DOORS AND WINDOWS

Ottostumm W75 TB

About W75

- 1.5 mm tubular profiles in bright steel, galvanized steel, cor-ten steel and stainless steel 1.4404
- Very slender flush or overlapping sightlines
- Profiles accommodate high-performance glazing
- High performance thermal barrier
- Wide range of square and angular glazing beads
- Fixed glazing, single-sash and double-sash, side-hung and bottom-hung windows opening inwards and outwards, top-hung, tilt and turn windows, vertical and horizontal pivoting windows, window and doors opening inwards and outwards

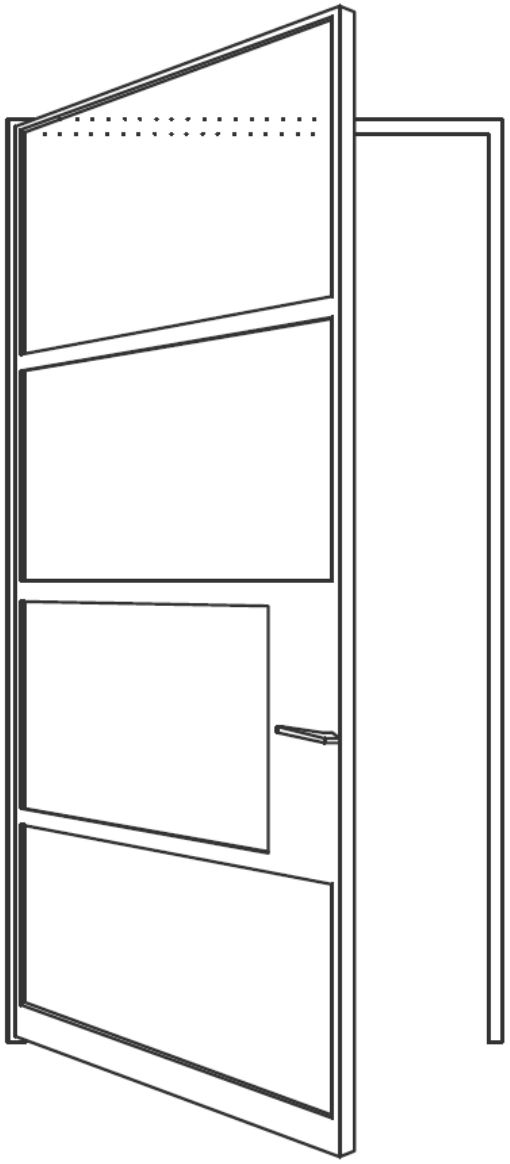
In our offer:

1. SINGLE LEAF DOORS

Outwards and inwards opening
For leaves over the limits contact with factory to check if possible.

Maximum standard leaf sizes:

- Width up to 1200mm (47 1/4”)
- Height up to 3000mm (118 1/8”)
- Weight up to 190kg (420 lbs)



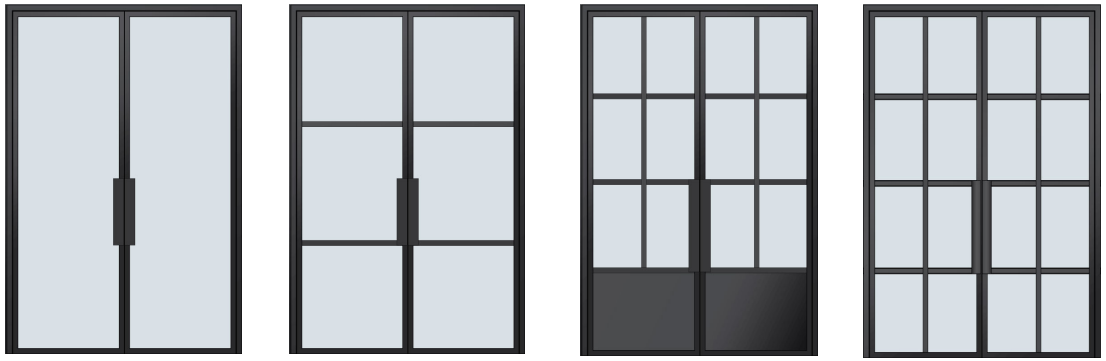
2. DOUBLE LEAF DOORS

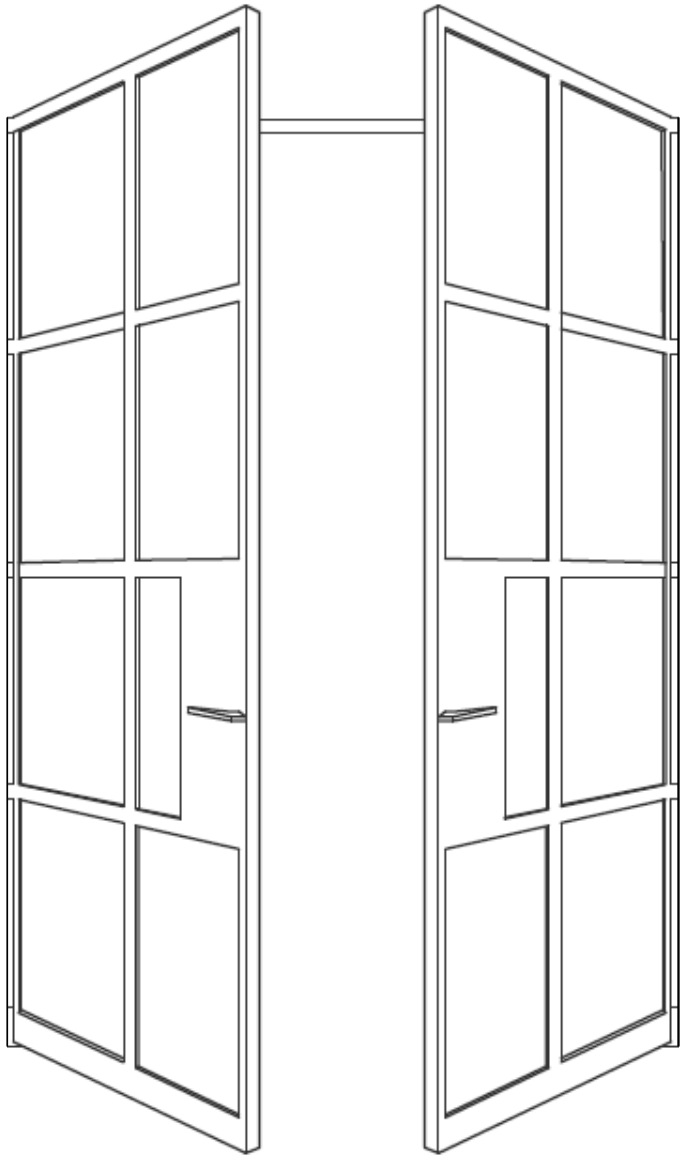
Outwards and inwards opening

For leaves over the limits contact with factory to check if possible.

Maximum standard sizes:

- Width up to 2400mm (94 1/2”) for both leaves
- Height up to 3000mm (118 1/8”) for both leaves
- Weight up to 190kg (420 lbs) per one leaf





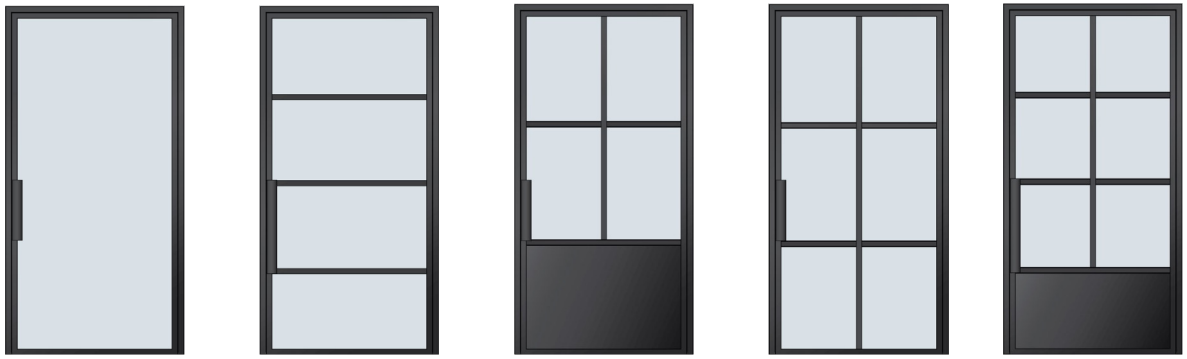
2. SINGLE LEAF PIVOT DOORS

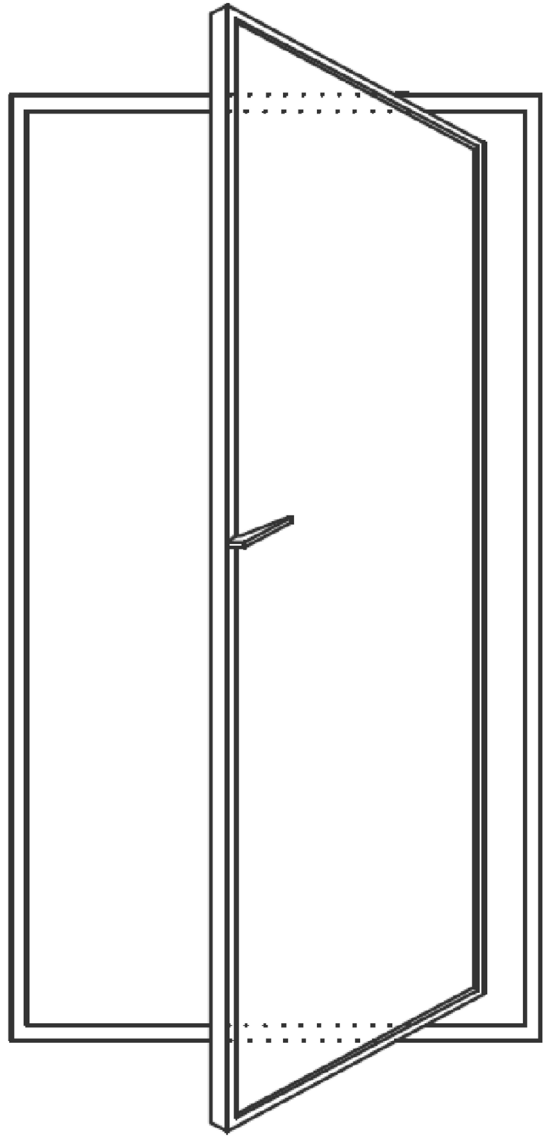
Outwards and inwards opening

For leaves over the limits contact with factory to check if possible.

Maximum standard sizes:

- Width up to 1500mm (59”)
- Height up to 3000mm (118 1/8”)
- Weight up to 500kg (1.100 lbs)

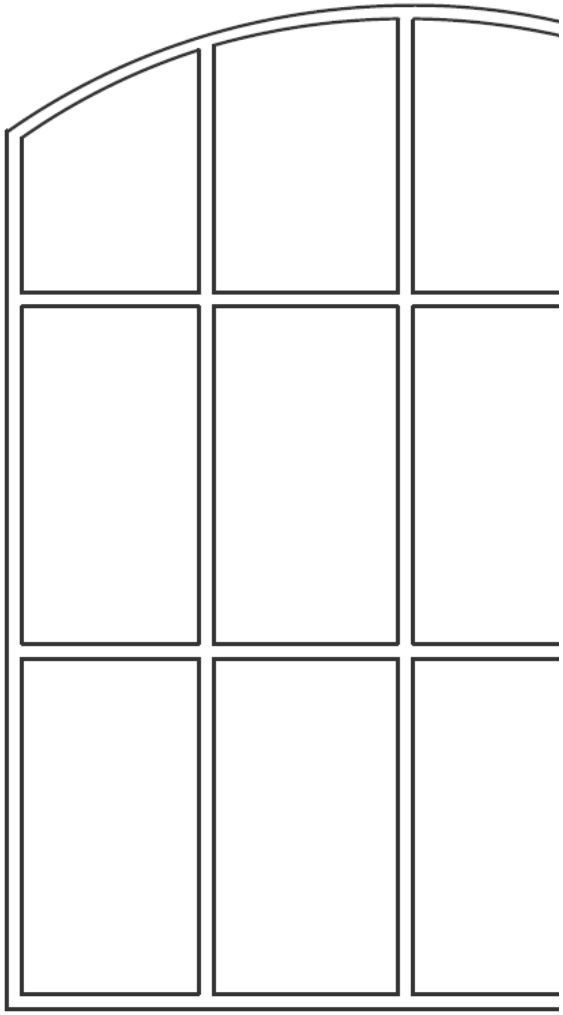




3. DOUBLE AND SINGLE LEAF ARCHED DOORS

Outwards and inwards opening

For leaves over the limits contact with factory to check if possible.



Maximum standard leaf sizes:

- Width up to 1200mm (47 1/4”)
- Height up to 3000mm (118 1/8”)
- Weight up to 190kg (420 lbs)

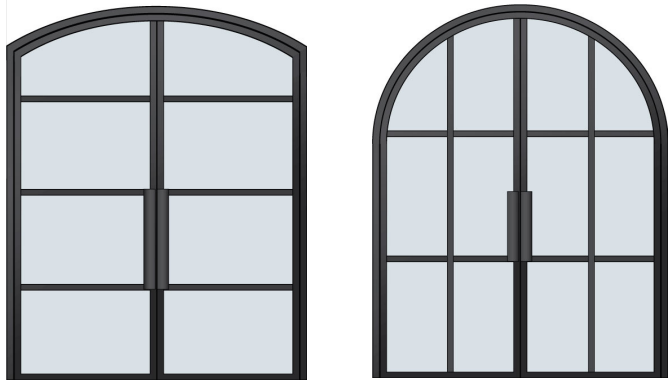
HALF-ARCH FULL-ARCH

SINGLE DOORS

Maximum standard sizes:

- Width up to 2400mm (94 1/2”) for both leaves
- Height up to 3000mm (118 1/8”) for both leaves
- Weight- no limit

HALF-ARCH FULL-ARCH



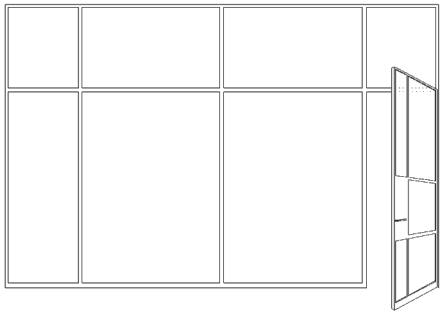
DOUBLE DOORS

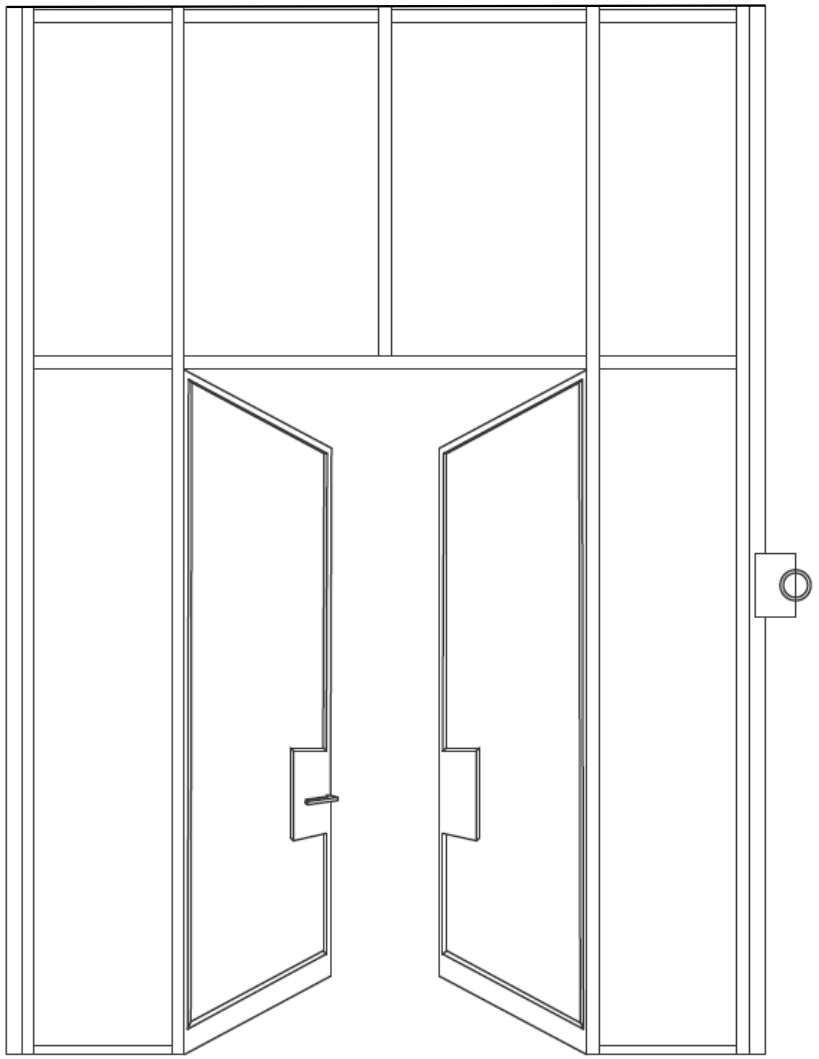
4. TRANSOMS AND SIDELIGHTS

- Fixed side frames and transoms can be done in variety of heighs and widths.
- They can be integrated with the doors frame or can by just connected to them.
- The final dimentions depend on the choice of glass and general door desing.
- For leaves over the limits contact with factory to check if possible.

