



**FBS**  
DOORS

# EXTERNAL STEEL DOOR

TECHNICAL INFORMATION

2025/2026

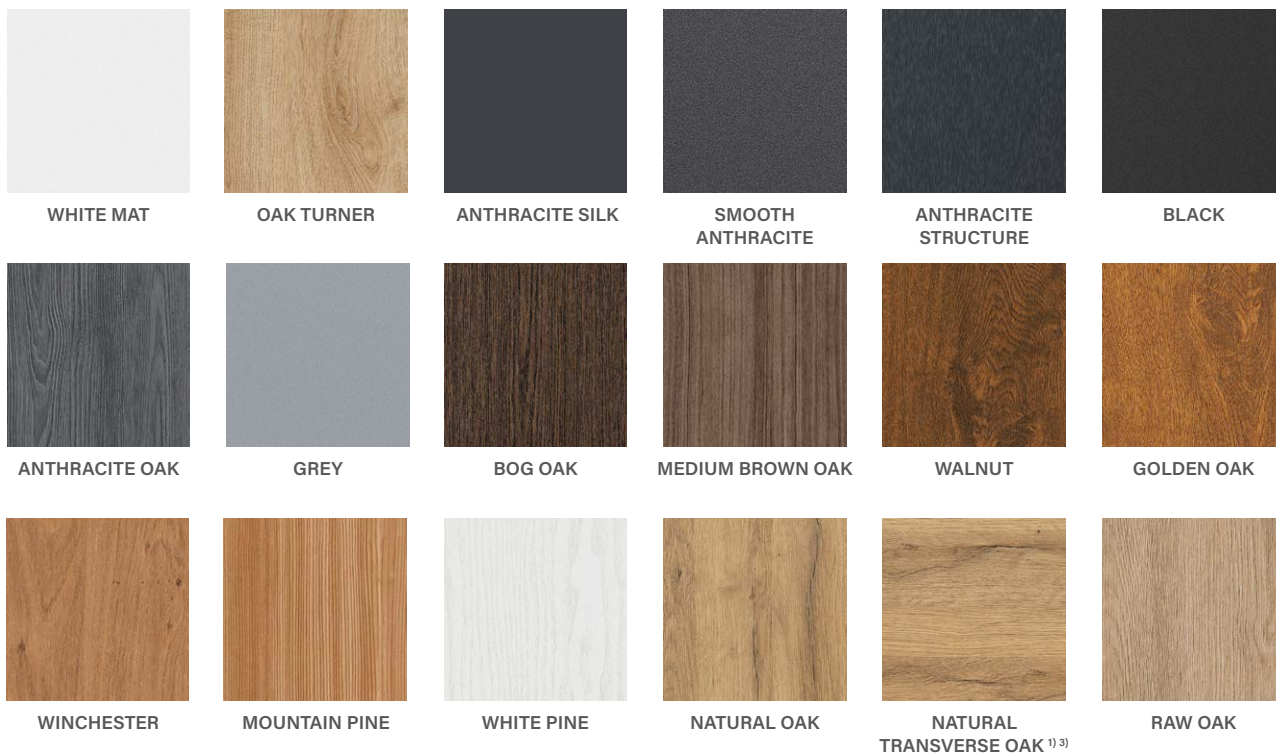
# DECORS

Our doors are made of steel sheet, finished with PVC laminate. Choose a colour that will make your door stand out.

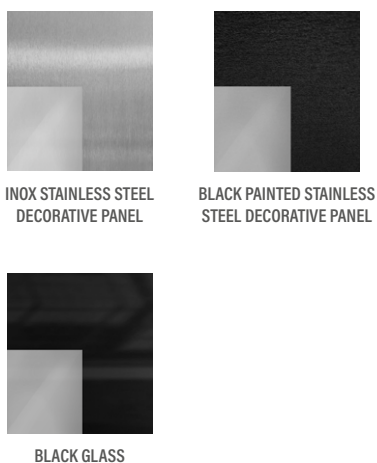
## PVC LAMINATE

This product is specially developed for outdoor use. PVC laminate offers high resistance to changing weather conditions and UV radiation.

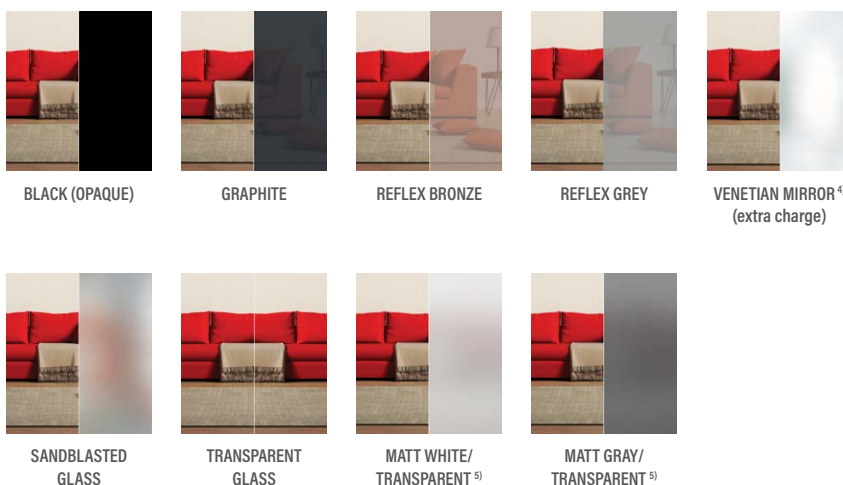
The texture matching the decorative motif creates a product with high aesthetic qualities.



## FRAMES



## GLAZING



<sup>1)</sup> NATURAL TRANSVERSE OAK facing layer used only on the leaf. Frame available with the NATURAL OAK facing layer.

<sup>2)</sup> Refers to the resistance to UV rays with the requirements specified in the guarantee card.

<sup>3)</sup> The decor is only available with a decorative angle in black on the sash rebate on the lock side (not applicable to LANGEN 2 and 7, BAZYLEA 2, LEIMEN 3 and 5).

<sup>4)</sup> A change in atmospheric pressure can cause a slight distortion of the reflected image in a venetian mirror.

<sup>5)</sup> Variable transparency glass. The change is achieved by passing a low-voltage current through the glass. Without the current, the glass is opaque in shades of white or grey. It is activated by a button mounted on the frame (at extra cost) or a button, e.g. from the lighting system.

For technical reasons, due to printing technology, the colours shown may differ from those shown in the photographs. It is recommended to compare the colour with the samples available from the seller

