCEPT 90
- PATIO FOLD ENERGY CONCEPT 90 ALU-EFFECT
- PATIO ALVERSA ENERGY CONCEPT 90
- PATIO ALVERSA ENERGY CONCEPT 90 ALU-EFFECT
- PATIO INOVA EC 90
- HS EC 90
- HS DUAL
- HS PANORAMA DUAL

IN THE GLAZING UNITS, THE SWISSPACER ADVANCE WARM EDGE SPACER BARS IS AVAILABLE IN THE FOLLOWING COLOURS AS STANDARD



black RAL 9005	dark brown RAL 8014	light brown RAL 8003	grey RAL 9023	light grey RAL 7035	white RAL 9015
----------------------	------------------------------	-------------------------------	---------------------	------------------------------	----------------------

(SWISSPACER ULTIMATE warm frame available at extra charge)

Triple glazed windows $U_g = 0,5 \text{ W/m}^2\text{K}$

THE UNIT CONSISTS OF:

PLANITHERM ONE 4mm/16 Ar/PLANICLEAR 4mm/16 Ar/ PLANITHERM ONE 4mm, $U_g=0,5 \text{ W/m}^2\text{K}$ $g=38\%$, $L_t=59\%$
or PLANITHERM XN 4mm/18 Ar/PLANICLEAR 4mm/18 Ar/ PLANITHERM XN 4mm, $U_g=0,5 \text{ W/m}^2\text{K}$ $g=54\%$, $L_t=74\%$

U_g - thermal transmittance of glazing unit
 g - the total solar energy transmittance coefficient
 L_t - light transmission coefficient

AVAILABLE OPTIONS:

- GLAZING FOR BEST DAYLIGHT IN COMBINATION WITH HIGHEST SOLAR ENERGY TRANSMITTANCE:

ECLAZ - a new generation of coatings for maximum room illumination - light transmission of up to 77% and solar energy transmission of up to 60%. Glazing units with ECLAZ reflect internal heat while letting in plenty of light and solar energy from outside (providing free heat).

- SUNSCREENS:

STOPSOL - solar control glass reduces the amount of heat energy from the sun, reflective coating for greater privacy, available in grey, brown, blue and clear.

COOL-LITE SKN - selective glass characterised by a low solar energy transmittance parameter (g) in relation to the solar light transmittance (L_t) makes additional constructions interfering with the body of the building (blinds, shutters, etc.) redundant. Glass with a natural appearance and high transparency.

MIRASTAR - glass with a "Venetian mirror" effect

SAFETY GLAZING:

WITH TOUGHENED GLASS - provides high resistance to impact with a soft body, up to 5 times greater than standard non-toughened glass of the same thickness. When broken, they shatter into many small and tiny pieces, just like a car windscreen.

LAMINATED GLASS - provides effective anti-burglary properties. Laminated glass consists of two or more panes of glass with internal 0,38 mm thick PVB films. Depending on the combination and the number and thickness of the individual panes of glass and PVB films, laminated glass can be produced with different properties. Thanks to an inner layer - a special film - when laminated glass breaks, the film keeps the glass intact, thus providing protection against serious injury. Laminated glass protects against attempted break-ins, acts of vandalism and even prevents breaking through the glass during a forcible break-in.

SOUNDPROOFING GLAZING:

- UNITS WITH ACOUSTIC INSULATION UP TO 41 dB WHILE MAINTAINING THE COEFFICIENT $U_g=0,5 \text{ W/m}^2\text{K}$

- UNITS WITH SOUND INSULATION OF UP TO 50 DB WITH INCREASED HEAT TRANSFER COEFFICIENT

- GLAZING WITH FUNCTIONAL COATING:

BIOCLEAN GLASS - glass with a durable transparent outer coating with photocatalytic and hydrophilic effects. The natural effects of sun and rain help keep the glass clean for a longer period. The glass is also easier to clean.

ORNAMENT GLASS - the sophisticated glass structure lets the light in and marks the boundary between transparency and privacy. The timeless design gives each interior an individual character.

GLAZING UNITS

DOUBLE GLAZED $U_g = 1,0 \text{ W/m}^2\text{K}$



THE UNIT CONSISTS OF:

4mm FLOAT/16 Ar/THERMOFLOAT
1,0, $U_g=1,0 \text{ W/m}^2\text{K}$ $g=54\%$, $L_t=76 \%$

DESIGNED FOR SYSTEMS:

- TYPE C
- TYPE C ALU-EFFECT
- SCANDINAVIAN SYSTEM
- DUAL NORD
- 2+1 DUO
- PATIO FOLD TYPE C
- PATIO FOLD TYPE C ALU-EFFECT
- PATIO ALVERSA TYPE C
- PATIO ALVERSA TYPE C ALU-EFFECT

U_g – thermal transmittance of glazing unit
 g - the total solar energy transmittance coefficient
 L_t - light transmission coefficient

AVAILABLE OPTIONS:

- SUNSCREENS:+

STOPPOL - solar control glass reduces the amount of heat energy from the sun, reflective coating for greater privacy, available in grey, brown, blue and clear.