Maximum standard sizes:

- Width up to 2400mm (94 1/2”)
- Height up to 3000mm (118 1/8”)
- Weight – no limits





5. SINGLE LEAF WINDOWS

- Outwards and inwards opening: sige hung windows

Maximum standard leaf sizes:

- Width up to 1200mm (47 1/4”)
- Height up to 3000mm (118 1/8”)
- Weight up to 190kg (420 lbs)

- Inwards openings: bottom hung windows

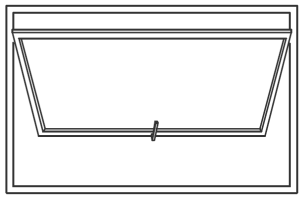
Maximum standard leaf sizes:

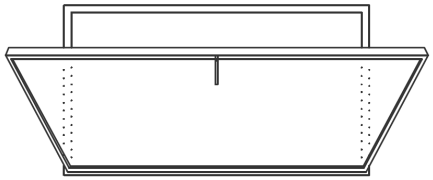
- Width up to 1800mm (70 7/8”)
- Height up to 1800mm (70 7/8”)
- Weight up to 150kg (330 lbs)

- Outwards openings: top hung projecting windows

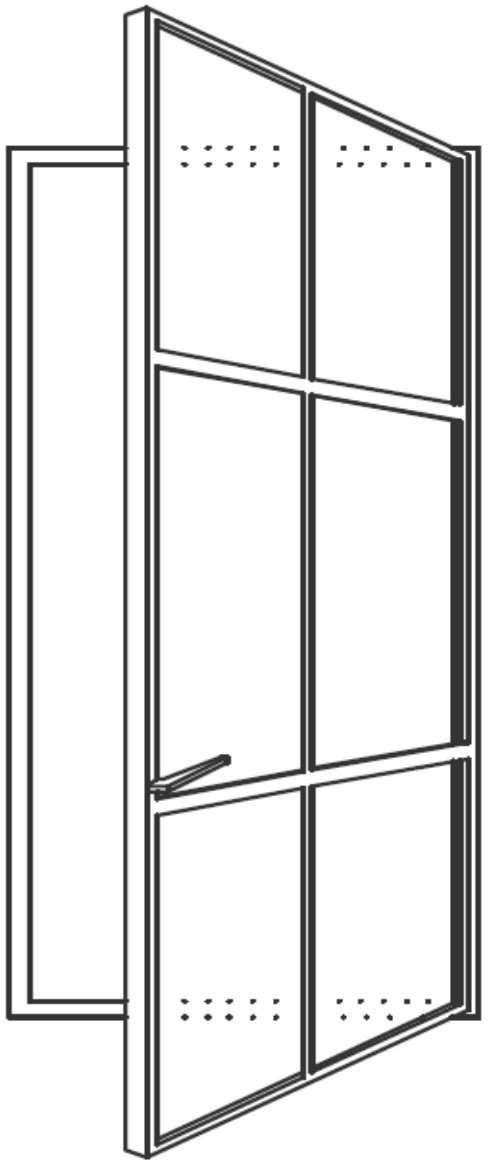
Maximum standard leaf sizes:

- Width up to 1800mm (70 7/8”)
- Height up to 1800mm (70 7/8”)
- Weight up to 150kg (330 lbs)





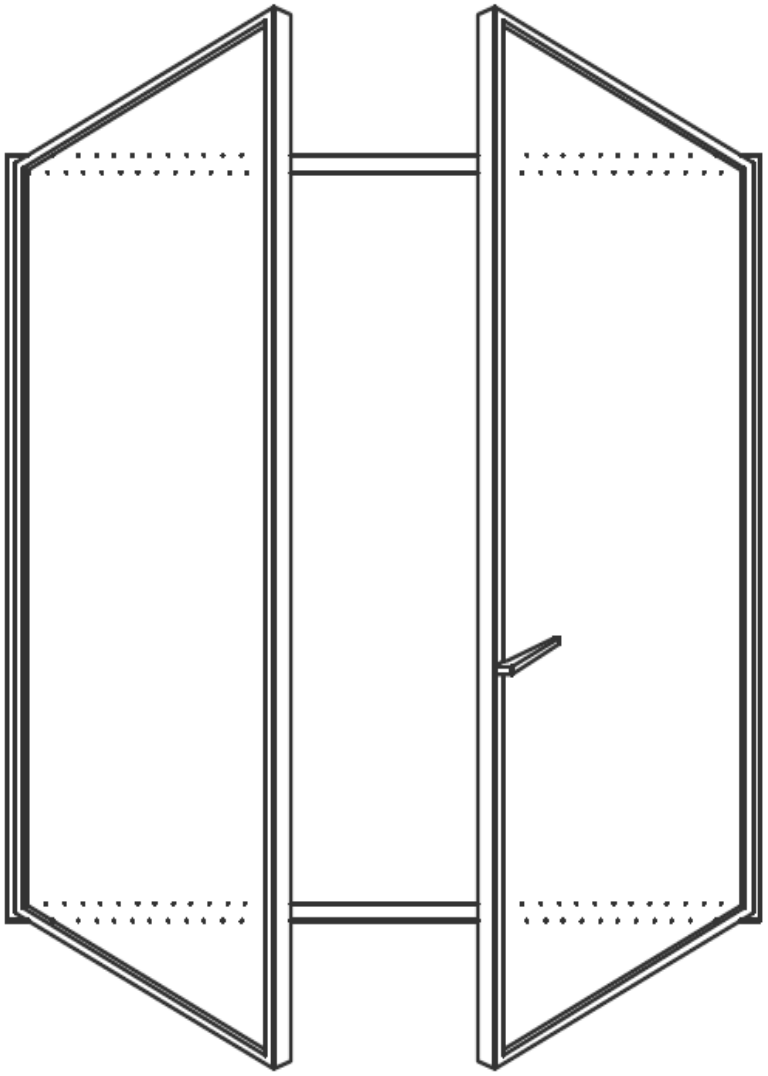
For leaves over the limits contact with factory to check if possible.



6. DOUBLE LEAF WINDOWS

Outwards and inwards opening

For leaves over the limits contact with factory to check if possible.



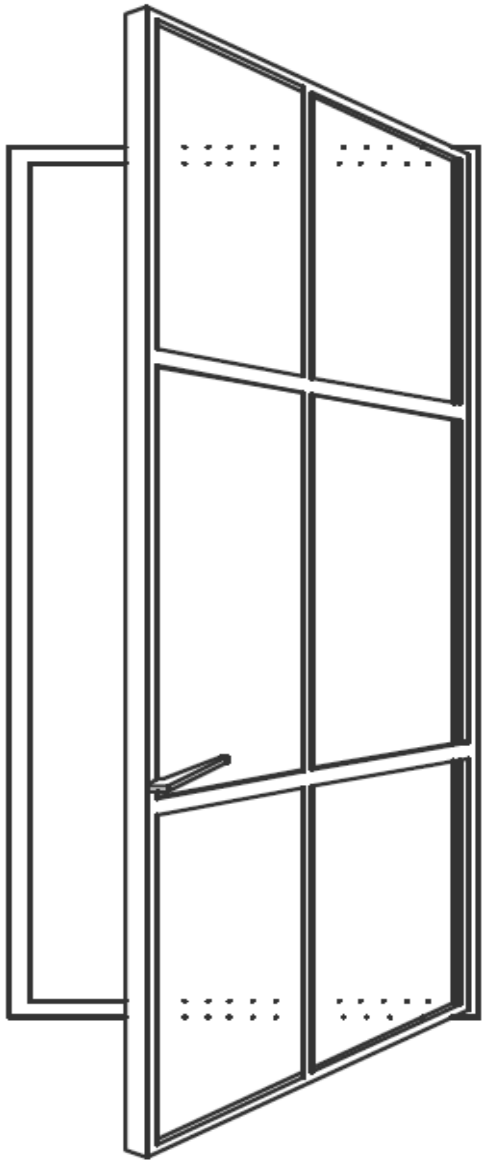
Maximum standard sizes:

- Width up to 2400 (94 1/2”) for both leaves
- Height up to 3000 (118 1/8”) for both leaves
- Weight up to 190kg (420 lbs) per one leaf

6. SINGLE LEAF TILT&TURN WINDOW

Inwards opening

For leaves over the limits contact with factory to check if possible.



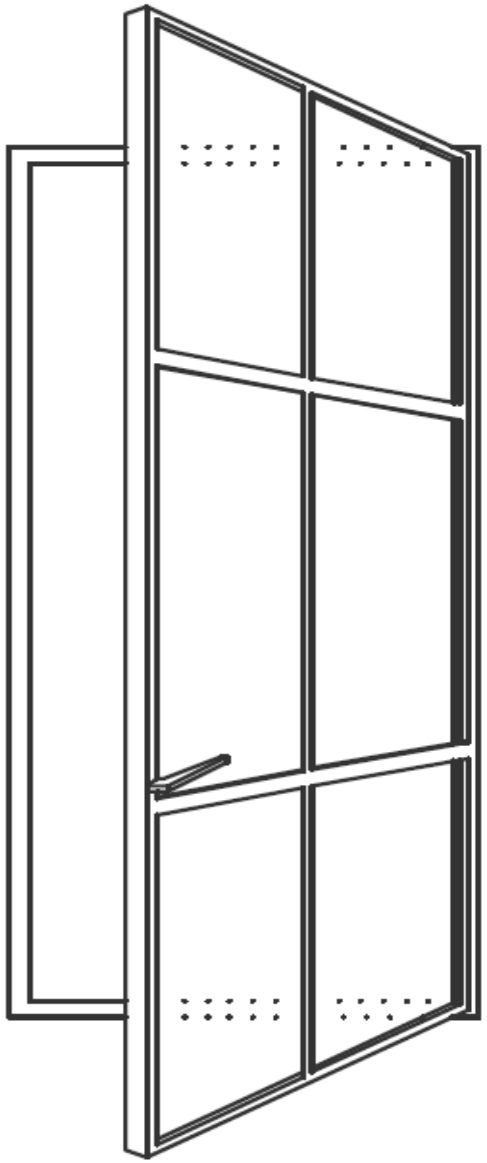
Maximum standard sizes:

- Width up to: 1200 (47 1/4”)
- Height up to 2800 (110 1/4”) for both leaves
- Weight up to 180kg (396 lbs) per one leaf

6. DOUBLE LEAF TILT&TURN WINDOW

Inwards opening

For leaves over the limits contact with factory to check if possible.



Maximum standard sizes:

- Width up to: 2400 (94 1/2”)
- Height up to 2800 (110 1/4”) for both leaves
- Weight up to 180kg (396 lbs) per one leaf

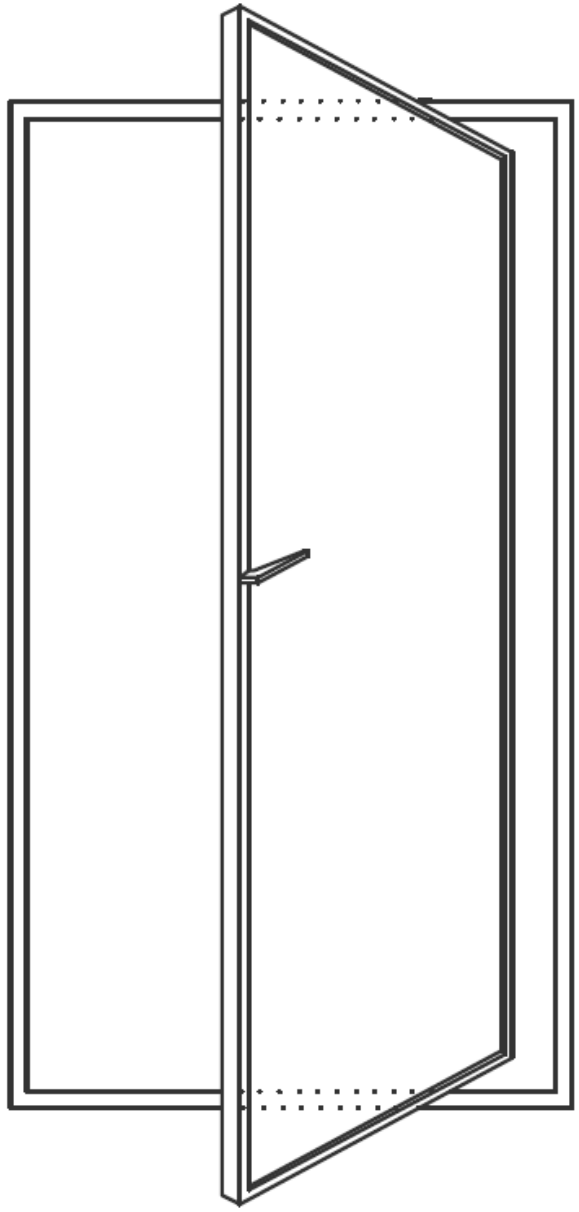
7. SINGLE PIVOT WINDOWS

Outwards and inwards opening

For leaves over the limits contact with factory to check if possible.

Maximum standard leaf sizes:

- Width up to: contact with factory
- Height up to: contact with factory
- Weight up to: contact with factory

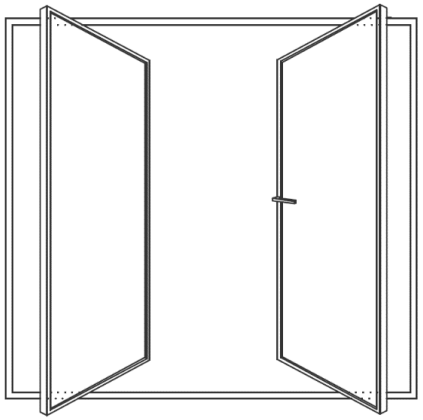


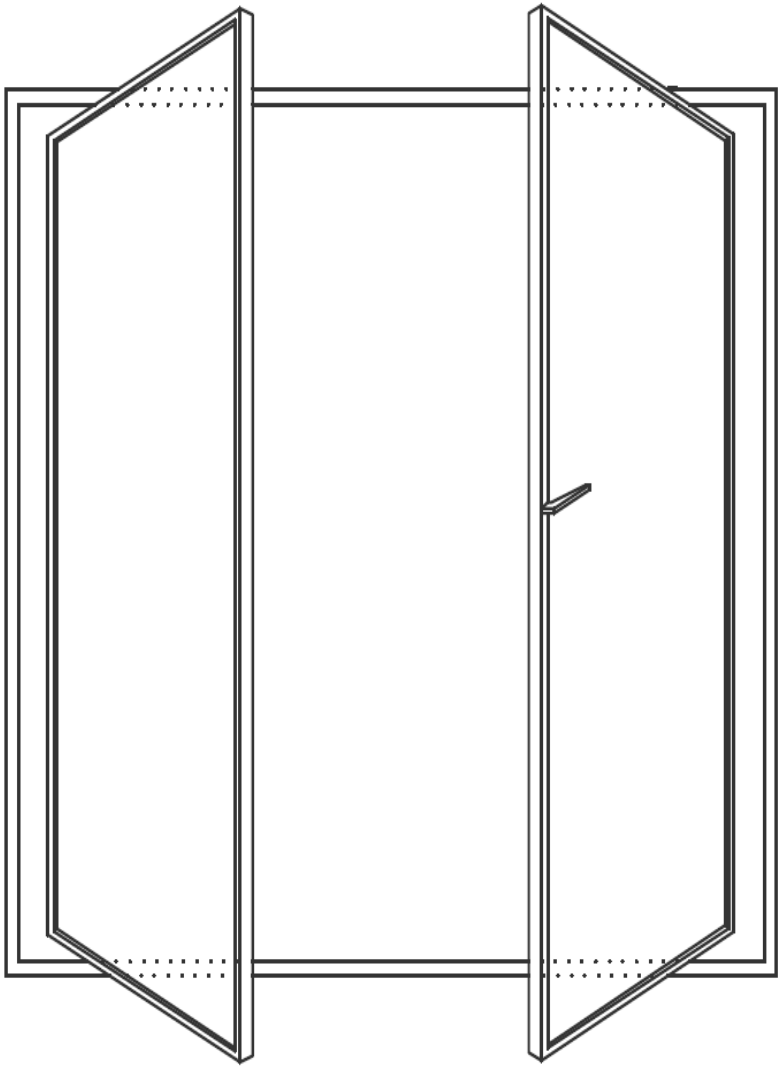
7. DOUBLE PIVOT WINDOWS

Outwards and inwards opening
For leaves over the limits contact with factory to check if possible.

