

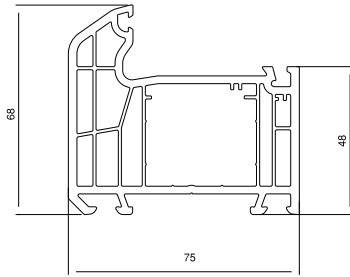
**FIRAT**

**s 75**

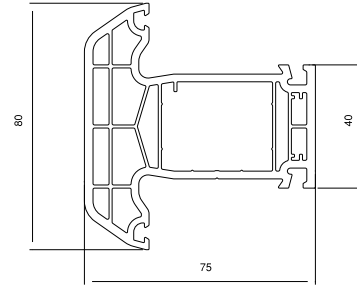
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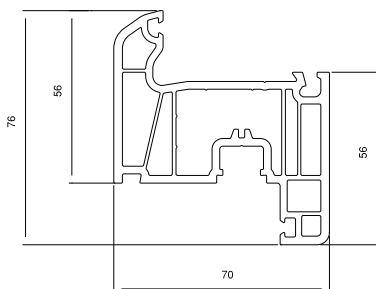
**Frame Profile**  
1.274 gr/mt



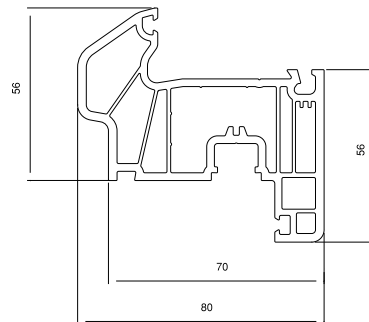
**Meeting Rail Profile**  
1.486 gr/mt



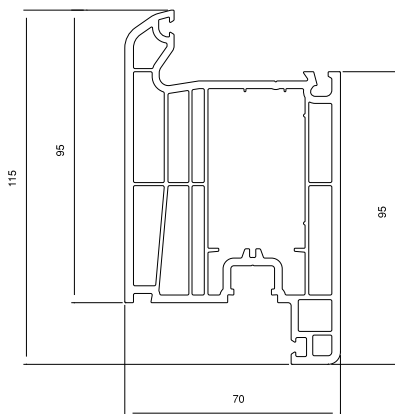
**Leaf Profile**  
1.430 gr/mt



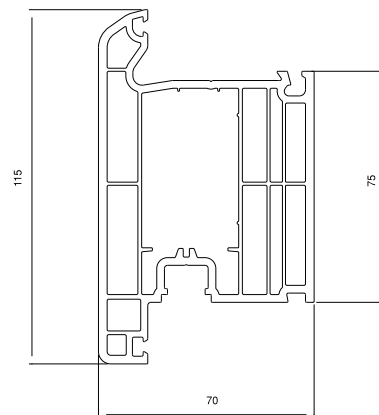
**Water Drip Leaf Profile**  
1.490 gr/mt



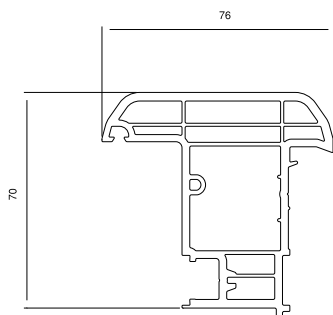
**Inward Opening Locking Door Profile**  
2.070 gr/mt



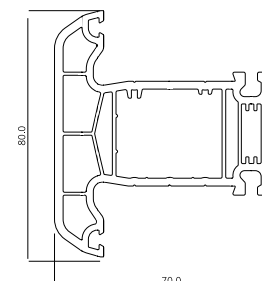
**Outward Opening Locking Door Profile**  
2.050 gr/mt



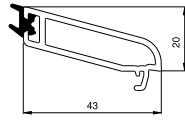
**Leaf Adaptor Profile**  
1.330 gr/mt



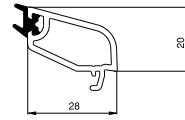
**Sash Internal Meeting Rail Profile**  
1.400 gr/mt



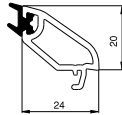
Single Glazing Bead Profile  
(5 mm) 335 g/m



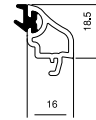
Double Glazing Bead Profile  
(20 mm) 275 g/m



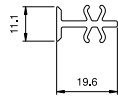
Double Glazing Bead Profile  
(24 mm) 255 g/m



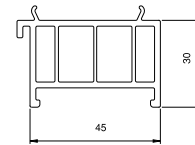
Triple Glazing Bead Profile  
(32 mm) 225 g/m



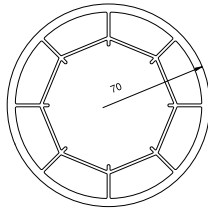
Connecting Profile  
112 gr/mt



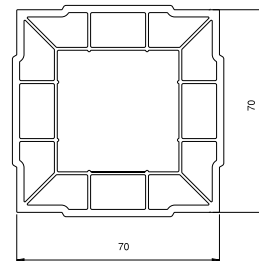
Frame Elevation Profile  
560 gr/mt



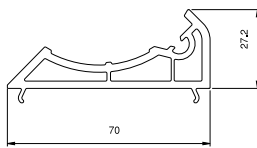
Angled Post Pipe Profile  
1.180 gr/mt



Angled Post Box 90° Profile  
1.470 gr/mt



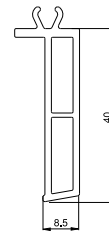
Post Adapting Profile  
680 gr/mt



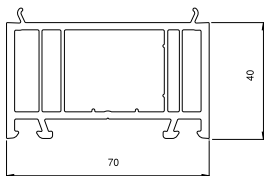
Channel Closing Beed  
31 gr/mt



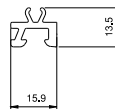
Zero Based Lining Profile  
243 gr/mt



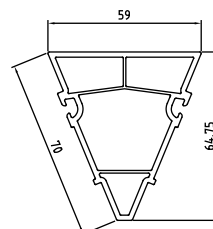
Frame Elevation Profile (40 mm)  
1.050 gr/mt



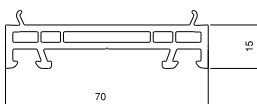
Lining Leaning Profile  
125 gr/mt

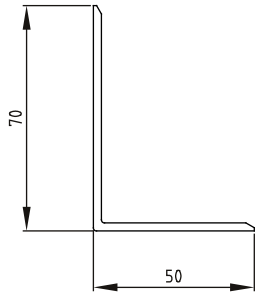


135° Angled Post Profile  
746 gr/mt

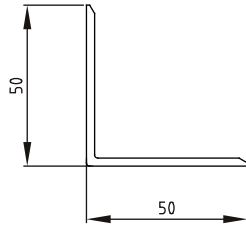


Frame Elevation Profile (15 mm)  
649 gr/mt

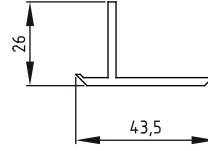




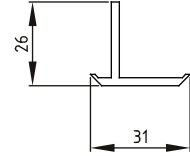
Lining Profile (50x70)



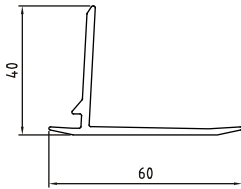
Lining Profile (50x50)



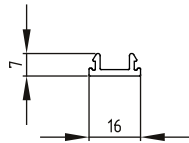
Wide Assimetrical T Profile



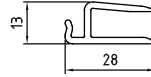
Narrow Assimetrical T Profile



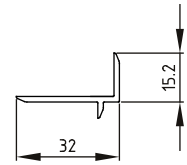
Closing Profile



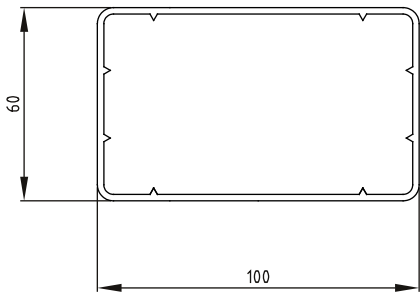
Espagnolette Channel Closing Profile



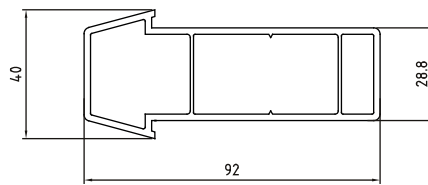
Lining Adapting Profile



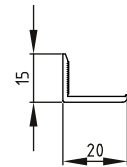
T-Profile



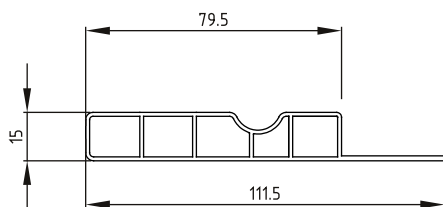
60 x 100 Box Profile



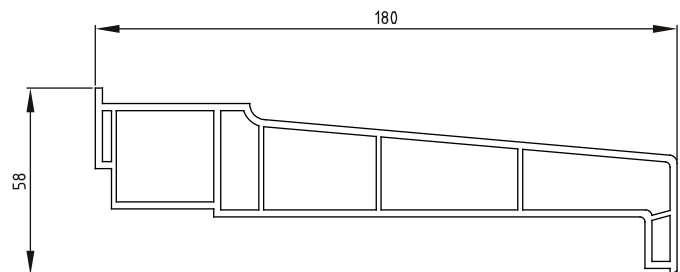
40 x 90 U-Box Profile



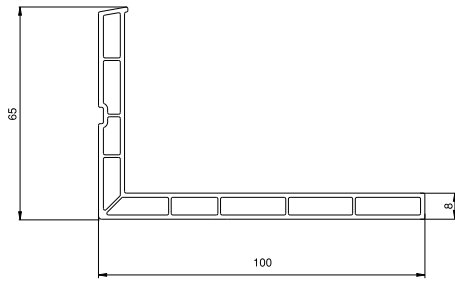
15X20 Corner Piece Profile



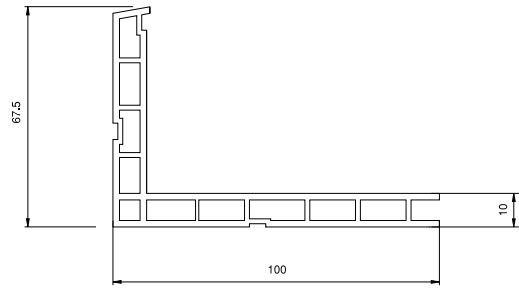
Inside Sill Profile



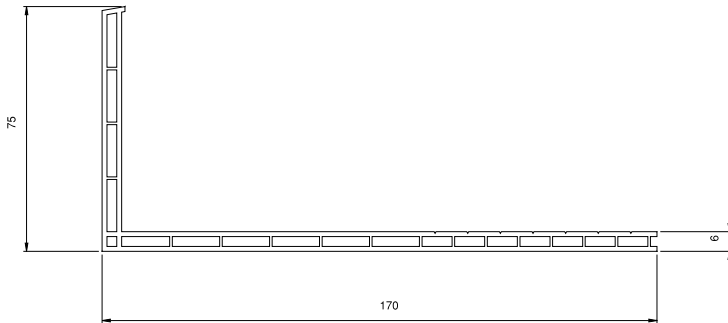
Outside Sill Profile



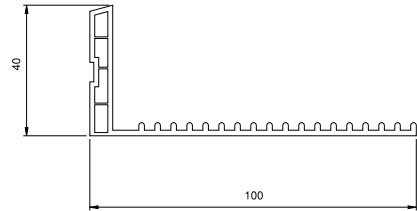
New Window Casing Profile



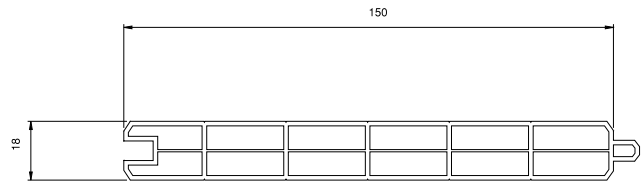
Door Casing Profile



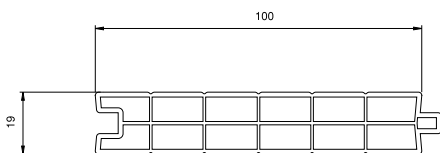
Size 170 Casing Profile



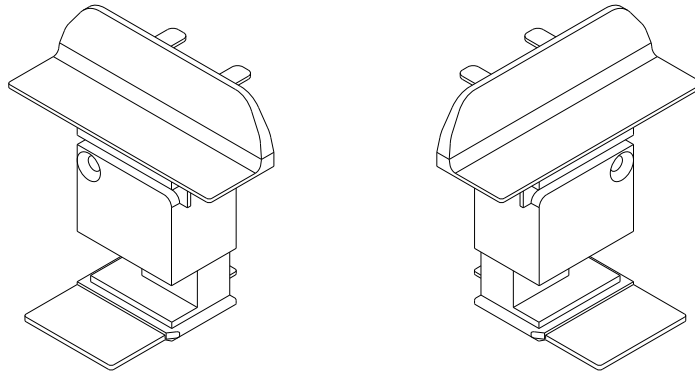
Old Window Casing Profile



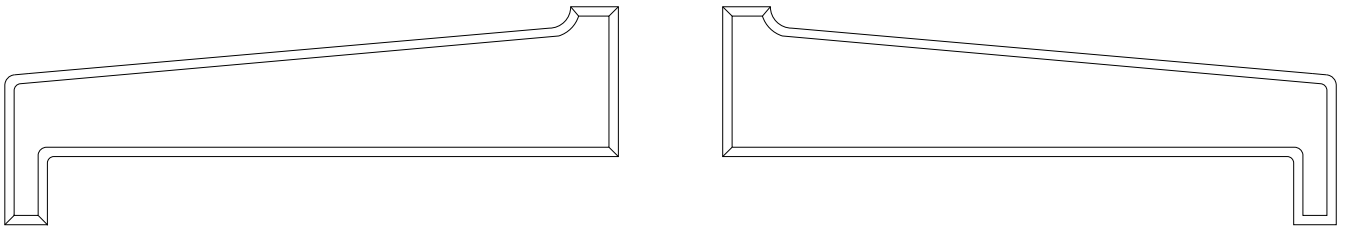
150 mm Wainscot Profile



100 mm Wainscot Profile



Sash Adaptor Profile Covers (Top-Bottom)

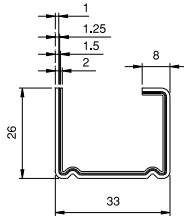


Outer Sill Profile Covers (Right- Left)

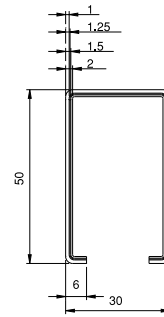


Inner Parapet Profile Covers (Right-Left)

# w75 REINFORCEMENT STEEL AND MOMENTS OF INERTIA



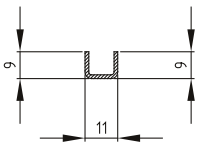
Frame, Sash, Meeting Rail, Leaf Adaptor and 40 mm Frame Elevation Reinforcement Steel



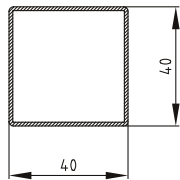
Inside and Outside Opening Doors Reinforcement Steel

	SHEET METAL THICKNESS			
	1.0 mm	1.25 mm	1.5 mm	2.0 mm
<b>Weight</b>	W= 690gr/mt	W= 830gr/mt	W= 1020gr/mt	W= 1350gr/mt
<b>Center of Gravity</b>	X <sub>0</sub> = 17.28 mm Y <sub>0</sub> = 9.52 mm	X <sub>0</sub> = 17.25 mm Y <sub>0</sub> = 9.56 mm	X <sub>0</sub> = 17.23 mm Y <sub>0</sub> = 9.61 mm	X <sub>0</sub> = 17.17 mm Y <sub>0</sub> = 9.70 mm
<b>Moment of Inertia</b>	L <sub>x</sub> = 0.744 cm <sup>4</sup> L <sub>y</sub> = 1.661 cm <sup>4</sup>	L <sub>x</sub> = 0.910 cm <sup>4</sup> L <sub>y</sub> = 2.033 cm <sup>4</sup>	L <sub>x</sub> = 1.067 cm <sup>4</sup> L <sub>y</sub> = 2.389 cm <sup>4</sup>	L <sub>x</sub> = 1.360 cm <sup>4</sup> L <sub>y</sub> = 3.055 cm <sup>4</sup>

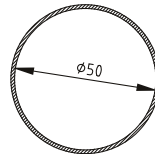
	SHEET METAL THICKNESS			
	1.0 mm	1.25 mm	1.5 mm	2.0 mm
<b>Weight</b>	W= 1.160 gr/mt	W= 1.400 gr/mt	W= 1.720 gr/mt	W= 2.040 gr/mt
<b>Center of Gravity</b>	X <sub>0</sub> = 15.00 mm Y <sub>0</sub> = 28.23 mm	X <sub>0</sub> = 15.00 mm Y <sub>0</sub> = 28.24 mm	X <sub>0</sub> = 15.00 mm Y <sub>0</sub> = 28.25 mm	X <sub>0</sub> = 15.00 mm Y <sub>0</sub> = 28.26 mm
<b>Moment of Inertia</b>	L <sub>x</sub> = 4.123 cm <sup>4</sup> L <sub>y</sub> = 2.384 cm <sup>4</sup>	L <sub>x</sub> = 5.042 cm <sup>4</sup> L <sub>y</sub> = 2.909 cm <sup>4</sup>	L <sub>x</sub> = 5.928 cm <sup>4</sup> L <sub>y</sub> = 3.410 cm <sup>4</sup>	L <sub>x</sub> = 7.608 cm <sup>4</sup> L <sub>y</sub> = 4.346 cm <sup>4</sup>



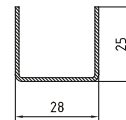
11 Hinge Reinforcement Steel



Angled Post Box 90° Profile Reinforcement Steel

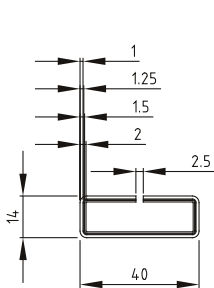


Angled Post Pipe Profile Reinforcement Steel

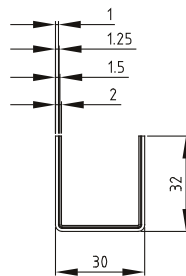


New Sash Adopting Profile (Moving Mullion Pr.) Reinforcement Steel

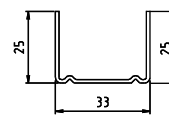
Thickness (mm)	Weight (gr/m)	Thickness (mm)	Weight (gr/m)	Thickness (mm)	Weight (gr/m)	Thickness (mm)	Weight (gr/m)
1.00	199	1.00	1.197	1.00	1.194	1.00	578
1.20	245	1.20	1.496	1.20	1.493	1.20	723
1.50	289	1.50	1.795	1.50	1.792	1.50	868
2.00	383	2.00	2.394	2.00	2.389	2.00	1.157



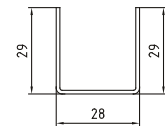
30 mm Frame Elevation Profile Reinforcement Steel



60 mm Frame Elevation Profile Reinforcement Steel



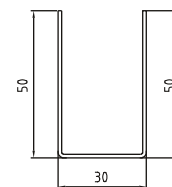
New Frame - Sash Reinforcement Steel (U-Metal)



New Mullion Reinforcement Steel

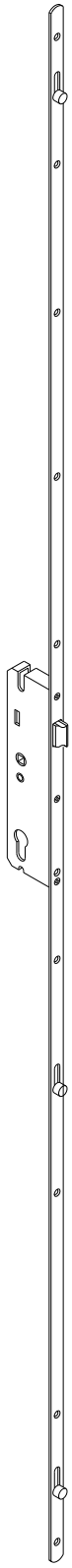
Kalınlık (mm)	Ağırlık (gr/m)
1.00	768
1.20	953
1.50	1.134
2.00	1.488

Kalınlık (mm)	Ağırlık (gr/m)
1.00	706
1.20	878
1.50	1.050
2.00	1.387

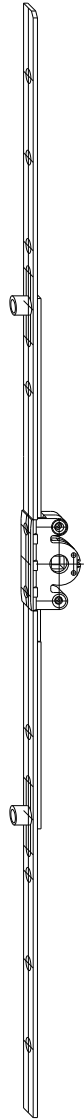


New Door Reinforcement Steel U-Metal for Door Profile)

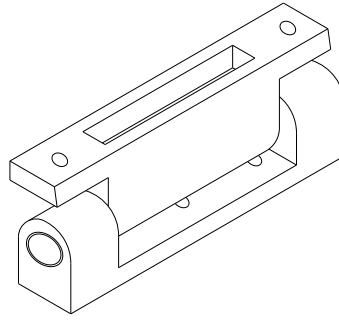




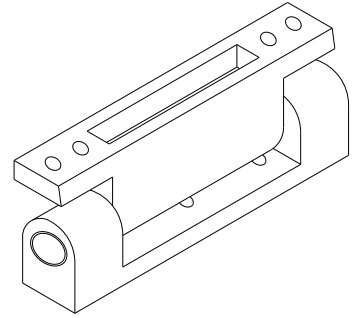
Locking Door Espagnolette



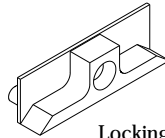
Turn-only Espagnolette



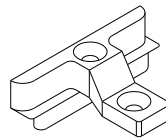
75 mm Hinge



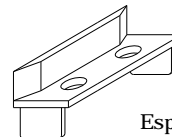
90 mm Hinge



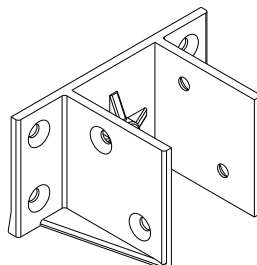
Locking Piece with Single Screw  
(Espagnolette Counterpart)



Locking Piece with Single Screw  
(Espagnolette Counterpart)

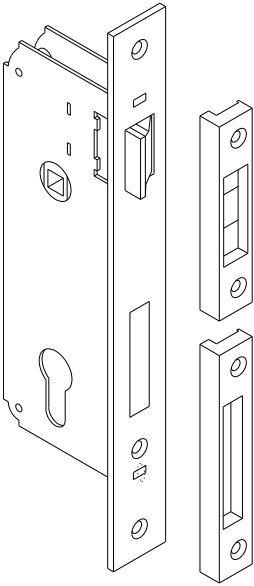


Espagnolette Counterpart for  
Overlapping Leaf with Adaptor

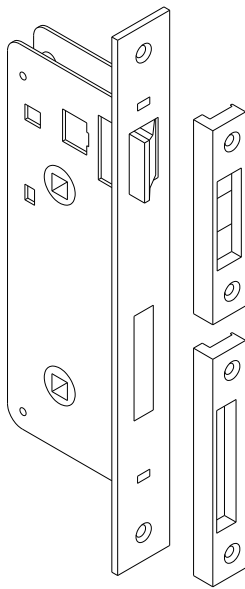


Meeting Rail Connection Block  
(Metal)

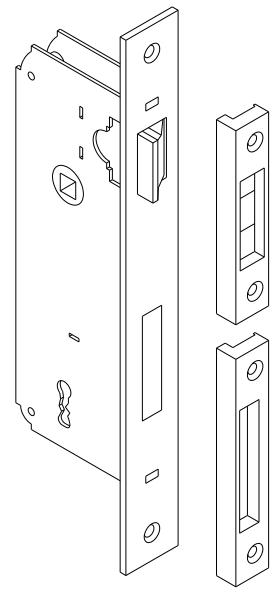
Outer Lock and Its Counterpart



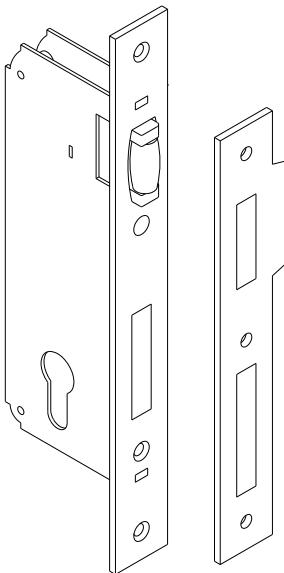
W.C. Lock and its Counterpart



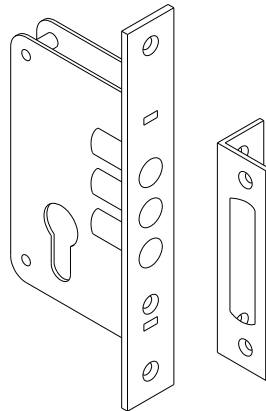
Chamber Lock and Its Counterpart



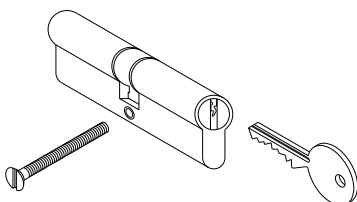
With Cylinder Lock and its Counterpart



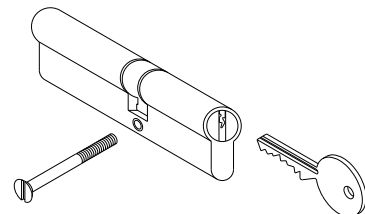
Safety Lock and Its Counterpart

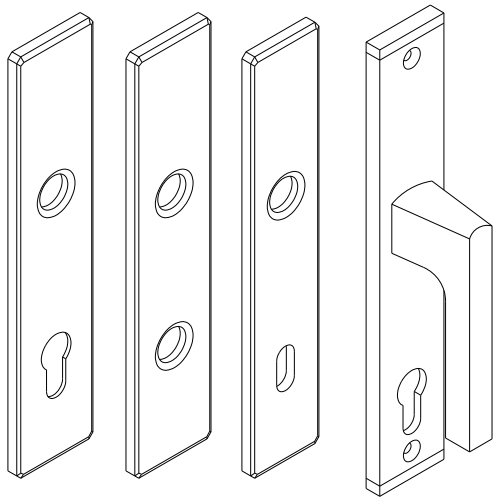


Size 76 Barrel

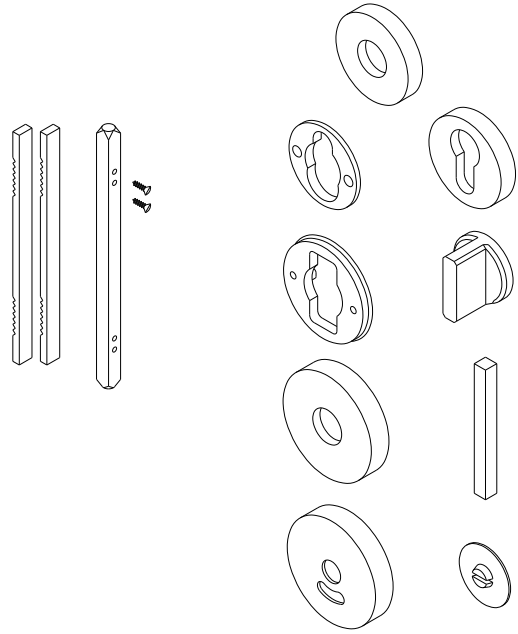


Size 90 Barrel

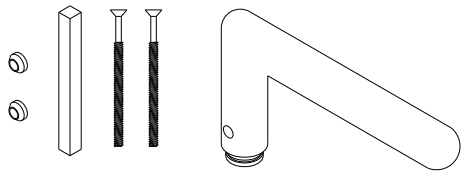




Locking Door Handle



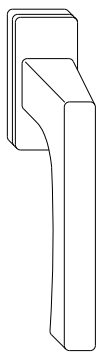
W.C. Door Handle Parts



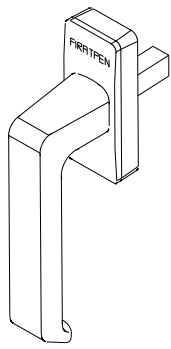
Door Handle (Counterpart)