# DOOR COLLECTION

## HORN SERIES

p. 23



HORN 1

HORN 2

HORN 4

HORN 5

## LANGEN SERIES

p. 24



LANGEN 1

LANGEN 2

LANGEN 3

LANGEN 4

LANGEN 5

LANGEN 6

LANGEN 7

LANGEN 8



LANGEN 9

LANGEN 10

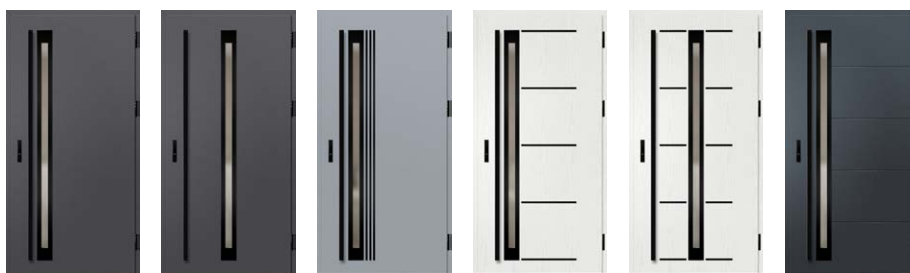
LANGEN 11

LANGEN 12

**NEW**

## TREBUR SERIES

p. 26



TREBUR 1

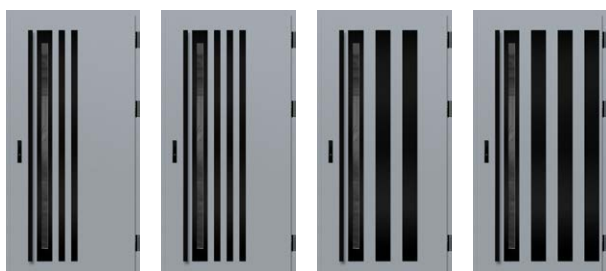
TREBUR 2

TREBUR 4

TREBUR 7

TREBUR 8

TREBUR 10



TREBUR 11

TREBUR 12

TREBUR 13

TREBUR 14

**NEW**

# DOOR COLLECTION

## ARENDAL SERIES

p. 28



ARENDAL 1

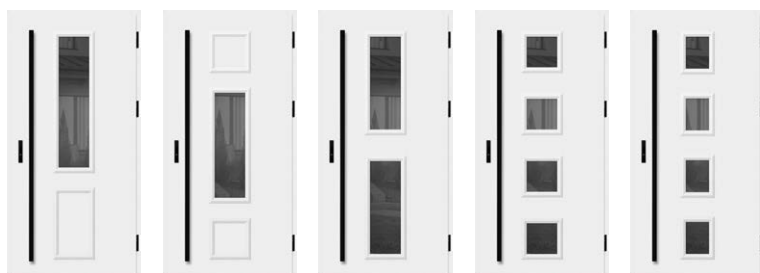
ARENDAL 2

ARENDAL 3

ARENDAL 4

ARENDAL 5

ARENDAL 6



ARENDAL 7

ARENDAL 8

ARENDAL 9

ARENDAL 10

ARENDAL 11

NEW

## WELS SERIES

p. 30



WELS 1

WELS 2

WELS 3

WELS 4

WELS 5

WELS 7

## BAZYLEA SERIES

p. 31



BAZYLEA 1

BAZYLEA 2

BAZYLEA 3

BAZYLEA 4

BAZYLEA 5

## LAHTI SERIES

p. 32



LAHTI 1

LAHTI 2

LAHTI 3

LAHTI 4

LAHTI 5

LAHTI 6

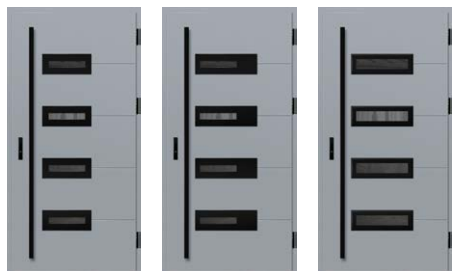
NEW

# DOOR COLLECTION

## HELMOND SERIES

p. 33

**NEW**



HELMOND 1

HELMOND 2

HELMOND 3

## UTRECHT SERIES

p. 34

**NEW**



UTRECHT 1

UTRECHT 2

UTRECHT 3

UTRECHT 4

UTRECHT 5

## FRYBURG SERIES

p. 35



FRYBURG 3

FRYBURG 4

FRYBURG 5

FRYBURG 6

## LEIMEN SERIES

p. 36



LEIMEN 1

LEIMEN 2

LEIMEN 3

LEIMEN 4

LEIMEN 5

## AMBERG SERIES

p. 37



AMBERG 1

AMBERG 2

AMBERG 3

AMBERG 4

# DOOR COLLECTION

## LINDEN SERIES

p. 38



LINDEN 1

LINDEN 2

LINDEN 3

LINDEN 4

LINDEN 5

LINDEN 6

## MURTER SERIES

p. 39



MURTER 1

MURTER 2

MURTER 3

MURTER 4

MURTER 5

MURTER 6

## ROTTERDAM SERIES

p. 40



ROTTERDAM 1

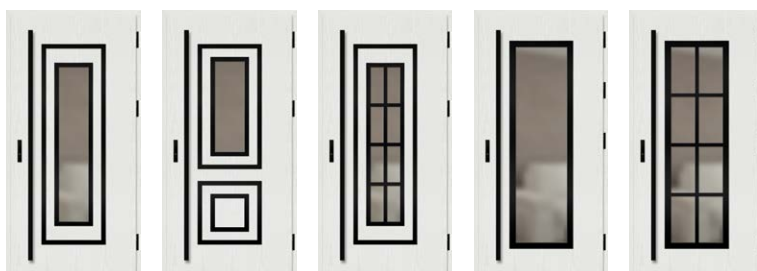
ROTTERDAM 2

ROTTERDAM 3

ROTTERDAM 4

## EBERN SERIES

p. 41



EBERN 1

EBERN 2

EBERN 3

EBERN 4

EBERN 5

## WIENER SERIES

p. 42



WIENER 1

WIENER 2

WIENER 3

## SION SERIES

p. 43



SION 1

SION 2

# DOOR COLLECTION

## SINGEN SERIES

p. 44



SINGEN 1    SINGEN 2    SINGEN 3    SINGEN 4    SINGEN 5    SINGEN 6

## SELTERS SERIES



SELTERS 1    SELTERS 2    SELTERS 3    SELTERS 4    SELTERS 5    SELTERS 6    SELTERS 7

## SAMEDAN SERIES

p. 46



SAMEDAN 1    SAMEDAN 2    SAMEDAN 3    SAMEDAN 4    SAMEDAN 5

## RODING SERIES

p. 47



RODING 1    RODING 2

## MELK SERIES

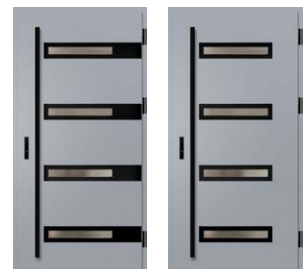
p. 48



MELK 1    MELK 2

## LUCERNA SERIES

p. 49



LUCERNA 1    LUCERNA 2

## KREBEN SERIES

p. 50



KREBEN 1    KREBEN 2

## LEOBEN SERIES

p. 51

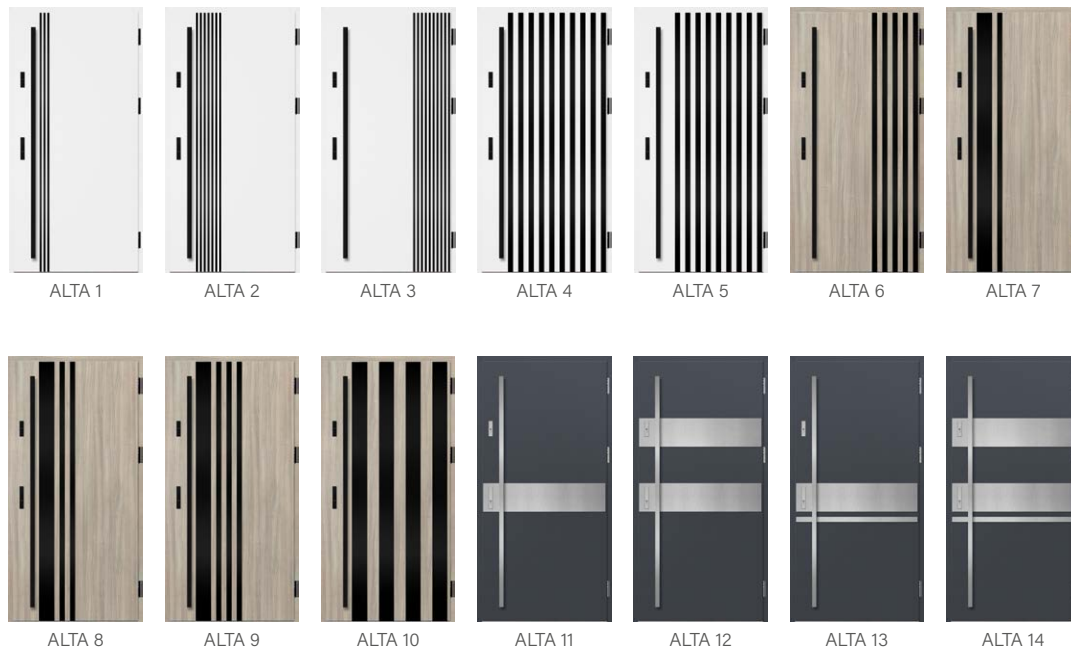


LEOBEN 1    LEOBEN 2    LEOBEN 3    LEOBEN 4

# DOOR COLLECTION

## ALTA SERIES

p. 52



## LUTTER SERIES

p. 54



## BIENE SERIES

p. 55



## KELLA SERIES

p. 56



## SOLID SERIES

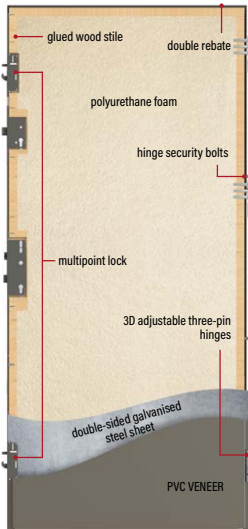
p. 57



# DESIGN TYPES

**88**  
THERMO HOT

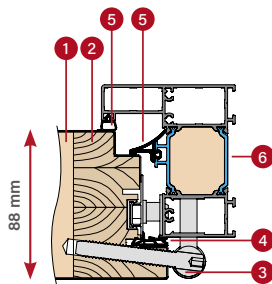
## THERMO HOT 88



THERMAL INSULATION  
 $U_d=0.60 \text{ W}/(\text{m}^2\text{K})^{-1}$



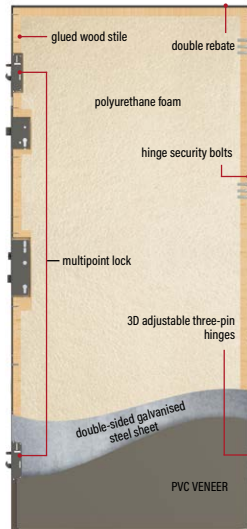
DOOR LEAF THICKNESS  
88 mm



ALUMINIUM DOOR FRAME

**78**  
THERMO HOT

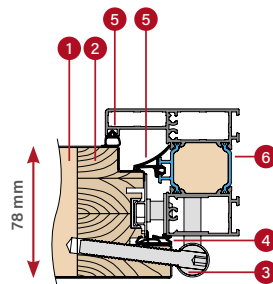
## THERMO HOT 78



THERMAL INSULATION  
 $U_d=0.63 \text{ W}/(\text{m}^2\text{K})^{-1}$



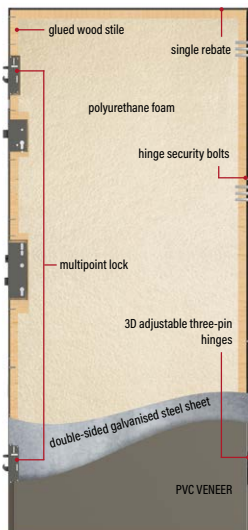
DOOR LEAF THICKNESS  
78 mm



ALUMINIUM DOOR FRAME

**78**  
THERMO

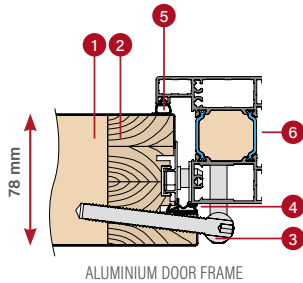
## THERMO 78



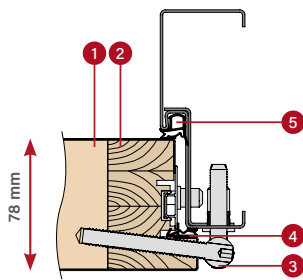
THERMAL INSULATION  
 $U_d=0.64 \text{ W}/(\text{m}^2\text{K})^{-1}$