ANTISOL - solar control glass, which reduces the transmission of solar energy, thus preventing overheating of rooms. Available in the following colour variants: grey, brown, blue and green.

COMBI NEUTRAL - selective glass characterised by low solar energy transmittance (g) in relation to solar light transmittance (L_t). The best possible use of daylight and sunlight thanks to high natural light transmission, colour neutrality and colour fidelity.

ANTISOL - solar control glass, which reduces the transmission of solar energy, thus preventing overheating of rooms. Available in the following colour variants: grey, brown, blue and green.

MIRASTAR - glass with a "Venetian mirror" effect

TRIPLE GLAZED $U_g = 0,8 \text{ W/m}^2\text{K}$



THE UNIT CONSISTS OF:

THERMOFLOAT 1,1 4mm/10 Ar/FLOAT
4mm/10 Ar/THERMOFLOAT 1,1 4mm,
 $U_g=0,8 \text{ W/m}^2\text{K}$ $g=52\%$, $L_t=74\%$

DESIGNED FOR SYSTEMS:

- TYPE C
- TYPE C ALU-EFFECT
- SCANDINAVIAN SYSTEM
- DUAL NORD
- 2+1 DUO
- PATIO FOLD TYPE C
- PATIO FOLD TYPE C ALU-EFFECT
- PATIO ALVERSA TYPE C
- PATIO ALVERSA TYPE C ALU-EFFECT

TRIPLE GLAZED $U_g = 0,6 \text{ W/m}^2\text{K}$



THE UNIT CONSISTS OF:

Thermofloat 1,0 4mm/14 Argon/Float 4mm/14
Argon/ Thermofloat 1,0 4mm, $U_g=0,6 \text{ W/m}^2\text{K}$
 $g=41\%$, $L_t=65 \%$
OR
Thermofloat 1,1 4mm/14 Argon/Float 4mm/14
Argon/ Thermofloat 1,1 4mm, $U_g=0,6 \text{ W/m}^2\text{K}$
 $g=52\%$, $L_t=74 \%$

DESIGNED FOR SYSTEMS:

- TYPE C PLUS
- TYPE C PLUS ALU-EFFECT
- PATIO FOLD TYPE C PLUS
- PATIO FOLD TYPE CPLUS ALU-EFFECT
- PATIO ALVERSA TYPE C PLUS
- PATIO ALVERSA TYPE C PLUS ALU-EFFECT

GLAZING UNITS

SAFETY GLAZING:

WITH TOUGHENED glass - provides high resistance to impact with a soft body, up to 5 times greater than standard non-toughened glass of the same thickness. When broken they shatter into many small and tiny pieces, just like a car windscreen.

LAMINATED GLASS - provides effective anti-burglary properties. Laminated glass consists of two or more panes of glass with internal 0,38 mm thick PVB films. Depending on the combination and the number and thickness of the individual panes of glass and PVB films, laminated glass can be produced with different properties. Thanks to an inner layer - a special film - when laminated glass breaks, the film keeps the glass intact, thus providing protection against serious injury. Laminated glass protects against attempted break-ins, acts of vandalism and even prevents breaking through the glass during a forcible break-in.

SOUNDPROOFING GLAZING:

- UNITS WITH ACOUSTIC INSULATION UP TO 41 dB WHILE MAINTAINING THE COEFFICIENT $U_g=0,5 \text{ W/m}^2\text{K}$

- UNITS WITH SOUND INSULATION OF UP TO 50 DB WITH INCREASED HEAT TRANSFER COEFFICIENT

- GLAZING WITH FUNCTIONAL COATING:

BIOCLEAN GLASS - glass with a durable transparent outer coating with photocatalytic and hydrophilic effects. The natural effects of sun and rain help keep the glass clean for longer. The glass is also easier to clean.

ANTI-FOG GLASS - glass with a special anti-condensation coating on the outside, thanks to which condensed water vapour settles on the outer pane at a slower pace. This coating maintains a higher external temperature of the glass, which delays the condensation of water vapour.

IN GLAZING UNITS $U_g=1,0 \text{ W/m}^2\text{K}$ AND $U_g=0,8 \text{ W/m}^2\text{K}$ TERMO TGI WARM EDGE SPACER BAR AS STANDARD

IN GLAZING UNITS $U_g=0,6 \text{ W/m}^2\text{K}$ CHROMATECH WARM EDGE SPACER BAR AS STANDARD AVAILABLE IN COLOURS



WHITE RAL 9016



GREY RAL 7035



BROWN RAL 8016



BLACK RAL 9005 (TGI) RAL 9004
(CHROMATECH)