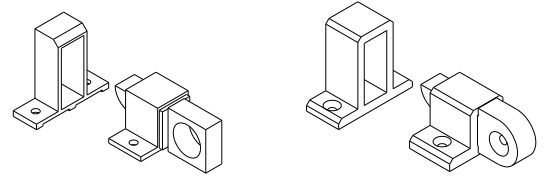
Mounting Cap



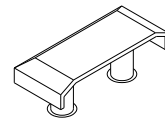
WINKHAUS  
Door Handle



FIRAT  
Door Handle



Transom Snap-Locks



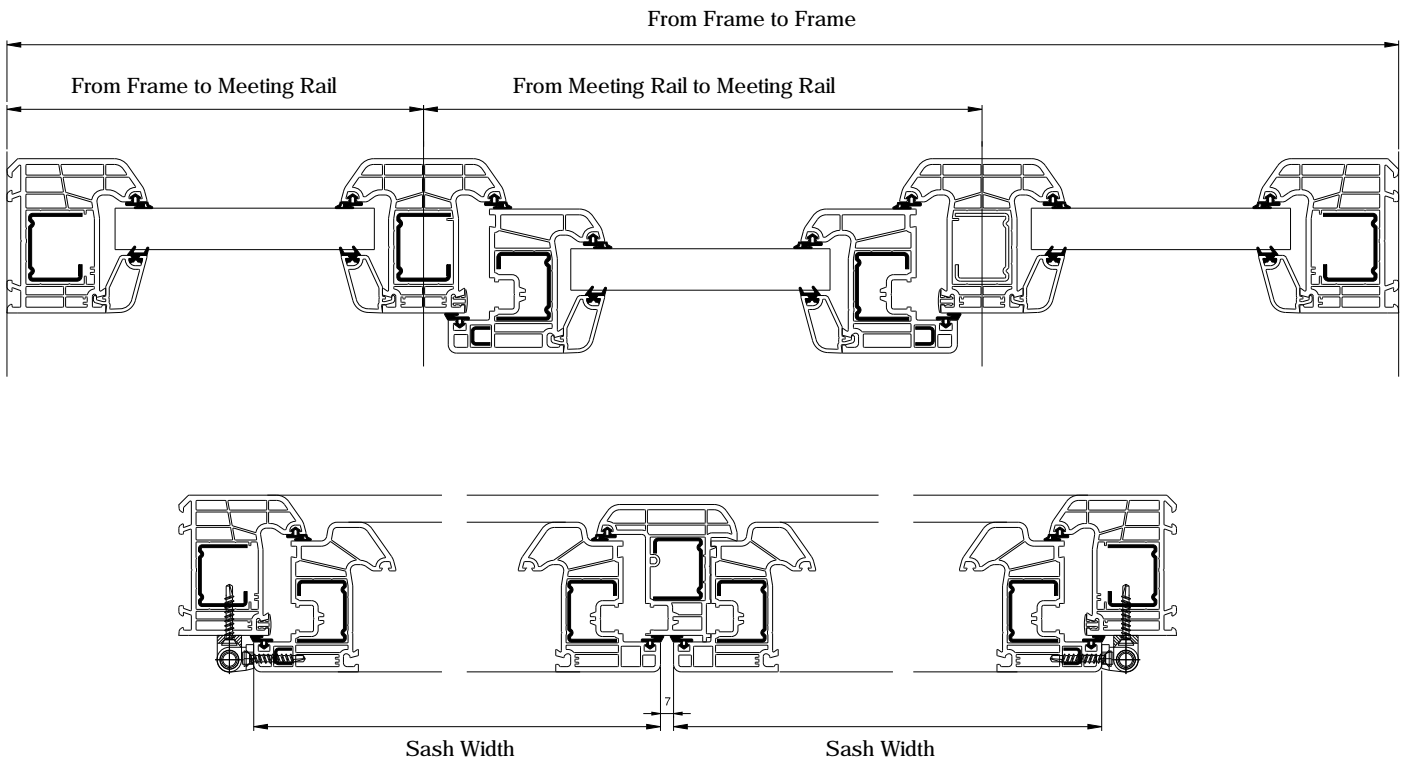
Water Drain Plug  
(Windbox)

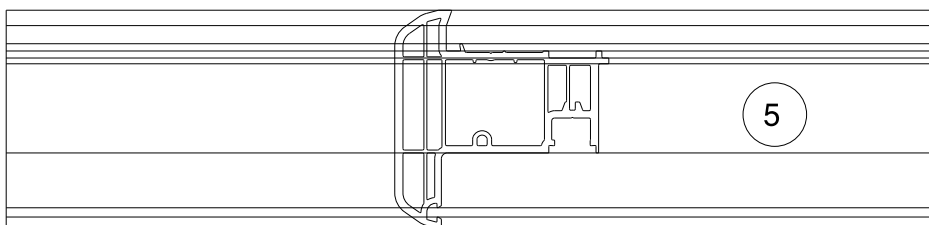
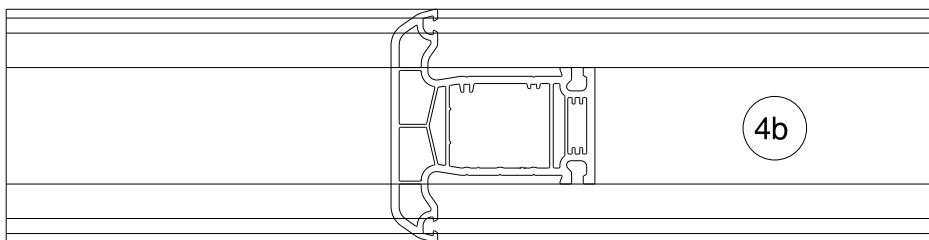
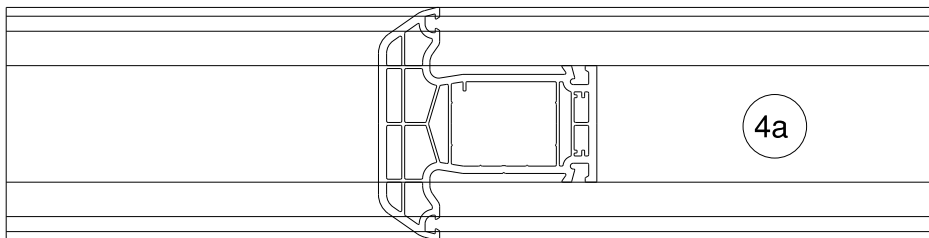
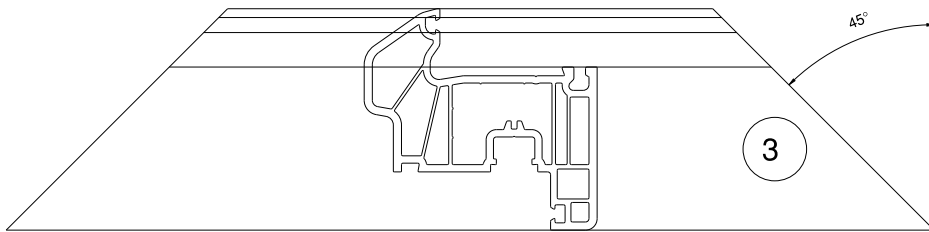
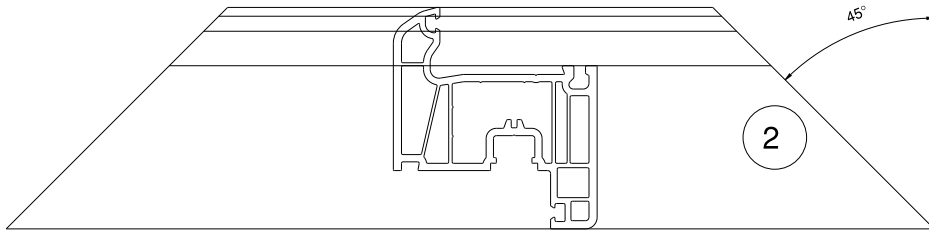
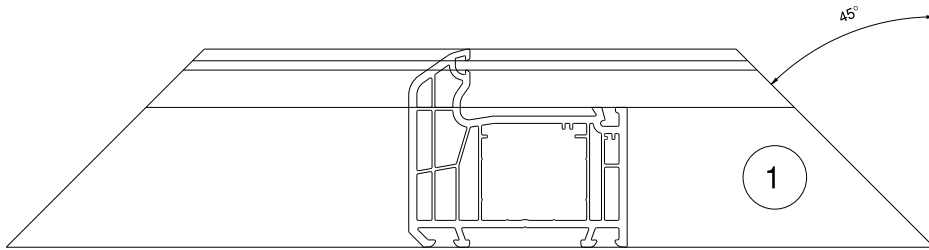


Sash Adjustment Shim Block

CALCULATION TABLE FOR PROFILE CUTTING MEASURES

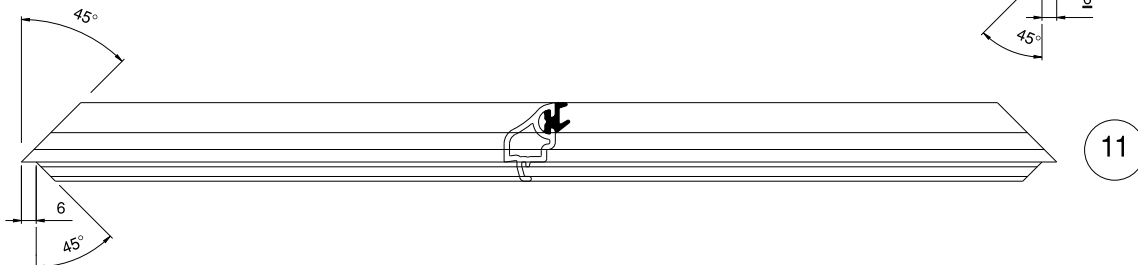
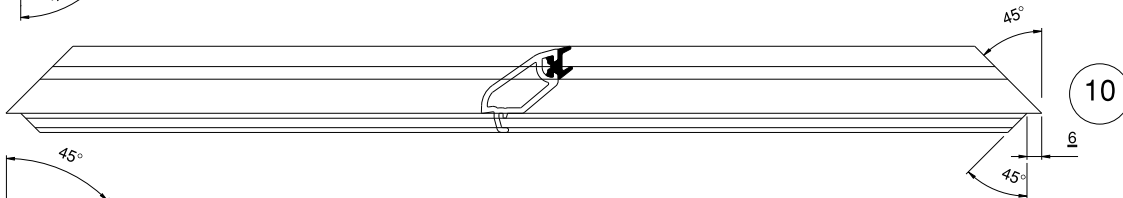
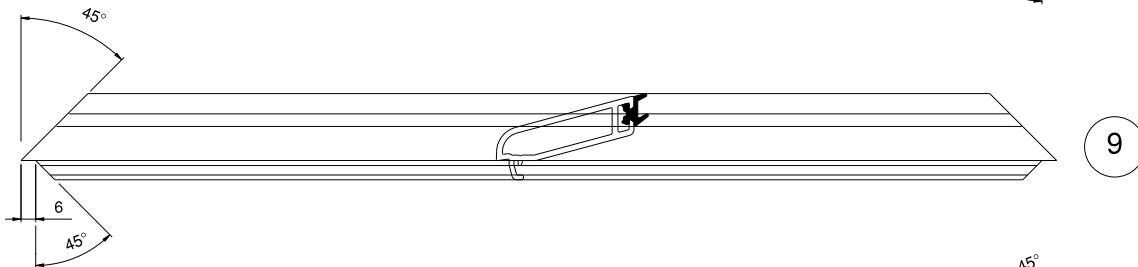
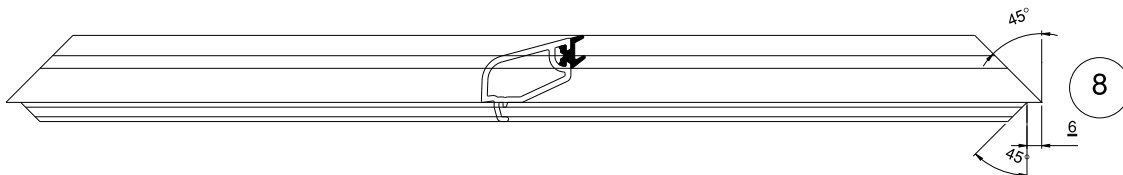
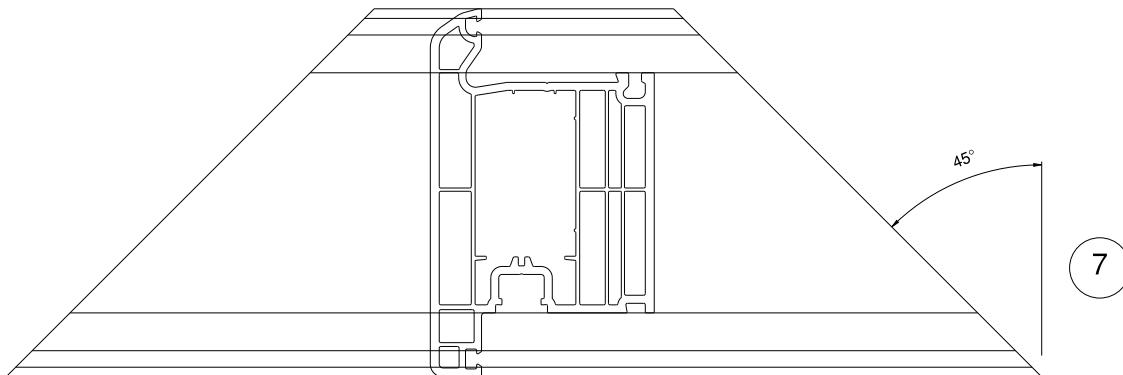
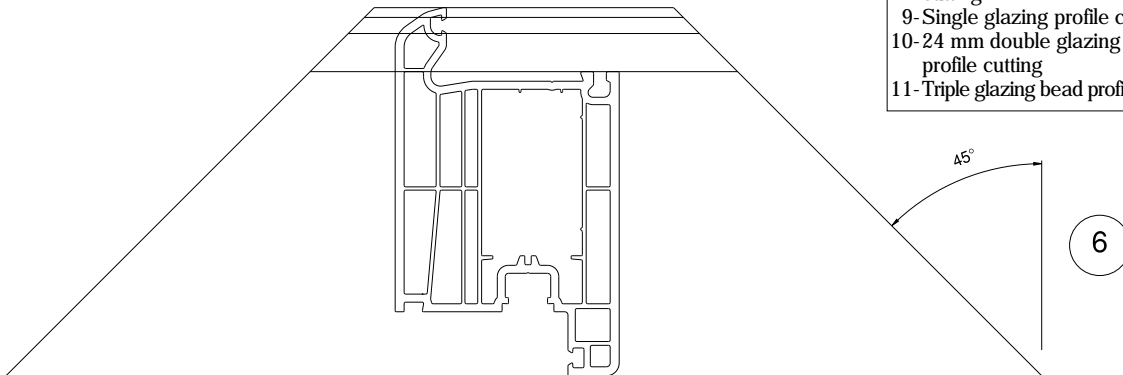
	FROM CASING FRAME TO CASING FRAME	FROM FRAME TO MEETING RAIL	FROM LOCK RAIL TO LOCK RAIL
FRAME	+6	X	X
SASH	-74	-46	-18
LOCKING DOOR	-74	-46	-18
MEETING RAIL	-90	-62	-34
SASH INNER MEETING RAIL	-186	-158	-130
LOCKING DOOR INNER MEETING RAIL	-264	-236	-208
FIXED GLAZING	-106	-78	-50
SASH INNER GLAZING	-202	-174	-146
LOCKING DOOR INNER GLAZING	-280	-252	-224
SASH WITH NEW ADAPTOR	-75 (/2)	-47 (/2)	-19 (/2)





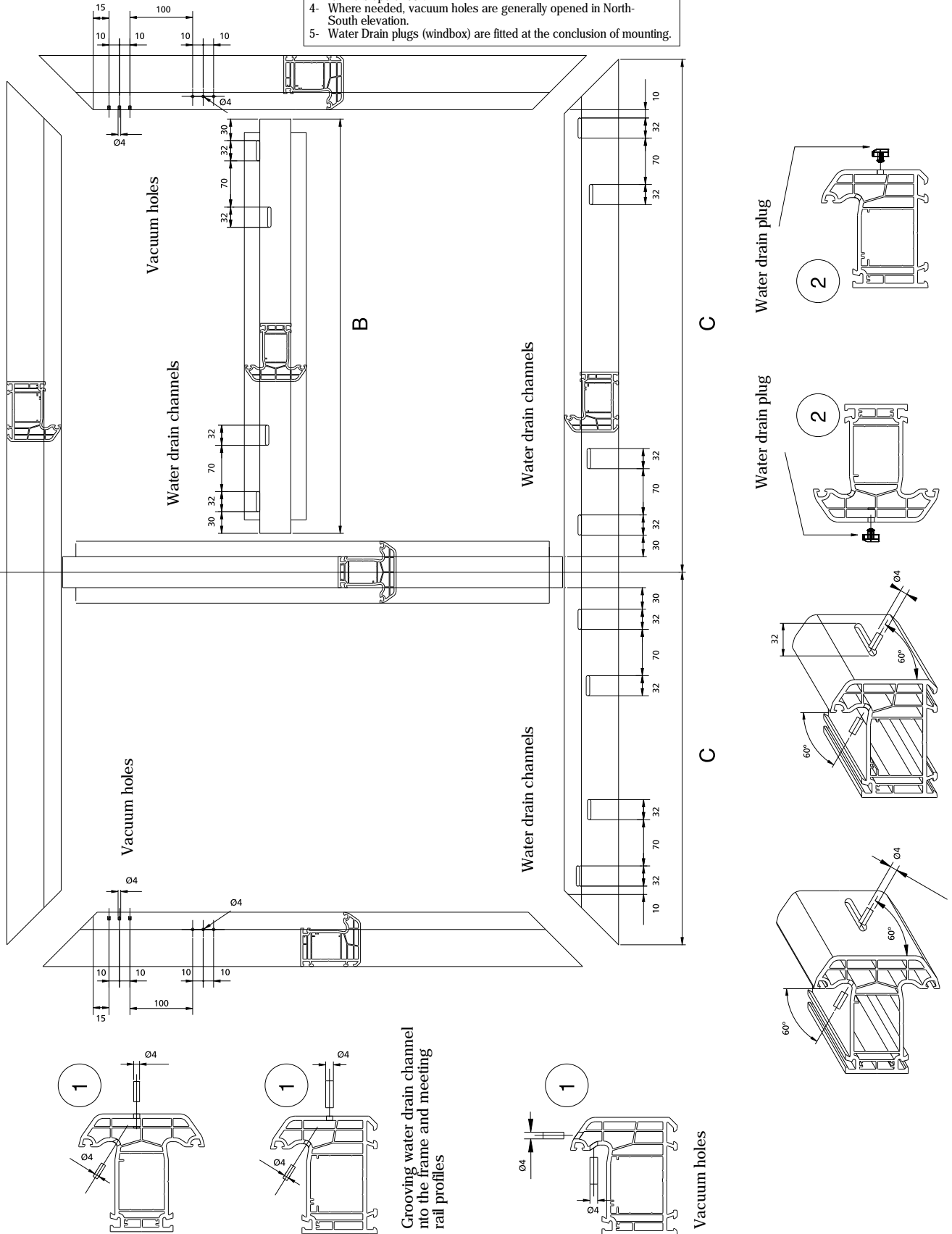
Operation Description  
1- Leaf profile cutting (45°)  
2- Plain sash profile cutting (45°)  
3- Water-drip sash profile cutting (45°)  
4a- Meeting rail profile cutting (90°)  
4b- Sash inner meeting rail profile cutting (90°)  
5- Sash adaptor profile cutting (90°)

- 6- Locking door profile cutting (45°)
- 7- Outward opening locking door profile cutting (45°)
- 8- Double glazing bead profile cutting
- 9- Single glazing profile cutting
- 10- 24 mm double glazing bead profile cutting
- 11- Triple glazing bead profile cutting



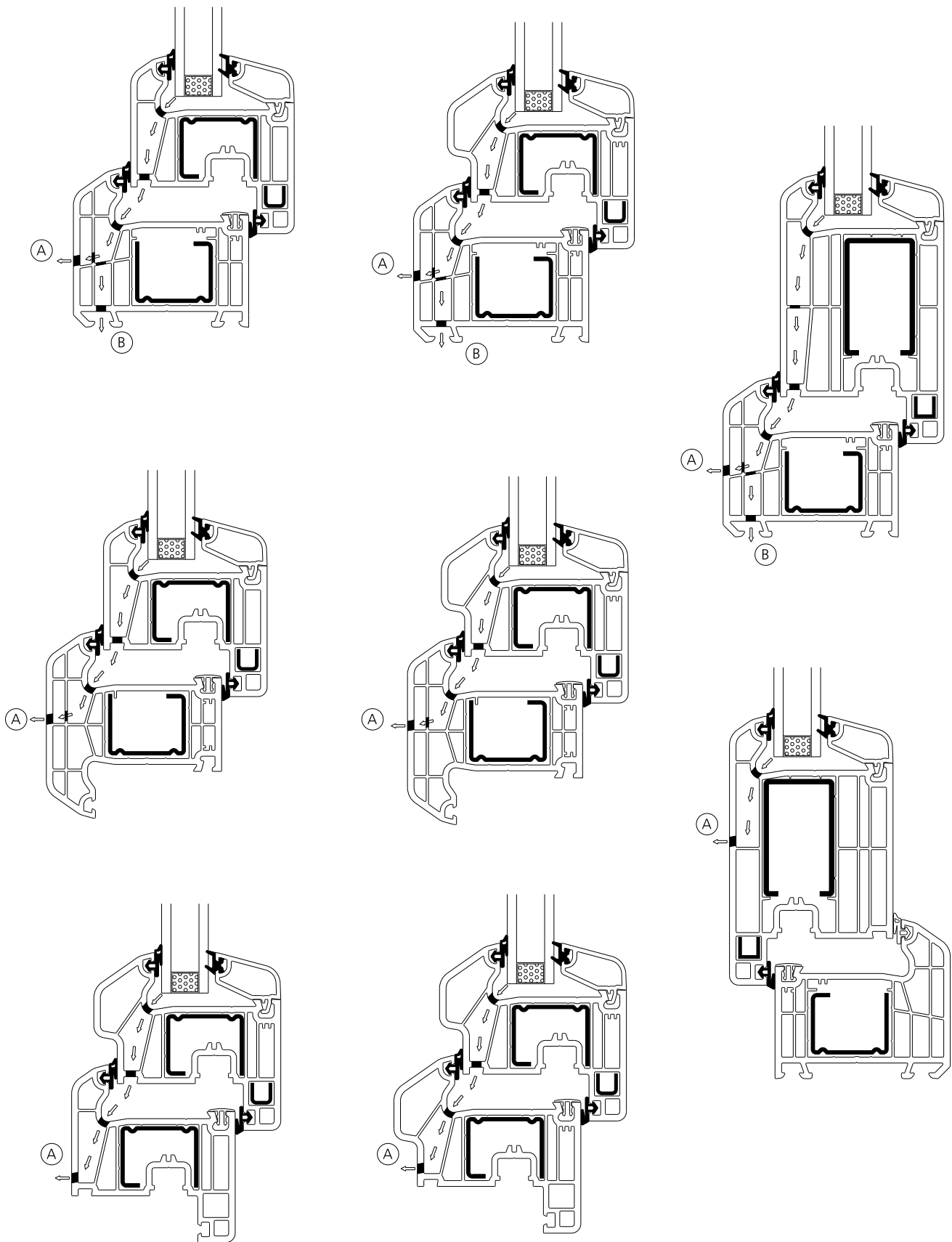
- Operation Sequence**
- 1- Water drain channels are grooved into the frame bottom levels, channel bottom levels and meeting rail levels.
  - 2- Inner and outer channels are grooved so that they will be positioned with 7 cm offset from each other.
  - 3- While the channels are grooved, special care should be taken to form a slope of 60°.
  - 4- Where needed, vacuum holes are generally opened in North-South elevation.
  - 5- Water Drain plugs (windbox) are fitted at the conclusion of mounting.

Determination of Number of Water Drain Channels	
If 500 < C	1 channel
If 1000 < C < 500	2 channel
If 1000 < C < 2000	3 channel
If 2000 < C	4 channel



Grooving water drain channel into the frame and meeting rail profiles

Vacuum holes



Discharge of water through drain channels can be achieved in two different ways. Depending on the method of connecting the frame to the wall, must be chosen one of these two ways.

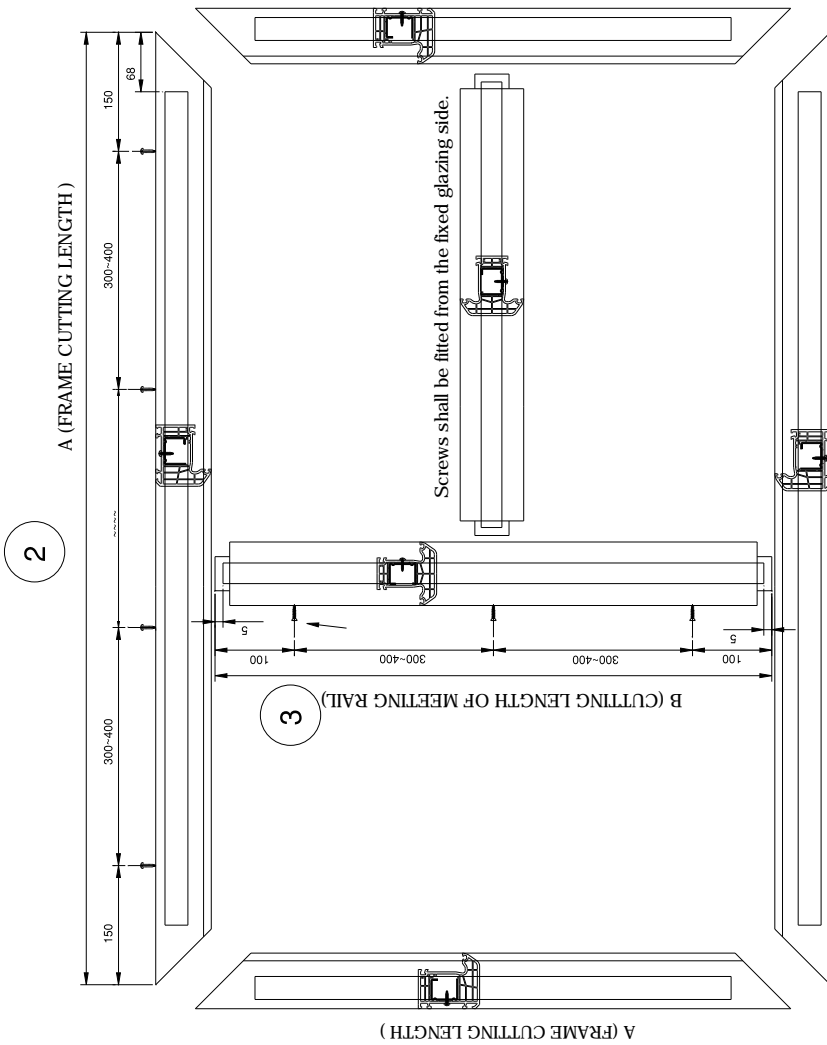
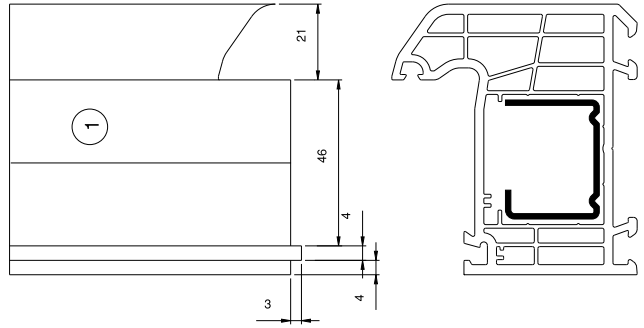


**Operation Sequence**

- 1- Meeting rail notching is done.
- 2- Support sheet metals are cut.
- 3- Support sheet metals are screwed.
- 4- Screwing support up sheet metals must be started so as to leave 15 cm distance from both ends.
- 5- Screwing is made so that there will be at least 3 screws per meter.