Maximum standard leaf sizes:

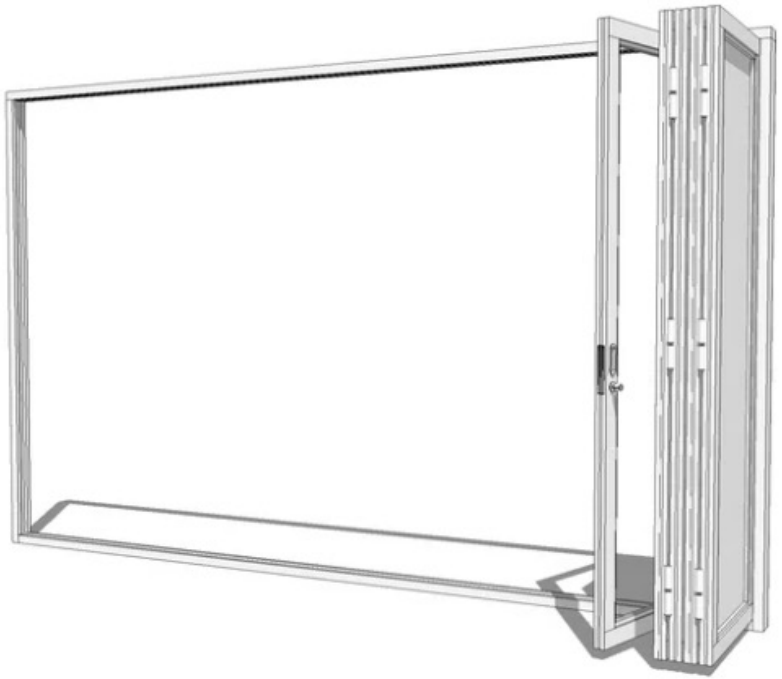
- Width up to: contact with factory
- Height up to: contact with factory
- Weight up to: contact with factory





8. FOLDING DOORS

After consultation we can create folding doors and windows.
For leaves over the limits contact with factory to check if possible.

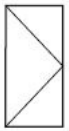
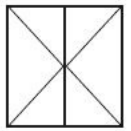
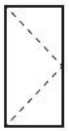
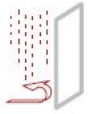
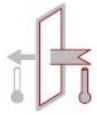


Tests and standards:

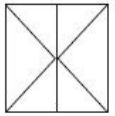
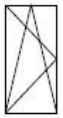
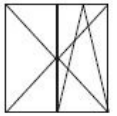
TESTS OF OTTOSTUMM W75:

At this moment Ottostumm is carrying tests based on European standards.

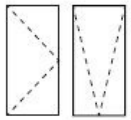
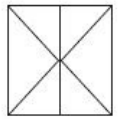
US standards will be avaliable in the future.

Standard Norm Norme	Test Prüfungen Essais				
		Open in door Nach innen öffnend Ouverture vers l'intérieur	Open in door Nach innen öffnend Ouverture vers l'intérieur	Open out door Nach außen öffnend Ouverture vers l'extérieur	Open out door Nach außen öffnend Ouverture vers l'extérieur
EN**12207** 	Air permeability Luftdurchlässigkeit Perméabilité à l'air	up to class 3 - 600 Pa bis Klasse 3 - 600 Pa jusqu'à la classe 3 - 600 Pa	up to class 3 - 600 Pa bis Klasse 3 - 600 Pa jusqu'à la classe 3 - 600 Pa	up to class 3 - 600 Pa bis Klasse 3 - 600 Pa jusqu'à la classe 3 - 600 Pa	up to class 2 - 600 Pa bis Klasse 2 - 600 Pa jusqu'à la classe 2 - 600 Pa
EN**12208** 	Water tightness Schlagregendichtheit Étanchéité à l'eau	up to class 6A - 250 Pa bis Klasse 6A - 250 Pa jusqu'à la classe 6A - 250 Pa	up to class 6A - 250 Pa bis Klasse 6A - 250 Pa jusqu'à la classe 6A - 250 Pa	up to class 9A - 600 Pa bis Klasse 9A - 600 Pa jusqu'à la classe 9A - 600 Pa	
EN**12210** 	Resistance to wind load Winderstand bei Windlast Résistance à la pression du vent	up to class C2 - 800 Pa bis Klasse C2 - 800 Pa jusqu'à la classe C2 - 800 Pa	up to class C2 - 800 Pa bis Klasse C2 - 800 Pa jusqu'à la classe C2 - 800 Pa	up to class C2 - 800 Pa bis Klasse C2 - 800 Pa jusqu'à la classe C2 - 800 Pa	up to class B1 - 600 Pa bis Klasse B1 - 600 Pa jusqu'à la classe B1 - 600 Pa
EN ISO**10077-1** 	Heat transfer coefficient Wärmedurchgangs-koeffizient Coefficient de transmission thermique	from > 1.00 W/m²K ab > 1.00 W/m²K à partir de > 1.00 W/m²K	from > 1.00 W/m²K ab > 1.00 W/m²K à partir de > 1.00 W/m²K	from > 1.00 W/m²K ab > 1.00 W/m²K à partir de > 1.00 W/m²K	from > 1.00 W/m²K ab > 1.00 W/m²K à partir de > 1.00 W/m²K
EN**14024** 	Metal profile with thermal barrier Metallprofile mit thermischer Trennung Profilés métalliques avec rupture de pont thermique	CW / TC2	CW / TC2	CW / TC2	CW / TC2

Tests and standards:

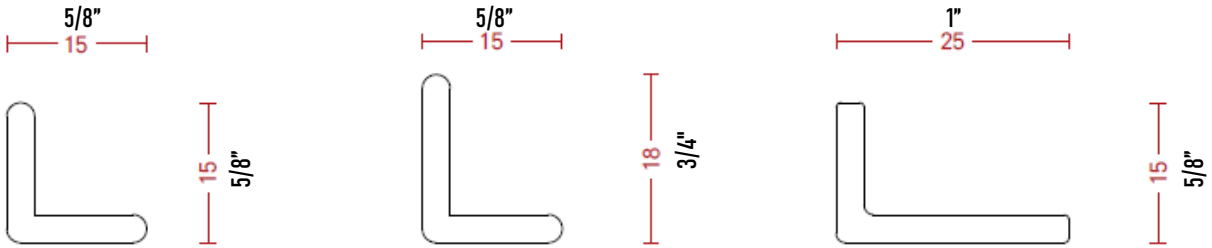
Standard Norm Norme	Test Prüfungen Essais				
		Open in window Nach innen öffnend Ouverture vers l'intérieur	Open in window Nach innen öffnend Ouverture vers l'intérieur	Tilt&Turn window Dreh-Kippfenster Fenêtre oscillo-battantes	Tilt&Turn window Dreh-Kippfenster Fenêtre oscillo-battantes
EN**12207** 	Air permeability Luftdurchlässigkeit Perméabilité à l'air	up to class 4 - 600 Pa bis Klasse 4 - 600 Pa jusqu'à la classe 4 - 600 Pa	up to class 4 - 600 Pa is Klasse 4 - 600 Pa jusqu'à la classe 4 - 600 Pa	up to class 4 - 600 Pa bis Klasse 4 - 600 Pa jusqu'à la classe 4 - 600 Pa	up to class 4 - 600 Pa bis Klasse 4 - 600 Pa jusqu'à la classe 4 - 600 Pa
EN**12206** 	Water tightness Schlagregendichtheit Étanchéité à l'eau	up to class 9A - 600 Pa bis Klasse 9A - 600 Pa jusqu'à la classe 9A - 600 Pa	up to class 9A - 600 Pa bis Klasse 9A - 600 Pa jusqu'à la classe 9A - 600 Pa	up to class 9A - 600 Pa bis Klasse 9A - 600 Pa jusqu'à la classe 9A - 600 Pa	up to class 8A - 450 Pa bis Klasse 8A - 450 Pa jusqu'à la classe 8A - 450 Pa
EN**12210** 	Resistance to wind load Winderstand bei Windlast Résistance à la pression du vent	up to class C5 - 2000 Pa bis Klasse C5 - 2000 Pa jusqu'à la classe C5 - 2000 Pa	up to class B4 - 1600 Pa bis Klasse B4 - 1600 Pa jusqu'à la classe B4 - 1600 Pa	up to class C5 - 2000 Pa bis Klasse C5 - 2000 Pa jusqu'à la classe C5 - 2000 Pa	up to class C3 - 1200 Pa bis Klasse C3 - 1200 Pa jusqu'à la classe C3 - 1200 Pa
EN ISO**10077-1** 	Heat transfer coefficient Wärmedurchgangs-koeffizient Coefficient de transmission thermique	from > 1.00 W/m²K ab > 1.00 W/m²K à partir de>1.00 W/m²K	from > 1.00 W/m²K ab > 1.00 W/m²K à partir de>1.00 W/m²K	from > 1.00 W/m²K ab > 1.00 W/m²K à partir de>1.00 W/m²K	from > 1.00 W/m²K ab > 1.00 W/m²K à partir de>1.00 W/m²K
EN ISO**10140** 	Sound insulation Schallschutz Isolation acoustique	up to R_w+C_{tr} = 41 dB (R_w = 44 dB) bis R_w+C_{tr} = 41 dB (R_w = 44 dB) jusqu'à R_w+C_{tr} = 41 dB (R_w = 44 dB)		up to R_w+C_{tr} = 41 dB (R_w = 44 dB) bis R_w+C_{tr} = 41 dB (R_w = 44 dB) jusqu'à R_w+C_{tr} = 41 dB (R_w = 44 dB)	
EN**14024** 	Metal profile with thermal barrier Metallprofile mit thermischer Trennung Profilés métalliques avec rupture de pont thermique	CW / TC2	CW / TC2	CW / TC2	CW / TC2

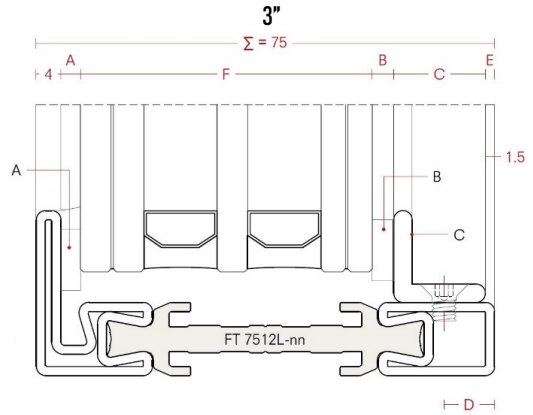
Tests and standards:

Standard Norm Norme	Test Prüfungen Essais			
		Open out window Nach außen öffnend Ouverture vers l'extérieur	Open in window (Multipoint) Nach innen öffnend (Multipoint) Ouverture vers l'intérieur (Multipoint)	Pivot window (Multipoint) Pendelfenstersystem (Multipoint) Fênetre pivot (Multipoint)
EN**12207** 	Air permeability Luftdurchlässigkeit Perméabilité à l'air	up to class 4 - 600 Pa bis Klasse 4 - 600 Pa jusqu'à la classe 4 - 600 Pa	up to class 4 - 600 Pa is Klasse 4 - 600 Pa jusqu'à la classe 4 - 600 Pa	up to class 4 - 600 Pa bis Klasse 4 - 600 Pa jusqu'à la classe 4 - 600 Pa
EN**12208** 	Water tightness Schlagregendichtheit Étanchéité à l'eau	up to class 9A - 600 Pa bis Klasse 9A - 600 Pa jusqu'à la classe 9A - 600 Pa	up to class 8A - 450 Pa bis Klasse 8A - 450 Pa jusqu'à la classe 8A - 450 Pa	up to class 7A - 300 Pa bis Klasse 7A - 300 Pa jusqu'à la classe 7A - 300 Pa
EN**12210** 	Resistance to wind load Winderstand bei Windlast Résistance à la pression du vent	up to class C5 - 2000 Pa bis Klasse C5 - 2000 Pa jusqu'à la classe C5 - 2000 Pa	up to class C2 - 800 Pa bis Klasse C2 - 800 Pa jusqu'à la classe C2 - 800 Pa	up to class C3 - 1200 Pa bis Klasse C3 - 1200 Pa jusqu'à la classe C3 - 1200 Pa
EN ISO**10077-1** 	Heat transfer coefficient Wärmedurchgangs-koeffizient Coefficient de transmission thermique	from > 1.00 W/m²K ab > 1.00 W/m²K à partir de>1.00 W/m²K	from > 1.00 W/m²K ab > 1.00 W/m²K à partir de>1.00 W/m²K	from > 1.00 W/m²K ab > 1.00 W/m²K à partir de>1.00 W/m²K
EN ISO**10140** 	Sound insulation Schallschutz Isolation acoustique	up to R_w+C_s = 41 dB (R_w = 44 dB) bis R_w+C_s = 41 dB (R_w = 44 dB) jusqu'à R_w+C_s = 41 dB (R_w = 44 dB)		
EN**14024** 	Metal profile with thermal barrier Metallprofile mit thermischer Trennung Profilés métalliques avec rupture de pont thermique	CW / TC2	CW / TC2	CW / TC2

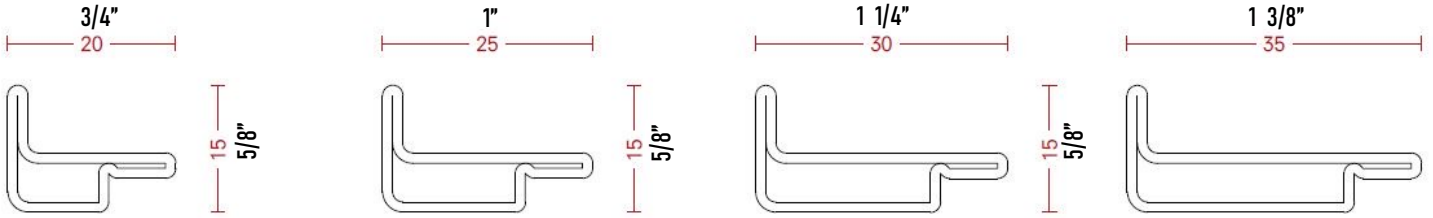
Profiles and glazing beads:

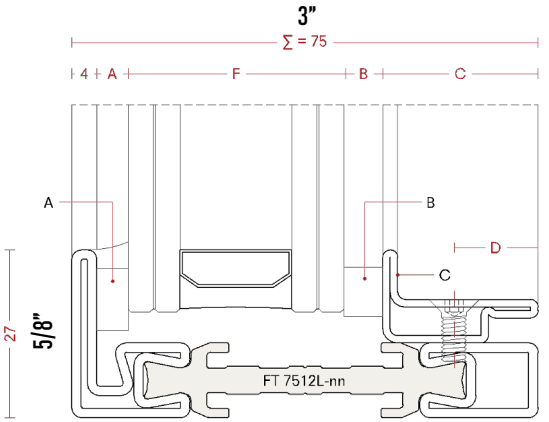
L-SHAPED: (screws visible)