PREMIUM EDGE WARM EDGE SPACER BAR AVAILABLE AT EXTRA CHARGE

AVAILABLE PATTERNS OF ORNAMENTAL PANES

TRIPLE GLAZED UNITS $U_g = 0,5 \text{ W/m}^2\text{K}$

photos: Saint-Gobain Building Glass Poland



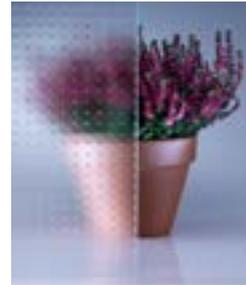
ARENA C



ALTDEUTSCH K



SILVIT



MASTER-CARRE



MASTER-POINT



KATHEDRAL MIN



THELA

DOUBLE/TRIPLE GLAZED UNITS $U_g = 0,6 \text{ W/m}^2\text{K}$, $U_g = 0,8 \text{ W/m}^2\text{K}$, $U_g = 1,0 \text{ W/m}^2\text{K}$



KURA TRANSPARENT



KURA BROWN



SILVIT WHITE



CHINCHILA TRANSPARENT



ATLANTIC



FLUTES



DELTA



NIAGARA



MASTER-CARRE



SCREEN



CATHEDRAL



DIAMANTE 9

HINGE CAPS

OUTWARD OPENING WINDOWS

STANDARD



WHITE R07.2
for windows in white RAL 9016



BRONNY R04.4
for bronze windows NCS s8010-Y90R



SILVER R01.1
for grey windows RAL 7047



ANTHRACITE R02.2
for grey windows RAL 7016

OPTIONAL



TYTAN R01.3



BRASS MATT R03.1



MEDIUM BRONZE R05.3



BLACK MATT R06.2M

WINDOW HANDLES

HANDLES FOR INWARD OPENING WINDOWS

standard handles and colours



optional handles and colours



Window handles with door lock
Handle with longitudinal stile,
Closed window - handle in horizontal position

Optional Roto handles
Available in colours:

- SILVER R01.1
- TITAN R01.3
- BRASS MAT. R03.1
- BROWN R04.4
- MEDIUM BROWN R05.3
- WHITE R07.2



WINDOW HANDLES

ROTO LINE HANDLE FOR PATIO INOVA AND PATIO ALVERSA SYSTEMS

PATIO INOVA - handle standard in silver colour R01.1, other colours available as an option

PATIO ALVERSA - handle colour depends on the colour of the rail system

silver
R01.1



white
R07.2



medium brown
R05.3



brown
R04.4



black
R06.2



available option with key or cylinder rosette



handle with a
key



Handle for lever-operated cremone bolt
(handle and insert on one or both sides)
insert above the handle

HS WINDOW HANDLE

silver



white RAL 9016



light brown



brown RAL 8022



black RAL 9005



as standard pocket pull
in the same colour as the
handle



at extra charge handle
for insert (insert in the
handle shaft)



WINDOW HANDLES

HANDLES FOR OUTWARD OPENING WINDOWS

Angled handle for Top-Swing and Top-Hung windows



Venus handle for Side Hung and balcony windows



colour chrome matt

fasteners to Side-Hung windows



Handle with rosette
for cremone bolt with insert

LIST OF ACCESSORIES

SYSTEM		TYPE C			TYPE C PLUS			TYPE C ALU-EFFECT			TYPE C PLUS ALU-EFFECT			EC 90			EC 90 ALU-EFFECT			EC 90 SR 46			2+1 DUO		SCANDINAVIAN SYSTEM					DUAL NORD								
		tilt and turn	side-hung	tilt	tilt and turn	side-hung	tilt	tilt and turn	side-hung	tilt	tilt and turn	side-hung	tilt	tilt and turn	side-hung	tilt	tilt and turn	side-hung	tilt	tilt and turn	side-hung	tilt	tilt and turn	side-hung	top swing	top hung	side-hung & modules	side-hung II hinges	side-hung balcony	top swing	top hung	side-hung I modules	side-hung II hinges	side-hung balcony				
accessories		opening configuration																																				
		fittings		changing the type of locking rollers (p. 42)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			•	•	•			•	•	•	
				fittings with increased burglary resistance (p. 43)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			•	•	•			•	•	•	
				locking fasteners (p. 43)																										•	•	•			•	•	•	
				reed switches (p. 42)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
				standard microventilation (p. 42)	•			•			•			•			•			•			•			•												
				brake in the handle (p. 42)	•	•		•	•		•	•		•	•		•	•		•	•		•	•		•	•				•	•					•	•
				tilt-first (p. 42)	•			•			•			•			•			•			•			•												
				concealed hinges (not applicable to arched windows) (p. 42)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•											
				handle misplacement lockade standard (p. 43)	•			•			•			•			•			•			•			•												
				scissors for cleaning (p. 43)			•			•			•			•			•			•			•													
				balcony latch (p. 43)	•	•		•	•		•	•		•	•		•	•		•	•		•	•		•	•										•	•
				central cremone bolt in the passive sash (p. 44)		•			•			•			•			•			•			•			•										•	•
				insert cremone bolt (p. 43)	•	•		•	•		•	•		•	•		•	•		•	•		•	•		•	•										•	•
hook-and-loop riggers (p. 44)																																			•	•		
door locks (p. 44)		•			•			•			•			•			•			•			•										•	•				
tilt openers	manual tilting mechanism (p. 44)			•			•			•			•			•			•			•																
	electric tilt mechanism (p. 44)			•			•			•			•			•			•			•																
	low threshold (p. 44)	•	•		•	•		•	•		•	•		•	•		•	•		•	•		•	•				•	•					•	•			
	blinds (p. 45)																																					
air inlets	humidity sensitive air inlet Aereco EMM (p. 41)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•														
	air inlet Aereco AMO (p. 41)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•														
	air inlet Trykvent 283 (p. 41)																								•	•	•	•	•	•	•	•	•	•				
muntins	structural bars (p. 46)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•				
	Vienna bars (p. 46)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•				
	on-clasp bars (p. 46)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•				
	inter-pane bars (p. 46)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•				
	hinged muntin bar (p. 46)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•				