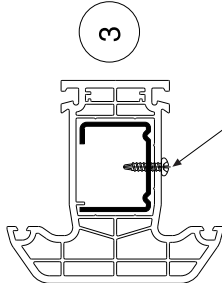
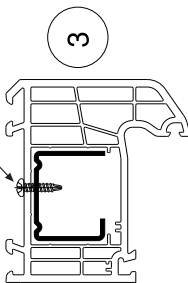
**Meeting Rail Notching Method**

The chisels causing the notching of meeting rail must form the profile as shown in drawing 1.

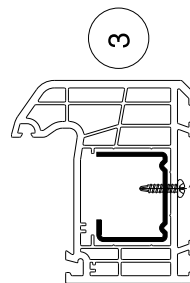


SUPPORT SHEET METAL CUTTING LENGTH	
Frame	A - 153
Meeting Rail	B - 10

3.9 x 19 YSB Drill-bit Screw

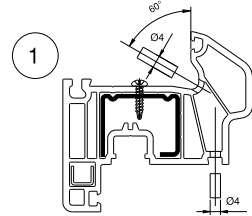
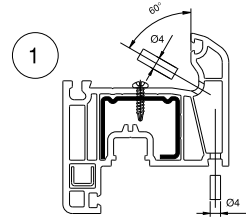
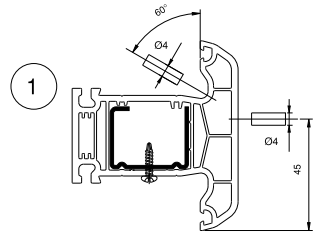
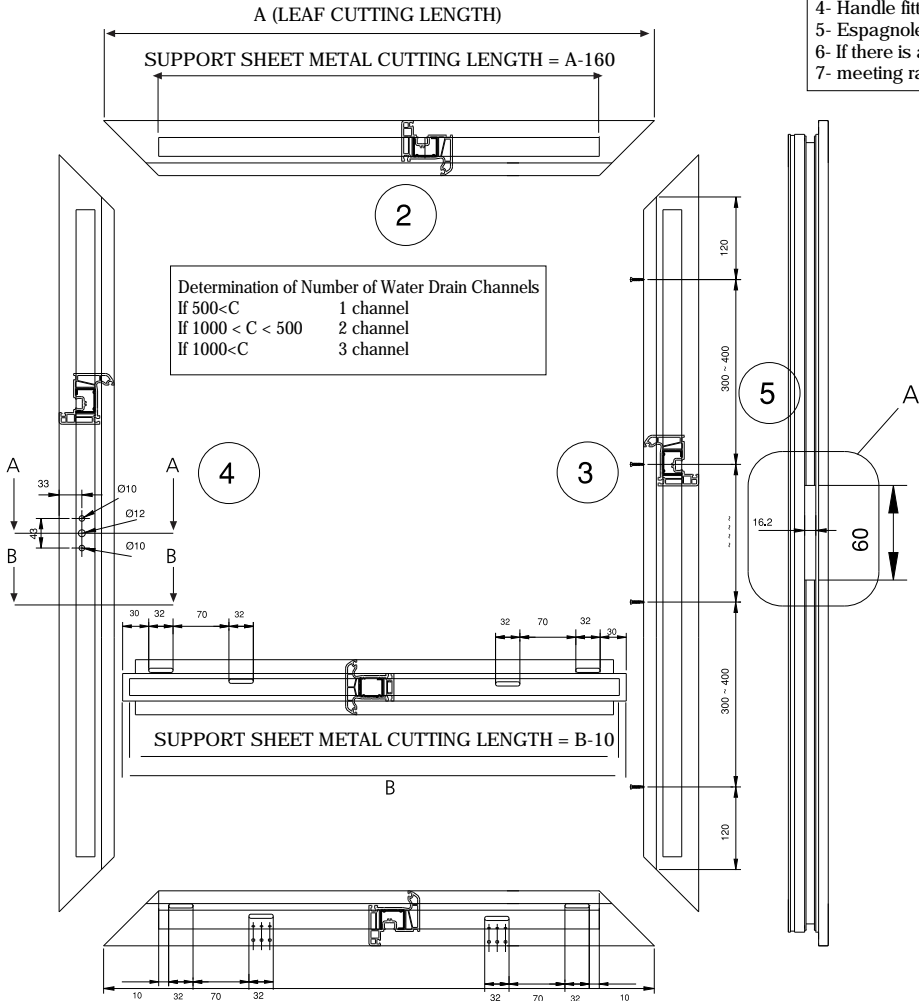


3.9 x 19 YSB Drill-bit Screw



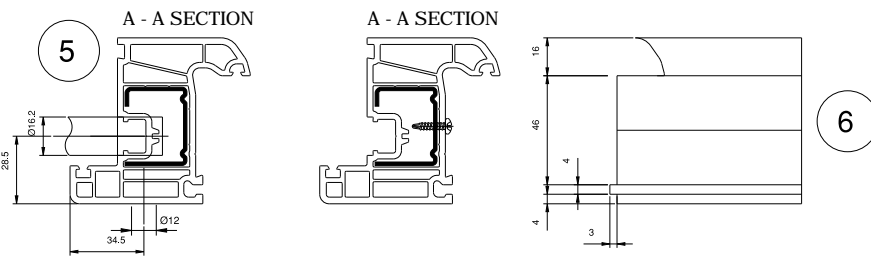
3.9 x 19 YSB Drill-bit Screw

- Operation Sequence**
- 1- Water drain channels are grooved by its machine.
  - 2- Support sheet metals are cut the burrs are removed.
  - 3- Support sheet metals are screwed from the stationary side of the profile.
  - 4- Handle fitting holes are bored by its machine.
  - 5- Espagnolette hub channel is grooved.
  - 6- If there is an internal leaf meeting rail, it will be notched.
  - 7- meeting rail support sheet metal is screwed.



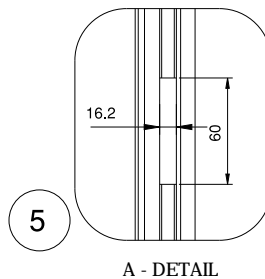
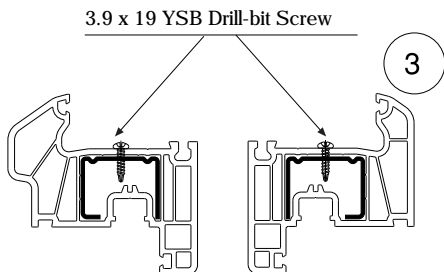
**Water Drain Channel Grooving Method**

Water drain channels are grooved by water drain channel grooving machine as shown in figure 1.



**Meeting Rail Notching Method**

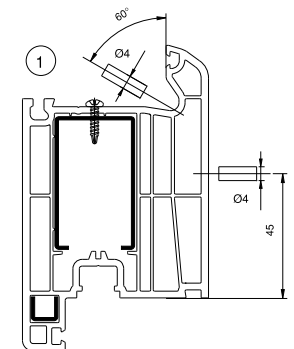
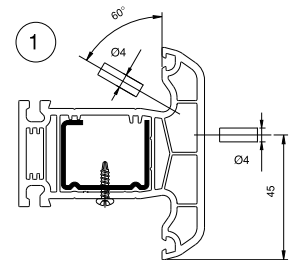
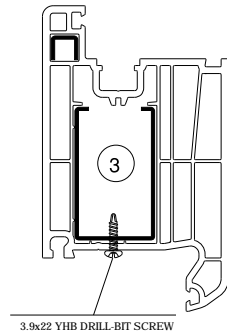
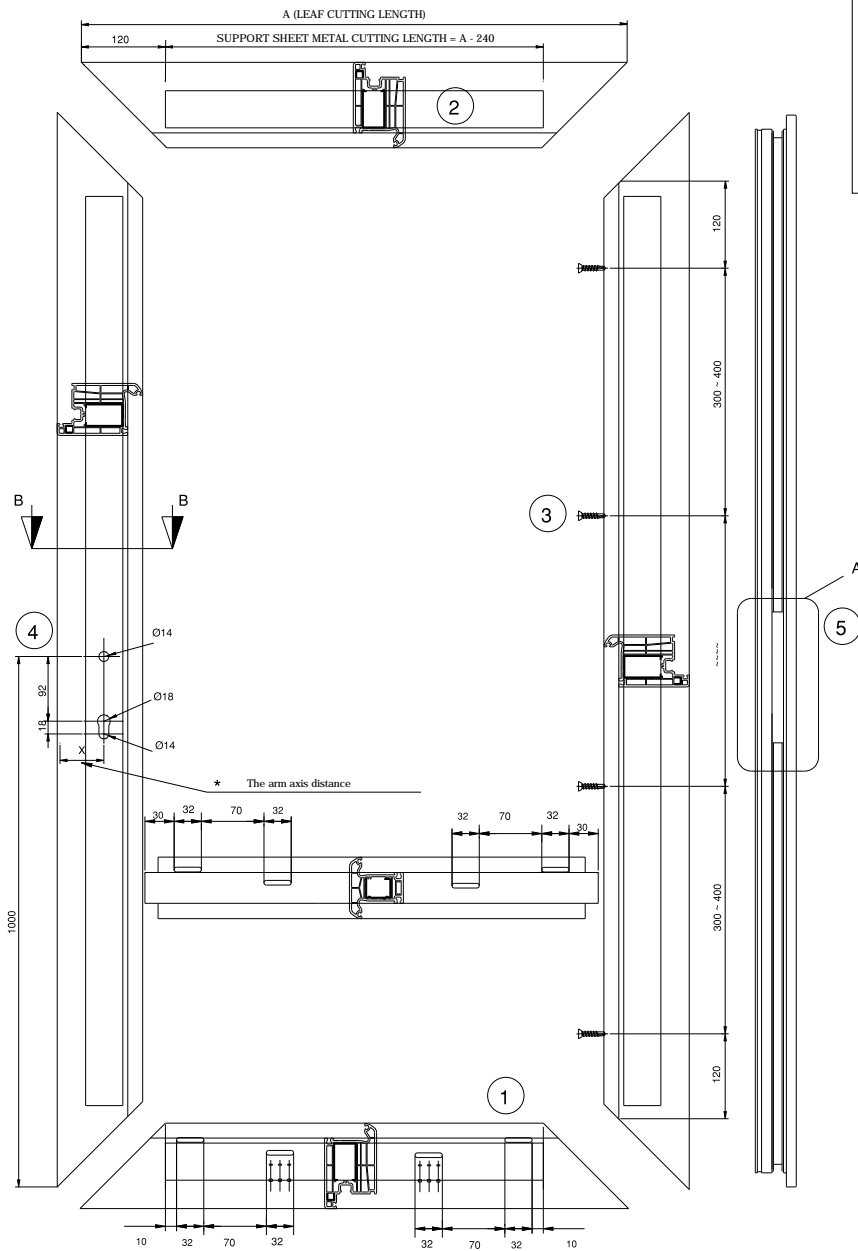
The chisels causing the notching of meeting rail must form the profile as shown in drawing 6.



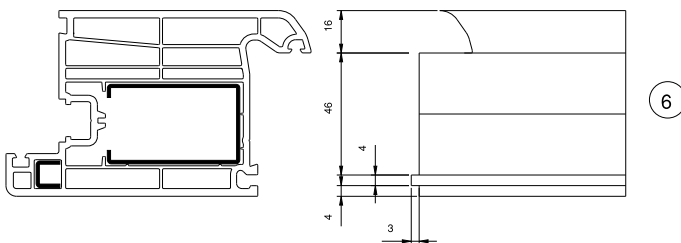
# LOCKING DOOR MEETING RAIL PREPARATION w75

## Operation Sequence

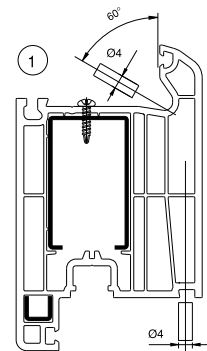
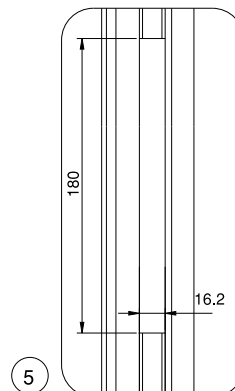
- 1- Water drain channels are grooved into the horizontal levels of sash and sash inner rail.
- 2- Support sheet metals are cut according to its technique.
- 3- Support iron sheets are screwed using at least two screws.
- 4- The arm holes are bored. At this area, the support sheet metal should be made of one piece.
- 5- Espagnolette hub channel is grooved into the leaf profile.
- 6- Leaf inner meeting rail is notched from both ends.



B - B SECTION

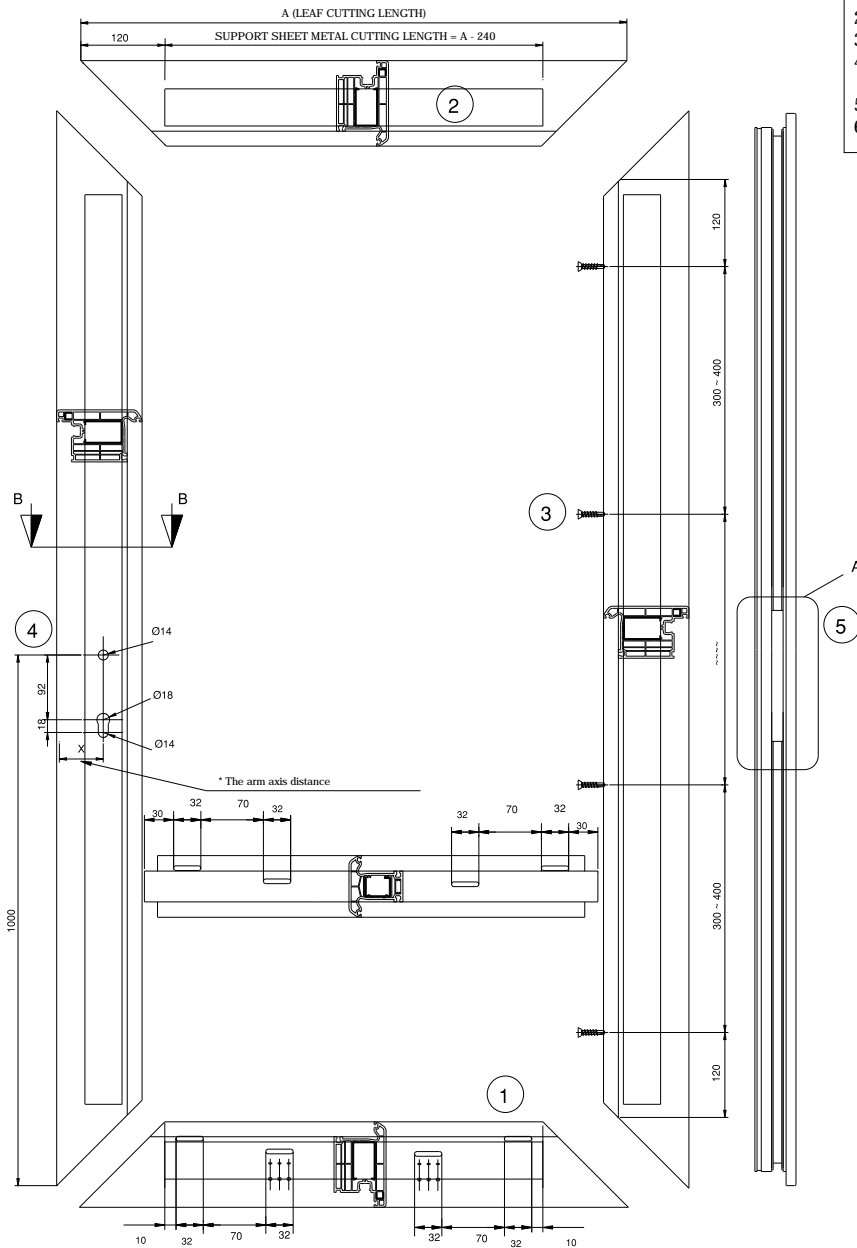


A - DETAIL

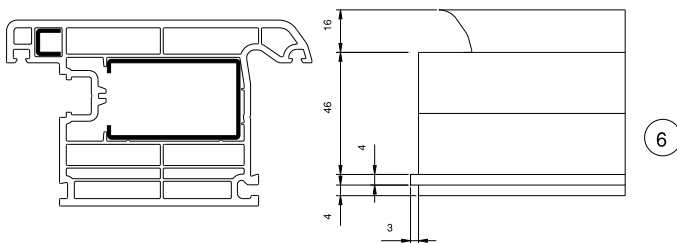


(\*) Since the arm axial distance varies with the firms and lock types, the measure should be taken on the basis of the lock actually in use.

# w75 MEETING RAIL PREPARATION FOR OUTWARD OPENING WITH LOCKING DOOR



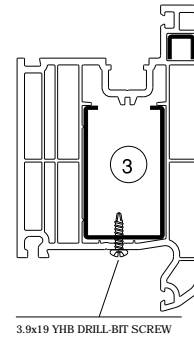
**B - B SECTION**



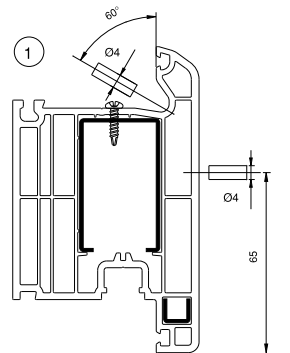
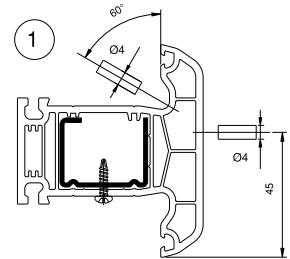
(\*) Since the arm axial distance varies with the firms and lock types, the measure should be taken on the basis of the lock actually in use.

## Operation Sequence

- 1- Water drain channels are grooved into the horizontal levels of sash and sash inner rail.
- 2- Support sheet metals are cut according to its technique.
- 3- Support iron sheets are screwed using at least two screws.
- 4- The arm holes are bored. At this area, the support sheet metal should be made of one piece.
- 5- Espagnolette hub channel is grooved into the leaf profile.
- 6- Leaf inner meeting rail is notched from both ends.

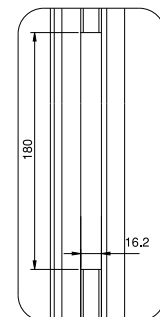


3.9x19 YHB DRILL-BIT SCREW

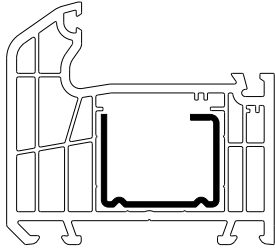


**A - DETAIL**

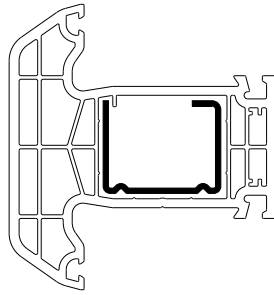
5



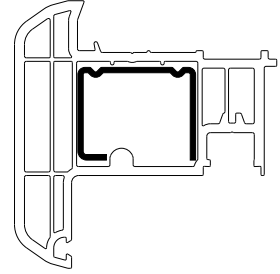
Frame Profile



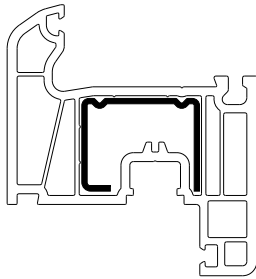
Mullion Profile



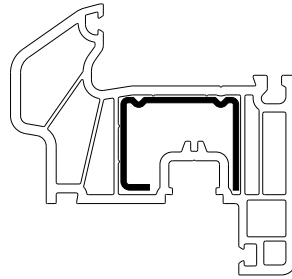
Sash Adopting Profile



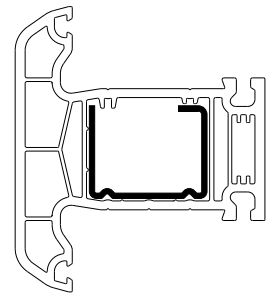
Sash Profile



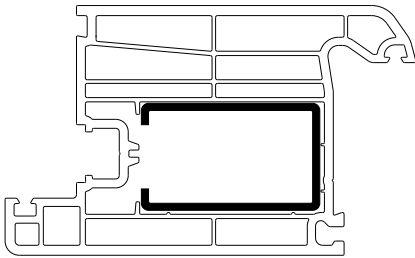
Drained Sash Profile



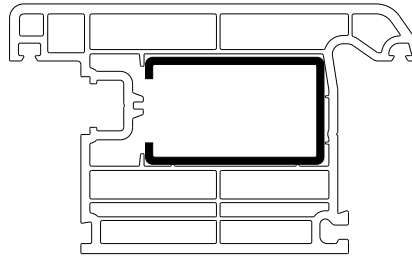
Mullion Sash Profile



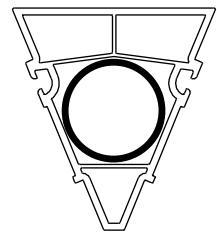
Inside Opening Door Profile



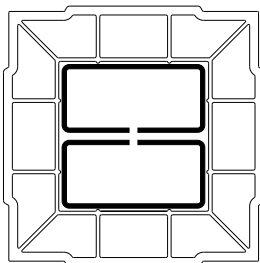
Outside Opening Door Profile



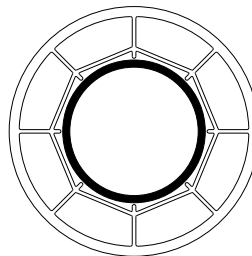
135° Angled Post Profile



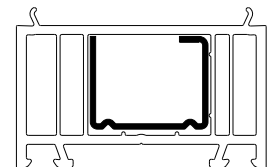
Angled Post Box 90° Profile



Angled Return Post Box Pipe Profile



40 mm Frame Elevation Profile

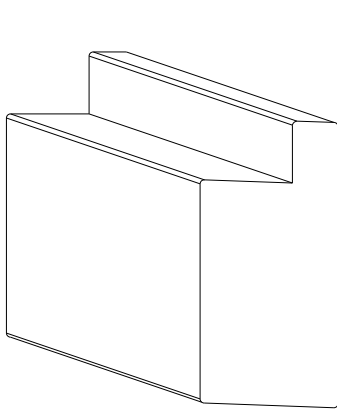


1 - Welding is performed by welding machines specially manufactured for PVC profile. Using the welding machines, this operation is performed by heating the profile surfaces to be welded by the aid of welding plate with heater and by pressing them on each other and then letting them to wait. Welding plate temperature is between 240 -280°C.

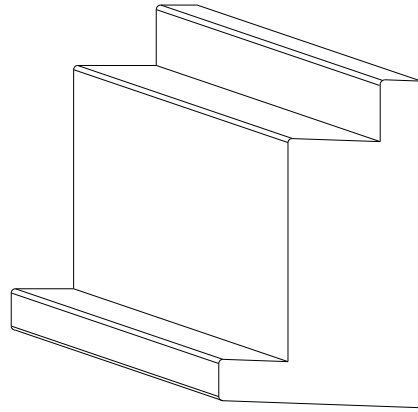
2- During welding operation, the welding prop plates are used in order to avoid distortion and movement of the profiles to be welded. The shapes and dimensions of the welding prop plates are as follows.

3- The welding plate surface of welding machines is coated with a special teflon-based fabric in order to avoid adhesion. The cleanliness of plate surfaces are very important in order to obtain a good weld. Therefore teflon surface must be cleaned by a solvent (i.e. Acetone) with regular intervals. When Teflon fabric starts to show signs of abrasion it must be replaced.

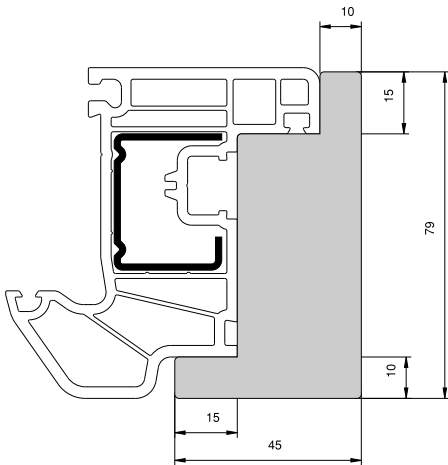
4- Welding surfaces must be cleaned so that the burrs (PVC profile chippings) formed during profile cutting will not on the teflon.