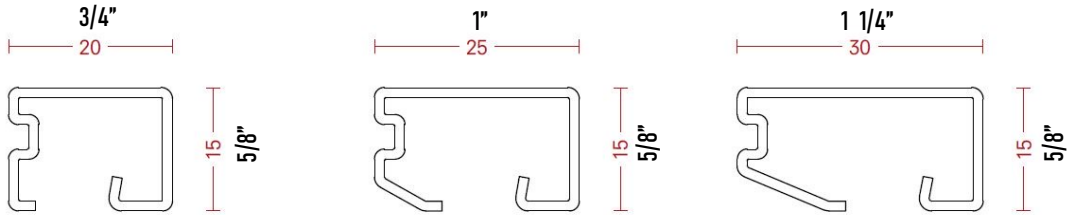
SPECIAL L-SHAPED: (screws visible)

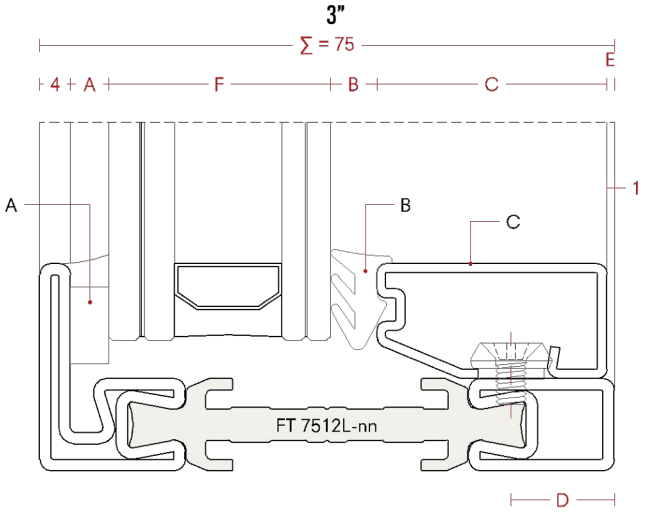


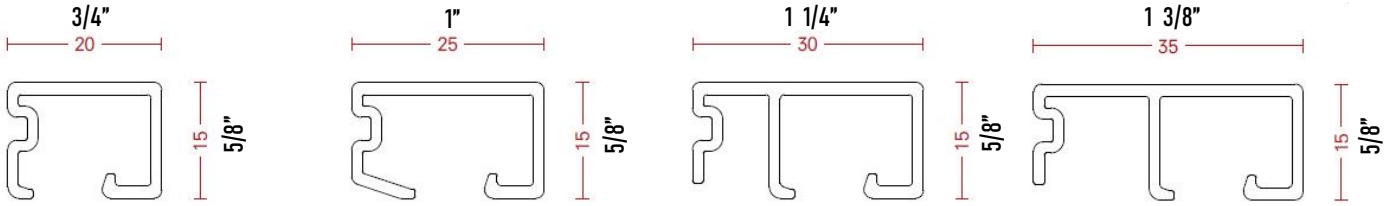


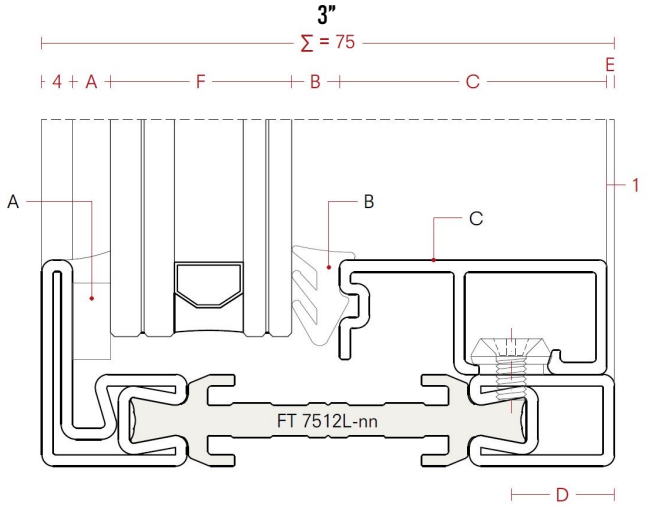
Profiles and glazing beads:

SQUARE: (screws invisible)



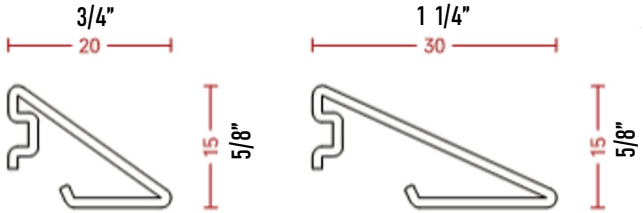


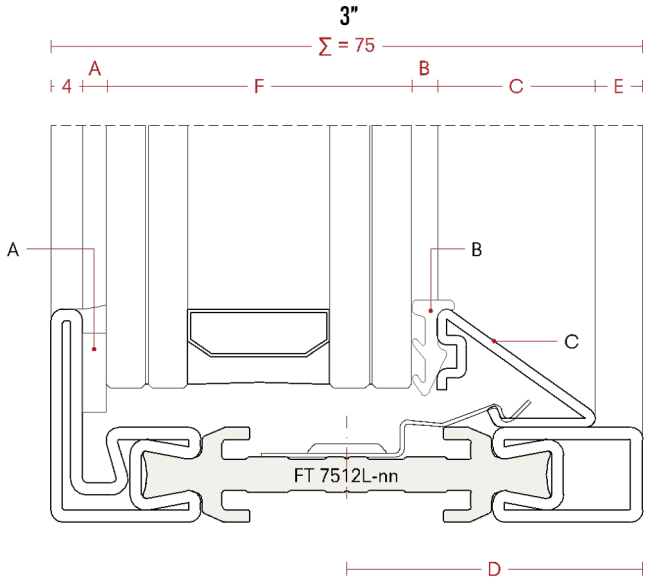




Profiles and glazing beads:

TRIANGLE: (screws invisible)



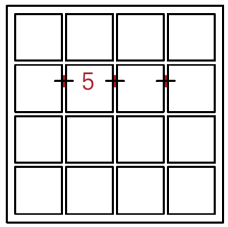


Type of the glazing beads depends on the design and thickness of the glass.

Dividing lines:

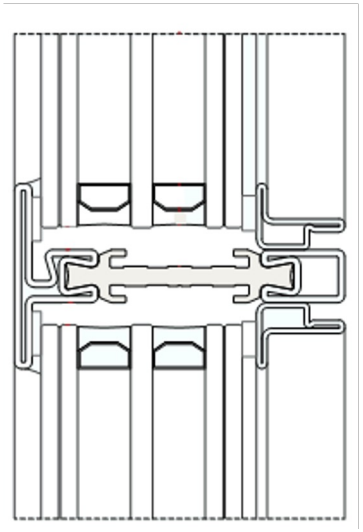
DIVISION OF GLASS

16 glass panes



TDL

true
divided
light



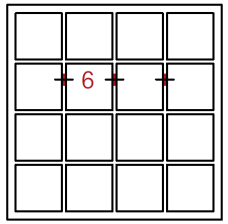
- Each dividing line is created with T-shaped profile
- Each light is a separate pane of glass
- Every piece of glass has separate glazing beads around.
- T-shaped profiles:

  - 42mm width (1 5/8")

SDL

simulated
divided
light

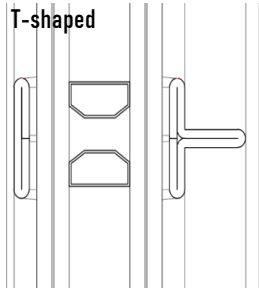
1 glass pane



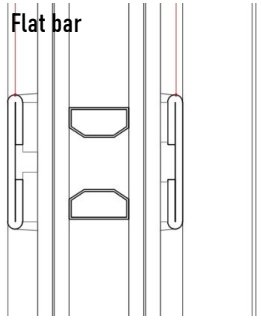
- One big pane of glass inside the window/door
- Divisions are created by flat bar on the outside and t-shaped bar inside (or also flat bar)
- Bars are welded to the glazing beads/frame and connected to the glass.
- Lines can be:

  - 20mm thick (3/4")
  - 25mm thick (1")
  - 30mm thick (1 1/8")
- There are spacers inside the glass (under bars) in the colour of the frame.

T-shaped



Flat bar

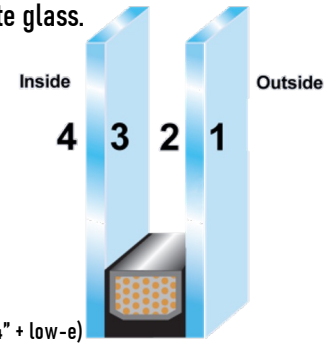


Glass for the W75:

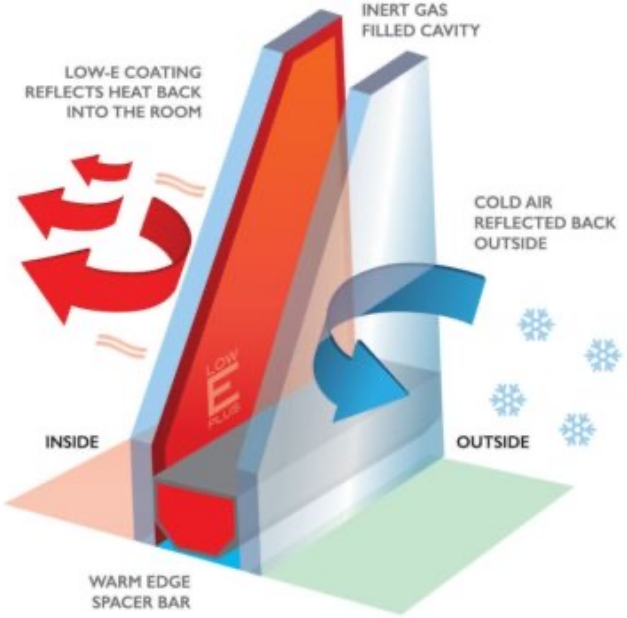
Isolated profiles needs „warm" glass. That's why in W75 we mostly use double glazing with special layers which is more isolating than regular one plate glass.

Mostly used in our W75 projects:

1. ESG 6mm / 14mm space bar + argon / ESG 6mm + low-e (TEMP. 1/4" / 1/2" space bar + argon / TEMP. 1/4" + low-e)
2. ESG 6mm SN 70/35 / 14mm space bar + argon / ESG 6mm (TEMP. 1/4" / 1/2" space bar + argon / TEMP. 1/4" + low-e)
   Coating is on position2. This layer gives thermo isolation from outside to inside and from indide to outside.
3. ESG 6mm / 14mm space bar + argon / VSG 44.2, low-e (TEMP. 1/4" / 1/2" space bar + argon / VSG ~3/8")
4. ESG 6mm / 14 space bar + argon / 4mm / 14mm space bar + argon / 6mm + low-e (TEMP. 1/4" / 1/2" space bar + argon / 1/8"/ 1/8" space bar + argon / TEMP. 1/4" + low-e)
   This tripple glazing gives much better isolation.



- ESG: TEMPERED
- LOW-E: coating on the inside that prevents heat from escaping the room (position 3)
- VSG: laminated glass
- Parameters of isolation in every double glazing: +/- Ug=1,1 W/m2K (U factor = 0,19 Btu/h ft2F)
- Parameters for tripple glazing: Ug=0,6 (U factor = 0,11)
- There is possibility of adding extra „sun protection" layer that blocks UV sunrays.



The main glass brand in our factory: Euro Glass

There is also possibility of order from such companies as: Guardian, Saint-Gobain, AGC

Technical documents:

1. ESG 6mm / 14mm space bar + argon / ESG 6mm + low-e
(TEMP. 1/4" / 1/2" space bar + argon / TEMP. 1/4" + low-e)

glaströsch

Determination of SILVERSTAR glazing characteristics

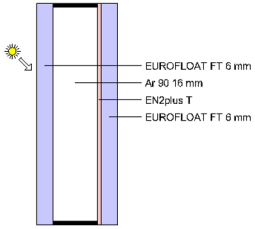
Version information:
Program 3.10
Database 3.50
Output format 3.21

The following characteristics are calculated with the program SILVERSTAR glaCE.

Project:	
Company:	GLASSKON
Employee:	
Customer:	
Product:	
Date:	14.01.2020

Glazing:

Window tilt angle: 90 °



Comments:

Calculated glazing characteristics:

Thermal transmittance Ug:	1.1 W/m²K	EN 673:2011
Total solar energy transmittance (solar factor g):	63 %	EN 410:2011
Light transmittance:	80 %	
Light reflectance (outside):	12 %	
Light reflectance (inside):	11 %	
Light absorptance:	8 %	
Solar direct transmittance:	55 %	
Solar direct reflectance (outside):	24 %	
Solar direct absorptance:	22 %	
Secondary internal heat transfer factor:	8 %	
UV-Transmittance:	37 %	
UV-Reflectance:	17 %	
UV-Absorptance:	46 %	
General colour rendering index (transmission):	97	
Selectivity (light transmittance / solar factor g):	1.3	
Shading coefficient (solar factor g / 0.87):	72 %	
Shading coefficient (solar factor g / 0.8):	79 %	

CE

The values given are only indicative and subject to change without notice.
They do not represent any guarantee for the performance of the glazing
Calculations are performed according to the European standards EN 410:2011 and EN 673:2011.

2. ESG 6mm SN 70/35 / 14mm space bar + argon / ESG 6mm
(TEMP. 1/4" / 1/2" space bar + argon / TEMP. 1/4" + low-e)

glaströsch

Determination of SILVERSTAR glazing characteristics

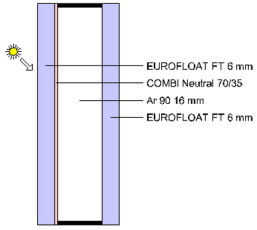
Version information:
Program 3.10
Database 3.50
Output format 3.21

The following characteristics are calculated with the program SILVERSTAR glaCE.

Project:	
Company:	GLASSKON
Employee:	
Customer:	
Product:	
Date:	12.03.2020

Glazing:

Window tilt angle: 90 °



Comments:

Calculated glazing characteristics:

Thermal transmittance Ug:	1.0 W/m²K	EN 673:2011
Total solar energy transmittance (solar factor g):	37 %	EN 410:2011
Light transmittance:	70 %	
Light reflectance (outside):	14 %	
Light reflectance (inside):	15 %	
Light absorptance:	16 %	
Solar direct transmittance:	34 %	
Solar direct reflectance (outside):	33 %	
Solar direct absorptance:	33 %	
Secondary internal heat transfer factor:	3 %	
UV-Transmittance:	9 %	
UV-Reflectance:	9 %	
UV-Absorptance:	81 %	
General colour rendering index (transmission):	96	
Selectivity (light transmittance / solar factor g):	1.9	
Shading coefficient (solar factor g / 0.87):	43 %	
Shading coefficient (solar factor g / 0.8):	46 %	

CE

The values given are only indicative and subject to change without notice.
They do not represent any guarantee for the performance of the glazing
Calculations are performed according to the European standards EN 410:2011 and EN 673:2011.

3. ESG 6mm / 14 space bar + argon / VSG 44.2 + low-e
(TEMP. 1/4" / 1/2" space bar + argon / VSG ~3/8")

glaströsch

Determination of SILVERSTAR glazing characteristics

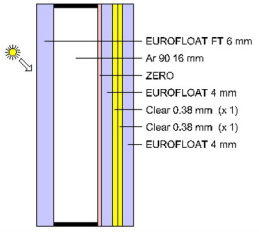
Version information:
Program 3.10
Database 3.50
Output format 3.21

The following characteristics are calculated with the program SILVERSTAR glaCE.