AIR INLETS

AIR INLETS FOR INWARD OPENING WINDOWS

AERECO EMM HIGROSTER - humidity sensitive air inlet controlled automatically, with a lock function in the minimum flow position. When set in the open position, the damper adjusts to the content of water vapour (relative humidity) inside the room. The air flow rate is between 6 and 30 m³/h. The lever in the closed position, blocks the damper, the unit is set in the minimum flow rate position, the device delivers up to 6 m³/h.
Flow rate [m³/h] 6-30
Acoustics [dB(A)] 38 (0.1) - air inlet open
Acoustic performance [dB(A)] 40 (0.0) - air inlet closed
Installed in the window frame or sash



WHITE RAL 9003 (STANDARD)



CASE TREE RAL 8017 (STANDARD)



OAK RAL 8001 (OPTIONAL)



GREY RAL 7045 (OPTIONAL)



ANTHRACITE 7016 (OPTIONAL)

AERECO AMO PRESSURE AIR INLET - Self-regulating pressure air inlet with the possibility of setting the shutter in the minimum flow position. When the louver is set in the open position, the amount of supplied air depends on the pressure difference inside and outside the room, up to 27 m³/h at 10 Pa negative pressure. When the shutter is in the closed position, the ventilator delivers the minimum amount of air, 6 m³/h at a negative pressure of 10 Pa.
Flow rate [m³/h] 6-27
Acoustic performance [dB(A)] 32 (-1;1) - air inlet open
Acoustic parameters [dB(A)] 33 (0;0) - air inlet closed
Installed in the window frame or sash



WHITE RAL 9003 (STANDARD)



CASE TREE RAL 8017 (STANDARD)



OAK RAL 8001 (OPTIONAL)



ANTHRACITE 7016 (OPTIONAL)

achieved air permeability classes for windows with AERECO EMM air inlets (ventilator in closed position)

TYPE C PLUS				ENERGY CONCEPT 90			
single frame window		double frame window		single frame window		double frame window	
air inlet in the sash	air inlet in the frame	air inlet in the sash	air inlet in the frame	air inlet in the sash	air inlet in the frame	air inlet in the sash	air inlet in the frame
Class 3	Class 3	Class 4	Class 4	Class 3	Class 3	Class 4	Class 4

POSSIBILITY TO USE OTHER AIR INLETS AFTER CONSULTATION WITH SALES DEPARTMENT

DRIP CAPS

STANDARD



ANTHRACITE RAL 7016 MATT
for windows in grey
RAL 7016



WHITE RAL 9016 SATIN
for windows in white
RAL9016



DARK BROWN RAL 8019 MATT
for windows in brown colour
NCS s8010-Y90R



SILVER R0 MATT
for windows in the colour grey
RAL 7047

OPTIONAL



OLIVE R33 MATT



GOLD

AIR INLETS FOR OUTWARD OPENING WINDOWS

TRYKVENT 283 AIR INLET - a recessed air inlet opened manually by pressing buttons located at both ends of the diffuser. The air inlet has a seal between the damper and casing which guarantees tightness in the closed position.

The ventilator is mounted in the frame of opening windows and fix windows. For fixed windows only the internal part, for fixed windows also the external air intake. .

TRYKVENT air inlet 283 internal part



external air intake (only FIX windows)



TRYKVENT 283 mounted on an openable window
Available in the colours whitem or brown

FITTING ACCESSORIES

LOCKING ROLLERS OF THE CIRCUMFERENTIAL FITTING

The Roto fittings system offers three different types of locking rollers for a variety of applications with flat guiding of the rollers that ensures smooth operation and wear resistance.

All locking rollers are adjustable:

- locking roller E: eccentric locking roller with clamping force adjustment +/- 0.8 mm
- locking roller P: eccentric locking roller with pressure adjustment +/- 0.8 mm
- locking roller V: eccentric locking roller with clamping force adjustment +/- 0.8 mm and vertical adjustment +/- 0.8 mm



locking rollers E



locking rollers P



locking rollers V

TILT FIRST

In the children's room, as well as in other rooms on upper floors that children have access to, it is worth using the Tilt-First security device with a special key handle. Thanks to Tilt-First technology, anyone can tilt the window to ventilate the room, but it cannot be opened without a key.