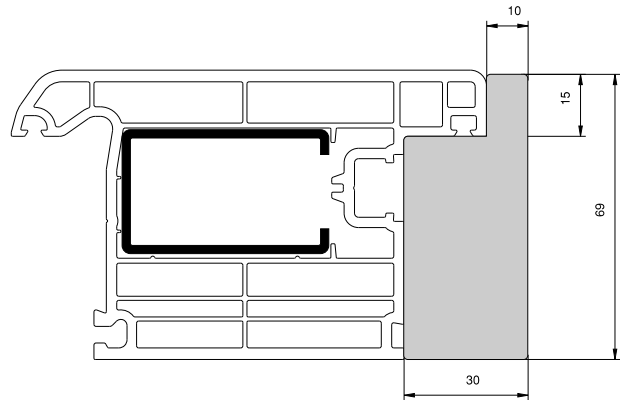
Welding Rest Plate



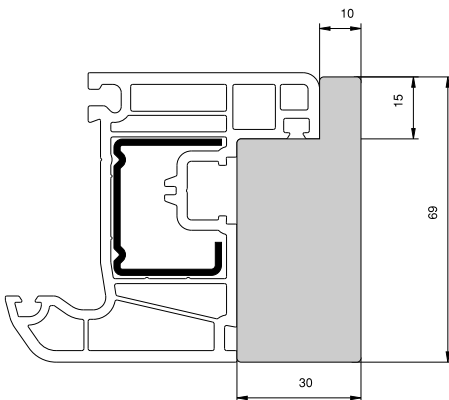
Water Drip Leaf Profile  
Welding Rest Plate



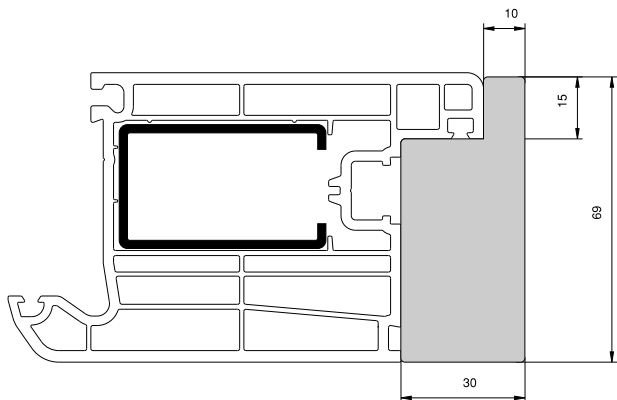
Welding Rest Plate



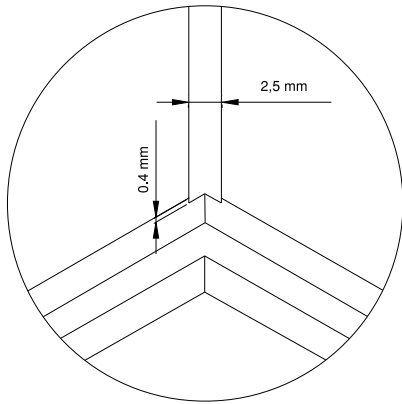
Outward Opening Locking Door Profile



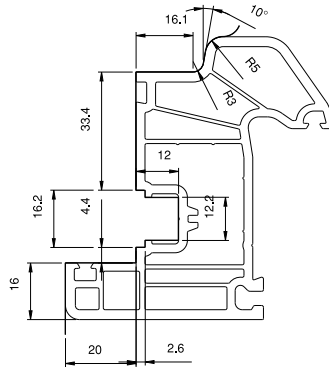
Plain Sash Profile



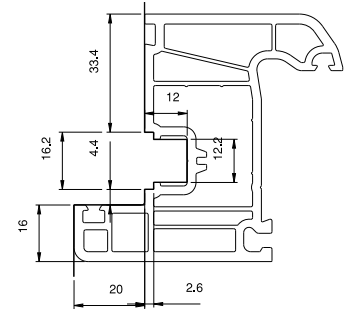
Locking Door Profile



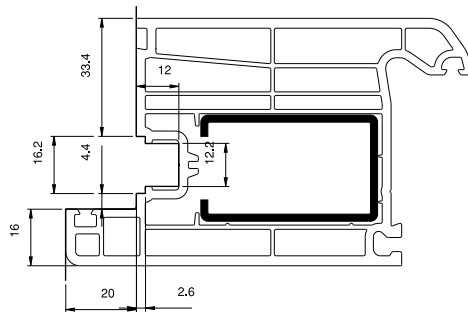
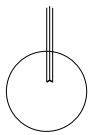
Burr removing measures for internal and external surface weldings.



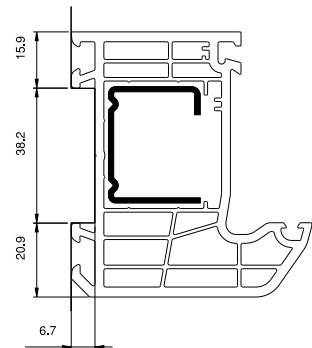
Water Drip Leaf Profile



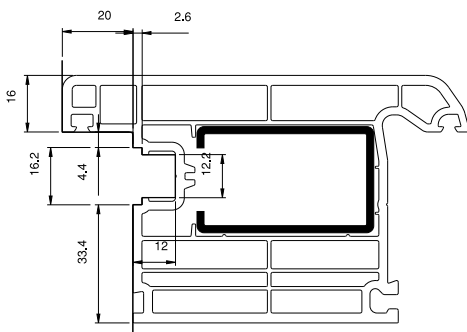
Plain Sash Profile



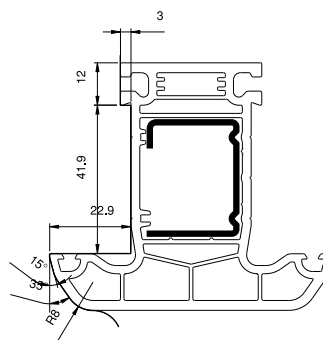
Locking Door Profile



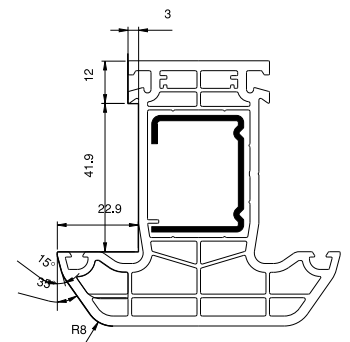
Frame Profile



Outward Opening Locking Door Profile



Sash Inner Meeting Rail (Overlapping Frame) Profile

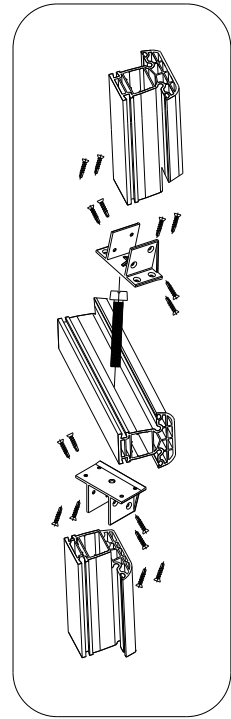
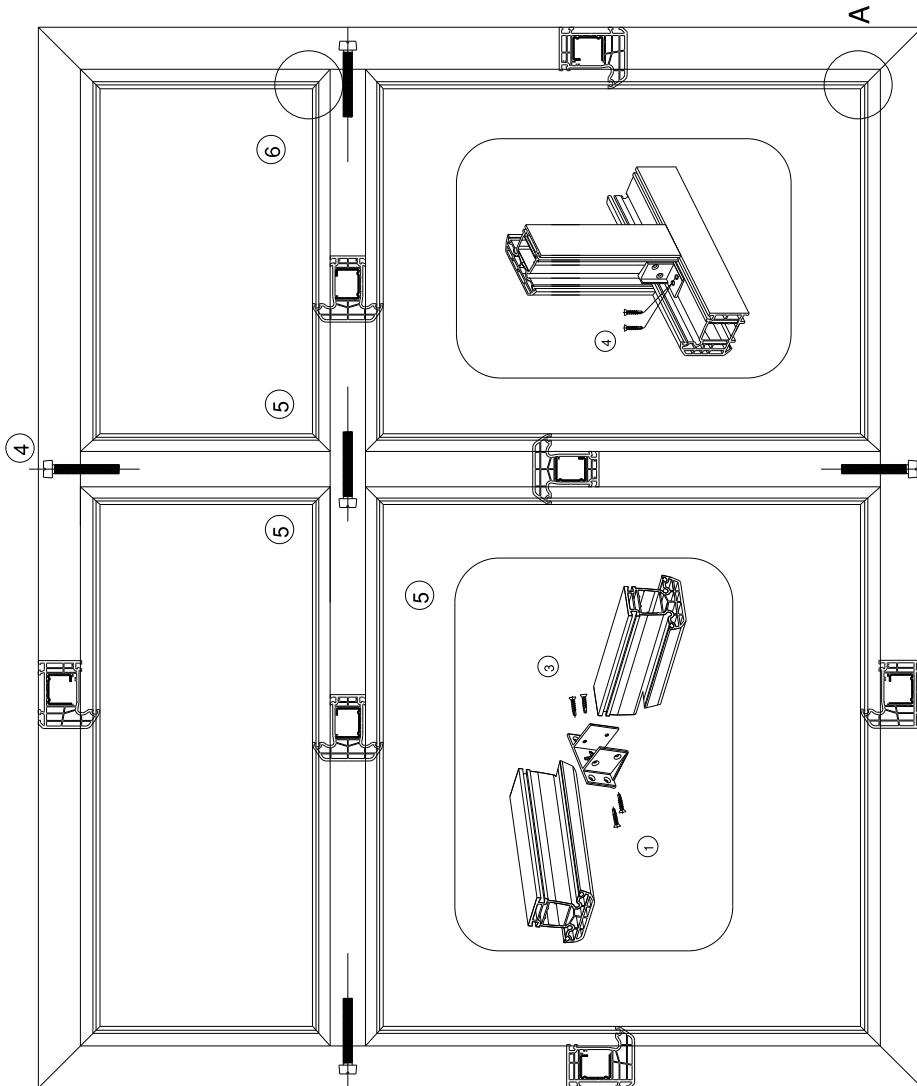
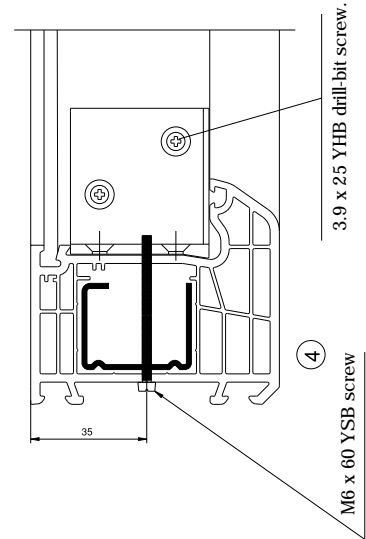
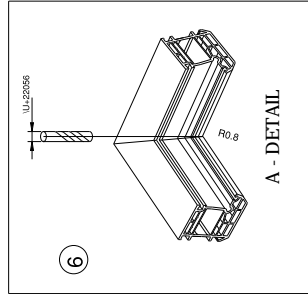


Lock Rail (Overlapped Frame) Profile

Note: The same chisel used for water drip leaf profiles is also used for the locking door, outward open locking door and plain leaf profiles.

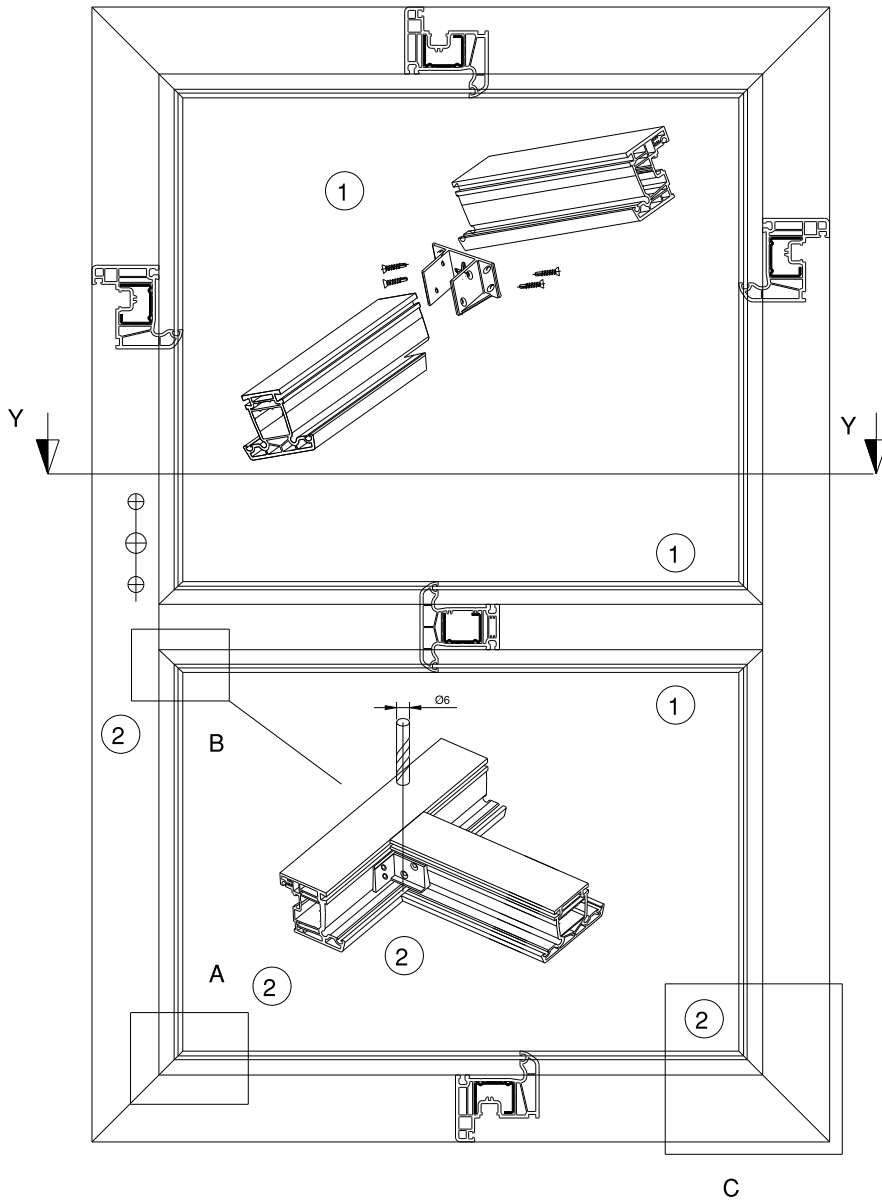
**Operation Sequence**

- 1- Meeting rail connection block is mounted on the cut and notched meeting rail profiles.
- 2- Silicone is applied on the meeting rail joints.
- 3- Meeting rail connection block is screwed by a 3.9x22 or 3.9x25 YHB drill-bit screw.
- 4- Meeting rails are fastened with screw M6 X 60 YSB, by pulling them from the back of frame.
- 5- Intermediate meeting rails, if any, are fastened. If there are two counterpart lock rail, then one is driven by a M6 X 60 YSB screw, and the other is fixed at the back-up sheet metal by 3.9 X 22 or 3.9 X 25 YHB drill-tip screw.
- 6- Gasket channels are cleaned.

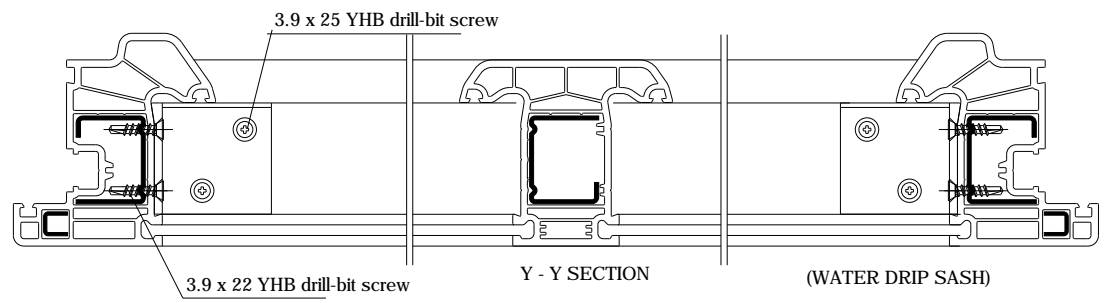
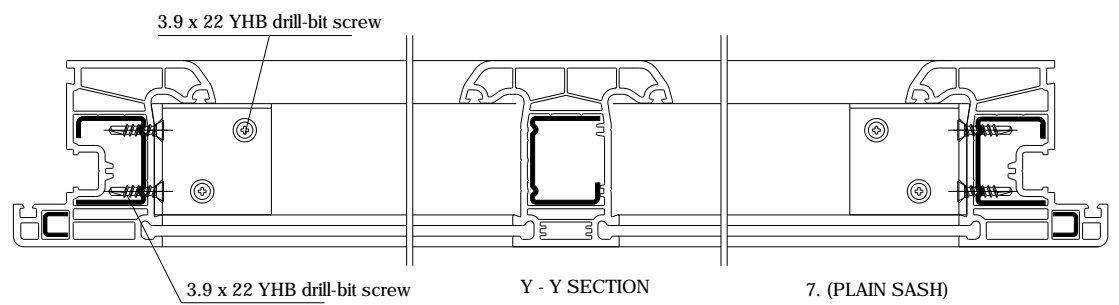
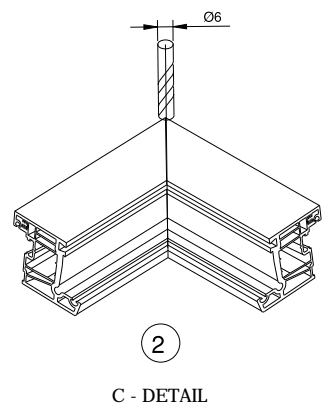
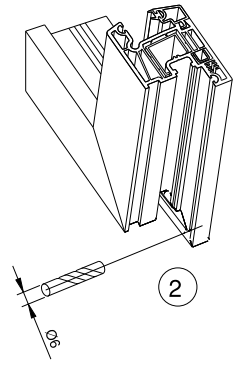


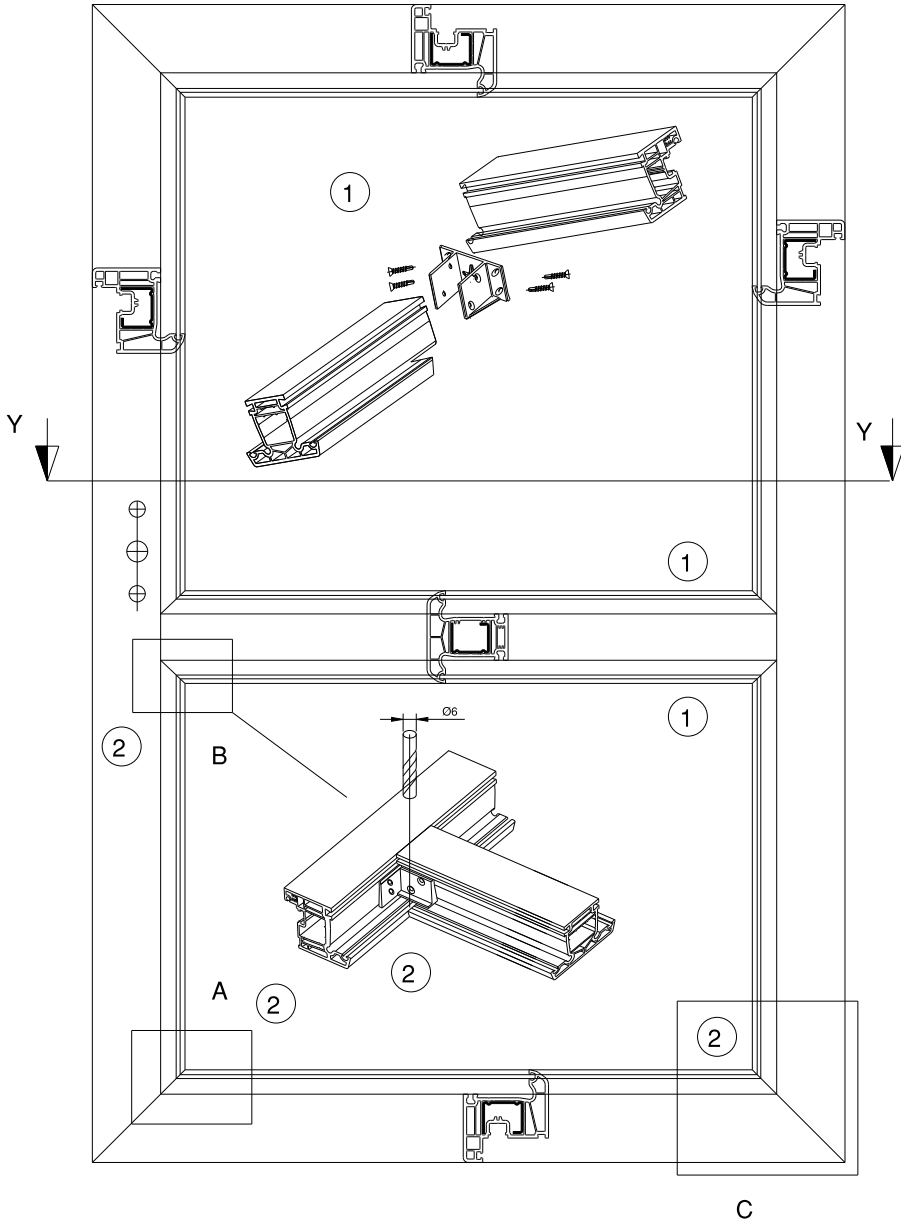


# LEAF-LEAF INNER MEETING RAIL MOUNTING w75



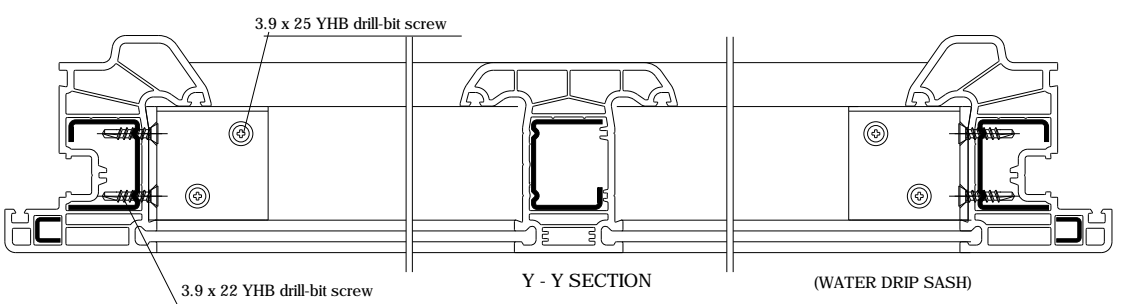
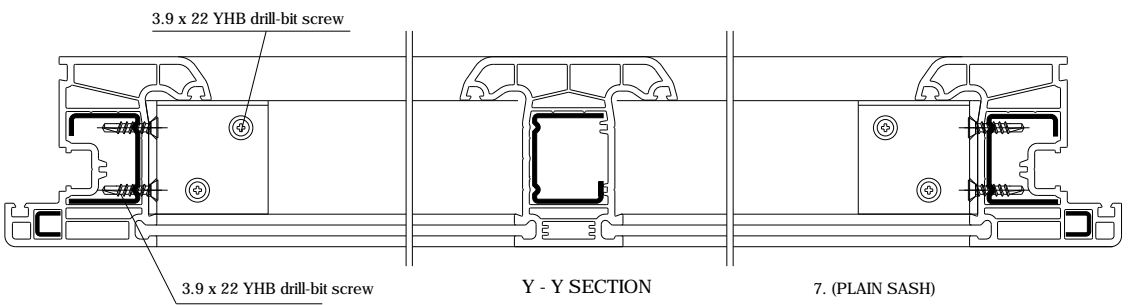
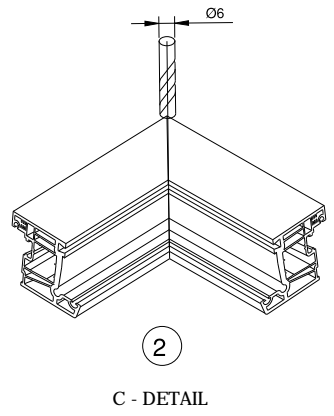
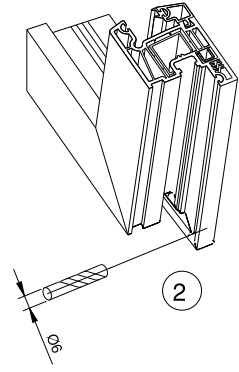
**Operation Sequence**  
 1- Inner meeting rails mounted using a meeting rail connection block.  
 2- Gasket channels are cleaned at the junction point of in sash inner meeting rail and sash profile.

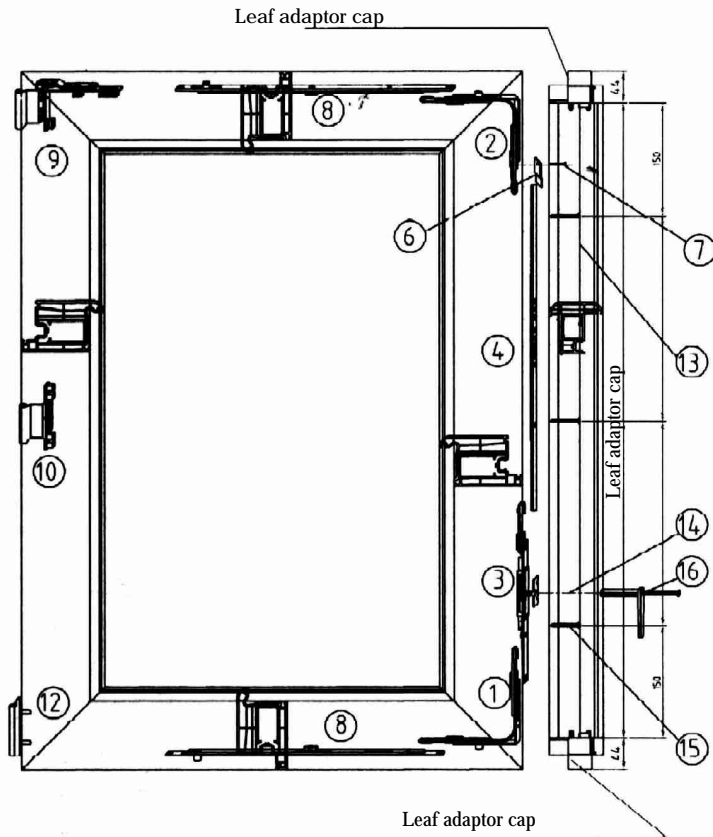




**Operation Sequence**

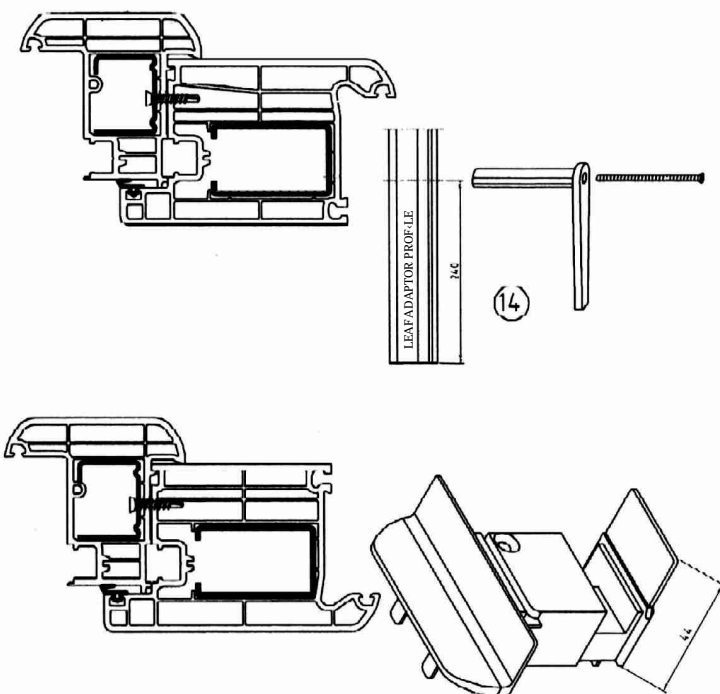
- 1- Inner meeting rails mounted using a meeting rail connection block.
- 2- Gasket channels are cleaned at the junction point of in sash inner meeting rail and sash profile.





Leaf adaptor profile cutting measurement - H

$$H = (\text{Seash Height}) - (88 \text{ mm})$$



## Operation Sequence

1- Bottom corner actuator piece is fixed on the bottom corner of the leaf.

2- The espagnolette is fitted into its slot so that corner actuator piece will be positioned at the upper corner and the espagnolette pin ward the Zamak counterpart. It is screwed by a 3.9 X 22 YHB plastic screw.