DOOR LEAF THICKNESS  
78 mm



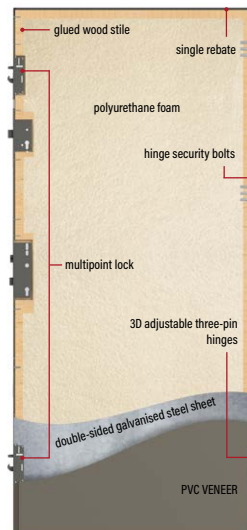
ALUMINIUM DOOR FRAME



STEEL DOOR FRAME

**64**  
THERMO

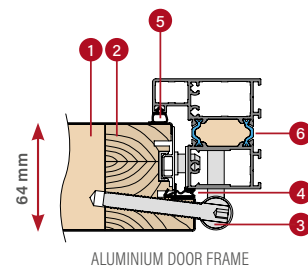
## THERMO 64



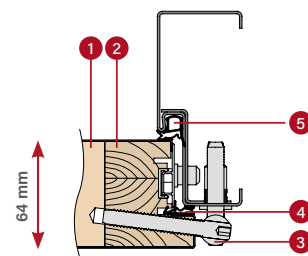
THERMAL INSULATION  
 $U_d=0.77 \text{ W}/(\text{m}^2\text{K})^{-1}$



DOOR LEAF THICKNESS  
64 mm



ALUMINIUM DOOR FRAME



STEEL DOOR FRAME

1 foam filling

2 glued wood stile

3 hinge

4 leaf seal

5 frame seal

6 aluminium frame thermal barrier

\* Applies to solid core doors without glazing with reference dimensions 1230 x 2180 mm with aluminium frame (details on page 58).

# THERMO HOT 88 DOOR



thermal insulation  
Ud=0.60 w/ (m<sup>2</sup>K)<sup>1)</sup>

## STANDARD EQUIPMENT & AT EXTRA CHARGE

**S** solid strike plate with pressure adjustment

**S** multipoint lock

**D** multipoint lock with the top lock

**NEW** LAHTI 2, natural oak, LABEL BLACK STR

**S** standard, included in door price

**D** optional at extra charge

**S** three-stage hinges with 3D adjustment, hinge covers in black, silver or old gold

**S** aluminium door frame

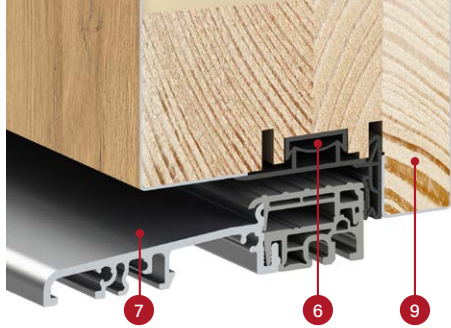
**D** drop down gasket

**S** 4 hinge security bolts

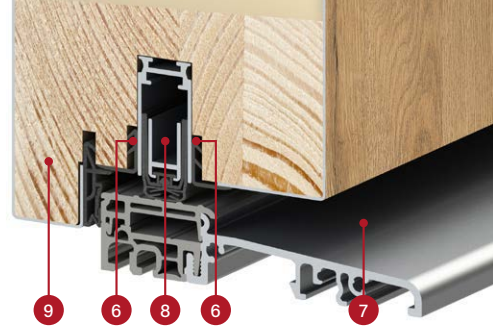
**S** warm aluminium threshold and fourth rebate in the lower part of the leaf

<sup>1)</sup> Applies to solid core doors without glazing with reference dimensions 1230 x 2180 mm with aluminium frame.

<sup>2)</sup> Glazed doors must have an RC2 glazing package to be RC2-rated, available at an extra charge. The door does not comply with class RC2 when using an ErkadoSmart insert.



cross-section of the THERMO HOT 88 leaf with and without drop down gasket, aluminium threshold








## DESIGN:

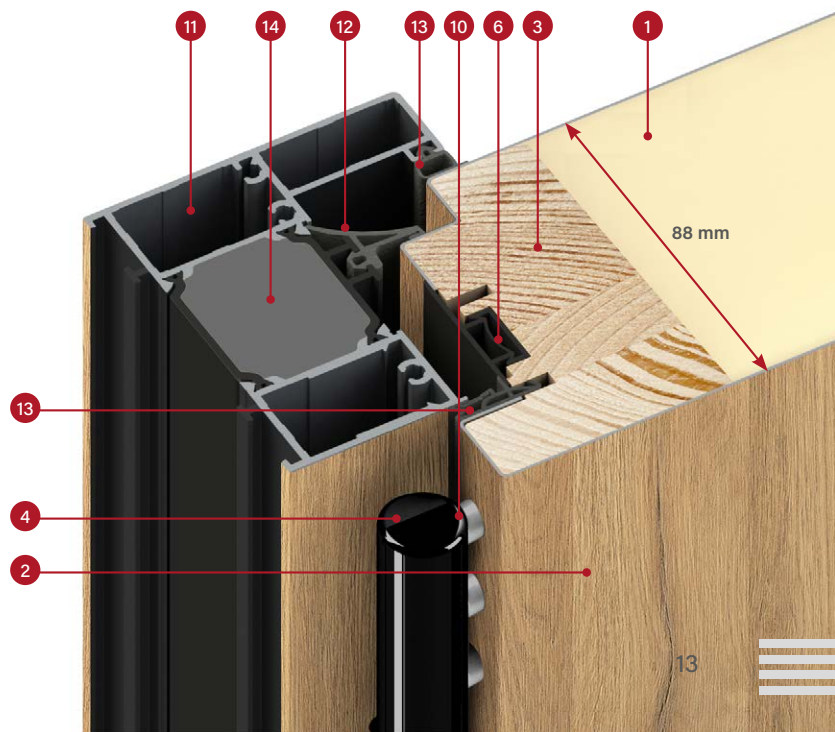
- 1 door leaf filled with polyurethane foam (PUR)
- 2 door leaf made of 0,6 mm thick galvanised steel sheet covered with UV resistant PVC laminate
- 3 leaf stile made of glulam (pinewood)
- 4 3D adjustable three-pin hinge
- 6 trim for an aesthetic finish
- 7 warm aluminium threshold
- 8 drop down gasket (at extra charge) provides additional sealing of the door in the threshold part
- 9 threshold rebate (the so-called fourth rebate) significantly improves the tightness of the door around the leaf
- 10 aluminium black, silver or old gold hinge covers
- 11 aluminium frame with thermal barrier providing much better thermal insulation
- 12 door frame central gasket
- 13 door frame and leaf gasket
- 14 XPS high-insulation filling

## STANDARD EQUIPMENT:

1. Door leaf with four-sided rebate, with glued wood frame, filled with PUR foam equipped with:
  - 3 hinges with 3D adjustment and covers
  - 4 hinge security bolts
  - multipoint lock with 3-point locking, silver or black at extra charge
  - covers.
2. Aluminium frame, painted black and covered in the colour of the door leaf, with a warm aluminium threshold and a solid strike plate with pressure adjustment.
3. 4-ply glazing units with a black frame with improved insulation spacer bar as standard.

cross section of an aluminium frame for the THERMO HOT 88 leaf

-  door leaf thickness 88 mm
-  WT21 standard
-  energy-saving
-  European CE compliance standard
-  ideal for passive house



# THERMO HOT 78 DOOR



thermal insulation  
Ud=0.63 w/ (m²K)<sup>1)</sup>

## STANDARD EQUIPMENT & AT EXTRA CHARGE



**S**

solid strike plate with pressure adjustment

**S**

multipoint lock

**D**

multipoint lock with the top lock

**NEW** UTRECHT 4, smooth anthracite, LABEL INOX

**S** standard, included in door price

**D** optional at extra charge



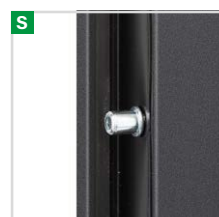
three-stage hinges with 3D adjustment, hinge covers in black, silver or old gold



aluminium door frame



drop down gasket



4 hinge security bolts



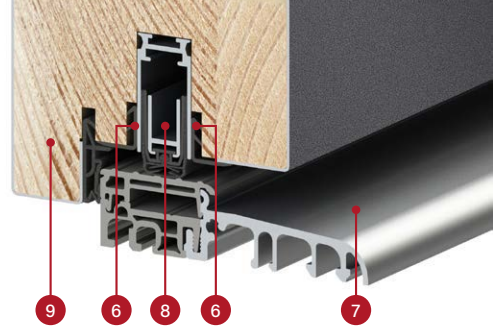
warm aluminium threshold and fourth rebate in the lower part of the leaf

<sup>1)</sup> Applies to solid core doors without glazing with reference dimensions 1230 x 2180 mm with aluminium frame.