Project:	
Company:	GLASSKON
Employee:	
Customer:	
Product:	
Date:	28.02.2020

Glazing:

Window tilt angle: 90 °



Comments:

Calculated glazing characteristics:

Thermal transmittance Ug:	1.0 W/m²K	EN 673:2011
Total solar energy transmittance (solar factor g):	48 %	EN 410:2011
Light transmittance:	69 %	
Light reflectance (outside):	20 %	
Light reflectance (inside):	21 %	
Light absorptance:	11 %	
Solar direct transmittance:	38 %	
Solar direct reflectance (outside):	36 %	
Solar direct absorptance:	26 %	
Secondary internal heat transfer factor:	10 %	
UV-Transmittance:	0 %	
UV-Reflectance:	26 %	
UV-Absorptance:	74 %	
General colour rendering index (transmission):	93	
Selectivity (light transmittance / solar factor g):	1.4	
Shading coefficient (solar factor g / 0.87):	55 %	
Shading coefficient (solar factor g / 0.8):	60 %	

CE

The values given are only indicative and subject to change without notice.
They do not represent any guarantee for the performance of the glazing
Calculations are performed according to the European standards EN 410:2011 and EN 673:2011.

Technical documents:

4. ESG 6mm / 14mm space bar + argon / 4mm / 14mm space bar + argon / ESG 6mm + low-e (TEMP. 1/4" / 1/2" space bar + argon / 1/8"/ 1/8" space bar + argon / TEMP. 1/4" + low-e)

glaströsch

Determination of SILVERSTAR glazing characteristics

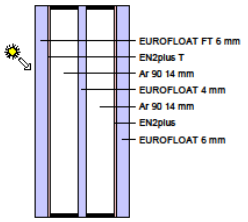
Version information: Program 3.10 Database 3.61 Output format 3.21

The following characteristics are calculated with the program SILVERSTAR glaCE.

Project:	
Company:	GLASSKON
Employee:	
Customer:	
Product:	
Date:	01.05.2022

Glazing:

Window tilt angle: 90 °



Comments:

Calculated glazing characteristics:

Thermal transmittance Ug:	0.6 W/m²K	EN 673:2011	
Total solar energy transmittance (solar factor g):	52 %	EN 410:2011	CE
Light transmittance:	73 %		
Light reflectance (outside):	14 %		
Light reflectance (inside):	14 %		
Light absorptance:	13 %		
Solar direct transmittance:	44 %		
Solar direct reflectance (outside):	27 %		
Solar direct absorptance:	30 %		
Secondary internal heat transfer factor:	9 %		
UV-Transmittance:	19 %		
UV-Reflectance:	18 %		
UV-Absorptance:	63 %		
General colour rendering index (transmission):	96		
Selectivity (light transmittance / solar factor g):	1.4		
Shading coefficient (solar factor g / 0.87):	60 %		
Shading coefficient (solar factor g / 0.8):	65 %		

The values given are only indicative and subject to change without notice.
They do not represent any guarantee for the performance of the glazing.
Calculations are performed according to the European standards EN 410:2011 and EN 673:2011.

Low iron glass (less green tones) with sun protection

GUARDIAN SUNGUARD | PERFORMANCE CALCULATOR

24.January.2022
By Harasimowicz, Krzysztof
kh@bojar.com.pl +48 509 895 584

IFT TESTED kiwa KIWA confirms to have verified the calculation engine of the software Guardian Performance Calculator 4.1 to be compliant to EN 410 and EN 673.

Volcano / USA

Make-up Name	Glass 1 & Coating	Glass 2 & Coating	Glass 3 & Coating	Gap 1	Gap 2	Visible Light			Solar Energy				Thermal Properties
						Transmittance	Reflectance		Transmittance	Reflectance	Solar Factor (g%)	Secondary Heat Transfer (q_i)	U-Value
						Visible (τ_v %)	ρ_v % out	ρ_v % in	Solar (τ_e %)	ρ_e % out			U_g W/m²K
Domylna konfiguracja 01	SunGuard®SN 70/35 HT (CE) on Guardian UltraClear® Float Glass (CE)	Guardian UltraClear® Float Glass (CE)	Guardian UltraClear® Float Glass (CE)	10% Air, 90% Argon	N/A	69.5	14.5	15.5	33.2	48.5	35.4	2.2	1.0

Calculation Standard: EN 410:2011 / EN 673:2011

Domylna konfiguracja 01:
GLASS: Guardian UltraClear®Float Glass (CE) Glass, 4mm (2-SunGuard®SN 70/35 HT (CE)) GAP: 10% Air, 90% Argon 16mm GLASS: Guardian UltraClear®Float Glass (CE) Glass, 4mm INTERLAYER: PVB Clear 0.76mm (CE), 0.762mm GLASS: Guardian UltraClear®Float Glass (CE) Glass, 4mm

Domylna konfiguracja 01

Outdoors

GLASS 1	Guardian UltraClear®Float Glass (CE) Thickness = 4mm	#1 ----- #2 SunGuard®SN 70/35 HT (CE)
GAP 1	10% Air, 90% Argon, 16mm	
GLASS 2	Guardian UltraClear®Float Glass (CE) Thickness = 4mm	#3 ----- #4 -----
INTERLAYER 1	PVB Clear 0.76mm (CE)	
GLASS 3	Guardian UltraClear®Float Glass (CE) Thickness = 4mm	#5 ----- #6 -----

Total Unit (Nominal) = 28.762 mm Slope = 90°

Estimated Nominal Glazing Weight: 29.6 kg/m²

Indoors

Summary Data

Calculation Standard: EN 410:2011 / EN 673:2011

Visible Light		Solar Energy	
Transmittance % (τ_v)	69.5	Solar Factor (g%)	35.4
Reflectance-In % (ρ_v)	15.5	Transmittance % (τ_e)	33.2
Reflectance-Out % (ρ_v)	14.5	Reflectance-Out % (ρ_e)	48.5
Thermal Properties		Secondary Internal Heat Transfer (q_i)	2.2
U-Value (U_g W/m²K)	1.0		

Door hardware: LOCKS

Choice of lock depends on: height of the door, design, lock box, width of profiles.

Standard distance between middle of key hole and middle of lever hole: 92mm (3,6")

What we offer:

1. MULTIPOINT LOCKS

- For taller doors
- Connect leaves to the frames in 3 or 5 points
- Safer and more isolating

2. SINGLE POINT LOCKS

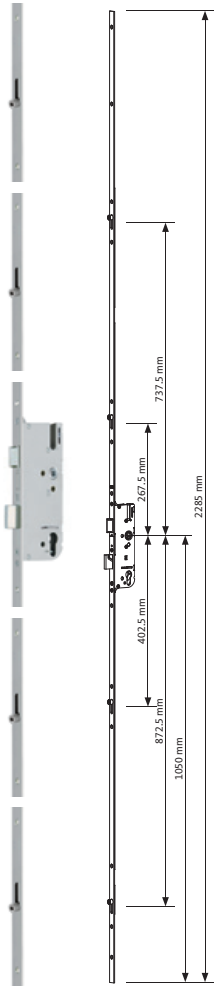
- used in smaller doors
- Only one connection point – near the handle
- Can be used with thiner profiles

3. AMERICAN LOCKS : Tubular or Mortise

- There is possibility of customized door for american type of lock only for special request.

Door hardware: LOCKS

MULTIPOINT LOCKS

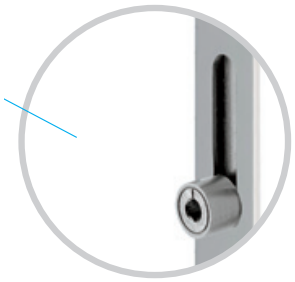


ROLLER-CAM LOCK

- GU Europa S R4
- 5 points of connection between frame and leaves
- Not only latch and deadbolt but additional 4 roller-cams
- Can be used with thin profiles – only lock-box needed
- Locked with the handle

RATCHET LOCK

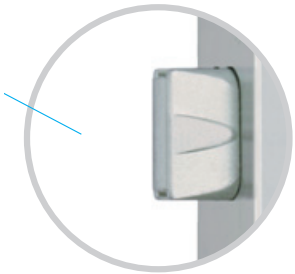
- GU Secury Europa MR2
- 3 points of connection between frame and leaves
- Locking with massive bolts
- Can be used when doors has thick lever profiles



Roller-cam

High gasket pressure and tightness

The adjustable roller cams that come with with the MR/R, SH/R and R4 versions optimise the door leaf contact pressure in the top and bottom section of the door and ensure a high gasket pressure and tightness.

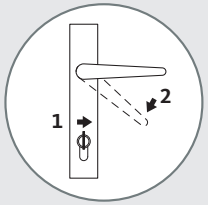


Massive bolt

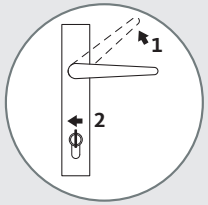
Secured against being forced back

The GU-SECURY MR2 system provides you with a multi-point lock which is protected from being sawn through or forced back.

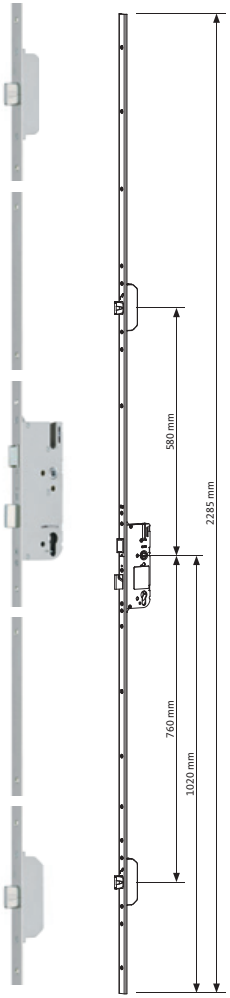
Functional principle of lever handle operation



Opening
1. Release the door lock using the key
2. Depress lever to open the door

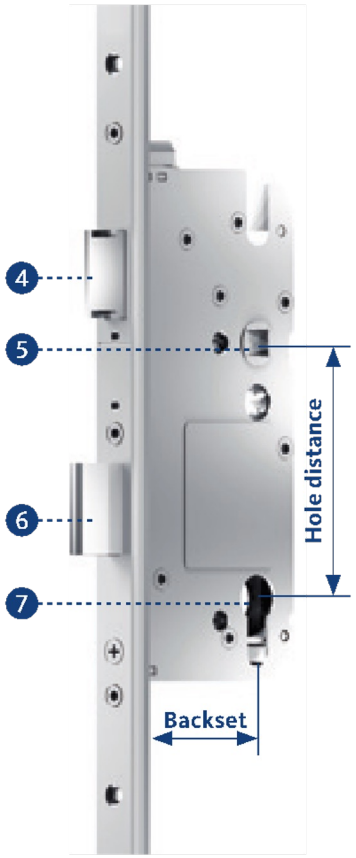


Closing
1. Lift the lever so the locking bolts can project
2. Lock the door using the key



Door hardware: LOCKS

ROLLER-CAM LOCK

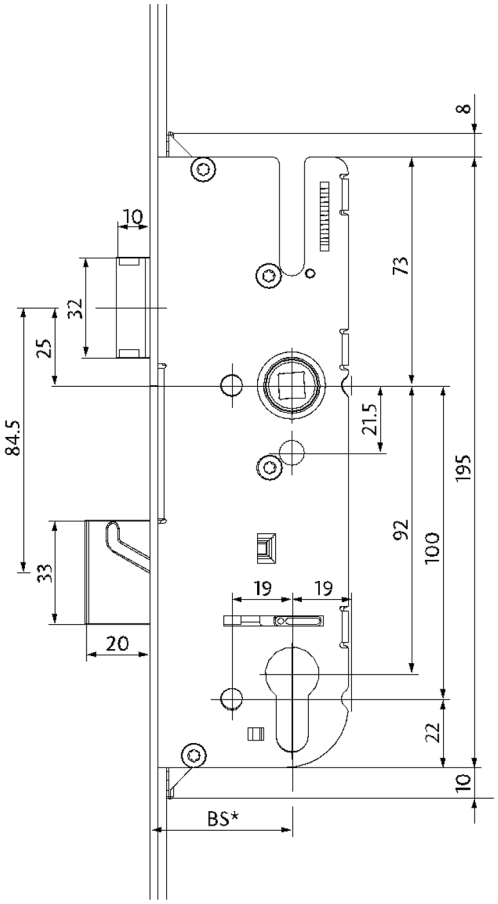


4 Latch
rh/lh reversible. Variant for fire protection doors available as an option

5 Follower
Receives the square spindle of the lever handle without any play and provides for reliable lock operation. Variant for fire protection doors available as an option

6 Deadbolt
2-turn with a total deadbolt throw of 20 mm or 1-turn with 20 mm deadbolt throw, depending on the locking system

7 Cylinder hole
For profile cylinder or round cylinder Ø 22 mm



Door hardware: LOCKS

For every high door we can extend our lock at the top by adding extra locking point.

Active leaf:

1 = Multi-point lock

2a = Top extension piece or extension with additional lock

2b = Bottom extension piece

Passive leaf:

3 = Lever-operated gear

4 = Striker, top

5 = Bottom striker (system threshold)

6 = Shoot-bolt unit, top/bottom

6a = Extension, top

alternatively:

3 = Striker

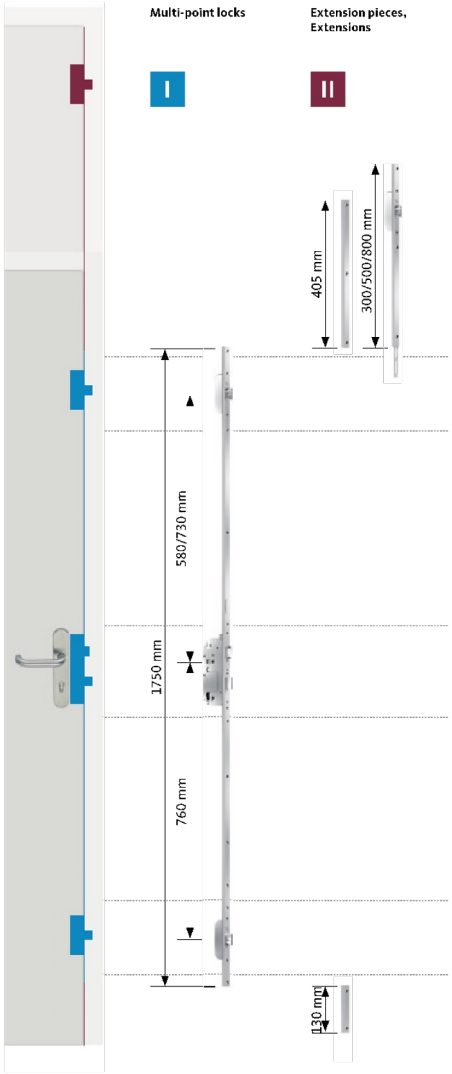
4 = Latch&deadbolt striker

4 = Striker, top

5 = Bottom striker (system threshold)

7 = Shoot-bolt

1-leaf – door leaf



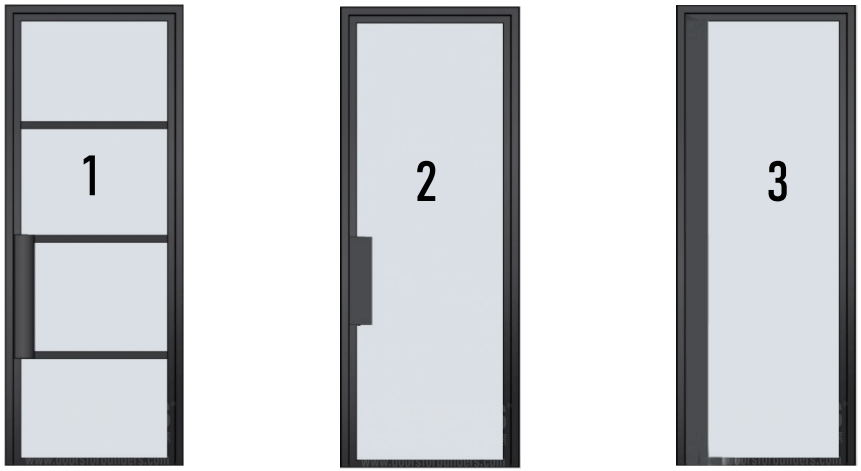
Door hardware: LOCKS

LOCK BOX

Important subject is lock box – place to hide lock. It always has to be discussed at the beginning of designing.

Most steel doors has very slim profiles so the lock has to be placed in glass section.