3- Actuating mechanism is fixed to the bottom corner piece of actuating mechanism using a 3.9 X 22 YHB screw.

4- An espagnolette suited to the leaf length is selected and the length of espagnolette is cut so as to fit the leaf length.

5- The upper corner piece of actuating mechanism enabling the espagnolette to move is fitted to the bottom corner piece of actuating mechanism so that the brand name of espagnolette will be clearly readable.

6- Fixing of the manually cut espagnolettes to the corner actuator pieces are effected by intermediate fittings.

7- Intermediate fittings are fixed by a 3.9 X 22 YHB screw.

8- Where the leaf length exceeds 800 mm, the intermediate locking piece is fitted to bottom and upper corner pieces of actuating mechanism, and the leaf is fixed to the espagnolette slot with a 3.9 X 22 YHB screw.

9- Adjustable turn-only leaf spring hinge fitted into the espagnolette slot at the upper corner of the leaf, and is fixed by a 3.9x22 YHB screw.

10- Vertically middle point for the adjustable turn- only central pressing hinge (used where leaf vertical length exceeds 800 mm) is marked, on the leaf. Espagnolette is fitted into its slot and fixed by a 3.9 X 22 YHB plastic screw.

11- Centering pin holes are bored by a 0.6 mm drill.

12- Toggle is fitted and fixed by a 4.2 X 45 YHB screw.

13- An adaptor suited to the sash length is cut.

14- The arm axial distance of actuator mechanism is marked on the sash adaptor, and bored by a size 10 drill.

15- Leaf adaptor profile is fixed on the leaf by a 4.2 x 38 YSB screw.

16- Actuator mechanism arm is cut in proper manner and passed through leaf adaptor. The mechanism is actuated.

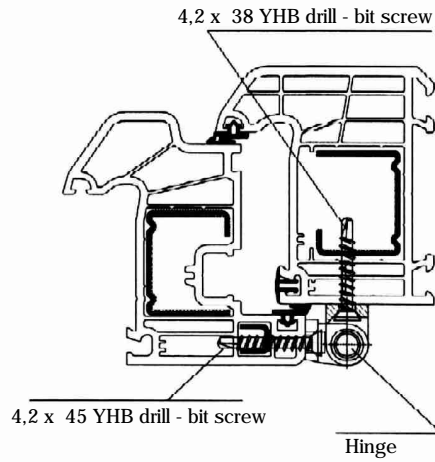
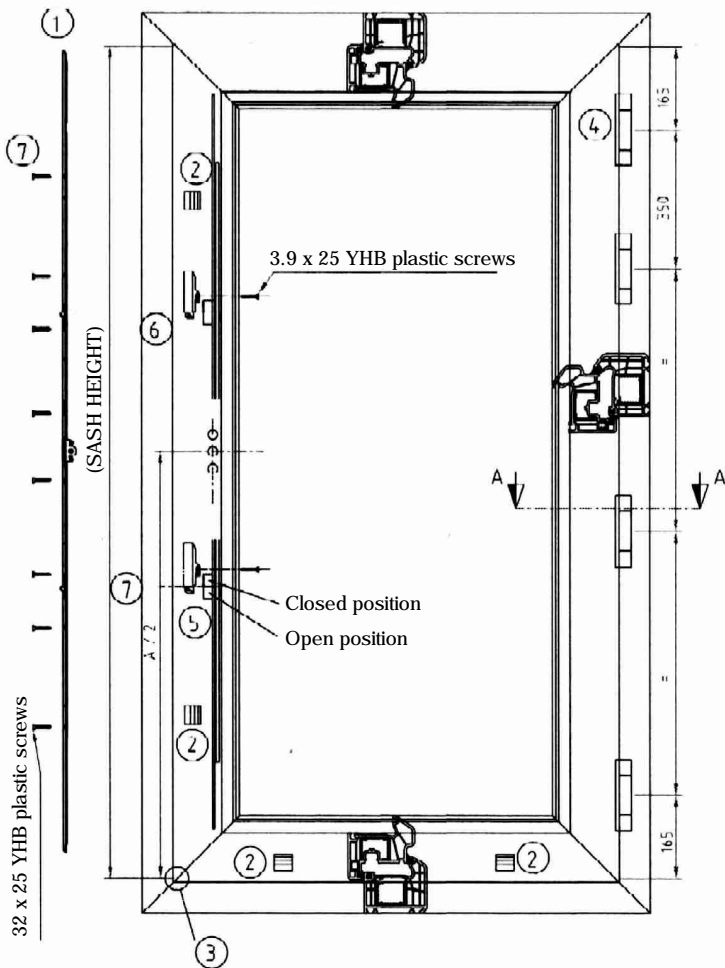
17- Leaf adaptor covers are placed on the adaptor profile and screwed.

NUMBER OF HINGES	
A < 1100	2 HINGEN
1101 < A < 1400	3 HINGEN
1401 < A	4 HINGEN

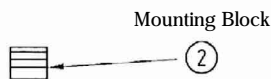
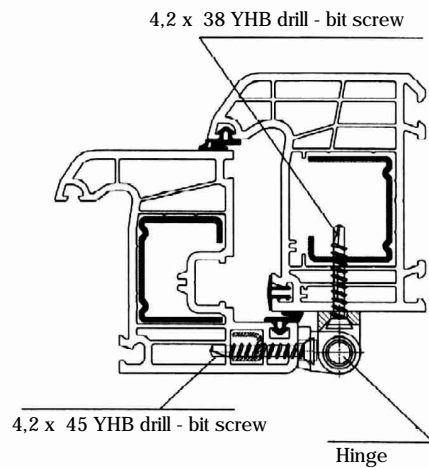
Operation Sequence

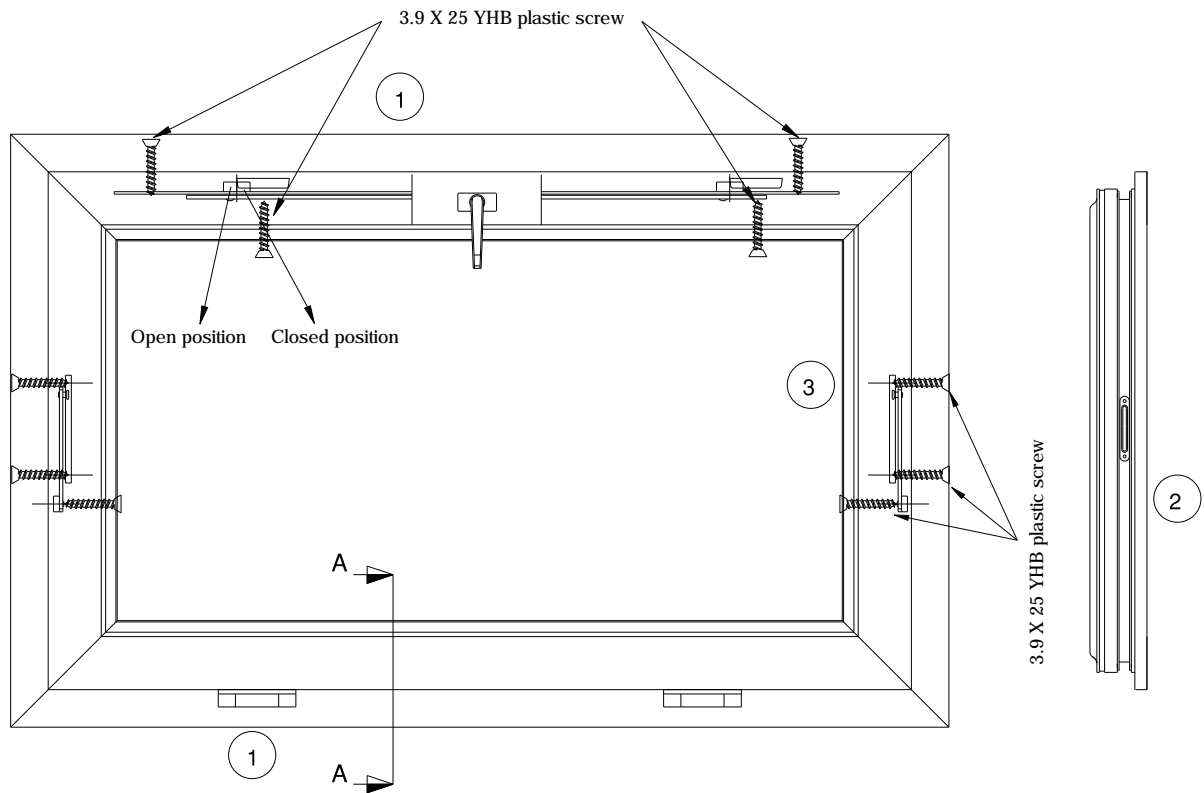
- 1- Espagnolette is selected and then mounted.
- 2- Mounting blocks are fitted.
- 3- Leaf is rested against the reference corner.
- 4- Hinge, leaf and frame holes are bored by means of a stencil and the hinges are screwed.
- 5- Espagnolette is brought to open position.
- 6- The upper levels of the lock bolts are marked.
- 7- Locking pieces are screwed.

A - A SECTION (Plan sasch)



??????

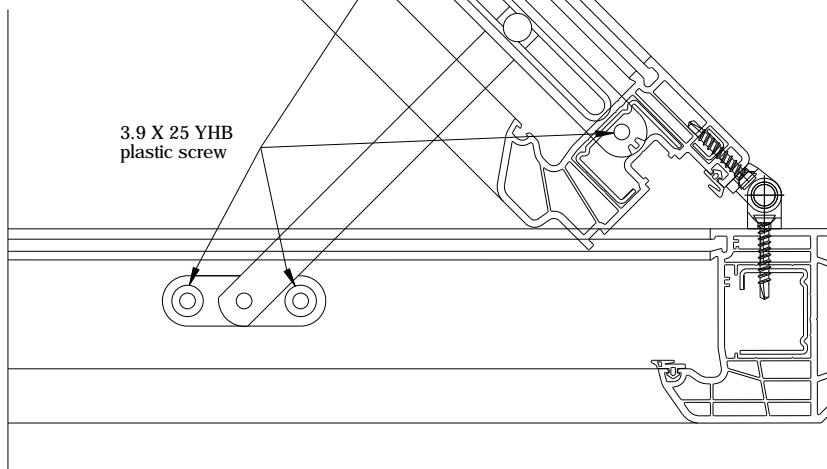




### Operation Sequence

- 1- Espagnolette and hinge mounting is done as for normal leaf.
- 2- Transom butterfly is adjusted according to the leaf height, and fixed on the leaf with a 3.9 X 25 YHB plastic screw.
- 3- Transom leaf spring is marked on the frame and fastened by a 3.9 X 25 YHB plastic screw.
- 4- If a snap lock is to be used, the lock is marked so as to be positioned exactly at the midpoint, and mounted by a 3.9 X 25 YHB plastic screw.

### A - A SECTION

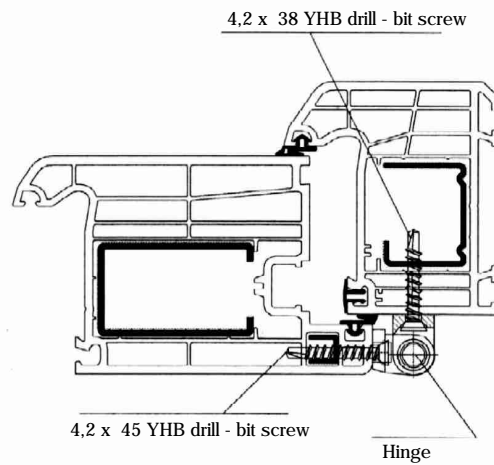


NUMBER OF HINGENS	
A < 1100	2 HINGEN
1101 < A < 1400	3 HINGEN
1401 < A	4 HINGEN

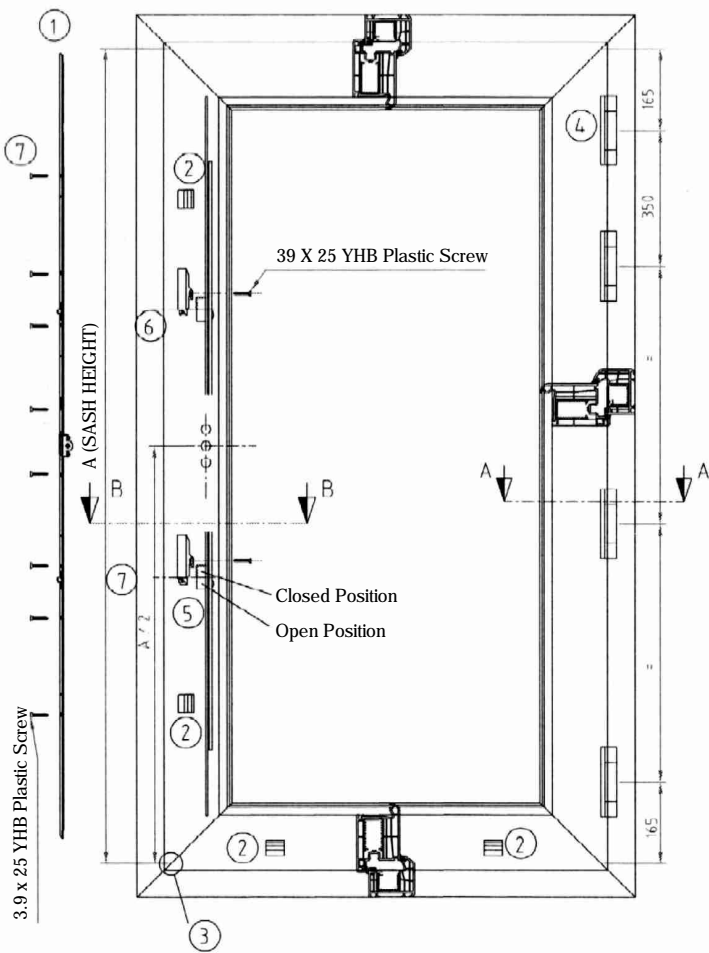
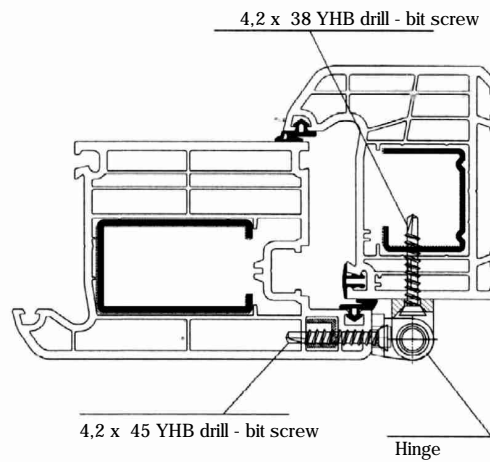
### Operation Sequence

- 1 - Espagnolette is selected and then mounted.
- 2 - Mounting blocks are fitted.
- 3- Leaf is rested against the reference corner.
- 4- Hinge, leaf and frame holes are bored by means of a stencil and the hinges are screwed.
- 5- Espagnolette is brought to open position.
- 6- The upper levels of the lock bolts are marked.
- 7- Locking pieces are screwed.

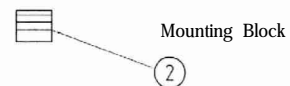
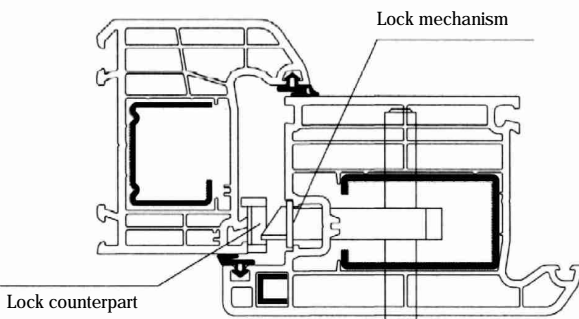
A -A SECTION (nward Opening Locking Door)



A -A SECTION (Outward Opening Locking Door)



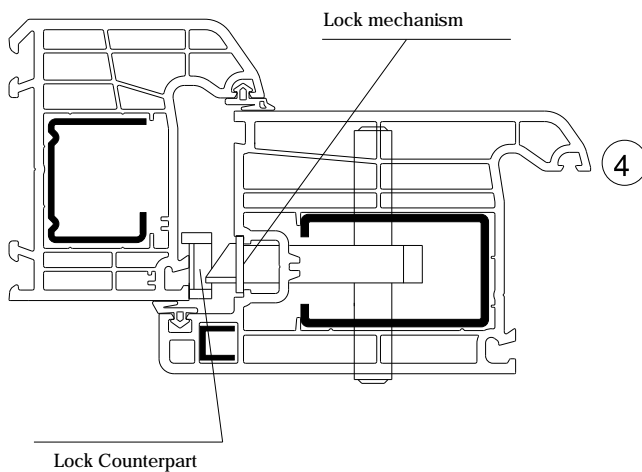
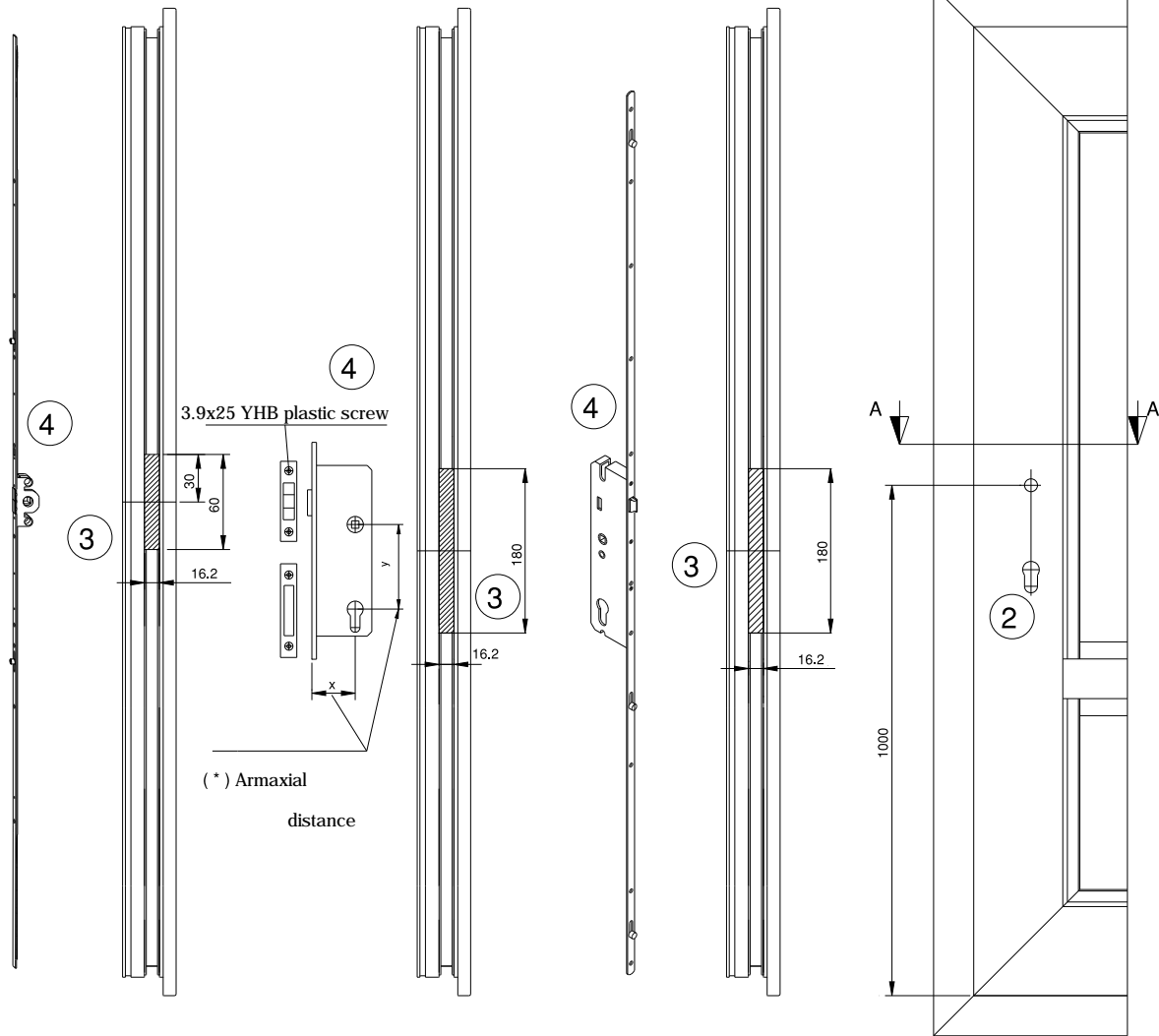
B -B SECTION



# NUMBELOCKING DOOR ESPAGNOLETTE AND LOCK MOUNTING w75

## Operation Sequence

- 1- Selection of espagnolette or lock is made.
- 2- The holes for the location of lock and handle are bored by copy milling machine.
- 3- Lock slot is bored by copy milling machine.
- 4- Lock or espagnolette is mounted.



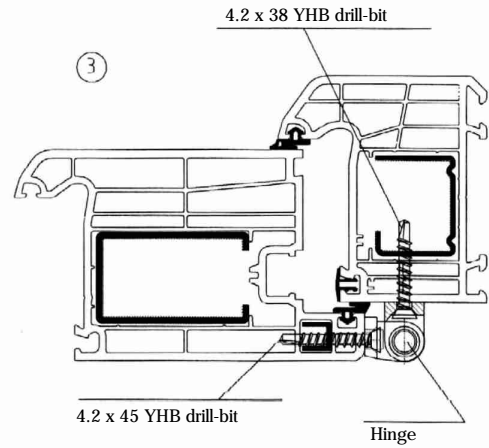
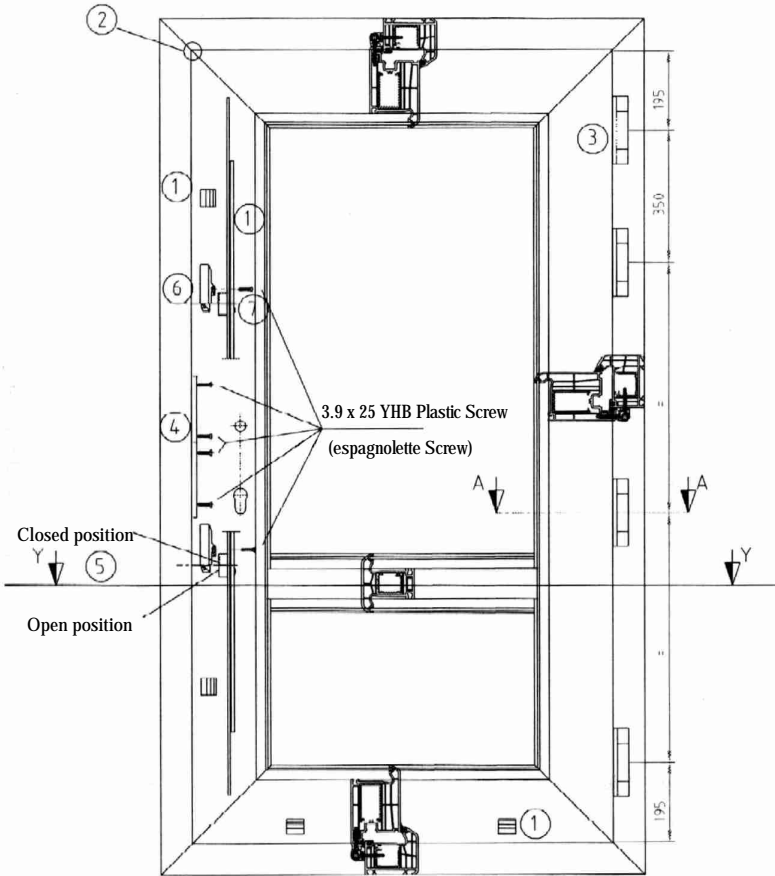
(\*) Since X and Y "arm axial distance" varies with the firms and the lock types, the measure should be taken on the basis of the lock used.

# w75 LOCKING DOOR INNER MEETING RAIL MOUNTING

## Operation Sequence

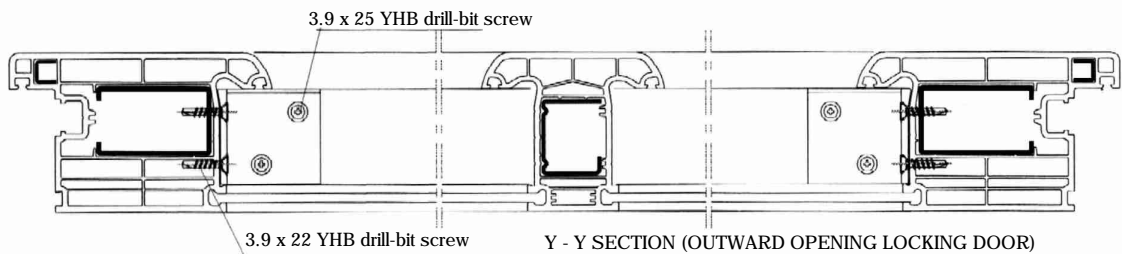
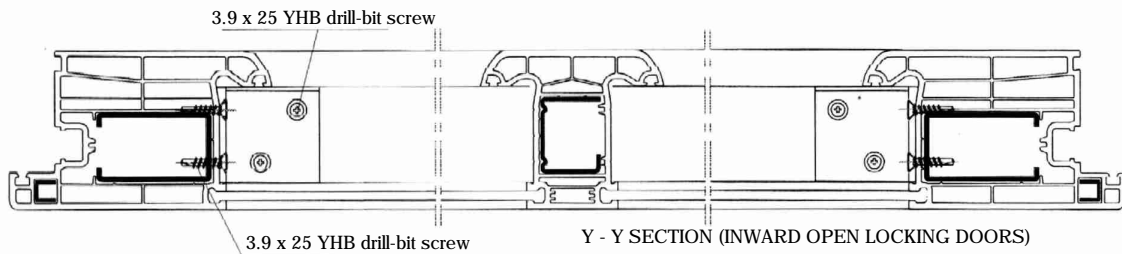
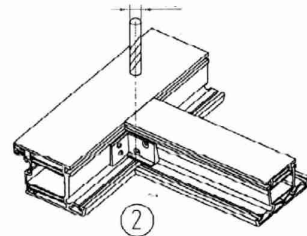
- 1- Mounting blocks are fitted.
- 2- Leaf is rested against the reference corner.
- 3- Hinge, leaf and frame holes are bored by means of a stencil and the hinges are screwed.
- 4- The location of lock counterpart is marked and it is screwed.
- 5- Espagnolette is brought to open position.
- 6- The upper levels of the lock bolts are marked.
- 7- Locking pieces are screwed.

NUMBER OF HINGENS	
$A < 1100$	2 HINGEN
$1101 < A < 1400$	3 HINGEN
$1401 < A$	4 HINGEN



### Operation Sequence

- 1- Inner meeting rails mounted using a meeting rail connection block.
- 2- Gasket channels are cleaned at the junction point of in sash inner meeting rail and sash profile.