<sup>2)</sup> Glazed doors must have an RC2 glazing package to be RC2-rated, available at an extra charge. The door does not comply with class RC2 when using an ErkadoSmart insert.



cross-section of the THERMO HOT 78 leaf with and without drop down gasket, aluminium threshold








## DESIGN:

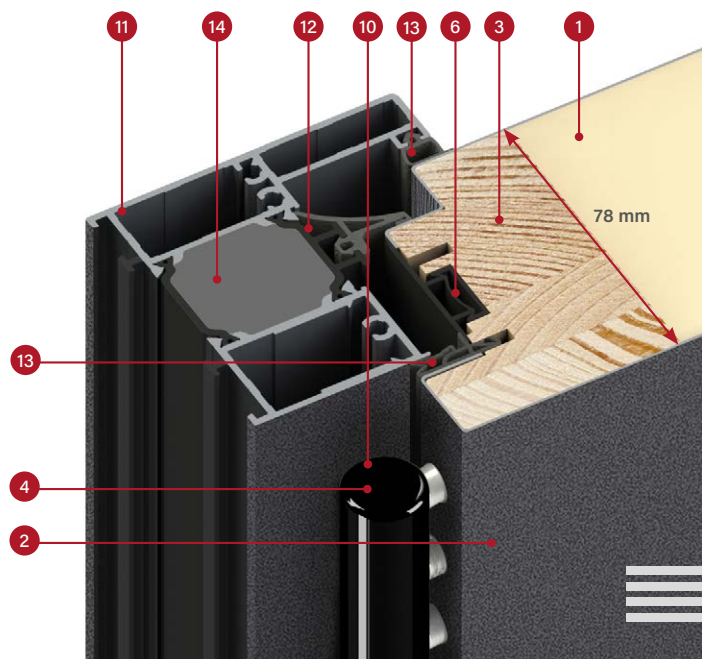
- 1 door leaf filled with polyurethane foam (PUR)
- 2 door leaf made of 0,6 mm thick galvanised steel sheet covered with UV resistant PVC laminate
- 3 leaf stile made of glulam (pinewood)
- 4 3D adjustable three-pin hinge
- 6 trim for an aesthetic finish
- 7 warm aluminium threshold
- 8 drop down gasket (at extra charge) provides additional sealing of the door in the threshold part
- 9 threshold rebate (the so-called fourth rebate) significantly improves the tightness of the door around the leaf
- 10 aluminium black, silver or old gold hinge covers
- 11 aluminium frame with thermal barrier providing much better thermal insulation
- 12 door frame central gasket
- 13 door frame and leaf gasket
- 14 XPS high-insulation filling

## STANDARD EQUIPMENT:

1. Door leaf with four-sided rebate, with glued wood frame, filled with PUR foam equipped with:
  - 3 hinges with 3D adjustment and covers
  - 4 hinge security bolts
  - multipoint lock with 3-point locking, silver or black at extra charge
  - covers.
2. Aluminium frame, painted black and covered in the colour of the door leaf, with a warm aluminium threshold and a solid strike plate with pressure adjustment.
3. 4-ply glazing units with a black frame with improved insulation spacer bar as standard.

-  door leaf thickness 78 mm
-  WT21 standard
-  energy-saving
-  European CE compliance standard
-  ideal for passive house

cross section of an aluminium frame for the THERMO HOT 78 leaf



# THERMO 78 DOOR



thermal insulation  
Ud=0.64 w/ (m²K) 1)

## STANDARD EQUIPMENT & AT EXTRA CHARGE

**S** solid strike plate with pressure adjustment 3)

**S** multipoint lock without the top lock

**D** multipoint lock with the top lock

**NEW** HELMOND 2, natural transverse oak, LABEL BLACK STR

**S** standard, included in door price

**D** optional at extra charge

**S** three-stage hinges with 3D adjustment, hinge covers in black, silver or old gold

**S** steel frame with adjustable strikes

**D** aluminium door frame

**D** drop down gasket

**S** 4 hinge security bolts

**S** warm aluminium threshold and fourth rebate in the lower part of the leaf

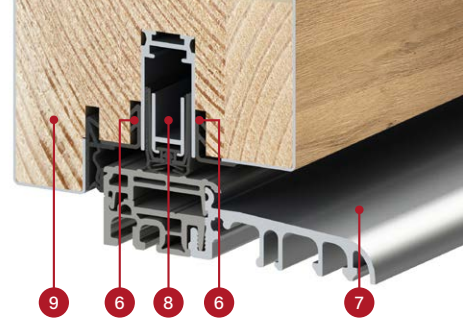
1) Applies to solid core doors without glazing with reference dimensions 1230 x 2180 mm with aluminium frame.

2) Glazed doors must have an RC2 glazing package to be RC2-rated, available at an extra charge. The door does not comply with class RC2 when using an ErkadoSmart insert.

3) Only available for aluminium frame. For the steel frame, the solid strike plate is not available.



cross-section of the THERMO 78 leaf with and without drop down gasket, aluminium threshold



## DESIGN:

- 1 door leaf filled with polyurethane foam (PUR)
- 2 door leaf made of 0,6 mm thick galvanised steel sheet covered with UV resistant PVC laminate
- 3 leaf stile made of glulam (pinewood)
- 4 3D adjustable three-pin hinge
- 6 trim for an aesthetic finish
- 7 warm aluminium threshold
- 8 drop down gasket (at extra charge) provides additional sealing of the door in the threshold part
- 9 threshold rebate (the so-called fourth rebate) significantly improves the tightness of the door around the leaf
- 10 aluminium black, silver or old gold hinge covers
- 11 aluminium frame (at extra charge) with thermal barrier providing much better thermal insulation (compared to a steel frame)
- 12 1.5 mm thick galvanised steel frame in door colour or any colour of the range
- 13 door frame and leaf gasket
- 14 XPS high-insulation filling

## STANDARD EQUIPMENT:

1. Door leaf with four-sided rebate, with glued wood frame, filled with PUR foam equipped with:
  - 3 hinges with 3D adjustment and covers
  - 4 hinge security bolts
  - multipoint lock with 3-point locking, silver or black at extra charge
  - covers.
2. Steel door frame, galvanised and covered in the colour of the door leaf, equipped with a warm aluminium threshold
3. 4-ply glazing units with a black frame with improved insulation spacer bar as standard.



door leaf thickness  
78 mm



WT21 standard



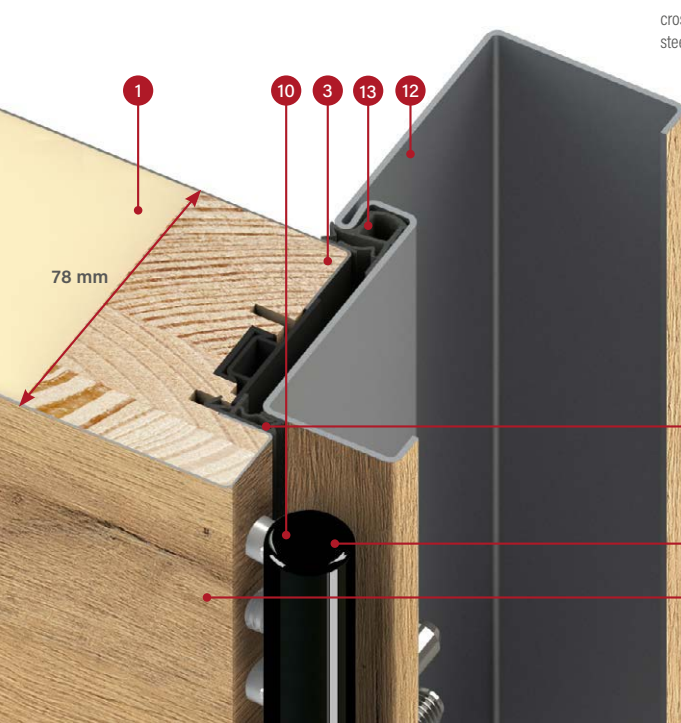
energy-saving



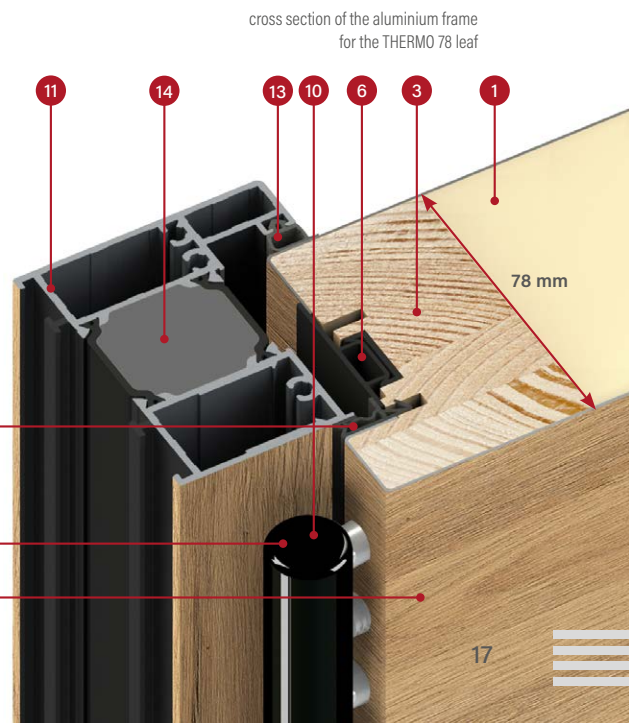
European CE compliance standard



ideal for a passive house (with aluminium frame)