- 1 In the tilted position (handle in the 90° position), there is a blocking mechanism.
- 2 Further turning the handle to 180° and opening the window is only possible after unlocking the locking cylinder with the key. In the closed position (0° - vertically downwards), the handle can also be locked with a key, which provides additional burglary protection.



REED SWITCHES

Roto MVS magnetic window opening and closing control system is a solution for monitoring the state of the window: the system controls whether the sash is open or closed. When the magnetic field in the MVS sensor is interrupted, e.g. by breaking the window, the system sends an impulse to the alarm centre through concealed wiring. Additionally, the sensors can be compatible with air-conditioning systems, switching it off when a window is unsealed or opened.



BRAKE IN THE HANDLE

The brake in the handle allows for convenient blocking of open balcony doors or windows within the range of sash opening from 15° to 90° by turning the handle down. The sash blocked in such a way stands firmly against even the strongest gusts of wind enabling safe communication or ventilating the rooms.



MICROVENTILATION

Microventilation helps in removing excess moisture from the building and provide fresh air in the room. By setting the window handle in the right position, a ventilation gap of several millimetres is created between the framework and the window frame. This ensures a constant exchange of air at any time of the year - both in summer and winter. Microventilation in Pol-Skone windows is integrated with an air latch. Such a solution improves the aesthetics of the window and increases the comfort of use by providing an additional ventilation function already as standard.



CONCEALED HINGES

Concealed hinges available in Pol-Skone increase the aesthetics of our windows to an even higher level. Windows equipped with such hinges are characterized by remarkable elegance and make it easy to keep them impeccably clean.



with concealed hinges



with surface-mounted hinges

FITTING ACCESSORIES

FITTINGS WITH INCREASED ANTI-BURGLARY PROPERTIES

Fittings with increased anti-burglary properties are equipped with V locking rollers, steel anti-theft strikers, handle with a key and anti-drilling plate that protects the cassette of the cremone bolt against drilling. Such fittings offer a greater density of locking points, which translates into a real improvement in security. In the case of windows with increased anti-burglary properties of fittings, it is also worthwhile to equip the window with a reed relay and glazing unit in the P4A class (panes glued together with four PVB foils).

SCISSORS FOR CLEANING

With the "cleaning" scissors for tilt windows, the tilt width can be increased by up to 90° depending on the size of the sash. This allows full access to the window and is very useful when it is necessary to clean or ventilate the room. This solution proves useful in places where access to the tilt window from the outside is difficult.



tilt position

"cleaning" position

LOCKING MECHANISM FOR INCORRECTLY POSITIONED HANDLES

The handle misalignment mechanism prevents the window handle being turned when the sash is not in the frame. This solution prevents unintentional putting the sash into turn and tilt position at the same time.



BALCONY LATCH

An element which allows the balcony sash to be slammed shut without the need to lock the sash with a handle, e.g. in the case of a short visit to the balcony. The sash is opened by pushing the sash out of the grip of the latch. Matching shape of the elements on the sash and the frame allows for better infeed and holding power, while thanks to the vertical adjustment up to 7 mm it is possible to optimally set the frame and sash in relation to each other. Long-term reliable operation is guaranteed by the stable spring STRUCTURE.



CREMONE BOLT WITH INSERT

In balcony windows, it is possible to use an cremone bolt for an insert. This solution reduces the risk of the sash being opened by unauthorised persons. This OPTIONAL solution is available for balcony doors with handle from the inside and obligatory for balcony doors with external handle. The handle can be fitted from the inside or on both sides.



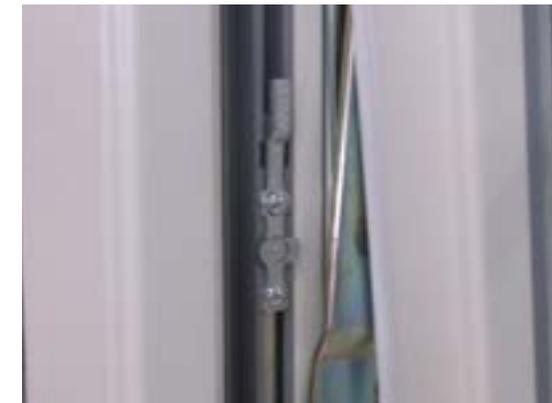
LOCKING FASTERENS

Outward opening side-hung windows on hinges or on modules can be equipped with locking fasteners. A window with fasteners does not have an cremone bolt or a handle, and the sash is pressed and closed using special hooks.



HOTEL SECURITY

Top-swing windows opening outwards, from the height of 550mm are, as a standard, equipped with a hotel safety device - the opening limiter, which protects against unintentional opening of the window to its full extent, it is only possible to obtain a small gap enabling airing of the room. To obtain full opening of the sash you need to press the lock and push the sash outwards, the sash in the maximum opening position is also protected against uncontrolled movement caused e.g., by a gust of wind.



FITTING ACCESSORIES

CENTRAL CREMONE BOLT IN THE PASSIVE SASH

In the passive leaf, it is possible to use a lever-operated cremone bolt instead of scantlings (as standard for sash widths above 1040 mm or leaf heights above 2200 mm).