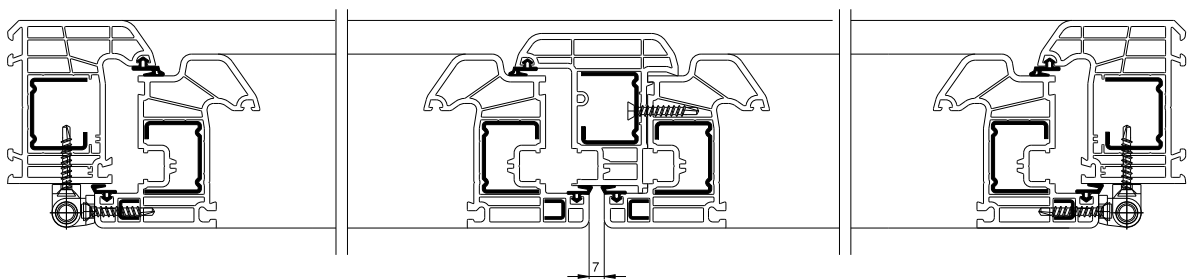
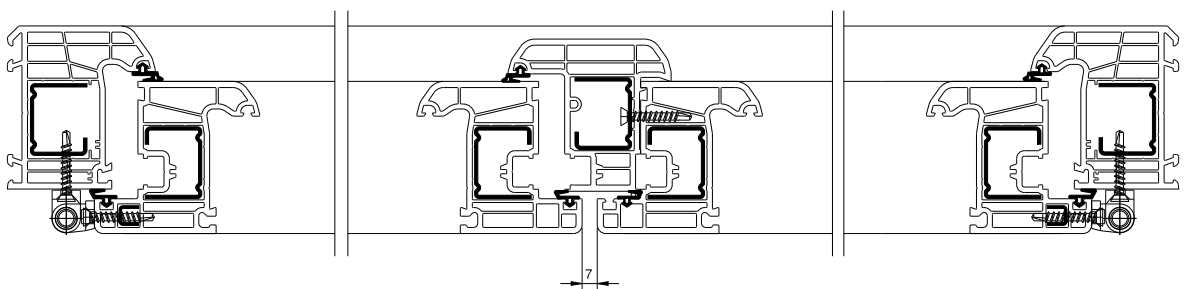
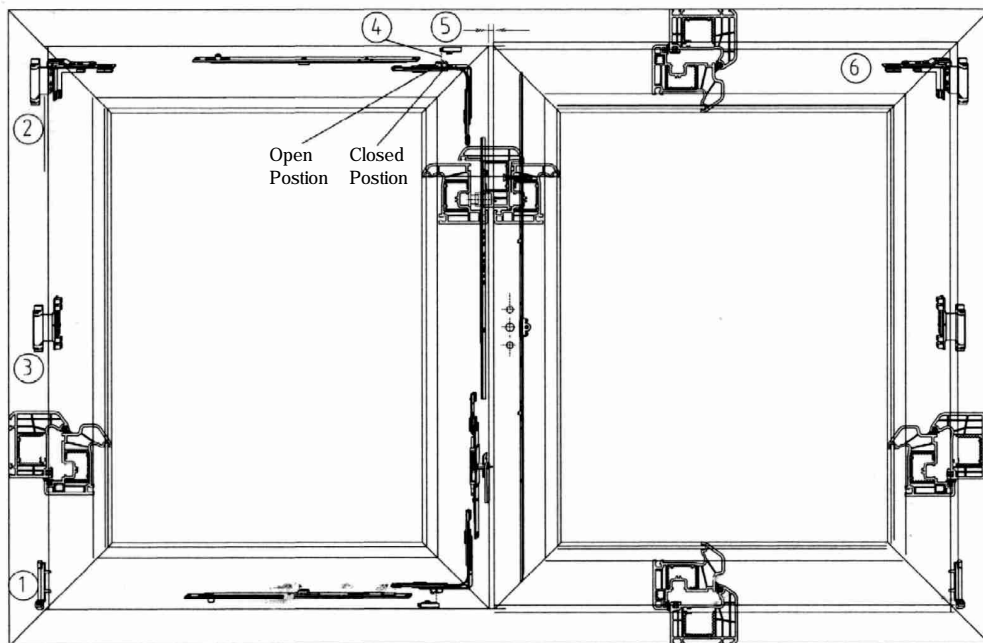




# DOUBLE-SASH, TURN-ONLY WINDOW ASSEMBLY w75

## Operation Sequence

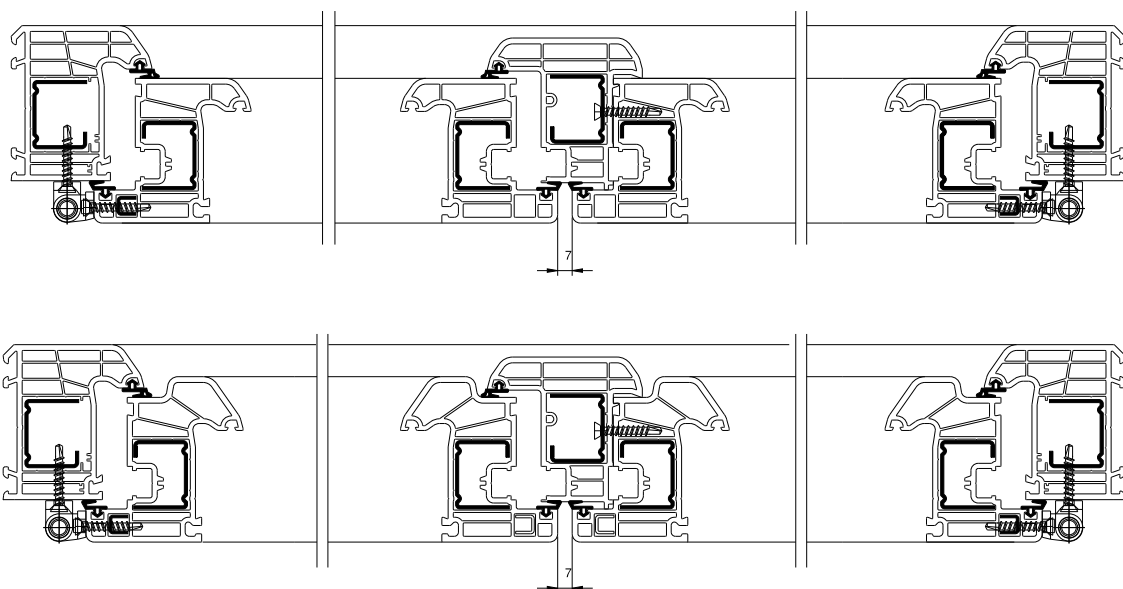
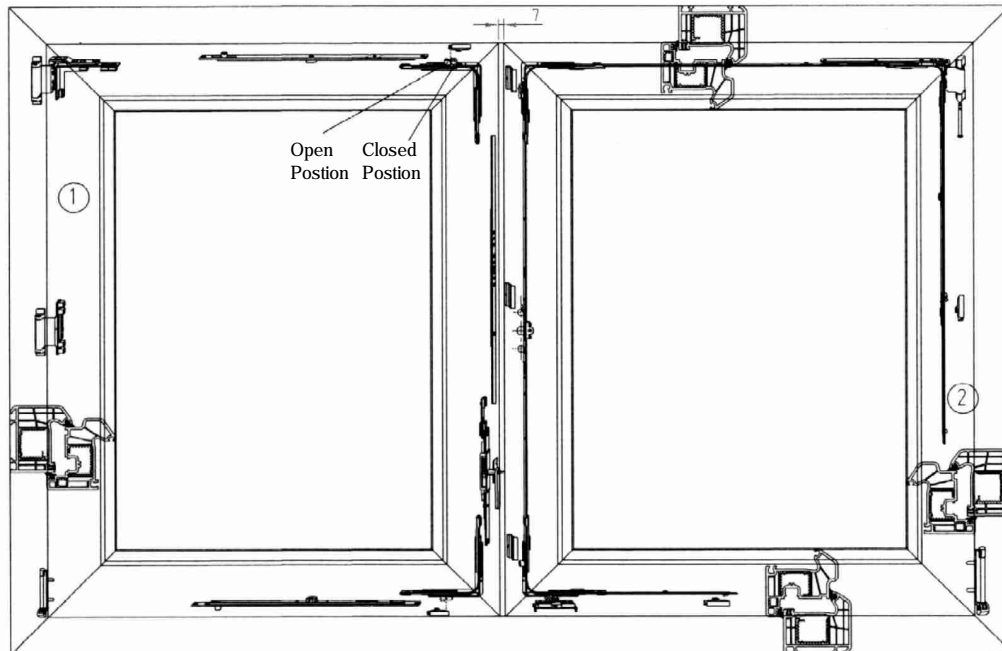
- 1- Stationary sash is mounted on the frame and fixed toggle is fitted on the swing toggle.
- 2- Adjustable turn-only leaf spring-hinge is fitted to the frame hinge and is secured by the hinge pin.
- 3- Adjustable turn-only central pressing hinge is fitted to the frame hinge and secured by the hinge pin.
- 4- The upper levels of the lock bolts are marked on the frame by bring the actuating mechanism arm, the corner actuating parts and the pins to open position
- 5- Locking parts are fixed by a 3.9 X 25 YHB screw.
- 6- Swing sash is mounted on the frame and the operations made for the stationary sash are repeated.



# w75 DOUBLE-SASH, TILT OR TURN WINDOW MOUNTING

## Operation Sequence

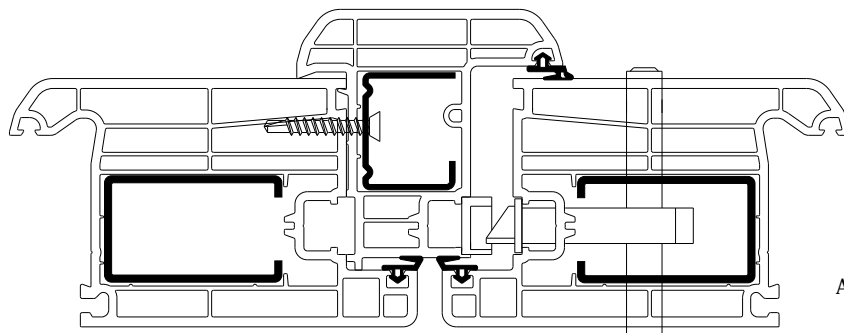
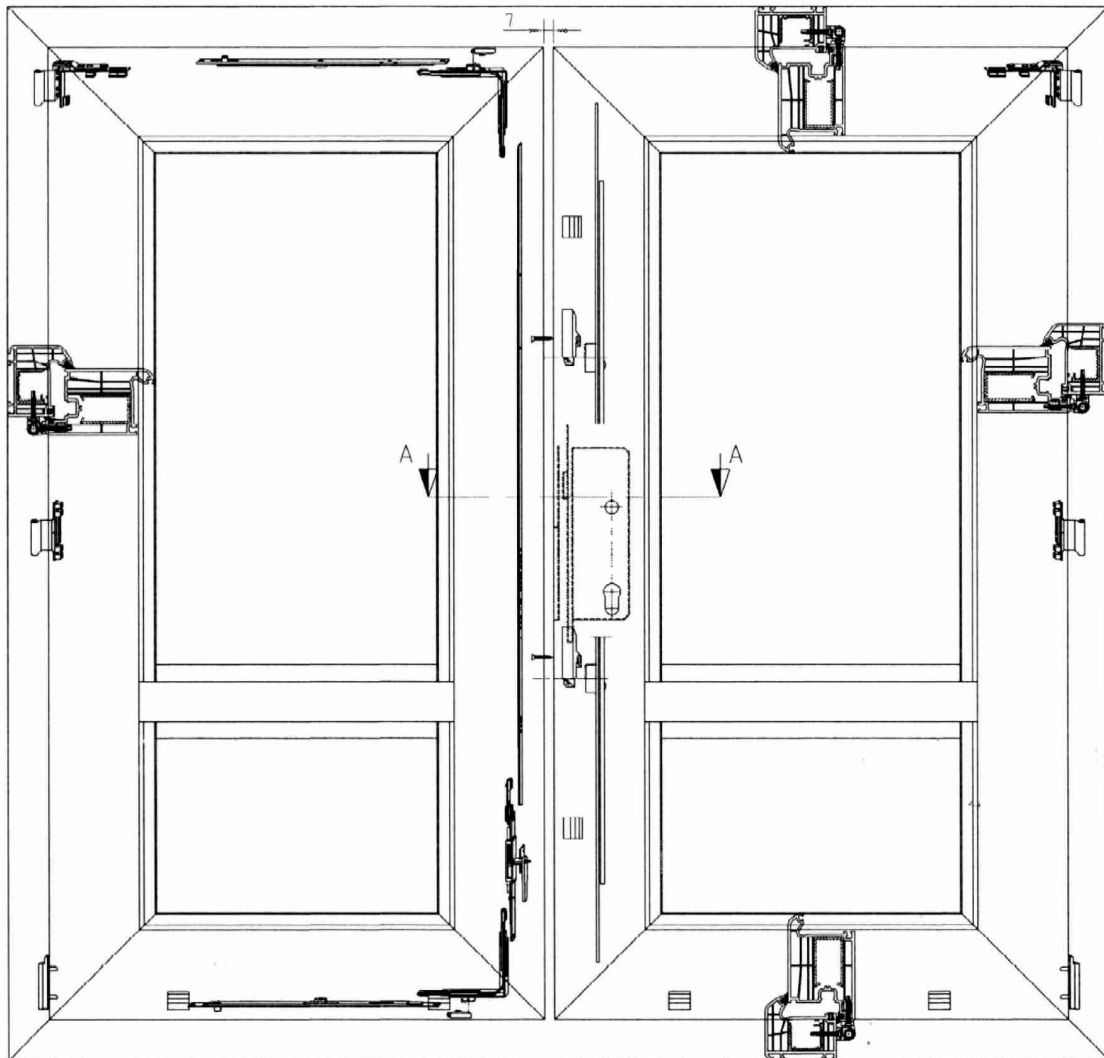
- 1- Operation sequence of stationary sash mounting is same as that for the tilt or turn frame-sash mounting.
- 2- Operation sequence of movable sash mounting is same as that for the tilt or turn system frame-sash mounting.



# TILT OR TURN LOCKING DOOR MOUNTING w75

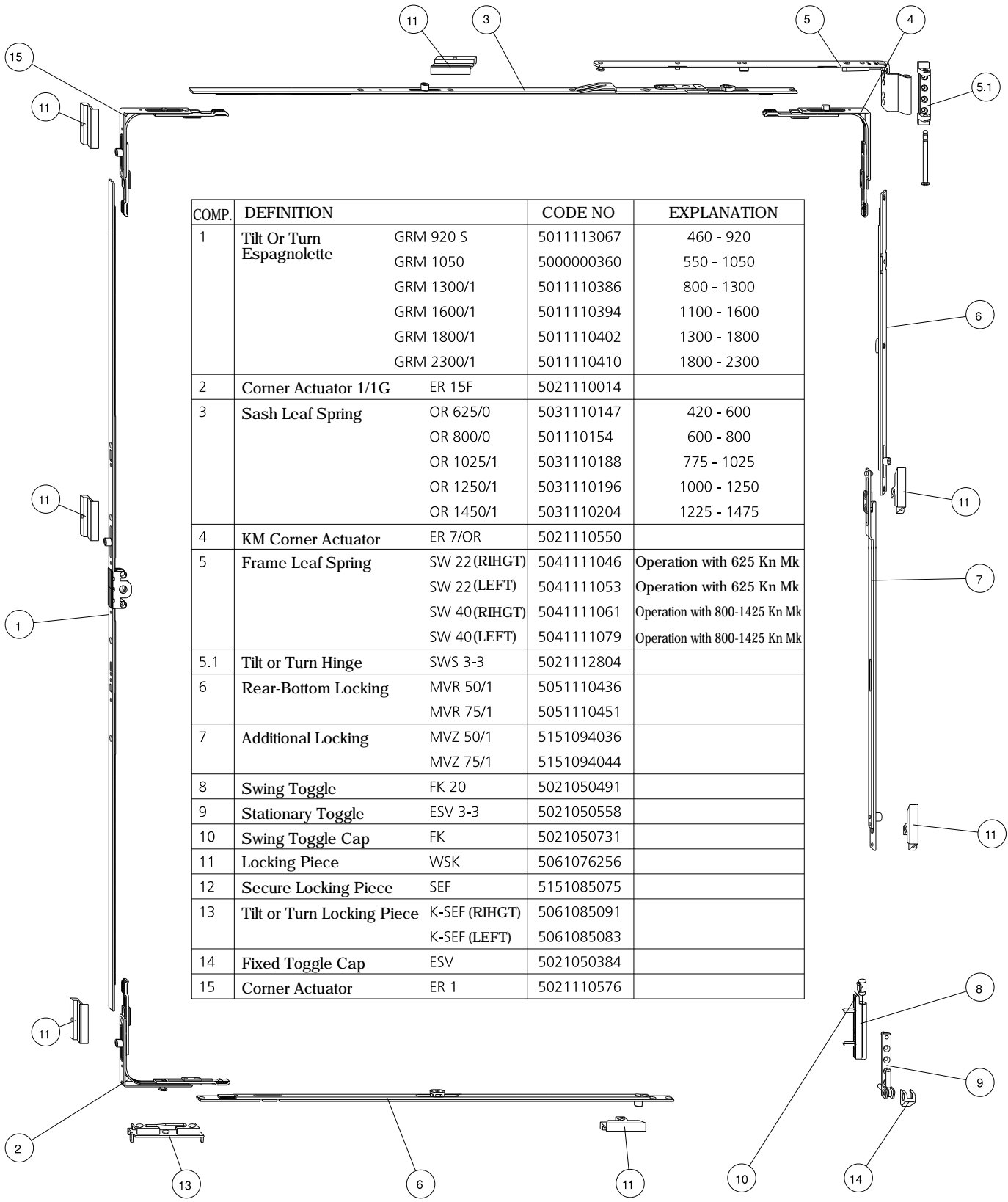
## Operation Sequence

- 1- Frame stencil and frame hinge, stationary toggle and centering pin holes are bored by a 3 mm drill.
- 2- Frame hinge and stationary toggle is lodged and fixed by a 3,9 X 32 YHB screw.
- 3- In the event the sash vertical length exceeds 800 mm, then the second frame hinge is lodged into the middle point of the sash vertical axis and fixed by a 3,9 X 32 screw.
- 4- Mounting operation sequence is same as that for tilt or turn sash-frame mounting.



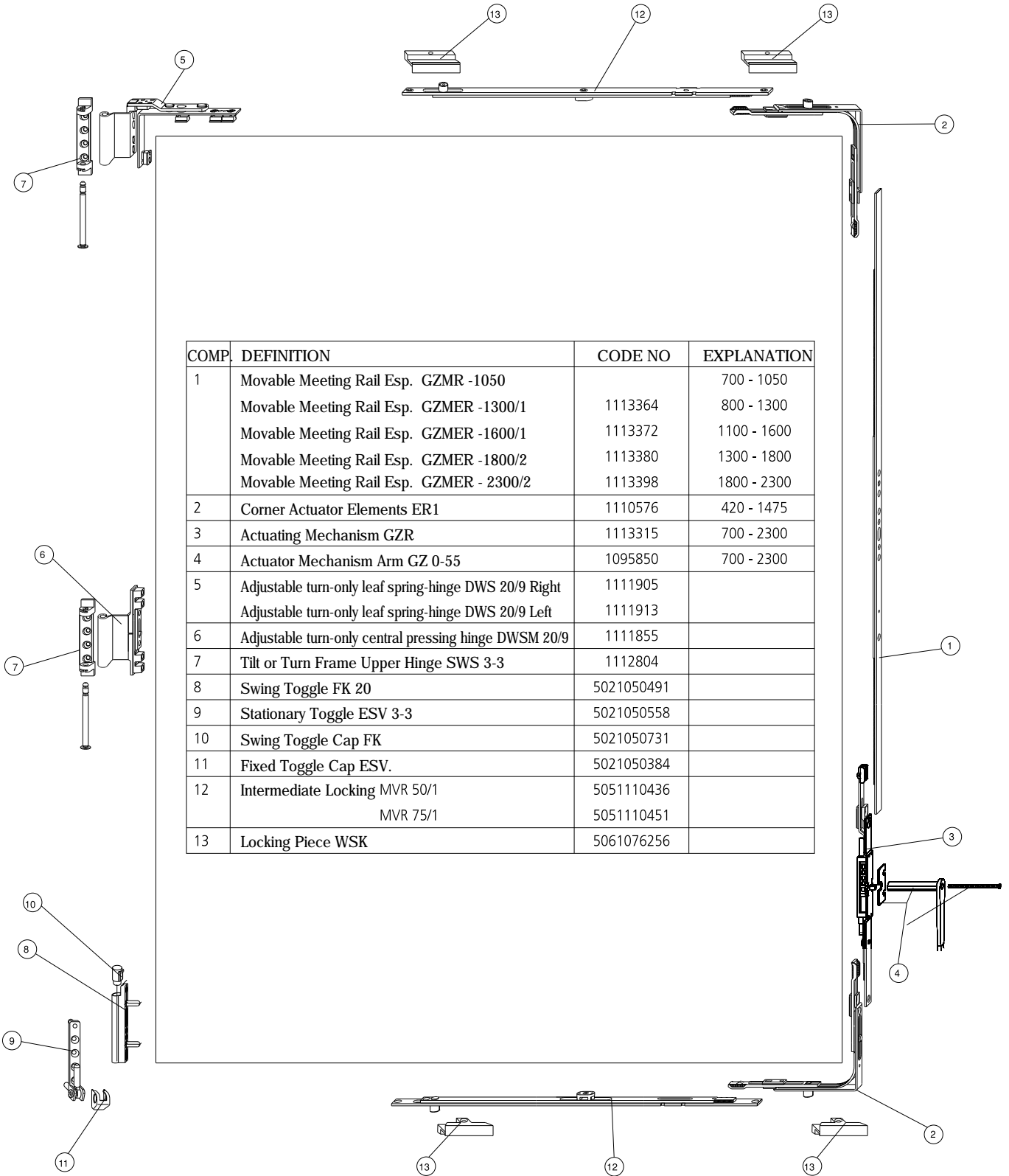
A - A SECTION

WINKHAUS TILT OR TURN ELEMENTS



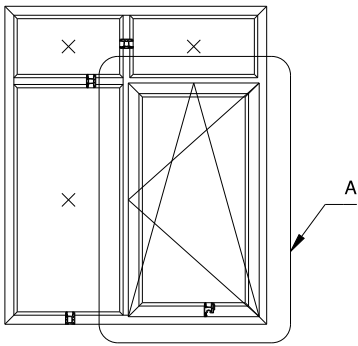
COMP.	DEFINITION		CODE NO	EXPLANATION
1	Tilt Or Turn Espagnolette	GRM 920 S	5011113067	460 - 920
		GRM 1050	5000000360	550 - 1050
		GRM 1300/1	5011110386	800 - 1300
		GRM 1600/1	5011110394	1100 - 1600
		GRM 1800/1	5011110402	1300 - 1800
		GRM 2300/1	5011110410	1800 - 2300
2	Corner Actuator 1/1G	ER 15F	5021110014	
3	Sash Leaf Spring	OR 625/0	5031110147	420 - 600
		OR 800/0	501110154	600 - 800
		OR 1025/1	5031110188	775 - 1025
		OR 1250/1	5031110196	1000 - 1250
		OR 1450/1	5031110204	1225 - 1475
4	KM Corner Actuator	ER 7/OR	5021110550	
5	Frame Leaf Spring	SW 22 (RIHGT)	5041111046	Operation with 625 Kn Mk
		SW 22 (LEFT)	5041111053	Operation with 625 Kn Mk
		SW 40 (RIHGT)	5041111061	Operation with 800-1425 Kn Mk
		SW 40 (LEFT)	5041111079	Operation with 800-1425 Kn Mk
5.1	Tilt or Turn Hinge	SWS 3-3	5021112804	
6	Rear-Bottom Locking	MVR 50/1	5051110436	
		MVR 75/1	5051110451	
7	Additional Locking	MVZ 50/1	5151094036	
		MVZ 75/1	5151094044	
8	Swing Toggle	FK 20	5021050491	
9	Stationary Toggle	ESV 3-3	5021050558	
10	Swing Toggle Cap	FK	5021050731	
11	Locking Piece	WSK	5061076256	
		SEF	5151085075	
13	Tilt or Turn Locking Piece	K-SEF (RIHGT)	5061085091	
		K-SEF (LEFT)	5061085083	
14	Fixed Toggle Cap	ESV	5021050384	
15	Corner Actuator	ER 1	5021110576	

# TILT OR TURN SYSTEM ACCESSORY SELECTION w75



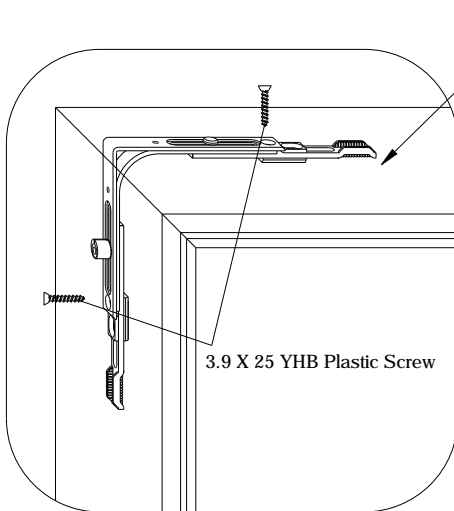
COMP.	DEFINITION	CODE NO	EXPLANATION
1	Movable Meeting Rail Esp. GZMR -1050		700 - 1050
	Movable Meeting Rail Esp. GZMER -1300/1	1113364	800 - 1300
	Movable Meeting Rail Esp. GZMER -1600/1	1113372	1100 - 1600
	Movable Meeting Rail Esp. GZMER -1800/2	1113380	1300 - 1800
	Movable Meeting Rail Esp. GZMER -2300/2	1113398	1800 - 2300
2	Corner Actuator Elements ER1	1110576	420 - 1475
3	Actuating Mechanism GZR	1113315	700 - 2300
4	Actuator Mechanism Arm GZ 0-55	1095850	700 - 2300
5	Adjustable turn-only leaf spring-hinge DWS 20/9 Right	1111905	
	Adjustable turn-only leaf spring-hinge DWS 20/9 Left	1111913	
6	Adjustable turn-only central pressing hinge DWSM 20/9	1111855	
7	Tilt or Turn Frame Upper Hinge SWS 3-3	1112804	
8	Swing Toggle FK 20	5021050491	
9	Stationary Toggle ESV 3-3	5021050558	
10	Swing Toggle Cap FK	5021050731	
11	Fixed Toggle Cap ESV.	5021050384	
12	Intermediate Locking MVR 50/1	5051110436	
	MVR 75/1	5051110451	
13	Locking Piece WSK	5061076256	

# w75 TILT AND TURN ESPAGNOLETTE ASSEMBLY SASH PREPARATION



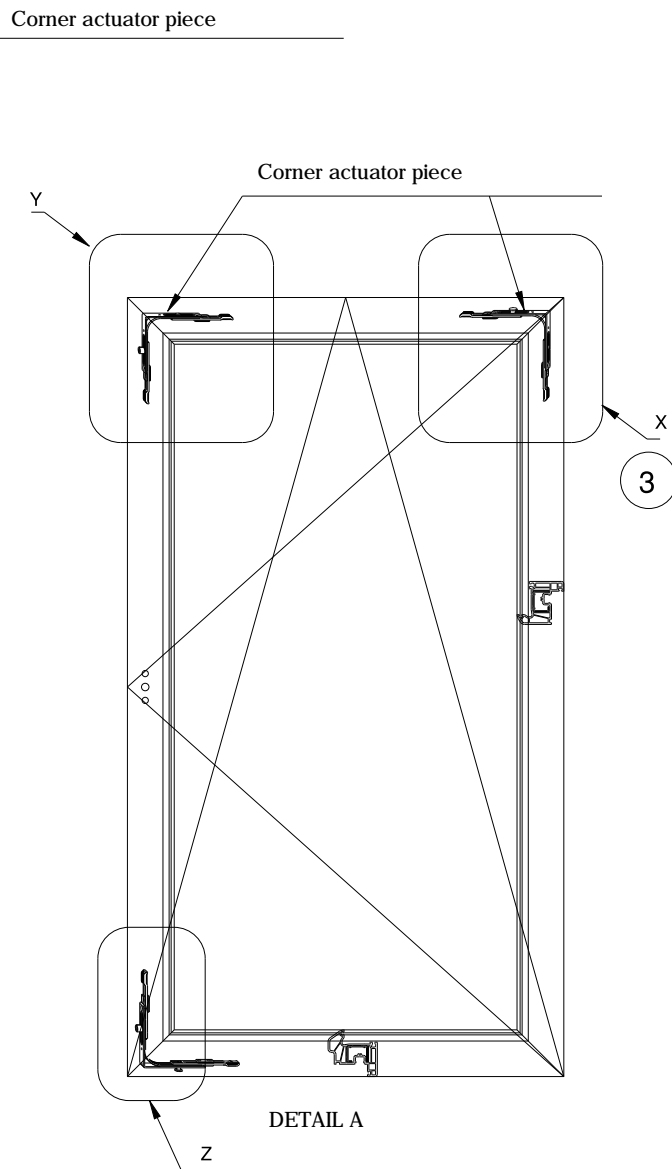
## Operation Sequence -1

- 1 -Espagnolette is fitted into its slot so that the hexagonal actuating piece will be positioned at the lower corner of the sash and the dome-headed lock bolt will be positioned at the bottom. It is fixed by a 3.9 X 25 YHB plastic screw as shown in detail Z.
- 2-The espagnolette is fitted into its slot so that corner actuator piece will be positioned at the upper left corner and the espagnolette pin to ward the Zamak counterpart. It is screwed by a 3.9 X 25 YHB plastic screw as shown in detail Y.
- 3-Espagnolette is fitted into the leaf spring side of its slot so that the corner actuator the upper right corner and the flat pin will stand up in vertical position. It is fixed by a 3 X 25 YHB plastic screw as shown in detail X.