cross section of the THERMO 78 leaf steel frame



cross section of the aluminium frame for the THERMO 78 leaf

# THERMO 64 DOOR



thermal insulation  
 $U_d=0.77 \text{ W/ (m}^2\text{K)}^1$

## STANDARD EQUIPMENT & AT EXTRA CHARGE

**S** solid strike plate with pressure adjustment<sup>3)</sup>

**S** multipoint lock without the top lock

**D** multipoint lock with the top lock

BAZYLEA 5, silk anthracite, LABEL INOX

**S** standard, included in door price

**D** optional at extra charge

**S** three-stage hinges with 3D adjustment, hinge covers in black, silver or old gold

**S** steel frame with adjustable strikes

**D** aluminium door frame

**D** drop down gasket

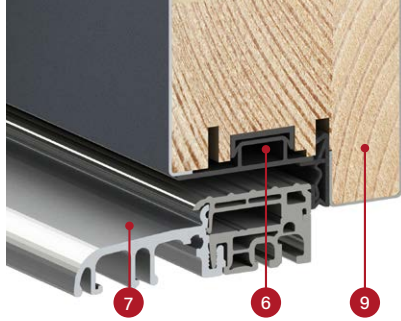
**S** 4 hinge security bolts

**S** warm aluminium threshold and fourth rebate in the lower part of the leaf

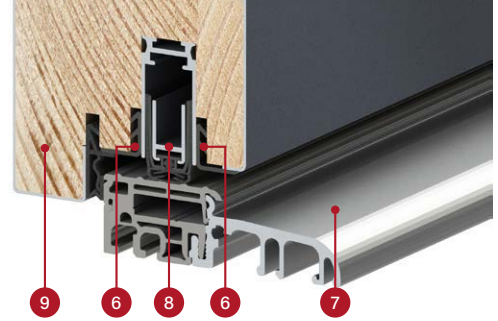
<sup>1)</sup> Applies to solid core doors without glazing with reference dimensions 1230 x 2180 mm with aluminium frame.

<sup>2)</sup> Glazed doors must have an RC2 glazing package to be RC2-rated, available at an extra charge. The door does not comply with class RC2 when using an ErkadoSmart insert.

<sup>3)</sup> Only available for aluminium frame. For the steel frame, the solid strike plate is not available.



cross-section of the THERMO 64 leaf with and without drop down gasket, aluminium threshold



## DESIGN:

- 1 door leaf filled with polyurethane foam (PUR)
- 2 door leaf made of 0,6 mm thick galvanised steel sheet covered with UV resistant PVC laminate
- 3 leaf stile made of glulam (pinewood)
- 4 3D adjustable three-pin hinge
- 6 trim for an aesthetic finish
- 7 warm aluminium threshold
- 8 drop down gasket (at extra charge) provides additional sealing of the door in the threshold part
- 9 threshold rebate (the so-called fourth rebate) significantly improves the tightness of the door around the leaf
- 10 aluminium black, silver or old gold hinge covers
- 11 aluminium frame (at extra charge) with thermal barrier providing much better thermal insulation (compared to a steel frame)
- 12 1.5 mm thick galvanised steel frame in door colour or any colour of the range
- 13 door frame and leaf gasket
- 14 XPS high-insulation filling

## STANDARD EQUIPMENT:

1. Door leaf with four-sided rebate, with glued wood frame, filled with PUR foam equipped with:
  - 3 hinges with 3D adjustment and covers
  - 4 hinge security bolts
  - multipoint lock with 3-point locking, silver or black at extra charge
  - covers.
2. Steel door frame, galvanised and covered in the colour of the door leaf, equipped with a warm aluminium threshold.
3. 4-ply glazing units with a black frame with improved insulation spacer bar as standard.



door leaf thickness  
64 mm



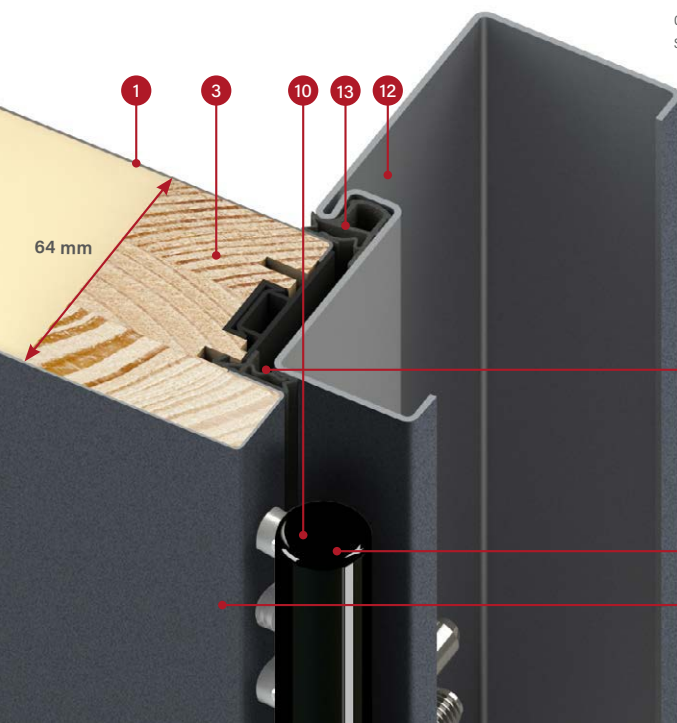
WT21 standard



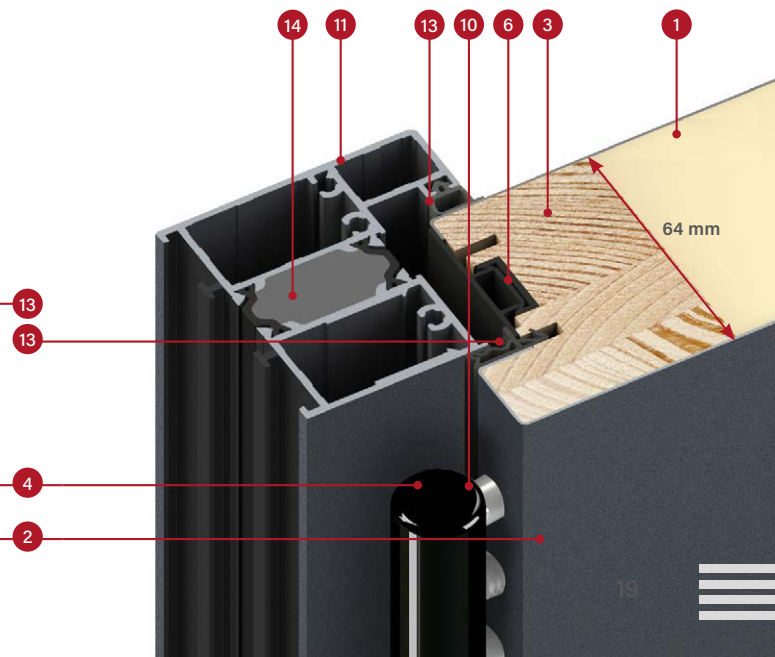
energy-saving



European CE compliance  
standard



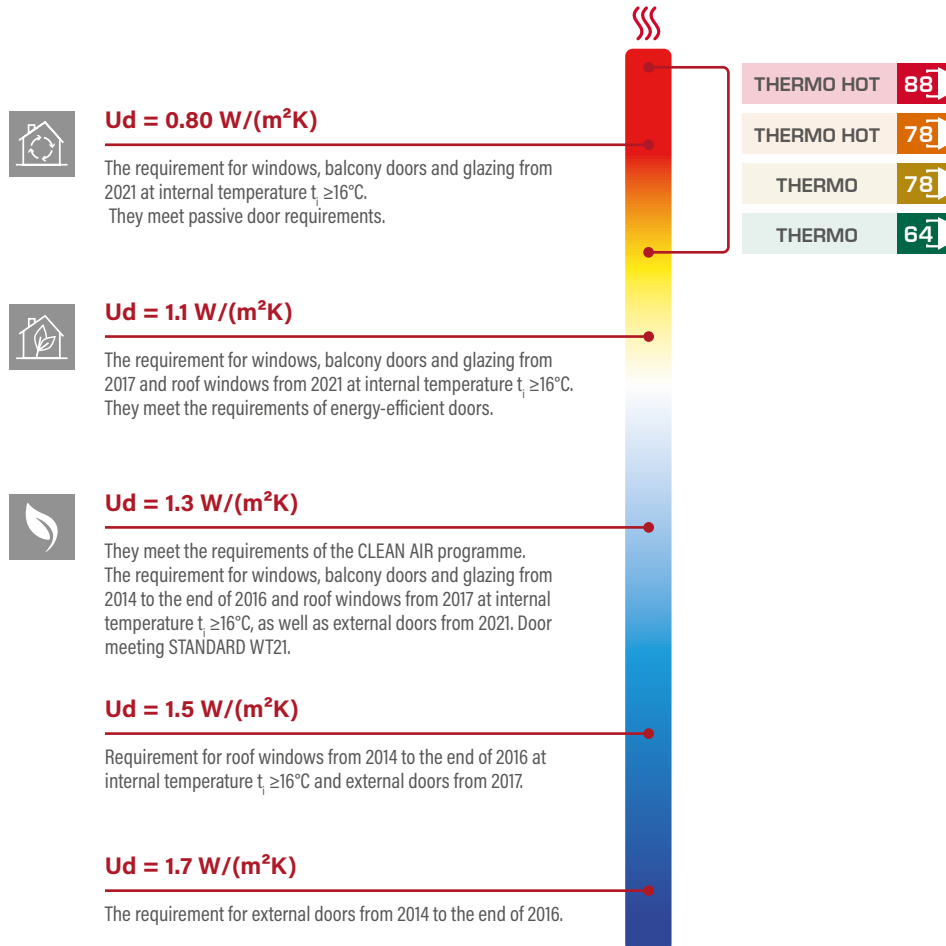
cross section of the THERMO 64 leaf steel frame



cross section of the aluminium frame for the THERMO 64 leaf

# THERMAL TRANSMITTANCE

The lower the penetration rate, the lower the energy loss.