LOW THRESHOLD

Barrier-free solutions that increase the freedom of movement around rooms improve the living comfort of all users. The low thresholds for balcony doors and windows available in the Pol-Skone offer meet these requirements. The thresholds are made of high-impact PVC profile and aluminium. The threshold height of 20 mm additionally meets the requirements of barrier-free construction according to DIN 18040 (DIN 18025). The additional use of a drip cap with brush seal effectively protects against driving rain.



Watertightness classes of balcony windows with low threshold

Energy Concept 90 balcony 1-sash	Energy Concept 90 balcony 2-sash	EC 90 Alu-Effect balcony 1-sash	EC 90 Alu-Effect balcony 2-sash
E750 (750 Pa)	6A (250 Pa)	E750 (750 Pa)	8A (450 Pa)

HOOK-AND-LOOP RIGGERS

For maximum security and anti-burglary resistance, hook bolts can be used. Their structure is based on the solutions of locks for front doors, special hook bolts are made of hardened steel, fully anchored in stable steel hooks on the frame, so that balcony windows equipped with them can provide a similar level of security as front doors. This solution is designed for outward opening balcony window systems.



DOOR LOCKS

Installing a door lock in balcony windows additionally increases their safety and enables more intuitive operation - the handle, just like in conventional doors, is always set in a horizontal position, enabling easy opening. Locking is ensured by turning the key: it is enough to turn it in order to secure the lock against reversing.



TILT MECHANISMS

If you have high located tilt windows, the ideal fittings in this situation are the floor opening mechanisms. This solution allows you to control the window beyond your hands' reach.

HAND MECHANISM

The manual mechanism makes it possible to tilt and close out-of-reach windows thanks to a hand lever mounted on the window frame or on the wall. The ergonomic shape of the lever ensures comfortable operation, which is light even with a large opening width. Lever, fabric and covers of moving elements are available in colours: white, brown, black or silver.



ELECTRIC MECHANISM

Drive unit for daily ventilation (mains voltage 230 V), adjustable opening width of 200 mm or 400 mm depending on the electrical connection. In addition, it is easy to operate by remote control or a button. Surface mounted.



FITTING ACCESSORIES

THE BLINDS

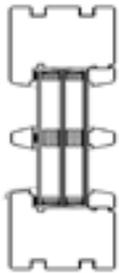
The 2+1 DUO window system may be additionally equipped with aluminium slats mounted in the space between the wooden and aluminium sashes. The controls for the blinds are located on the inside of the wooden sash, allowing easy and convenient control of the shutter mechanism. In order to prevent children from getting entangled in the control elements, all windows with blinds are equipped with the CHILD SAFETY self-tensioning mechanism and a cord catch. The blinds are available with the following slat colours.



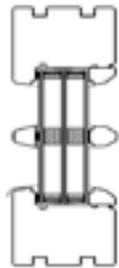
WINDOW MUNTINS

MUNTINS FOR WOODEN WINDOWS

VIENNA TYPE (GLUED)



TYPE C
OUTSIDE AND INSIDE
GLAZING BEAD TYPE C
INSIDE THE GLAZING UNIT
MUNTIN DUPLEX



TYPE C
EXTERIOR AND S-SYSTEM
INSIDE GLAZING BEAD
S-SYSTEM GLAZING BEAD
INSIDE GLAZING UNIT
MUNTIN DUPLEX

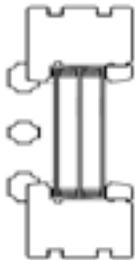
FIXED ON CLASPS



(REMOVABLE,
E.G. TO WASH THE GLASS)
SINGLE SIDE
ONLY FROM OUTSIDE

Can be manufactured in rectangular, shaped and arched windows.
Possibility of joining muntins together at right angles.

MUNTINS ON HINGES



Vienna muntin

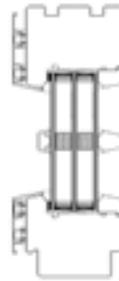
STRUCTURAL MUNTINS



muntin on hinges

ALUMINIUM MUNTINS FOR WOOD - ALU WINDOWS

VIENNA MUNTIN (GLUED)
windows opening inwards



ALUMINIUM MUNTIN BAR
OUTSIDE, INSIDE
WOODEN MUNTIN BAR TYPE C
AND GLAZING BEAD
TYPE C, INSIDE
GLAZING UNIT MUNTIN DUPLEX

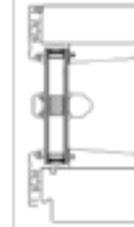


ALUMINIUM MUNTIN BAR
OUTSIDE, INSIDE
S-SYSTEM WOODEN MUNTIN BAR
AND GLAZING BEAD
S-SYSTEM,
DUPLEX MUNTIN INSIDE THE
GLAZING UNIT