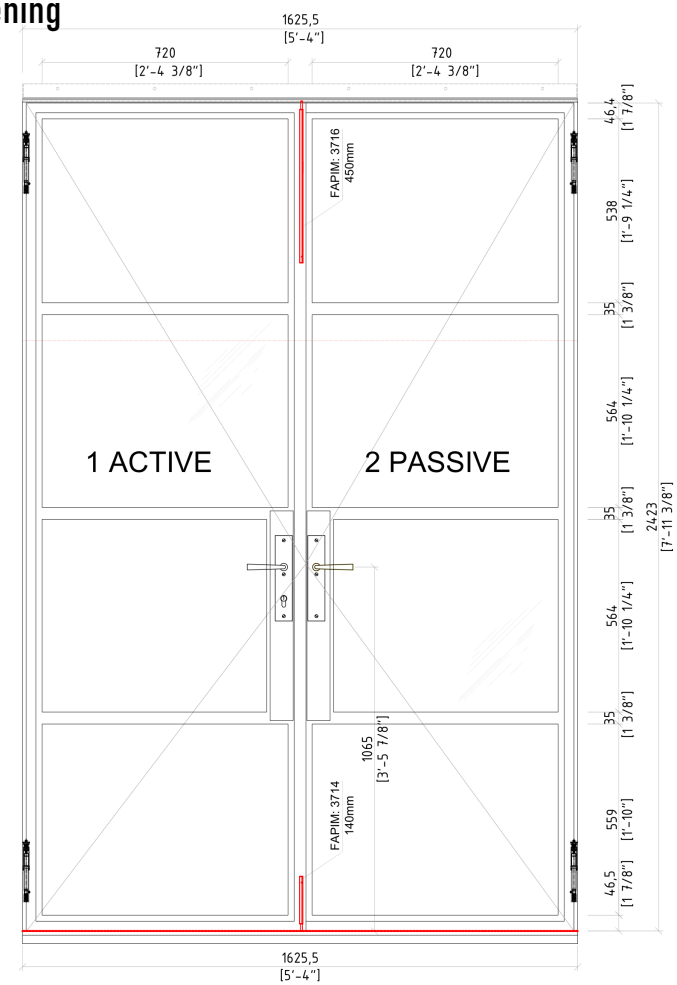
1. In TDL we can create a lock box BETWEEN HORIZONTAL LINES.
2. In SDL or none we have to make cut in the glass to create pocket for lock.
3. You can also hide lock (or more if using ratchet lock) inside thick profile – it changes the design of the doors.

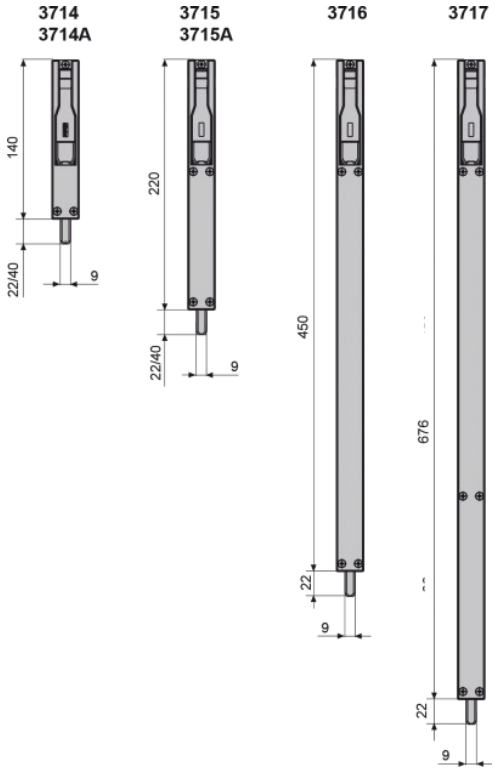


Door hardware: LATCHES

- Latches prevent passive leaf (in double doors) from opening
- Our standard solutions are FAPIM latches
- We install one at the bottom and one at the top.
- Both are controlled separately with small lever

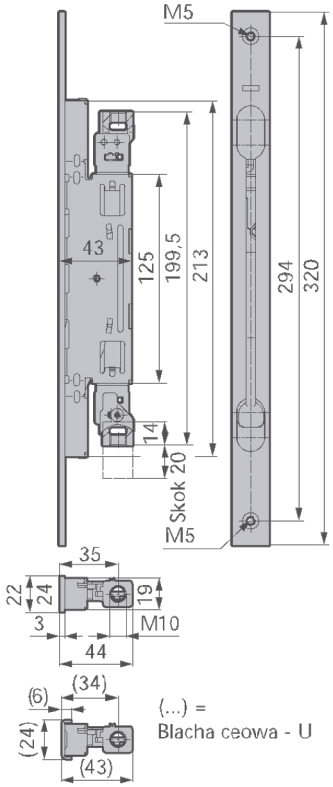
	A	L	
3714	22	140	
3714A	40	140	
3715	24	220	20
3715A	35	220	
3716	24	450	
3717	24	676	

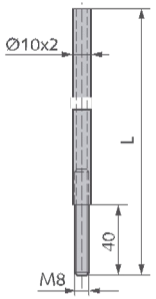


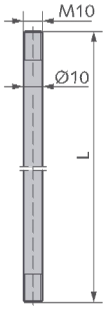


Door hardware: LATCHES

- In thick profile leaf we can use central point flush bolt with back set buid inside the profile.
- In this case there is only one activatin point at the center of the door hight (not 2 separate at the top and the bottom as with Fapims)







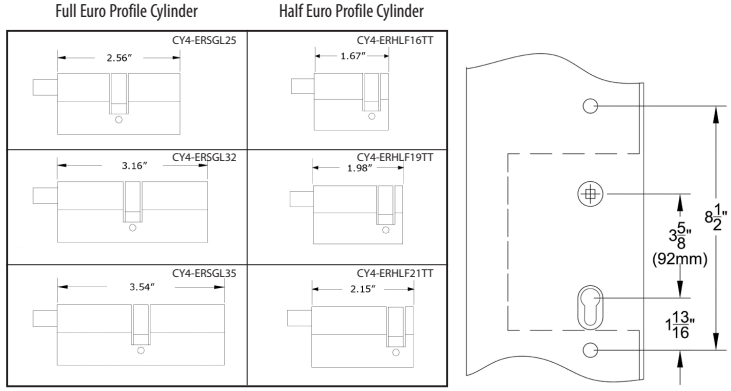
Door hardware: LEVERS

1. EMTEK

- We would like to use EMTEK Trim #5 (multipoint euro) hardware as standard
- You can check all of the kinds and shapes in EMTEK catalogue.

DOOR CONFIGURATION #5 Specification Sheet for Components and Door Thickness

Door Configuration #5
Euro Profile Cylinder Below Handle
3 ⅝" Center-to-Center



Door hardware: LEVERS

2. WEIJNTJES – BAUCHAUS

- One of our standards
- Simple yet elegant
- Geometrical shapes

Door hardware: LEVERS

3. WEIJNTJES – LANCIA

- One of our standards
- Organic shape
- Suits as well classical as modern interiors

4. OTHERS

- There is possibility of using different type od lever
  but it has to be discussed at the beginning of the project.

Door hardware: HINGES

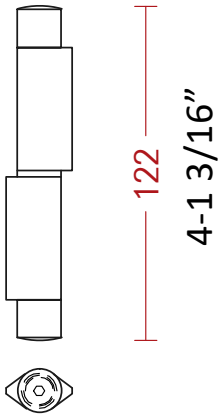
Our standard hinge for doors: OTTOSTUMM 3D hinge

3D Weld-on hinge

3-dimensional adjustable hinge for windows and doors.
Length 122 mm, Ø16 mm, with low-maintenance bushes made of brass, eccentric spindle and screw plug made from stainless steel AISI 304

Adjustability:
Height ±2 mm;
Lateral contact pressure ±1 mm

Capacity: 160 kg (pair=2 pc)

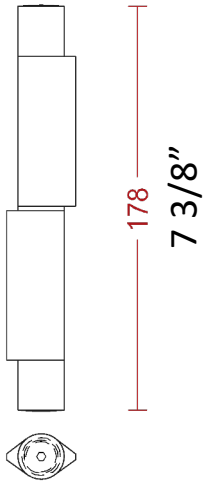


3D Weld-on hinge

3-dimensional adjustable hinge for windows and doors.
Length 178 mm, Ø20 mm, with low-maintenance bushes made of brass, eccentric spindle and screw plug made from stainless steel AISI 304

Adjustability:
Height ±2 mm;
Lateral contact pressure ±1 mm

Capacity: 210 kg (pair=2 pc)



Door hardware: HINGES

For pivot door our standard hinge is from Frits Jurgens (www.fritsjurgens.com)

TOP HOLDERS:

BOTTOM SYSTEM:

System M/M+

- Build in self closer
- Leaf weight up to 500kg (1.100 lbs)

System 3

- Build in self closer
- Leaf weight up to 350kg (770 lbs)

System One

- Build in self closer
- Leaf weight up to 500kg (1.100 lbs)

Windows hardware: HANDLES

Our standard windows handles are produced by SWF. Some examples:

Arched classic

Straight classic

Curved classic

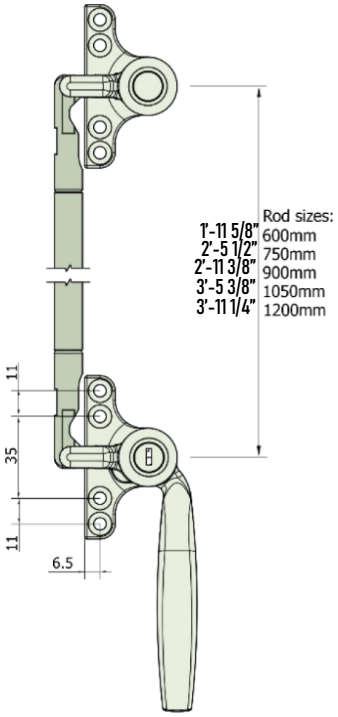
Scroll classic

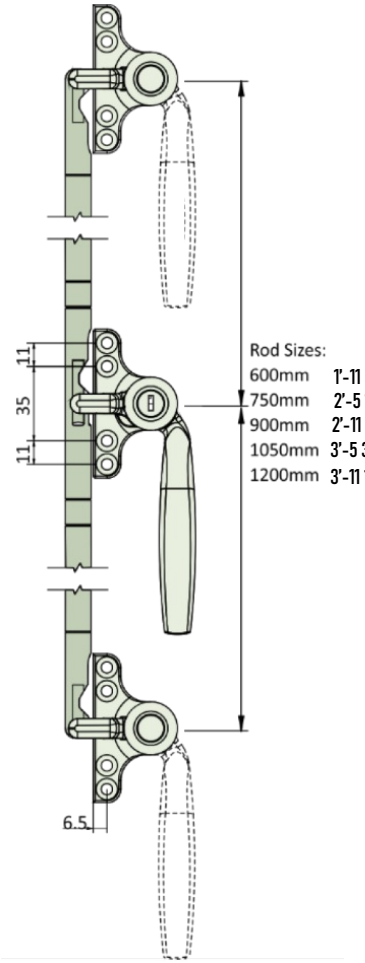
Available finishes

Handles may have a key to block it.

Windows hardware: HANDLES

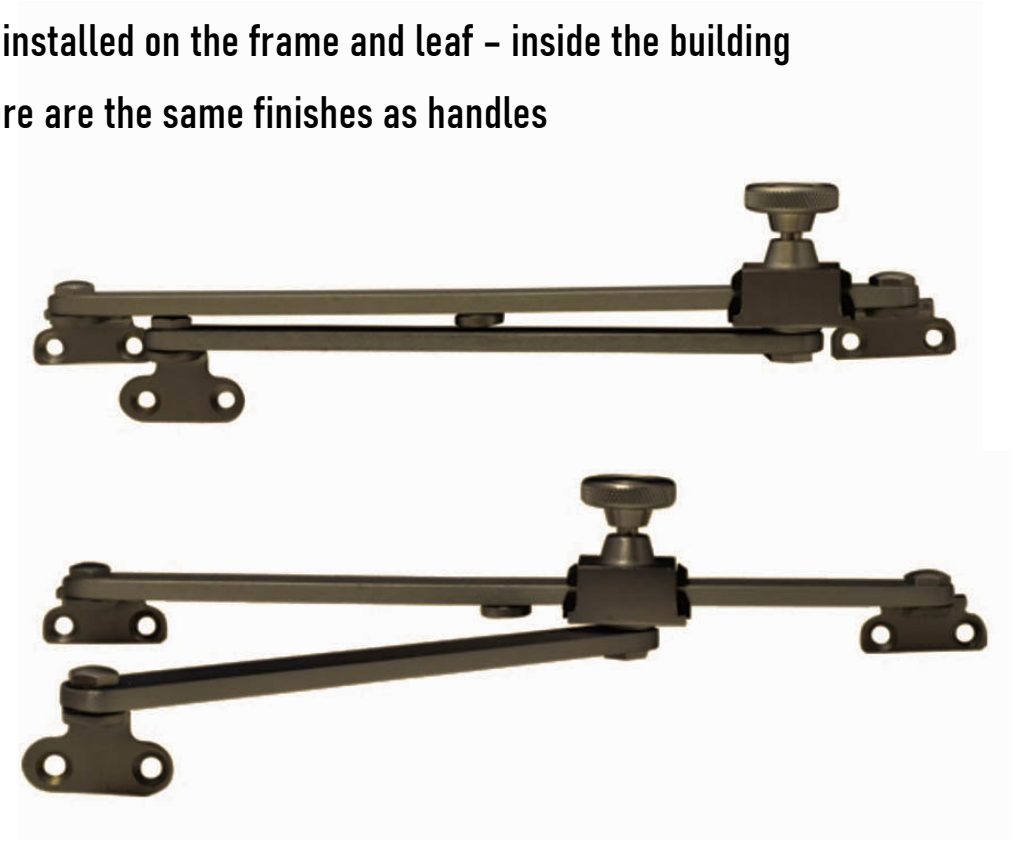
- Single handle is used if window's maximum height is up to 1400mm (4'-7 1/8")
- Duplex is used when the height is between 1400 and 1700mm (4'-7 1/8" – 5'-6 7/8")
- Triplex is used above 1700mm (over 5'-6 7/8")





Windows hardware: SLIDE STAY

- Classic SWF Slide Stay with Round Knob can stop an open leaf at any point
- It prevents windows from closing by insied and outside conditions
- It's installed on the frame and leaf – inside the building
- There are the same finishes as handles

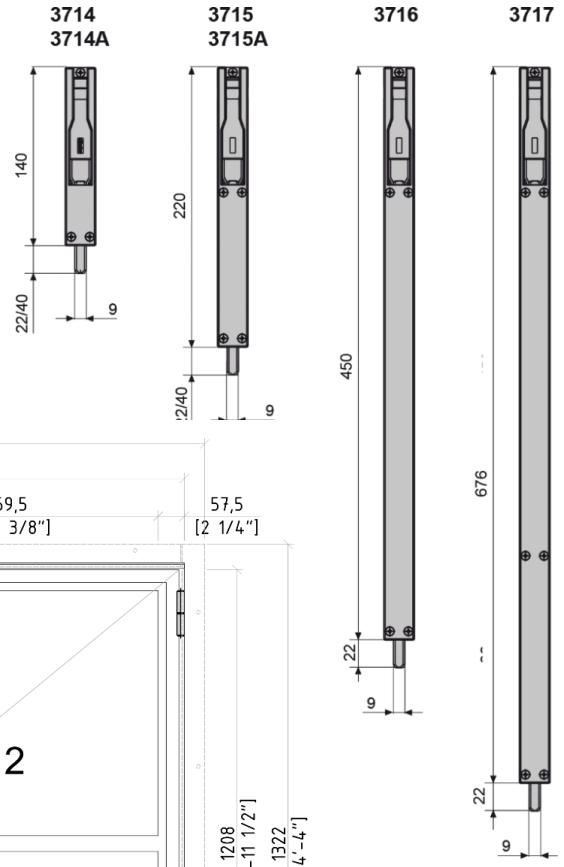


Available finishes

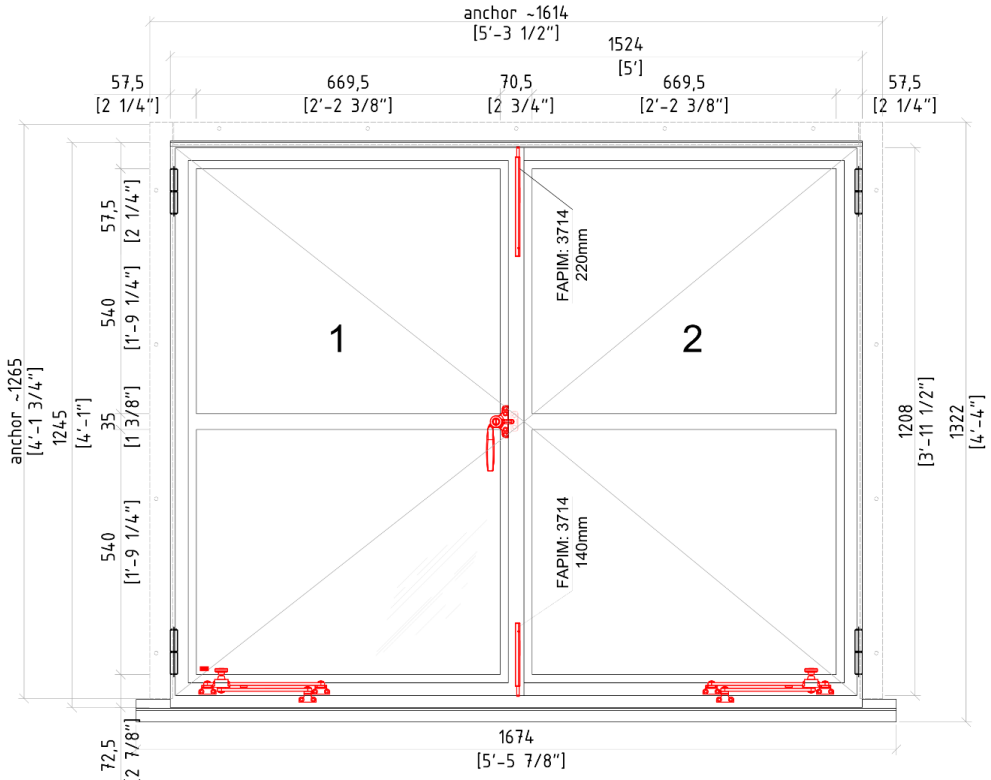
Windows hardware: LATCHES

We're using latches to prevent passive leaf from opening as in doors:

- Latches prevent passive leaf (in double windows) from opening.
- Our standars solutions are FAPIM latches
- We install one at the bottom and one at the top.
- Both are controlled separately with small lever

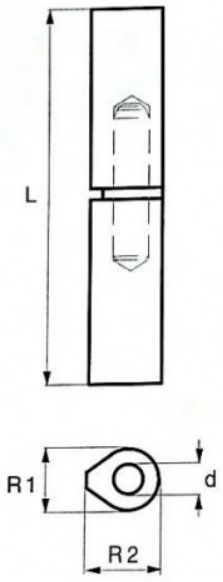


	A	L	
3714	22	140	
3714A	40	140	
3715	24	220	20
3715A	35	220	
3716	24	450	
3717	24	676	



Windows hardware: HINGES

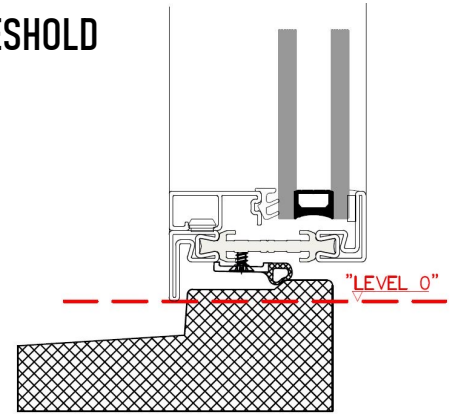
- For windows we're using standard steel hinges MAROCCO
- The numer of hinges on the window leaf depends on the width, height and weight of the leaf
- Size of the hinges also depends on the dimentions (as above)
- Hinges are always painted like whole window



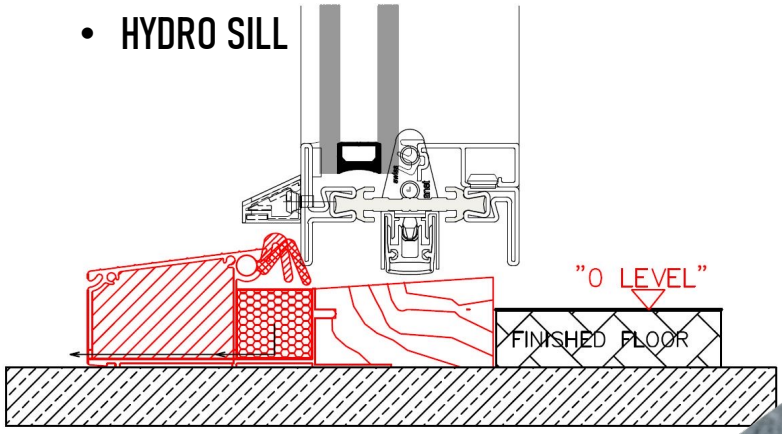
Thresholds:

For W75 doors we're using two different kinds od sills:

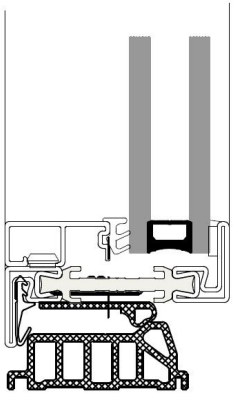
- STONE THRESHOLD

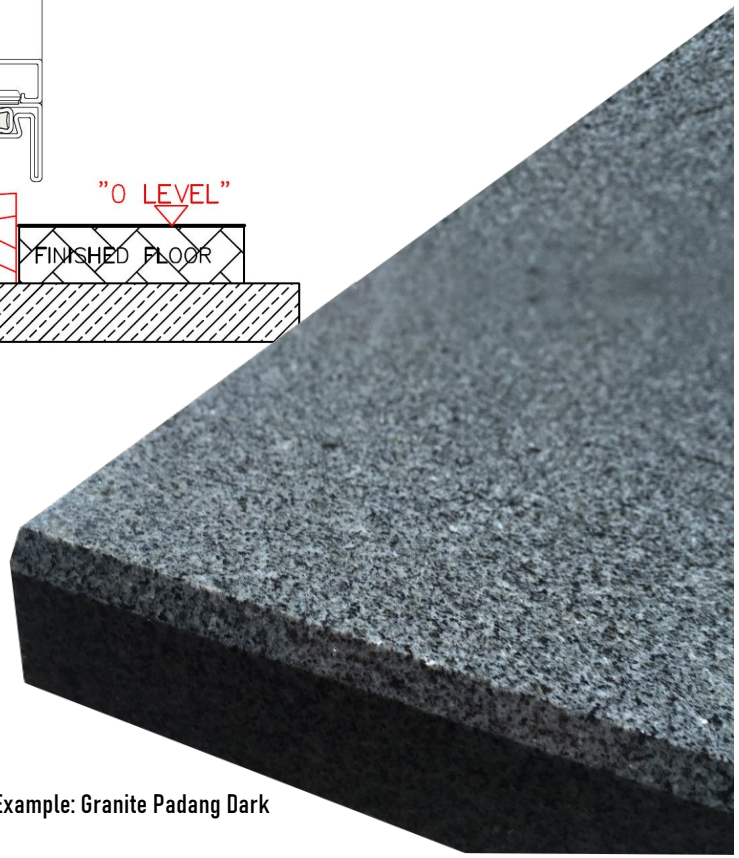


- HYDRO SILL



- PLASTIC THRESHOLD (JANSEN)



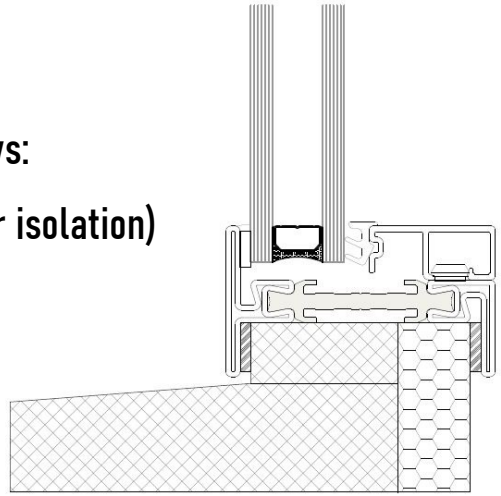


Example: Granite Padang Dark

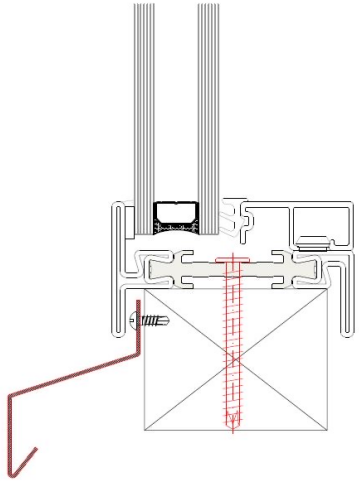
Sills:

Possible sills for W75 windows:

- STONE SILLS (+ purenite for isolation)



- METAL SILLS (exaple)



Coating & protection:

FINISHES

Smooth Structure

System W75 is painted using spray painting.

Short sheme how it's done:

- Grinding the surfaces
- Washing and degreasing
- Applying primer with zinc coat (C4 - high protection)
- Top color coat (? µm)
- There is possibility of C5 coating by adding extra primer layer

Our basic color scheme:

RAL 9003

RAL 7021

RAL 9004

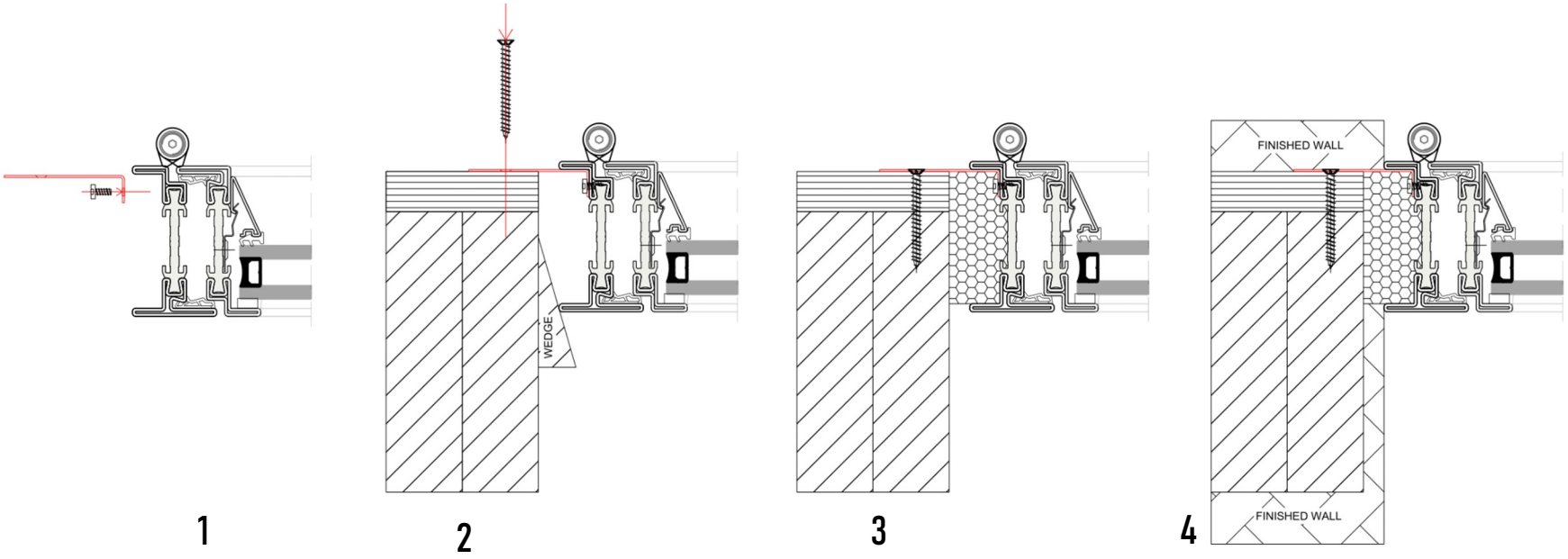
RAL 9005

We can also use all other RAL colors

Installation:

1. FLANGES

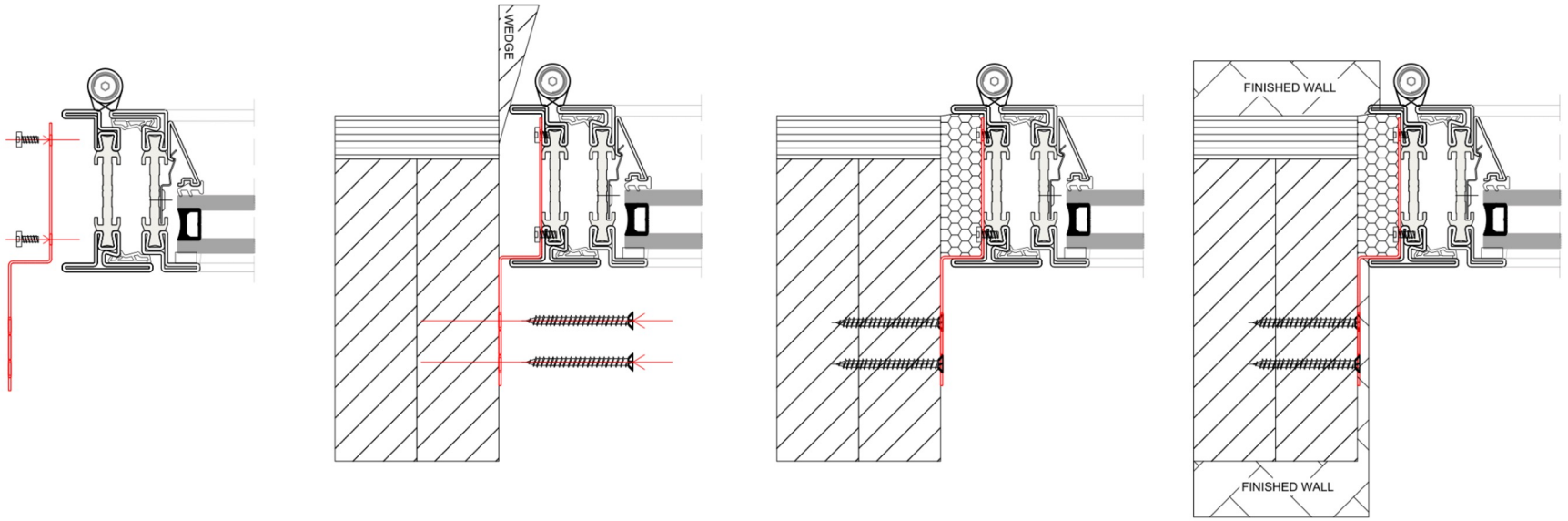
- Best installation way. Stell flanges on the sides and the top of the frames
- Strong
- Easy to install
- Will be invisible after installation – covered with finishing materials



1 2 3 4

Installation:

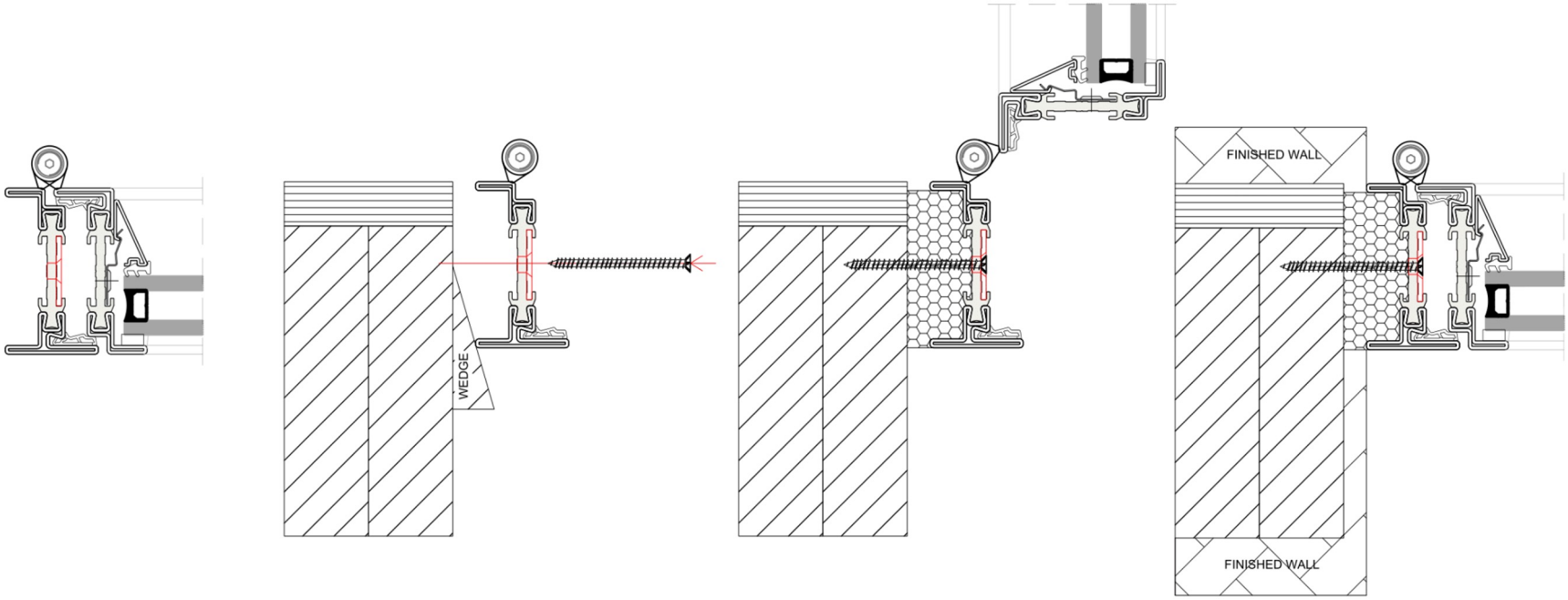
2. ANCHORS



1 2 3 4

Installation:

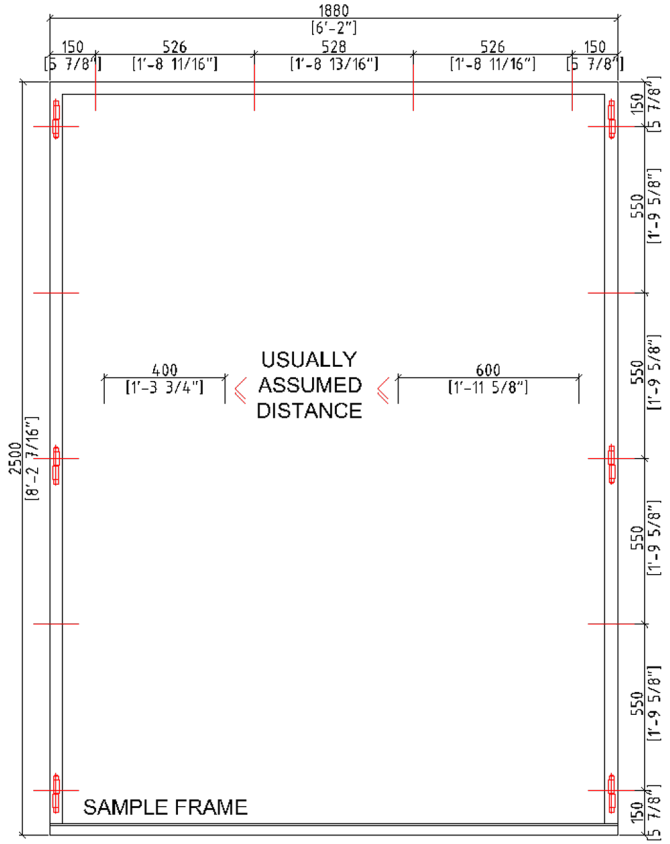
3. SCREW THROUGH THE PROFILE – not recomended



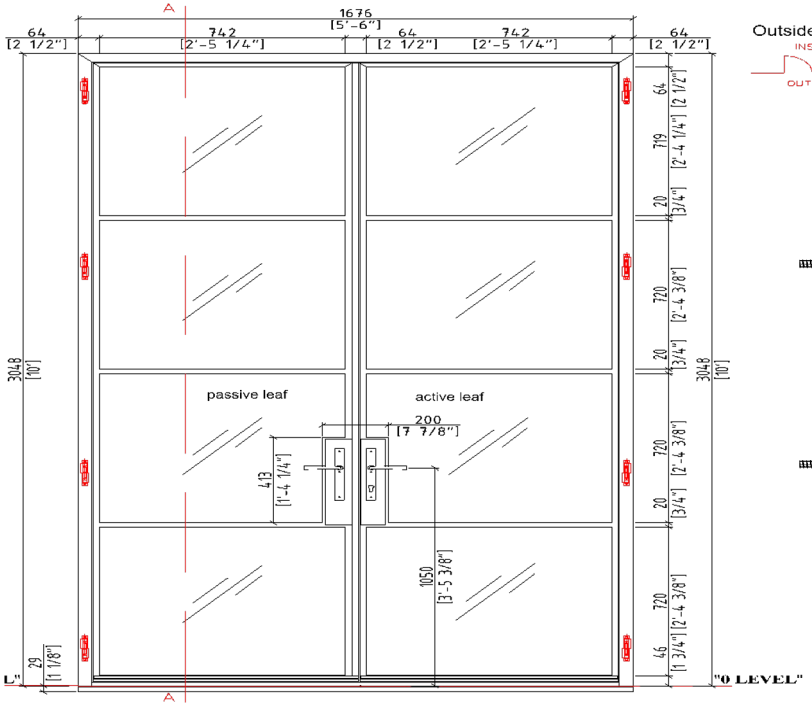
1 2 3 4

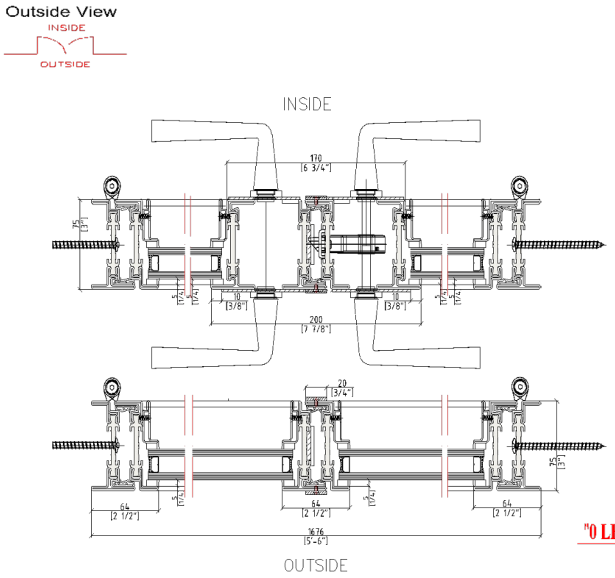
Installation points for anchors and screws:

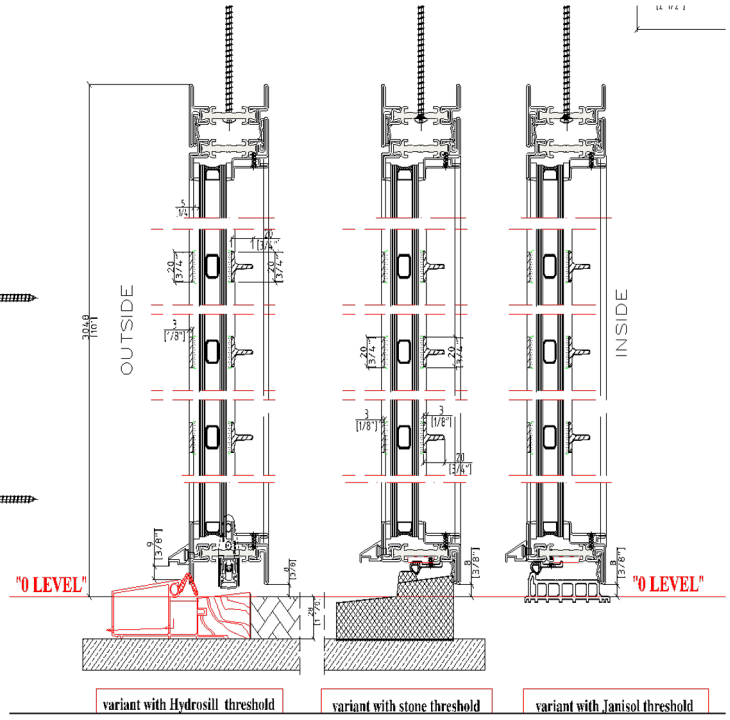
ANCHORING POINTS



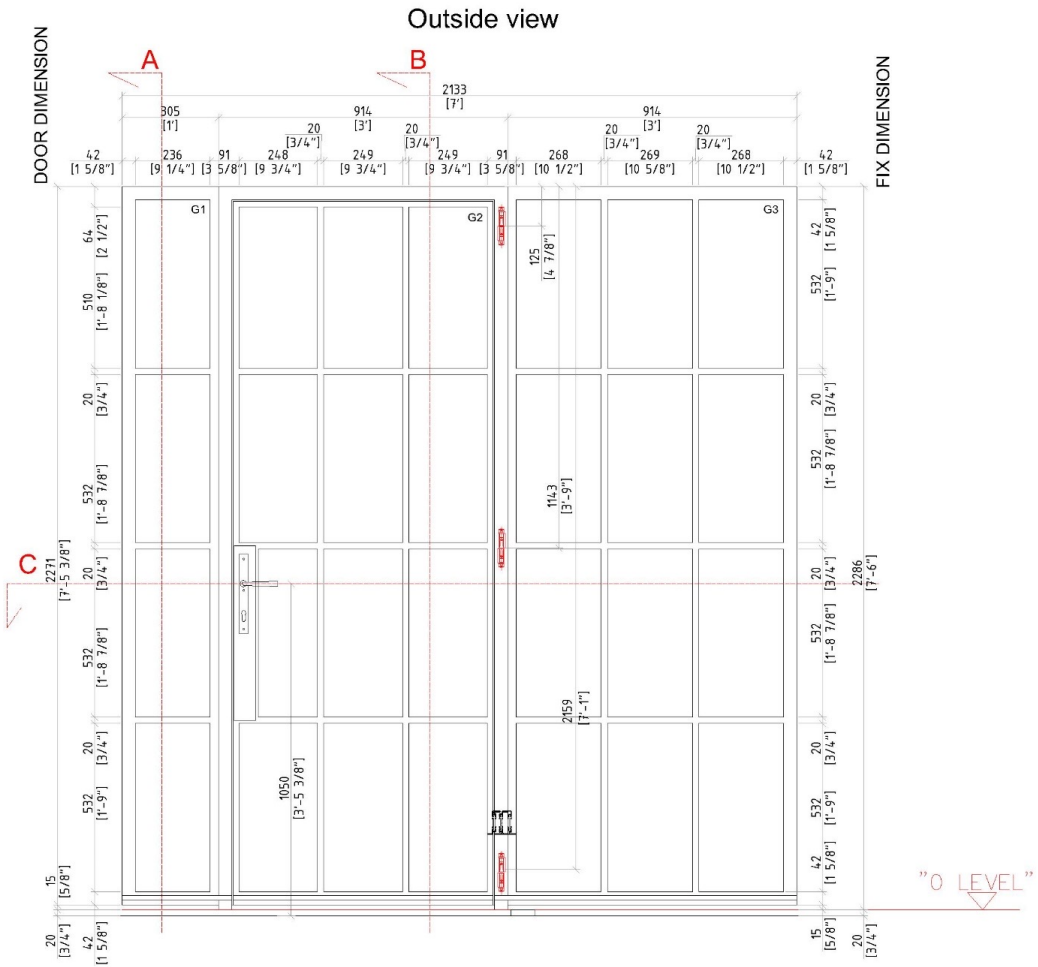
Example drawings:

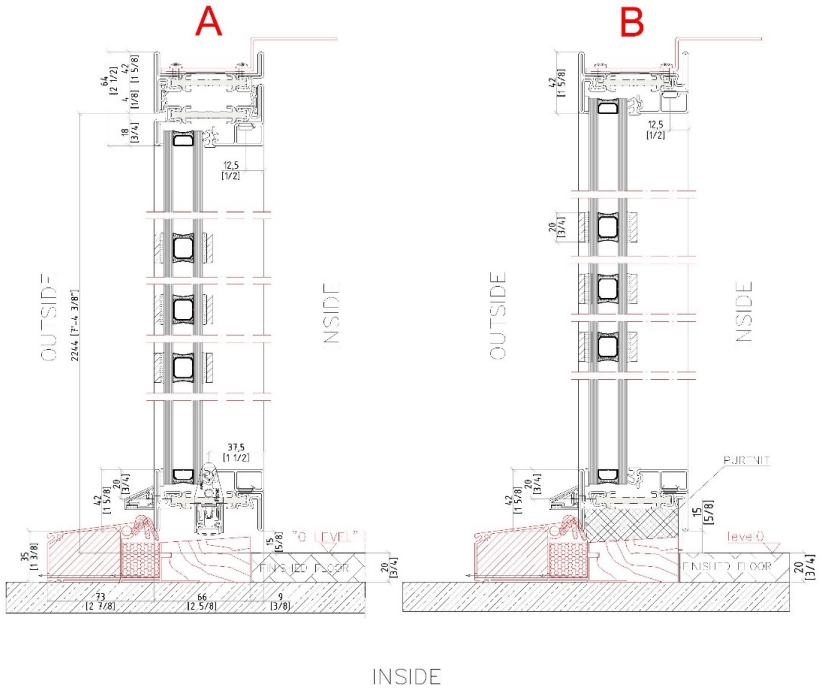




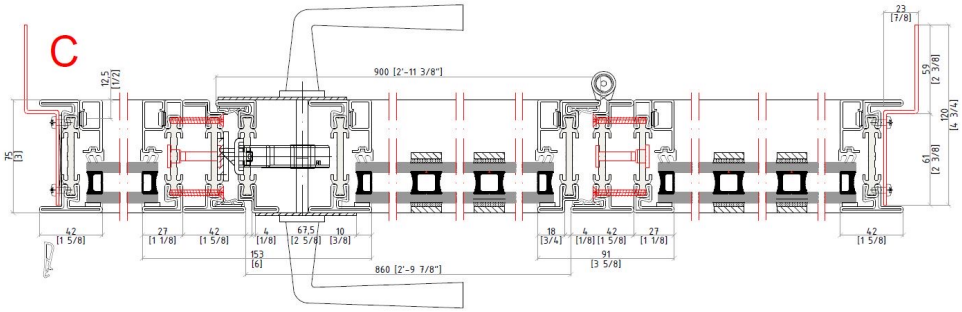


Example drawings:





INSIDE



OUTSIDE

How to measure:

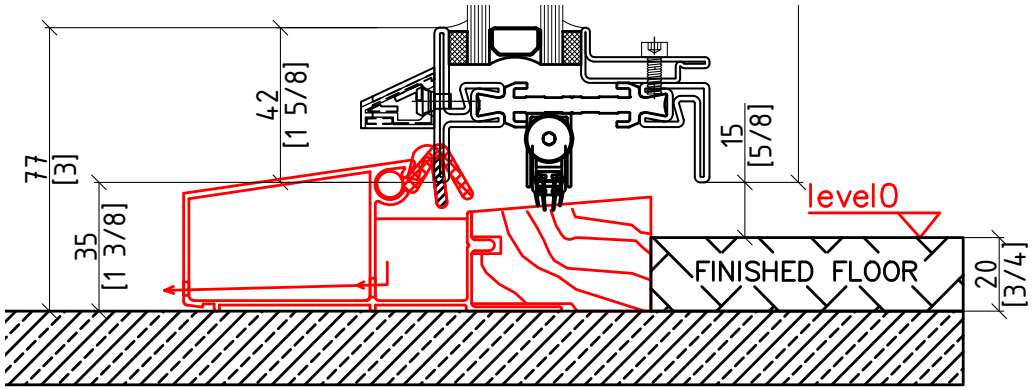
To take correct sizes for door we need to:

FOR DOORS:

- check R.O. – raw opening
- „0" level – Floor level – finish floor level
- Our door needs ½" space on the each side and top for correct instalation

FOR WINDOWS:

- Check R.O. – raw opening
- Our window needs ½" space on the each side and top for correct instalation



Sill is ¾" under the „0" level (0 level beeing top of finished floor)

Warranty:

Terms of warranty:

1. Glass– 5 years
2. Coating in standard – 2 up to 5 years
   (check needed service standards)
3. Hardware in standard – 2 up to 5 years
   (check needed service standards)