	Frame type	HEAT INSULATION Ud [W/ (m²K) ]	
		FULL DOORS	DOORS WITH GLAZING <sup>1)</sup>
THERMO HOT 88	ALUMINIUM	0,60	0,67
THERMO HOT 78	ALUMINIUM	0,63	0,71
THERMO 78	STEEL	0,80	0,88
THERMO 78	ALUMINIUM	0,64	0,72
THERMO 64	STEEL	0,88	0,99
THERMO 64	ALUMINIUM	0,77	0,88

The table above presents thermal insulation coefficients for doors without transoms, opening inwards, with reference dimensions: 1230 x 2180 mm.

<sup>1)</sup> test glazing sample 1500 x 150 mm

# TECHNICAL INFORMATION

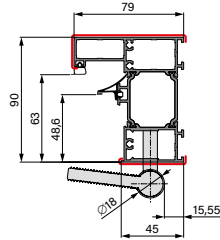
## DOOR FRAMES

Vener in the chosen door colour

### 88 THERMO HOT 88



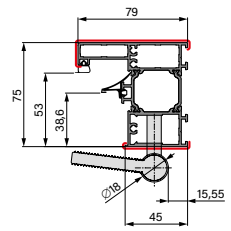
ALUMINIUM DOOR FRAME



### 78 THERMO HOT 78



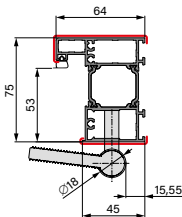
ALUMINIUM DOOR FRAME



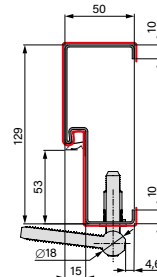
### 78 THERMO 78



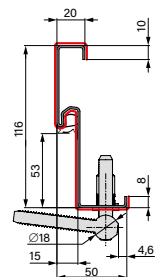
ALUMINIUM DOOR FRAME



STEEL DOOR FRAME



STEEL DOOR FRAME

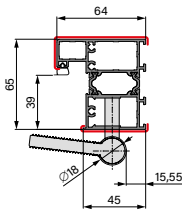


CORNER STEEL FRAME

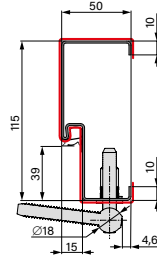
### 64 THERMO 64



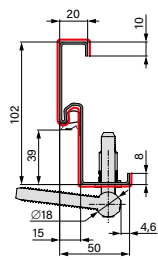
ALUMINIUM DOOR FRAME



STEEL DOOR FRAME



STEEL DOOR FRAME



CORNER STEEL FRAME

## DOOR FRAME EXTENSIONS

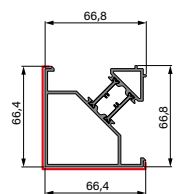
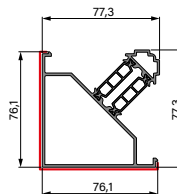
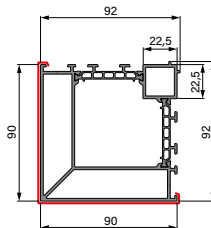
## ALUMINIUM ANGLE PROFILE



Top or side widening 30 mm available for THERMO HOT 88 design

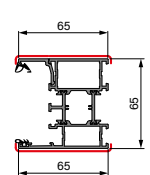
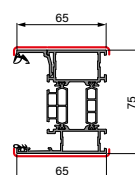
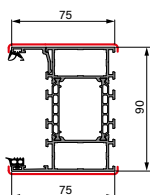


Top or side widening 28 mm available for THERMO HOT 78, THERMO 78 and THERMO 64 designs

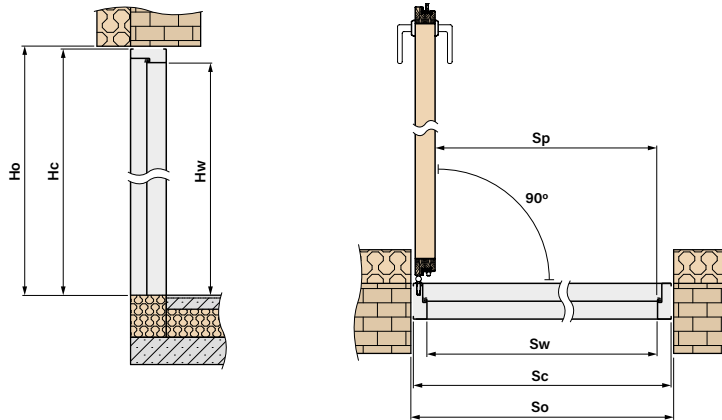


Corner profiles for connecting fanlight to frame at 90 degrees

## TOP AND SIDE LIGHTS



# TECHNICAL INFORMATION



## INDIVIDUAL DOOR DIMENSIONS WITH DOOR FRAME

	<b>AVAILABLE WIDE Sc [mm]</b>
	range from <b>770 mm</b> up to <b>1210 mm</b> every 10 mm <sup>1)</sup>
	<b>AVAILABLE HEIGHT Hc [mm]</b>
	range from <b>1800 mm</b> up to <b>2480 mm</b> every 10 mm <sup>1)</sup>

<sup>1)</sup> We rely on the standard dimension Sc and Hc for a given technology and reduce or increase this dimension by 10 mm. The final dimension must be within the specified width and height ranges.

		Hc DIMENSION FROM WHICH THE 4 <sup>th</sup> HINGE APPEARS	
		ALUMINIUM DOOR FRAME	STEEL DOOR FRAME
THERMO HOT	88	2251 mm	-
THERMO HOT	78	2251 mm	-
THERMO	78	2256 mm	2245 mm
THERMO	64	2256 mm	2245 mm

## BASIC DOOR DIMENSIONS

### THERMO HOT 88

ALUMINIUM DOOR FRAME							
Width	Wall opening width	Wall opening height	Overall frame width	Overall frame height	Clear opening	Height at the frame	Frame opening
	So	Ho	Sc	Hc	Sp	Hw	Sw
80N	957	2114	937	2101	756	2002	779
80	1007	2114	987	2101	806	2002	829
90N	1057	2114	1037	2101	856	2002	879
90	1107	2114	1087	2101	906	2002	929
100	1207	2114	1187	2101	1006	2002	1029

### THERMO HOT 78

ALUMINIUM DOOR FRAME							
Width	Wall opening width	Wall opening height	Overall frame width	Overall frame height	Clear opening	Height at the frame	Frame opening
	So	Ho	Sc	Hc	Sp	Hw	Sw
80N	947	2114	927	2101	756	2002	769
80	997	2114	977	2101	806	2002	819
90N	1047	2114	1027	2101	856	2002	869
90	1097	2114	1077	2101	906	2002	919
100	1197	2114	1177	2101	1006	2002	1019



## THERMO 78

ALUMINIUM DOOR FRAME							
Width	Wall opening width	Wall opening height	Overall frame width	Overall frame height	Clear opening	Height at the frame	Frame opening
	So	Ho	Sc	Hc	Sp	Hw	Sw
80N	932	2099	912	2086	756	2002	784
80	982	2099	962	2086	806	2002	834
90N	1032	2099	1012	2086	856	2002	884
90	1082	2099	1062	2086	906	2002	934
100	1182	2099	1162	2086	1006	2002	1034

STEEL DOOR FRAME							
Width	Wall opening width	Wall opening height	Overall frame width	Overall frame height	Clear opening	Height at the frame	Frame opening
	So	Ho	Sc	Hc	Sp	Hw	Sw
80N	906	2088	890	2075	759	2005	789
80	956	2088	940	2075	809	2005	839
90N	1006	2088	990	2075	859	2005	889
90	1056	2088	1040	2075	909	2005	939
100	1156	2088	1140	2075	1009	2005	1039

CORNER STEEL FRAME							
Width	Wall opening width	Wall opening height	Overall frame width	Overall frame height	Clear opening	Height at the frame	Frame opening
	So	Ho	Sc	Hc	Sp	Hw	Sw
80N	844 <sup>*)</sup>	2058	890	2075	759	2005	789
80	894 <sup>*)</sup>	2058	940	2075	809	2005	839
90N	944 <sup>*)</sup>	2058	990	2075	859	2005	889
90	994 <sup>*)</sup>	2058	1040	2075	909	2005	939
100	1094 <sup>*)</sup>	2058	1140	2075	1009	2005	1039

<sup>\*)</sup> necessary forging for hinge sockets and for the electric strike (if present)



## THERMO 64

ALUMINIUM DOOR FRAME							
Width	Wall opening width	Wall opening height	Overall frame width	Overall frame height	Clear opening	Height at the frame	Frame opening
	So	Ho	Sc	Hc	Sp	Hw	Sw
80N	918	2099	898	2086	756	2002	770
80	968	2099	948	2086	806	2002	820
90N	1018	2099	998	2086	856	2002	870
90	1068	2099	1048	2086	906	2002	920
100	1168	2099	1148	2086	1006	2002	1020

STEEL DOOR FRAME							
Width	Wall opening width	Wall opening height	Overall frame width	Overall frame height	Clear opening	Height at the frame	Frame opening
	So	Ho	Sc	Hc	Sp	Hw	Sw
80N	891	2088	876	2075	759	2005	775
80	941	2088	926	2075	809	2005	825
90N	991	2088	976	2075	859	2005	875
90	1041	2088	1026	2075	909	2005	925
100	1141	2088	1126	2075	1009	2005	1025