VIENNA MUNTIN (GLUED)
windows opening outwards



ALUMINIUM MUNTIN BAR
EXTERIOR
GLAZING BEAD TYPE C
DUPLEX MUNTIN INSIDE THE
GLAZING UNIT



ALUMINIUM MUNTIN BAR
EXTERIOR - WOODEN MUNTIN
BAR TYPE C
INTERIOR - S-SYSTEM WOOD
MUNTIN BAR
S-SYSTEM GLAZING BEAD ON
THE INSIDE
DUPLEX MUNTIN INSIDE THE
GLAZING UNIT

ON-CLASP MUNTINS
(REMOVABLE, E.G. TO WASH THE GLASS)
SINGLE SIDE, ONLY FROM OUTSIDE



OPENING
TO THE INSIDE



OPENING
TO THE OUTSIDE

on-clasp muntins

STRUCTURAL MUNTIN



OPENING
TO THE INSIDE



OPENING
TO THE OUTSIDE

structural muntin



muntin TYPE C



muntin S-SYSTEM



muntin TYPE C

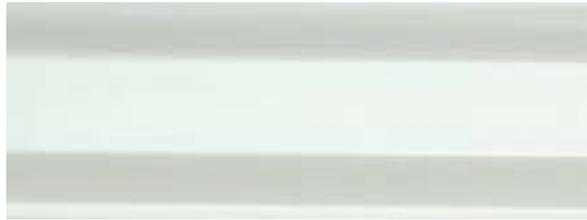


wooden profile
with glazing bead



aluminium cladding
profile

MUNTINS BETWEEN GLASS PANES



white 9010
widths: 8, 18, 26, 45 mm



brown 8014
widths: 18, 26 mm



brown 8017, white 9010/brown 8017
widths: 18, 26 mm



dark brown 8022, white 9010/dark brown 8022
widths: 18, 26 mm



dark oak, white 9010/dark brown
widths: 18, 26 mm



bog oak, white 9010/bog oak
widths: 18, 26 mm



douglasie w., white 9010/douglasie w.
widths: 18, 26 mm



gold
widths: 8, 18, 26 mm



light oak, white 9010/light oak
widths: 18, 26 mm



mahogany, white 9010/mahogany
widths: 18, 26 mm



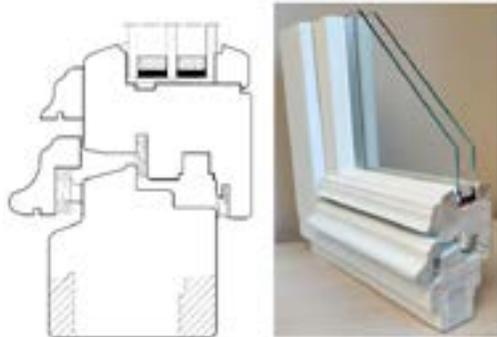
walnut, white 9010/walnut
widths: 18, 26 mm

Muntin bars between panes - placed inside the glazing unit between the panes (in double glazing units only in the external chamber). They are available in RAL colours and wood-like veneers. They may be bent into arcs or circles and joined at different angles. Muntin bars mesh made according to individual customer design (after consultation with the sales department).

WOODEN DRIP CAPS

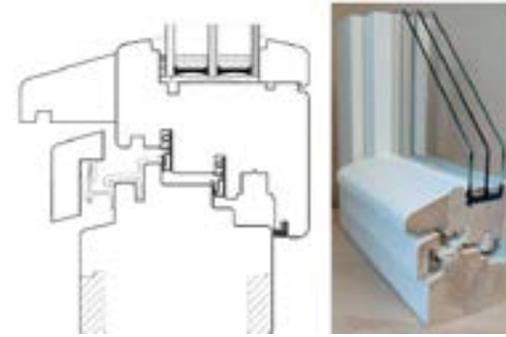
In inward opening wooden window systems it is possible to use optional wooden drip caps elements. This solution is particularly recommended for historic buildings, where the key role is played by reproducing the classic look of the window joinery while maintaining high window parameters. The eaves elements are made of the same material as the windows and painted in the same colour so that they form a coherent structure.

version 1 of the drip caps available in Type C and Type C PLUS system



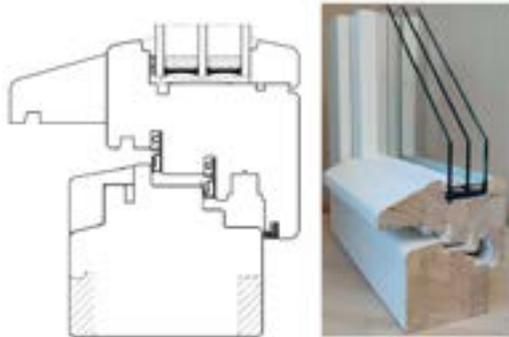
possibility to mill for window sills on one or both sides

version 2 of the drip caps available in the Energy Concept 90 system water tightness - 8A (450 Pa)



possibility to mill for window sills on one or both sides

version with 3 drip caps available in the Energy Concept 90 system water tightness - 5A (200 Pa)



possibility to mill for window sills on one or both sides

Version 4 of the drip caps available in the Energy Concept 90 system water tightness - 5A (200 Pa)



possibility to mill for window sills on one or both sides

It is possible to adapt the drip caps according to the customer's or the conservator's drawings (after consultation with the sales department).