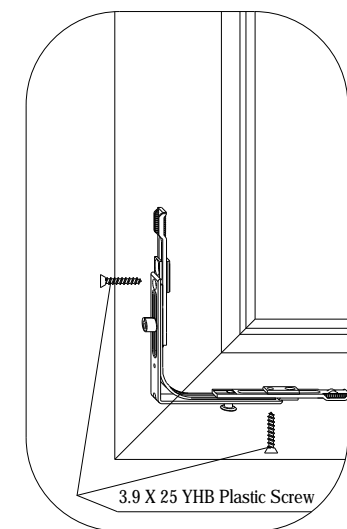


DETAIL Y

2



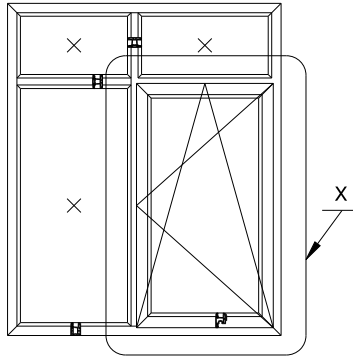
DETAIL A



DETAIL Z

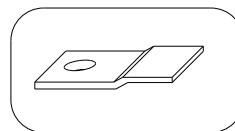
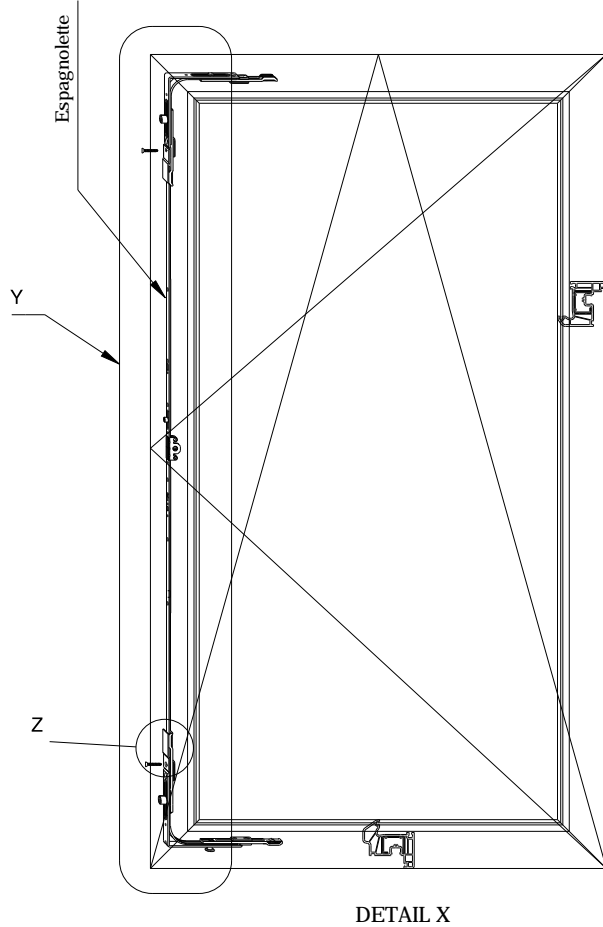
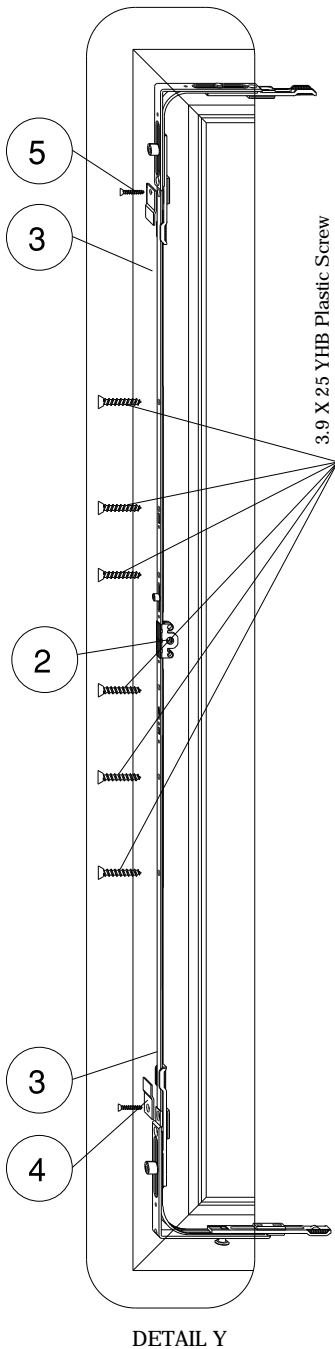
1

# TILT AND TURN ESPAGNOLETTE MOUNTING SASH PREPARATION w75



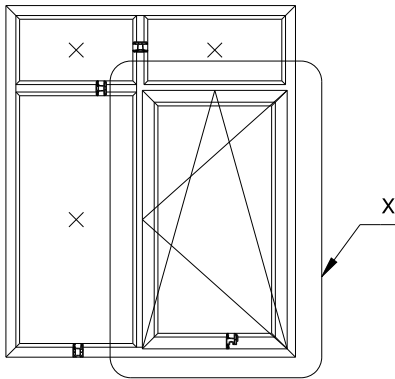
## Operation Sequence -2

- 1- Espagnolette suited to the length of sash is selected.
- 2- Length of the espagnolette is cut so as to suit the size of the sash.
- 3- Espagnolette is fitted into its hub so that its brand name will be clearly readable, and both ends of the piece actuating the espagnolette are fastened to the corner actuator piece and to the bottom actuator piece.
- 4- Fixing of the manually cut espagnolette to the corner actuator parts are effected by fittings. (As shown in detail Z)
- 5- Fittings are mounted on the junction point of the espagnolette and the corner actuator piece, and fixed by a 3.9 X 25 YHB plastic screw.



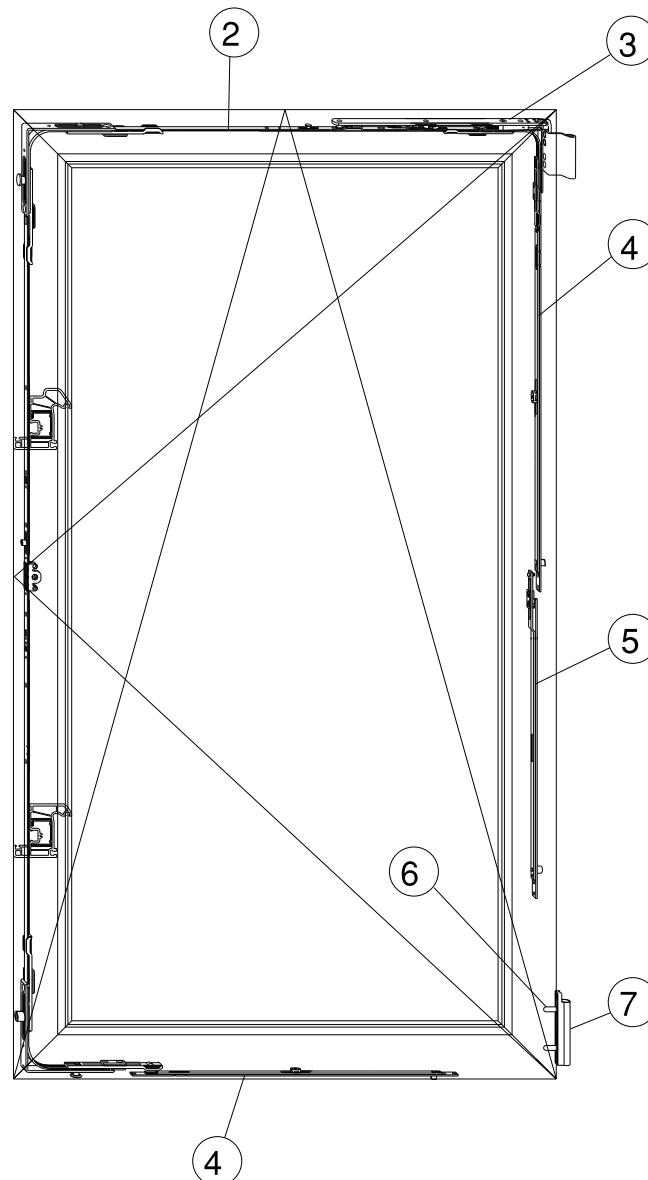
DETAIL Z

# w75 TILT AND TURN ESPAGNOLETTE MOUNTING SASH PREPARATION



## Operation Sequence -3

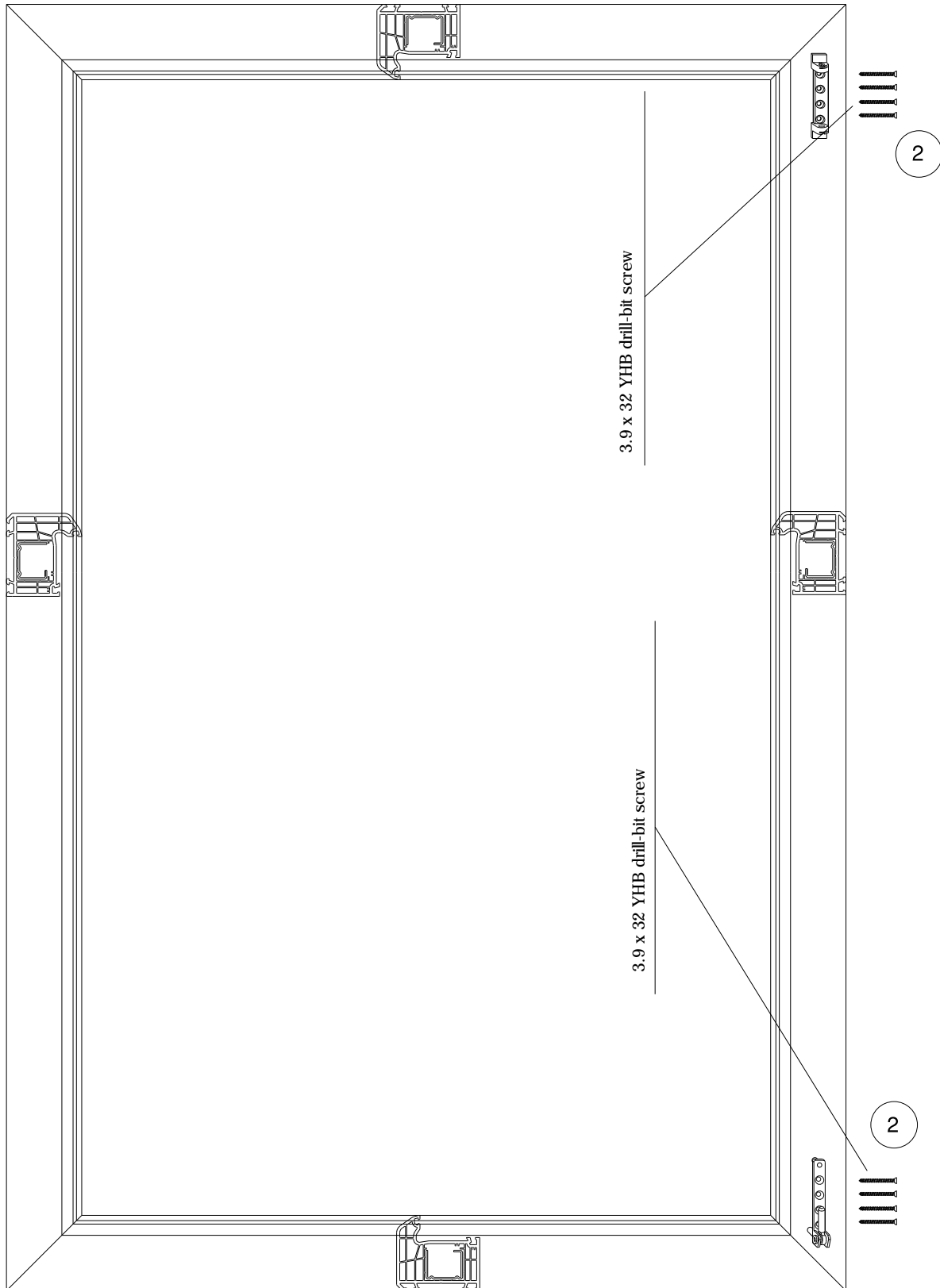
- 1- Sash width is measured and the cutting of leaf spring member is made.
- 2- Leaf spring is fitted into the espagnolette slot and fixed by a 3.9 X 25 YHB plastic screw.
- 3- Frame leaf spring is mounted on the sash leaf spring.
- 4- Rear locking piece is fastened to the leaf spring corner actuator in vertical plane while the bottom locking piece to the bottom corner actuator in horizontal plane and are fixed to the sash espagnolette slot by a 3.9x25 YHB plastic screw.
- 5- For high sash lengths, additional locking pieces must be used without fail.
- 6- Centering pin holes are bored by a 0.6 mm drill by the aid of a stencil.
- 7- Swivel toggle is fitted and fixed by a 4.2 X 45 YHB screw.



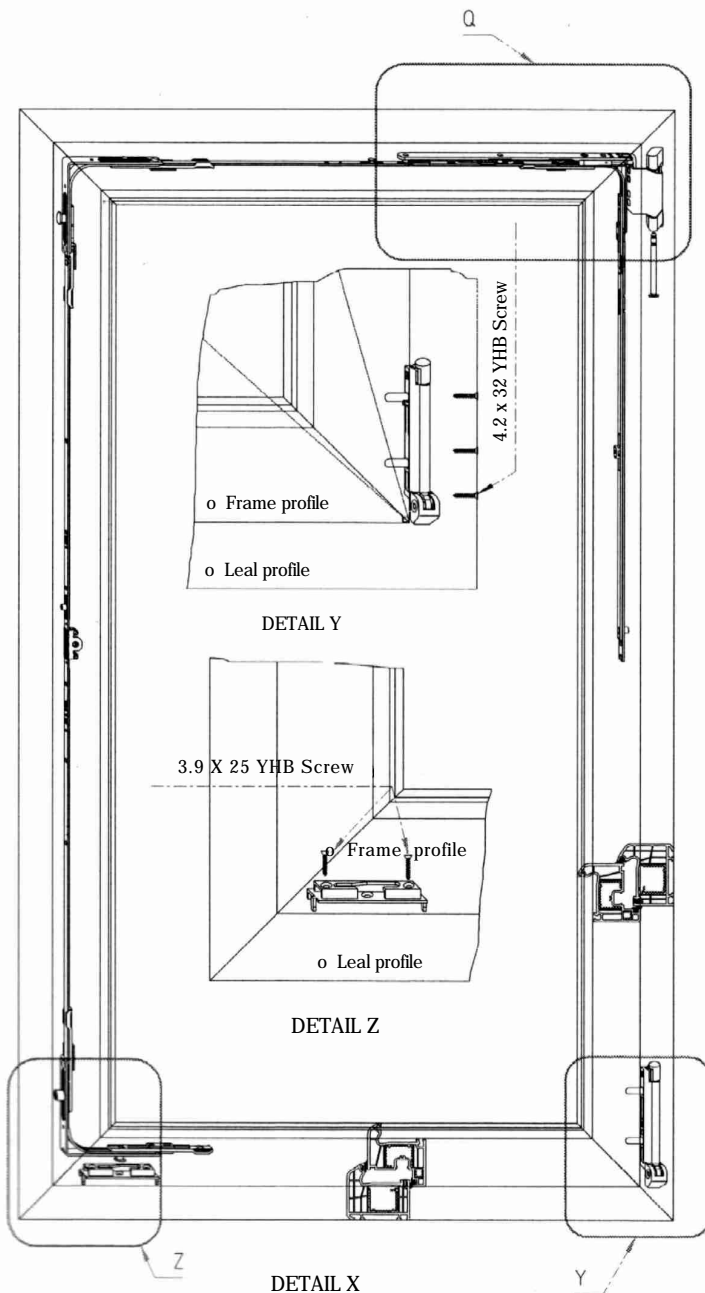
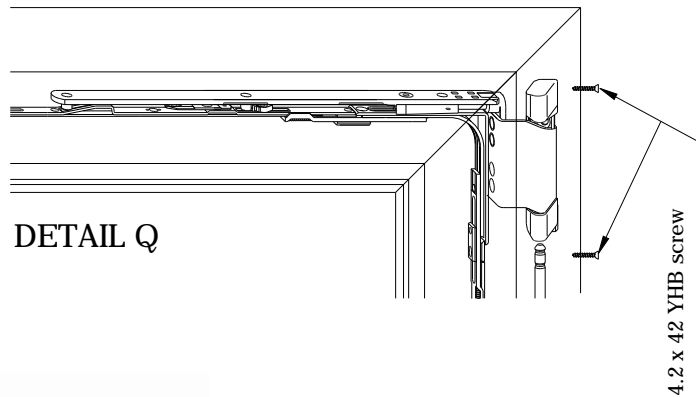
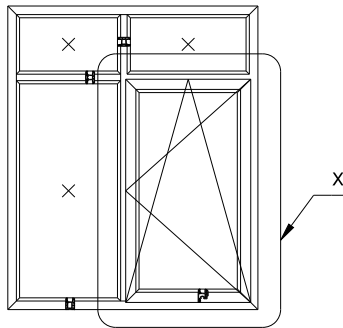


Operation Sequence - 4

- 1- The holes of frame stencil and the tilt or turn sash hinge and stationary toggle are bored by a 3 mm drill, while the centering pin holes by a 6 mm drill.
- 2- Tilt and turn slash hinge and stationary toggle is lodged and screwed by 3,9 X 32 YHB sheet metal.



# w75 TILT OR TURN ESPAGNOLETTE FRAME LEAF MOUNTING



## Operation Sequence (Mounting of Sash on the Frame)

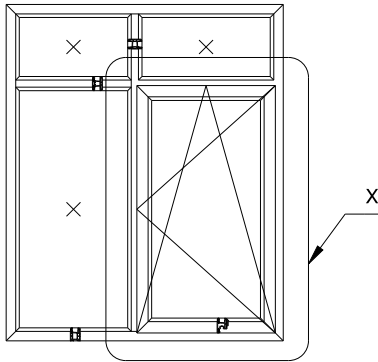
1- The location of the part of bottom frame toggle hinge lying on the frame is determined by the aid of a stencil and it is fixed in place by a 4.2 X 32 YHB sheet metal screw.

2- The locations of the upper frame hinge and the part of transom leaf spring lying on the frame are determined by the aid of a stencil, and they are fixed in place by a 4.2 X 42 YHB sheet metal screw.

3- The location of left-hand side bottom locking piece on the frame is determined by the aid of a stencil and it is screwed by a 3.9x25 YHB plastic screw.

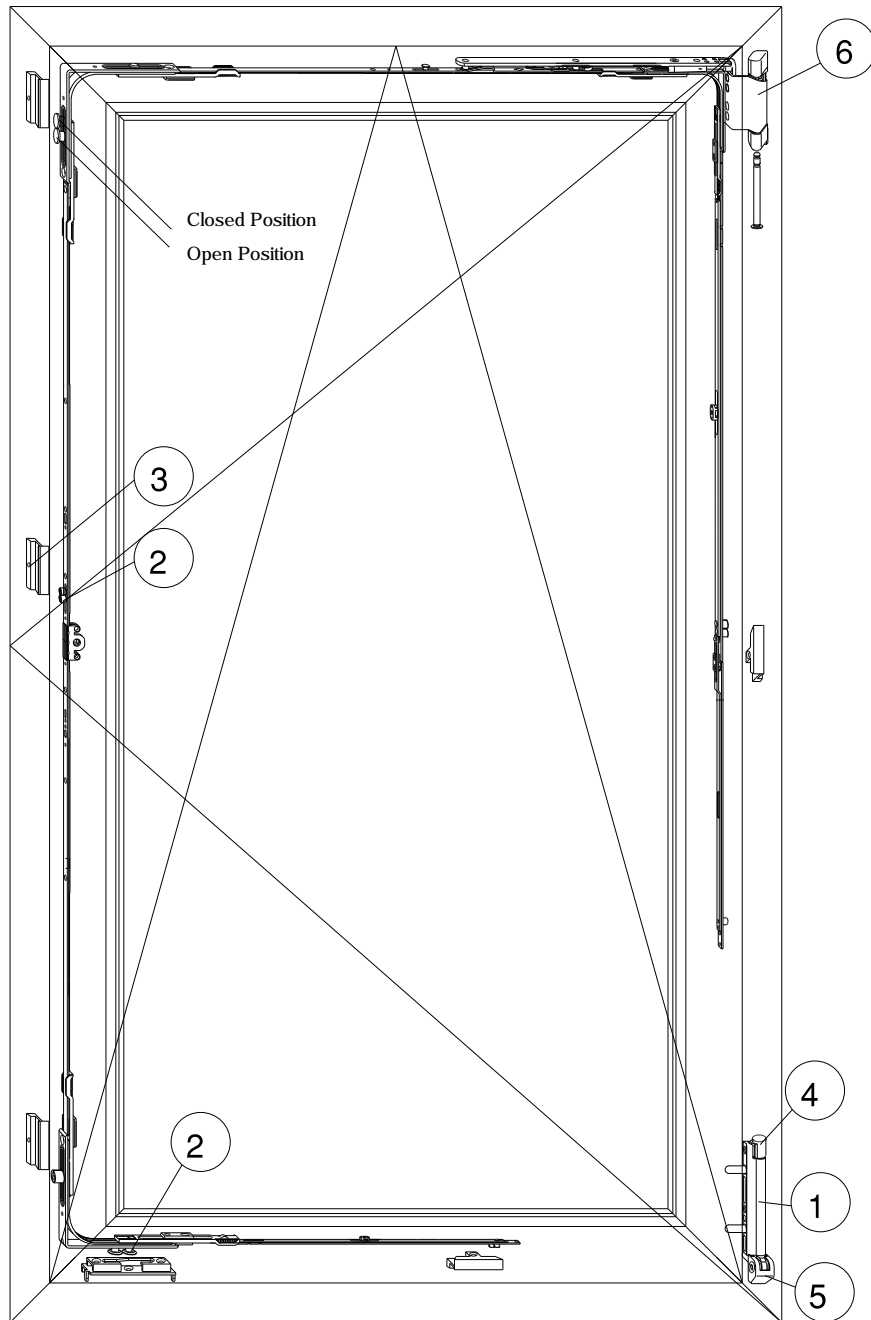
Note: At the time of receipt of the tilt or turn accessories, all locking parts must be in closed position. If they are positioned at a fully open or half open position for any reason whatsoever, problems would occur and even tilt or turn system may not operate.

# TILT OR TURN ESPAGNOLETTE FRAME LEAF MOUNTING w75



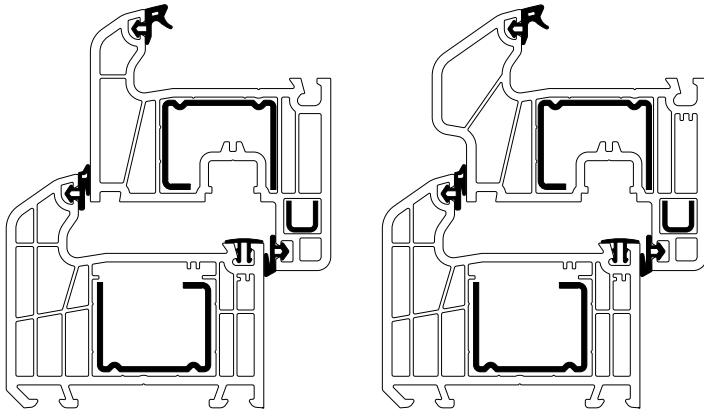
## Operation Sequence - 5

- 1- Frame is mounted on the sash and the stationary toggle is fitted to the swing toggle.
- 2- Espagnolette is brought to the open position and the top level of lock bolts are marked on the frame.
- 3- Locking pieces are fixed to the frame by a 3.9 X 25 YHB plastic screw.
- 4- Swing toggle cap is fitted.
- 5- Stationary toggle cap is fitted.
- 6- Frame leaf spring is fitted on tilt or turn hinge, and secured by the hinge pin.