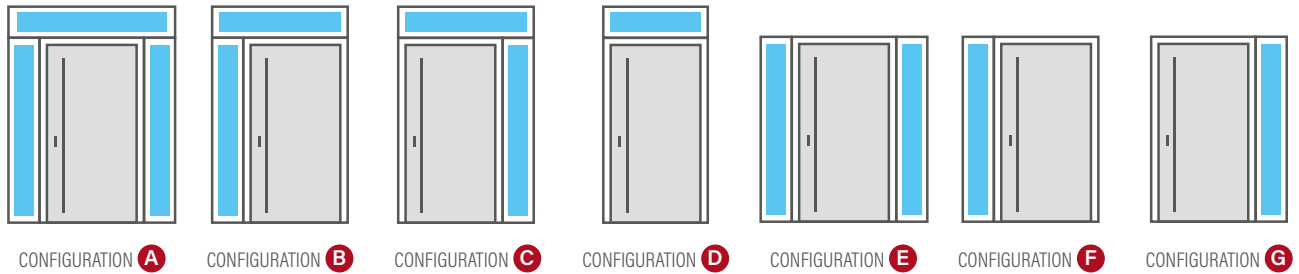
CORNER STEEL FRAME							
Width	Wall opening width	Wall opening height	Overall frame width	Overall frame height	Clear opening	Height at the frame	Frame opening
	So	Ho	Sc	Hc	Sp	Hw	Sw
80N	835 <sup>*)</sup>	2058	876	2075	756	2005	775
80	885 <sup>*)</sup>	2058	926	2075	806	2005	825
90N	935 <sup>*)</sup>	2058	976	2075	856	2005	875
90	985 <sup>*)</sup>	2058	1026	2075	906	2005	925
100	1085 <sup>*)</sup>	2058	1126	2075	1006	2005	1025

<sup>\*)</sup> necessary forging for hinge sockets and for the electric strike (if present)

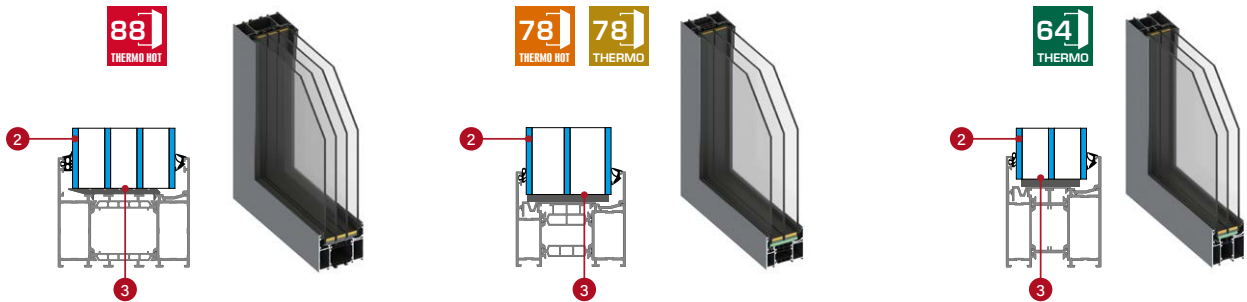
# TOP AND SIDE LIGHTS

- top and side lights are manufactured as standard and in custom sizes, and are available only for doors made with an aluminium frame
- side and top lights require disassembly of glass during installation
- extra charge for P4 glass
- extra charge for venetian mirror<sup>1)</sup> glass
- extra charge for custom light at a dimensional angle
- extra charge for two-colour light
- doors with a transom or just transoms, regardless of the glass used, are not burglar-proof to RC2
- additional fee for variable-transparency glass

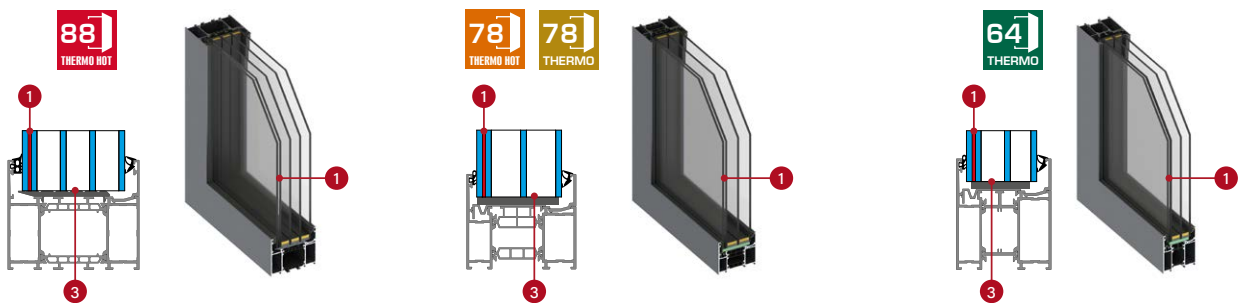
## AVAILABLE CONFIGURATIONS<sup>2)</sup>



## GLAZING UNITS - STANDARD GLASS

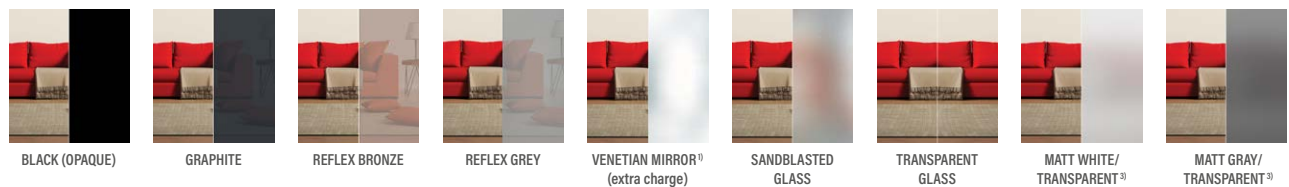


## GLAZING UNITS - P4 BURGLAR-PROOF GLASS (extra charge)



- 1** laminated burglar-proof glass P4
- 2** glass
- 3** insulation spacer bars, black

## GLAZING UNITS - TYPES OF GLAZING



<sup>1)</sup> A change in atmospheric pressure can cause a slight distortion of the reflected image in a venetian mirror.

<sup>2)</sup> When assembling the fanlight with a frame or other aluminum profile, a misalignment may occur due to the thickness tolerances of the aluminum profiles - thickness deviation is in accordance with the PN/EN-12020-2 standard. The maximum thickness deviation of the assembled profiles is 0.9 mm.

<sup>3)</sup> Variable glass. The change is achieved by applying a low-voltage current to the glass. Without current, the glass is frosted and available in a shade of white or gray. It is activated by a button mounted on the frame (at an additional cost) or a button, e.g., a lighting switch.



## THERMO HOT 88

### THERMO HOT 88 TOP LIGHT

Height [mm]	Width [mm]																		
	987 (80)	1087 (90)	1187 (100)	1287	1387	1487	1587	1687	1787	1887	1987	2087	2187	2287	2387	2487	2587	2687	
200																			
300																			
400																			
500																			

### STANDARD AND HIGHER SIDE LIGHTS FOR THERMO 88

Height [mm]	Width [mm]						
	200	300	400	500	600	700	800
2101 [standard THERMO HOT 88]							
2200							
2300							
2400							



## THERMO HOT 78



## THERMO 78

### THERMO 78/THERMO HOT 78 TOP LIGHTS

Height [mm]	Width THERMO 78 [mm]																		
	962 (80)	1062 (90)	1162 (100)	1262	1362	1462	1562	1662	1762	1862	1962	2062	2162	2262	2362	2462	2562	2662	
	Width THERMO HOT 78 [mm]																		
	977 (80)	1077 (90)	1177 (100)	1277	1377	1477	1577	1677	1777	1877	1977	2077	2177	2277	2377	2477	2577	2677	
200																			
300																			
400																			
500																			

### STANDARD AND HIGHER SIDE LIGHTS FOR THERMO 78/THERMO HOT 78

Height [mm]	Width [mm]						
	200	300	400	500	600	700	800
2086 [standard THERMO 78]							
2101 [standard THERMO HOT 78]							
2200							
2300							
2400							



## THERMO 64

### THERMO 64 TOP LIGHTS

Height [mm]	Width [mm]																		
	948 (80)	1048 (90)	1148 (100)	1248	1348	1448	1548	1648	1748	1848	1948	2048	2148	2248	2348	2448	2548	2648	
200																			
300																			
400																			
500																			

### STANDARD AND HIGHER SIDE LIGHTS FOR THERMO 64

Height [mm]	Width [mm]						
	200	300	400	500	600	700	800
2086 (standard THERMO 64)							
2200							
2300							
2400							

The width and height of lights is the dimension calculated outside the frame.

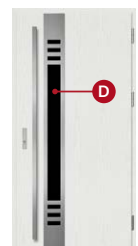
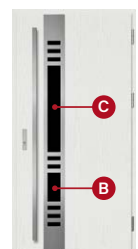
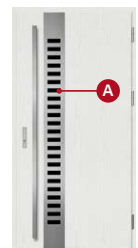
# TECHNICAL INFORMATION

## DIMENSIONS OF GLAZING WITHIN THE DECORATIVE PANEL

The values given in the table apply to doors in standard width 90 and height according to the dimensions in the table on page 60-61.