STYLISH DECORATIVE STRIPS AND MULLION MOULDINGS FOR WOODEN WINDOWS

Styling set recommended for the window systems: Typ C, Typ C Plus i Energy Concept 90.



It is possible to reproduce the mouldings on the basis of already existing window elements or to adapt them according to the customer's or conservator's drawings (after consultation with the sales department)



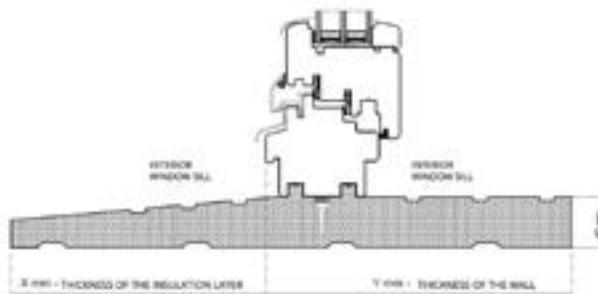
HEAT-INSULATING WINDOW PROFILES AND SILL PLATE

WINDOW FOUNDATIONS AND HEAT-INSULATED WINDOW SILLS

Heat-insulated under-sill profiles are available for windows designed for energy-efficient construction (EENERGY CONCEPT 90 and ENERGY CONCEPT 90 ALU-EFFECT). For balcony windows in these systems and in HS systems (HS EC 90, HS DUAL, HS PANORAMA DUAL), there are CLINARIT under-sill profiles available. Heat-insulating under-window profiles and sill plates are an indispensable part of the so-called warm assembly of window joinery.

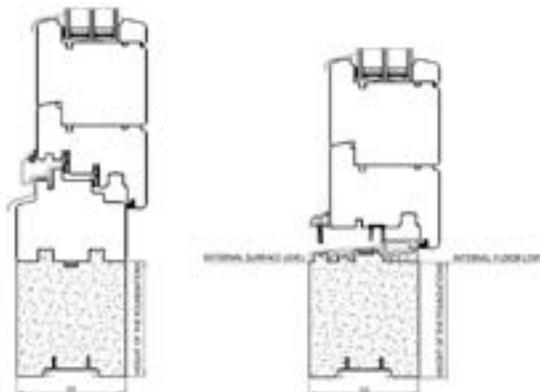
XPS UNDER-SILL PROFILES - "WARM WINDOW SILLS"

The use of XPS under-sill profiles prevents the formation of a thermal bridge between the window and the window sill, which significantly improves the thermal and power properties of the entire building. "Warm window sills" improve the tightness and insulation of the window installation thanks to proper profiling and the use of an expanding tape. In addition, they provide a base for the external and internal window sills. Window sill profiles are made to individual order. The height visible from the inside of the "warm window sill" is 40 mm, width depends on the thickness of the wall and insulation layer.

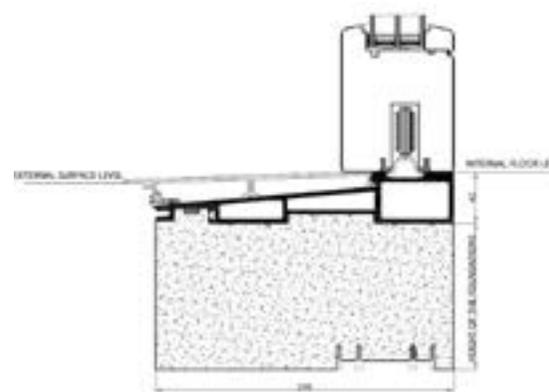


HEAT-INSULATING CLINARITE WINDOW SILL SUPPORTS

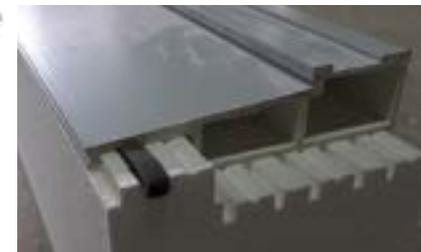
The window sill supports are made of a specially hardened material - CLINARIT, which is characterised by high compressive strength and low heat transfer coefficient. This makes it possible to use them even under very large HS windows in order to eliminate thermal bridges. Clinker foundations ensure uniform linear support of the window across its entire width. The special profile of the sill facilitates installation at the window threshold. The use of an expanding tape prevents the maximum sealing of the connection with the window and prevents blowing under the window sill. At the bottom, the sill plates are equipped with a robust striker strip to allow easy installation of mounting anchors. Heat-insulated sill plates are made to individual order. The height of the sill depends on the thickness of the floor insulation layer and the level of the inside floor, width depends on the window profile.



balcony window substructure



HS WINDOW FOUNDATION



IT IS POSSIBLE TO USE UNDER-SURFACE PROFILES IN OTHER WINDOW SYSTEMS AFTER CONFIRMATION WITH OUR SALES DEPARTMENT.

INSPIRATIONS





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