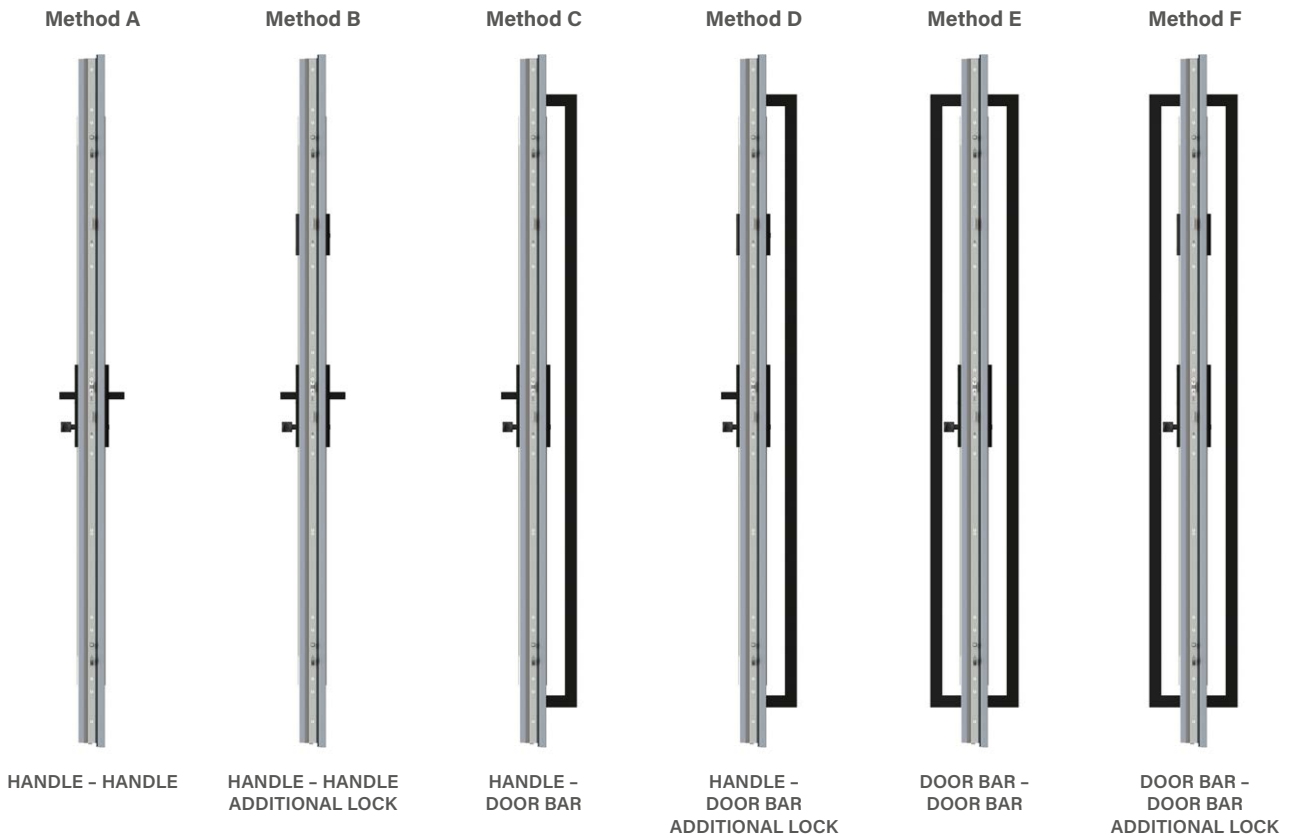
Model	THERMO 64	THERMO 78	THERMO HOT 78	THERMO HOT 88
	[mm]	[mm]	[mm]	[mm]
HORN 1, 2	50 x 1600	50 x 1600	50 x 1600	50 x 1600
LANGEN	50 x 1600	50 x 1600	50 x 1600	50 x 1600
TREBUR	50 x 1600	50 x 1600	50 x 1600	50 x 1600
LAHTI 1, 4	50 x 1800	50 x 1800	50 x 1800	50 x 1800
LAHTI 2, 5	135 x 1800	135 x 1800	135 x 1800	135 x 1800
LAHTI 3, 6	220 x 1800	220 x 1800	220 x 1800	220 x 1800
HELMOND 1, 2	287 x 50	287 x 50	287 x 50	287 x 50
HELMOND 3	402 x 80	402 x 80	402 x 80	402 x 80
UTRECHT	200 x 1300	200 x 1300	200 x 1300	200 x 1300
ARENDAL 1	388 x 1697	388 x 1697	388 x 1697	388 x 1697
ARENDAL 2, 3	388 x 1017	388 x 1017	388 x 1017	388 x 1017
ARENDAL 4, 5	112 x 1018	112 x 1018	112 x 1018	112 x 1018
ARENDAL 6	238 x 1698	238 x 1698	238 x 1698	238 x 1698
ARENDAL 7	238 x 724	238 x 724	238 x 724	238 x 724
ARENDAL 8	238 x 1017	238 x 1017	238 x 1017	238 x 1017
ARENDAL 9	238 x 798	238 x 798	238 x 798	238 x 798
ARENDAL 10	238 x 238	238 x 238	238 x 238	238 x 238
ARENDAL 11	238 x 178	238 x 178	238 x 178	238 x 178
WELS	50 x 1200	50 x 1200	50 x 1200	50 x 1200
BAZYLEA	160 x 1800 (100 at the narrowest point)	160 x 1800 (100 at the narrowest point)	160 x 1800 (100 at the narrowest point)	160 x 1800 (100 at the narrowest point)
LEIMEN	50 x 1600	50 x 1600	50 x 1600	50 x 1600
AMBERG 1	390 x 50	390 x 50	390 x 50	390 x 50
AMBERG 2	290 x 50	290 x 50	290 x 50	290 x 50
AMBERG 3	150 x 50	150 x 50	150 x 50	150 x 50
AMBERG 4	110 x 110	110 x 110	110 x 110	110 x 110
LINDEN	50 x 1600	50 x 1600	50 x 1600	50 x 1600
MURTER	50 x 1200	50 x 1200	50 x 1200	50 x 1200
KREBEN 1, 4, 5	343 x 50	357 x 50	370 x 50	380 x 50
KREBEN 2, 6	487 x 50	501 x 50	514 x 50	524 x 50
KREBEN 3, 7	353 x 50	367 x 50	380 x 50	390 x 50
FRYBURG 3,4	1050 x 50	1050 x 50	1066 x 50	1066 x 50
FRYBURG 5, 6	1112,5 x 50	1112,5 x 50	1128,5 x 50	1128,5 x 50
ROTTERDAM 1, 2	230 x 1235 (1120*)	244 x 1235 (1113*)	257 x 1251 (1122,5*)	267 x 1251 (1117,5*)
ROTTERDAM 3, 4	400 x 1535 (1335*)	414 x 1535 (1328*)	427 x 1551 (1337,5*)	437 x 1551 (1332,5*)
EBERN 1, 3	230 x 1235	244 x 1235	257 x 1551	267 x 1551
EBERN 2	230 x 772,5	244 x 772,5	257 x 784,5	267 x 784,5
EBERN 4, 5	400 x 1535	414 x 1535	427 x 1551	437 x 1551
WIENER	135 x 1500	135 x 1500	135 x 1500	135 x 1500
SION	510 x 50	524 x 50	537 x 50	547 x 50
SINGEN 1, 5, 6	110 x 1800			
SINGEN 2	1 x 110 x 980 + 3 x 110 x 40 + 1 x 110 x 620			
SINGEN 3	110 x 1460			
SINGEN 4	1 x 110 x 640 + 1 x 110 x 110 + 1 x 110 x 640			
SELTERS 1, 2, 5	A 110 x 35			
SELTERS 3, 6	A 110 x 35; B 110 x 245 C 110 x 735			
SELTERS 4, 7	A 110 x 35 D 110 x 1155			
SAMEDAN	110 x 110	110 x 110	110 x 110	110 x 110
RODING	440 x 110	454 x 110	467 x 110	477 x 110
MELK 1	500 x 50	514 x 50	527 x 50	537 x 50
MELK 2	500 x 50	514 x 50	527 x 50	537 x 50
LUCERNA	487 x 50	501 x 50	514 x 50	524 x 50
LEOBEN 1, 2	556 x 20	570 x 20	583 x 20	593 x 20
LEOBEN 3	401 x 20	415 x 20	428 x 20	438 x 20
LEOBEN 4	471 x 50	485 x 50	498 x 50	508 x 50

GLAZING AREAS  
IN THE SELTERS  
MODEL:



\* height to be rounded

# OPENING TYPES



COMPONENTS FOR INDIVIDUAL OPENING MODES					
<b>basic equipment for the opening mode</b>					
Set A	Set B	Set C	Set D	Set E	Set F
- key knob cylinder	- set of 1-key system cylinders including one with a knob (we recommend mounting the knob on the main lock) - additional lock	- key knob cylinder	- set of 1-key system cylinders including one with a knob (we recommend mounting the knob on the main lock) - additional lock	- key knob cylinder	- set of 1-key system cylinders including one with a knob (we recommend mounting the knob on the main lock) - additional lock
<b>+ selected design of the handle, knocker and accessories</b>					
A	B	C	D	E	F
- handle	- handle - top escutcheon	- handle + slim escutcheon set - door bar - knocker button - electric strike - door closer - power supply unit	- handle + slim escutcheon set - top escutcheon - door bar - knocker button - electric strike - door closer - power supply unit	- slim escutcheon - 2 x door bar - 2 x knocker button - electric strike - door closer - power supply unit	- slim escutcheon - upper slim escutcheon - 2 x door bar - 2 x knocker button - electric strike - door closer - power supply unit

## DOOR OPENING DIRECTION

### RIGHT DOOR



Right door opening outwards



Right door opening inwards

### LEFT DOOR



Left door opening inwards



Left door opening outwards