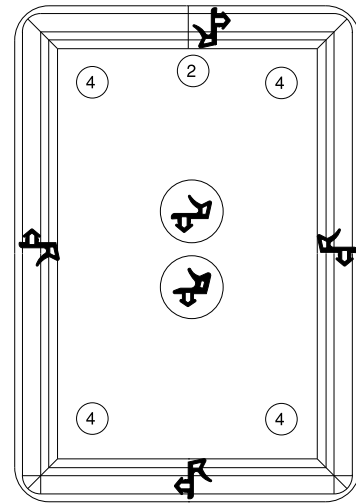
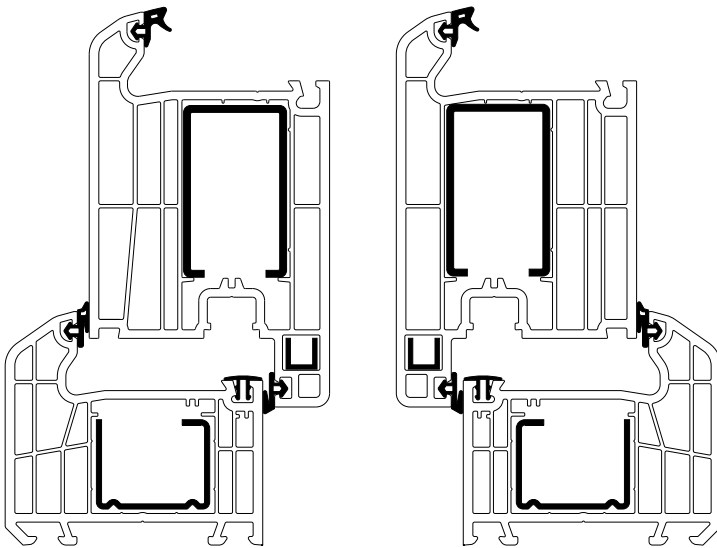
DETAIL X

# w75 TILT OR TURN ESPAGNOLETTE FRAME LEAF MOUNTING

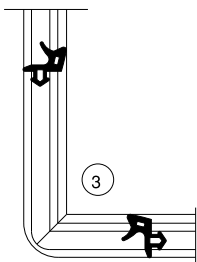
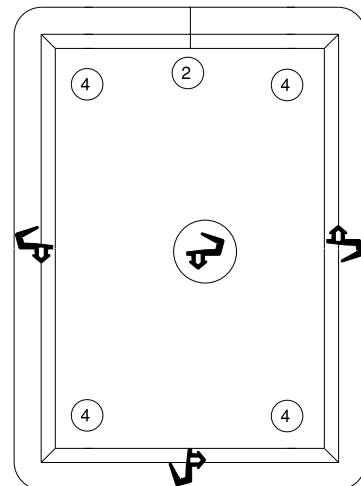


### Operation Sequence

- 1- Channels are dampened with soapy water.
- 2- Gasket fitting operation is started from the upper middle section.
- 3- The bent parts universal gasket lying on the corners are cut by a gasket scissors.
- 4- Gasket is pasted to the gasket channel at the gasket turn and points.

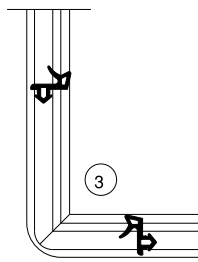


4

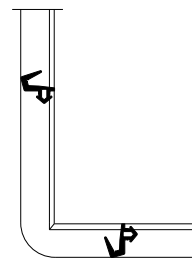


F70 Glass Gasket  
58 gr/mt

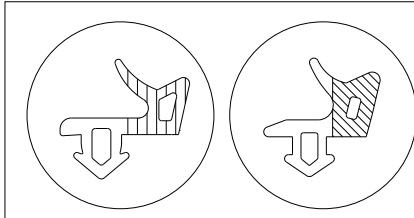
Note: It is used where the glazing thickness is small.



Universal Gasket  
50 gr/mt



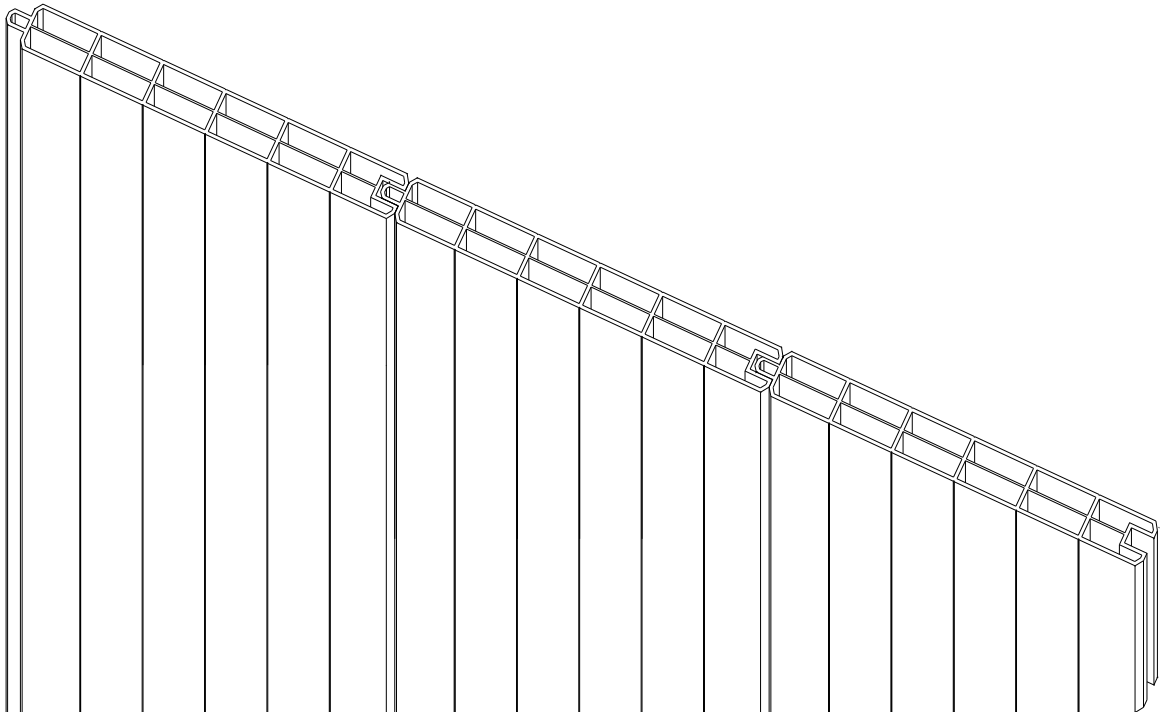
U Gasket  
38 gr/mt  
(No Notching)



When gasket pressing cheeks are cut from the turning corner of the universal gasket and window gasket, at area as shown in the section, and are pulled after having overlapped to each other, the sealing of corners will be ensured without requiring any pasting.

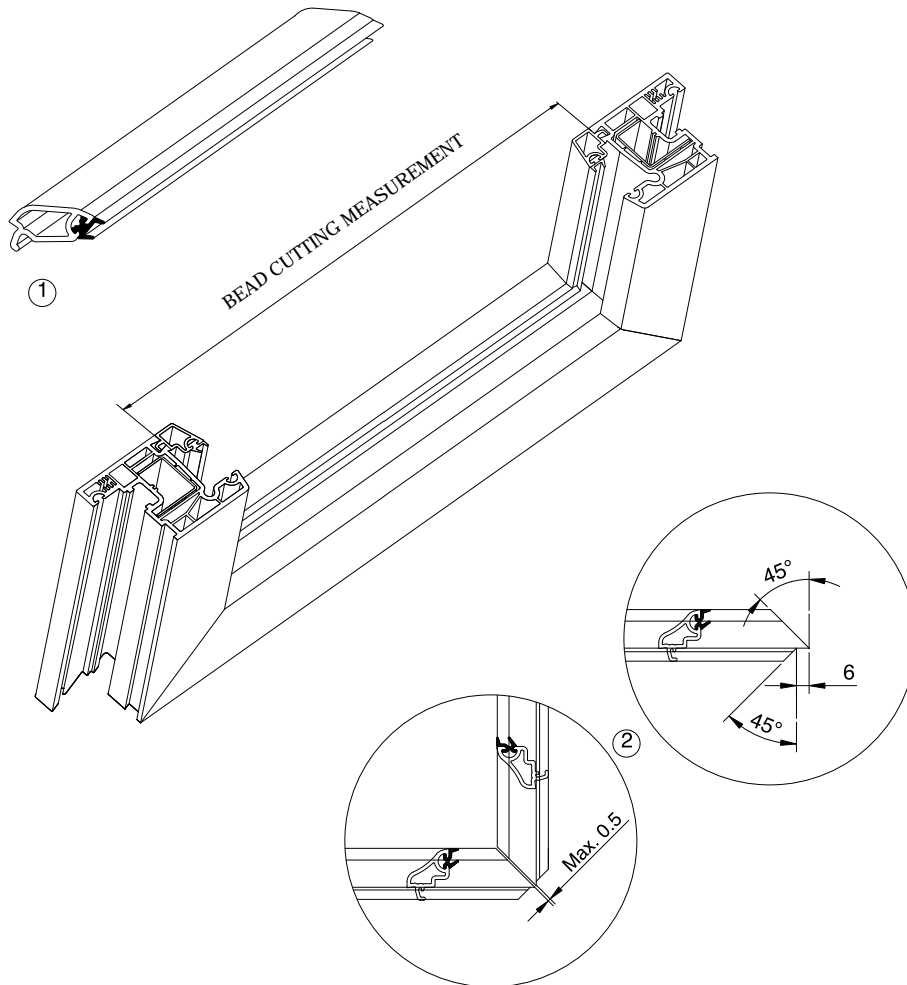
## Wainscot Cutting

- 1- Wainscots are cut and prepared according to the calculated glass cutting measures.
- 2- If wainscots are to be cut at an angle, first each piece cut evenly according to its measure and then they are fitted to each other and cut at desired angle.
- 3- Where the wainscot needs to be slitted as required by its measurement, it must be cut evenly with a scroll or prop saw, taking the lines on it as a reference.
- 4- The combined wainscots should be pasted to each other with a PVC adhesive (tangit) so that they would not break up but act as a whole during blocking of leaf.

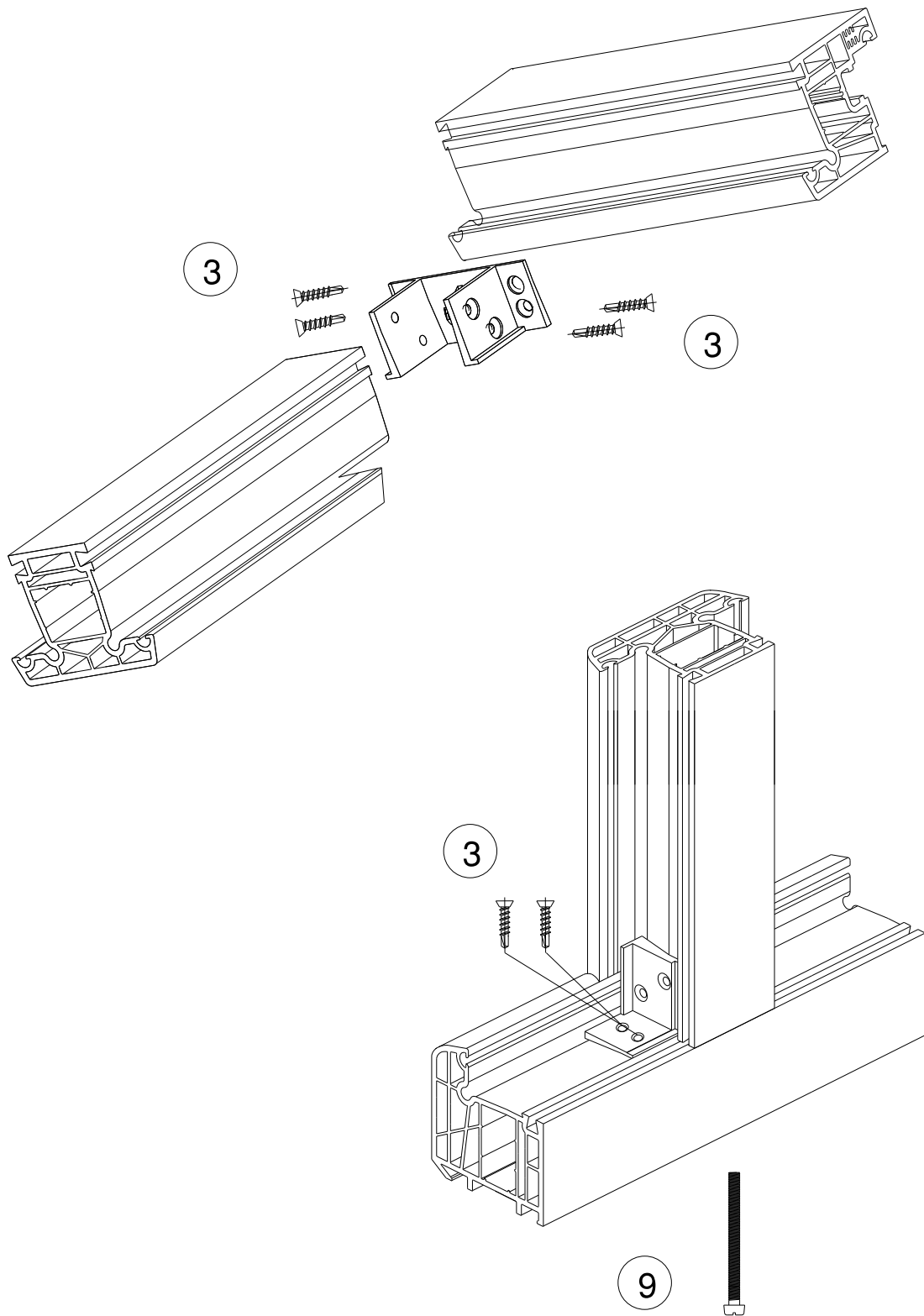




## BEAD CUTTING

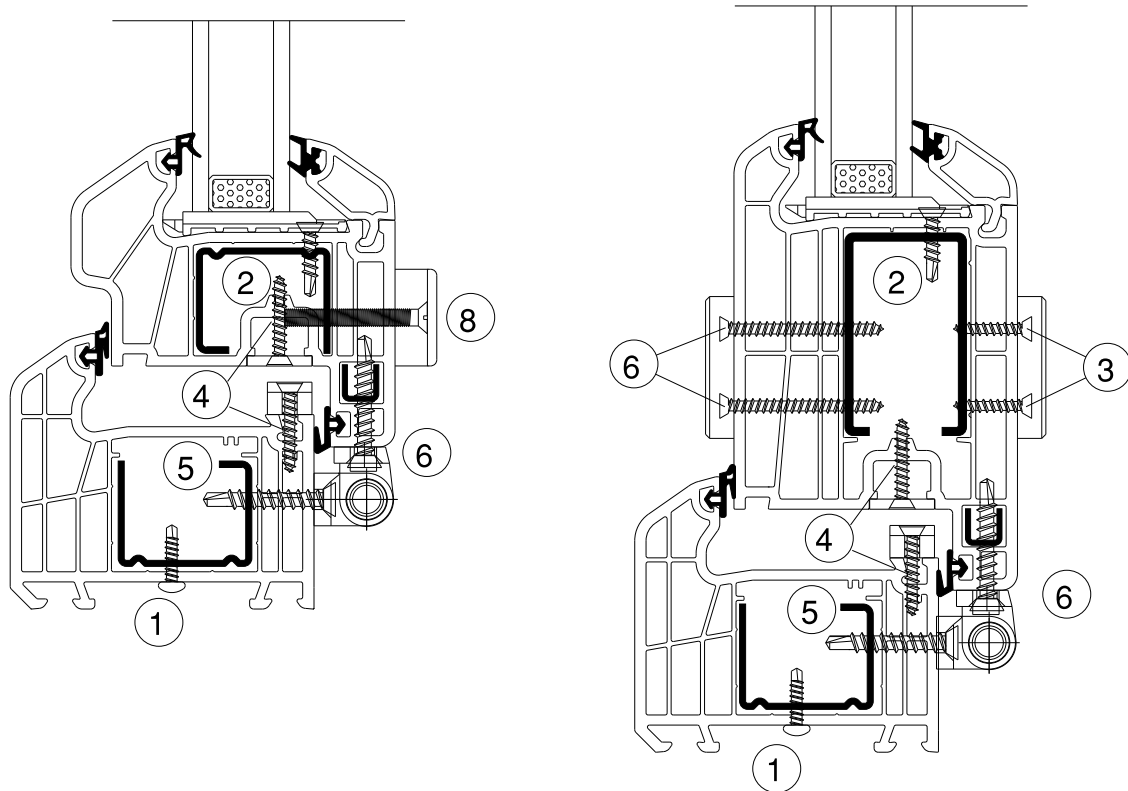
- 1- After the beads are measured according to relevant technique, they are cut using the bead cutting machines specially designed for this purpose. For each bead of different size, separately prepared bead molds should be used. At each cutting operation, a cutting with an angle of 45 degrees on both sides of the bead is done.
- 2- Beads are cut with an angle of 45 degrees according to the cutting measurements taken. To allow the beads to fully set at the junction corner of beads, the gap at junction points should not be more than 0.5 mm.



# SCREWS USED AT MEETING RAIL CONNECTION w75



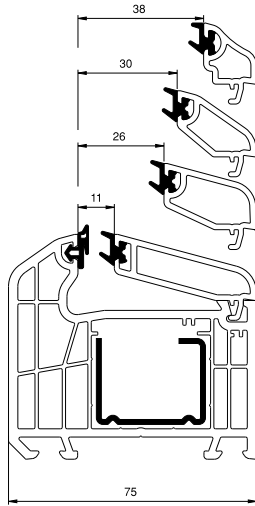
REF	SCREW TYPE	PLACE OF USAGE	SCREW TYPE
3	3.9x25 Drill-bit Screw	Meeting Rail Connection Block	
9	M6 X 60 YSB	Meeting Rail Fastening (Pulling)	



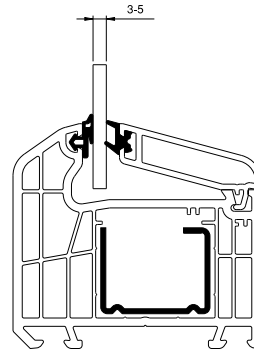
REF.	V·DA T·P·c	PLACE OF USAGE	V·DA T·P·c
1	3.9 x 22 YSB Drill-bit Screw	Frame Back-up Sheet Metal	⊕
2	3.9 x 25 YSB Drill-bit Screw	Sash Back-up Sheet Metal Meeting Rail Support Sheet Metal Locking Door Support Sheet Metal	⊕
3	3.9 x 32 YSB Drill-bit Screw	Door Handle Plate Meeting Rail Connection Block Double Sash Adjustable Turn-only Leaf Spring Hinge Double Sash Angled Adjustable Turn-only Central Pressuring Hinge Transom Snap-Lock	⊕
4	3.9 X 38 YHB Plastic Screw	Espagnolette Door Lock Counterpart Locking Piece Cartridge Door Latch Tilt or Turn Corner Actuator Part Tilt or Turn Intermediate Fitting Tilt or Turn Sash Leaf Spring Tilt or Turn Intermediate Bottom Locking Tilt or Turn Additional Locking Double Sash Actuator Double Sash Actuator Mechanism Tilt or Turn Intermediate Locking	⊕
5	4.2 X 32 YHB Sheet Metal Screw	Hinge (Frame) Transom Butterfly and Leaf Spring	⊕
6	4.2 X 38 YHB Sheet Metal Screw	Door Lock Hinge (Sash)	⊕
7	4.2 x 45 YHB Plastic Screw	Leaf Adaptor Mounting Tilt or Turn and Double-Sash Toggle	⊕
8	M5 x 40 HB Screw	Window Handle	⊖



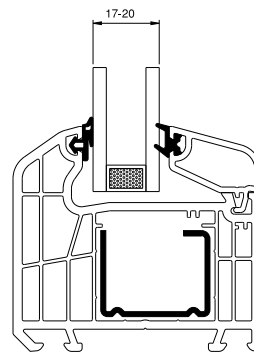
## DOT DETAILS



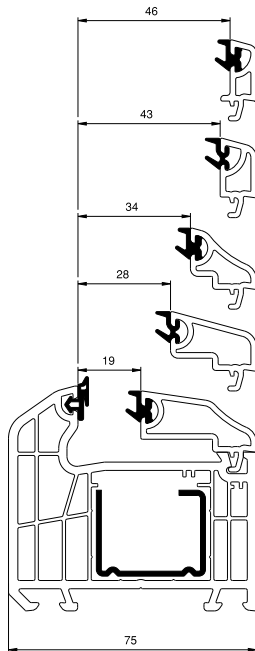
Series's bead spaces



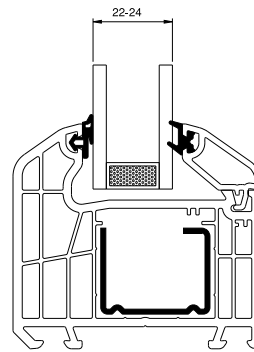
Single glazing, fixed



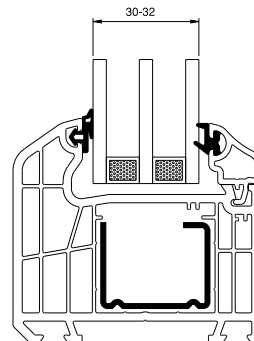
20 mm double glazing, fixed



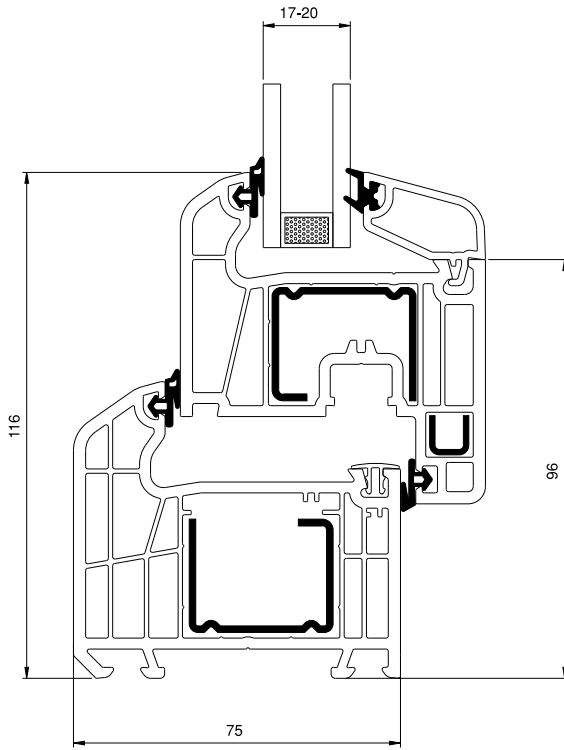
Spaces of other series's beads



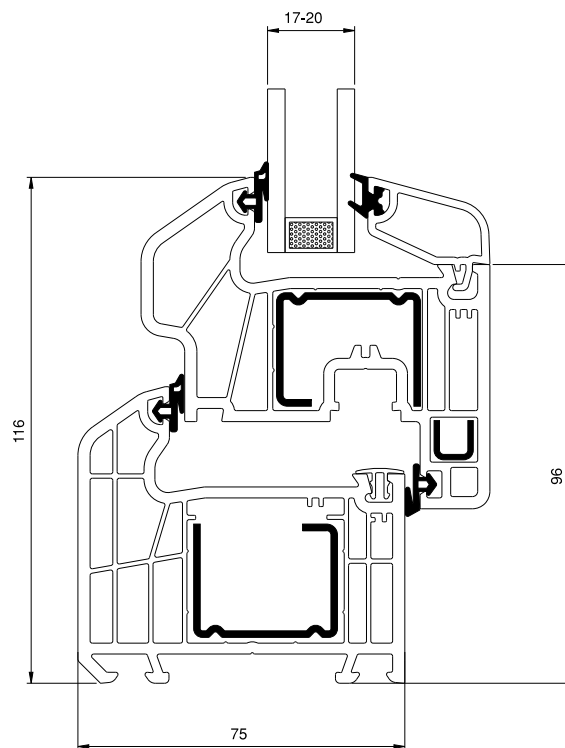
24 mm double glazing, fixed



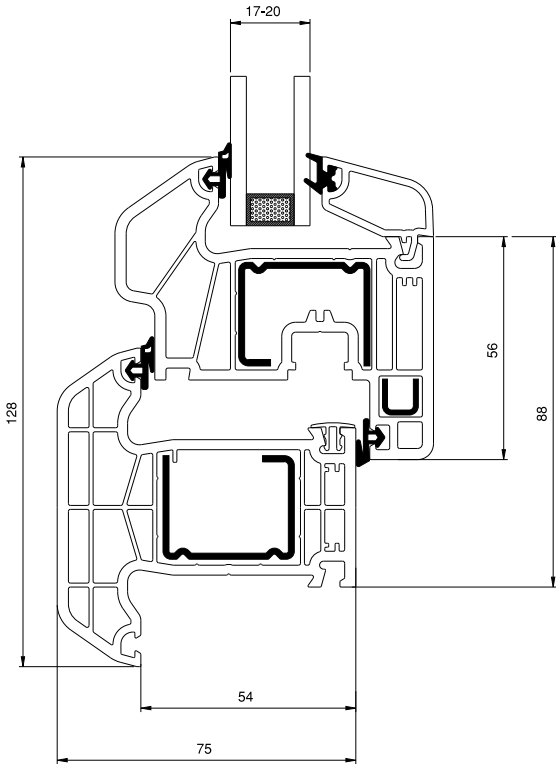
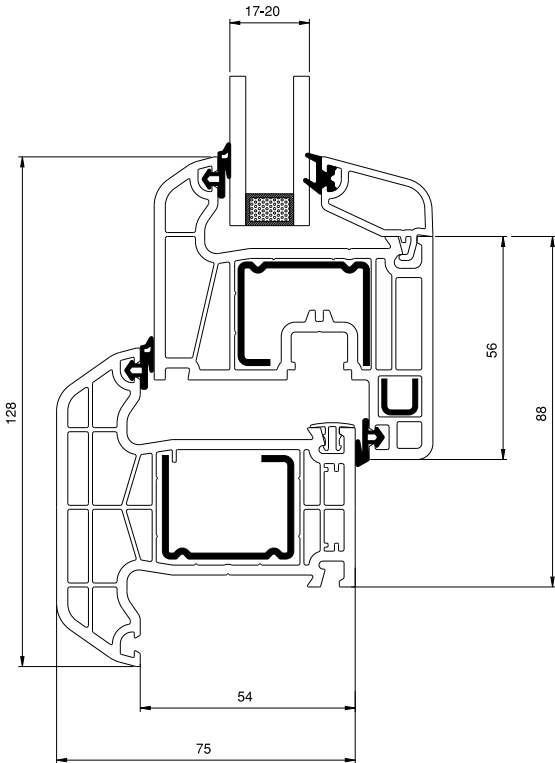
32 mm triple glazing, fixed



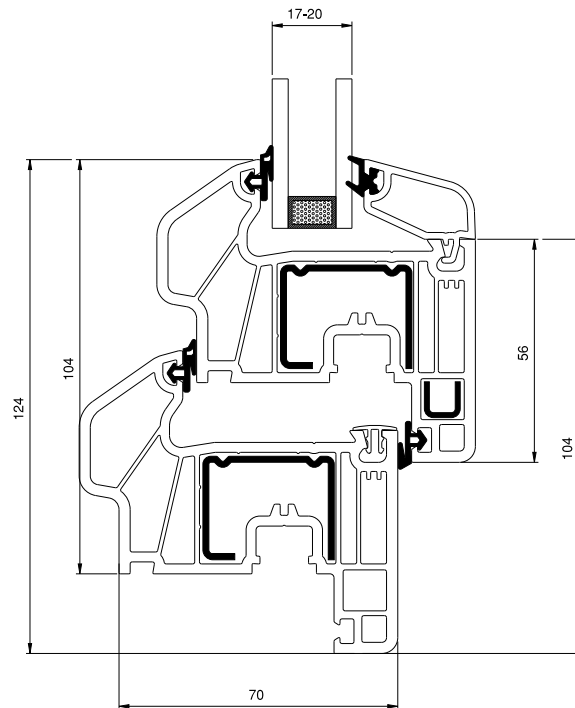
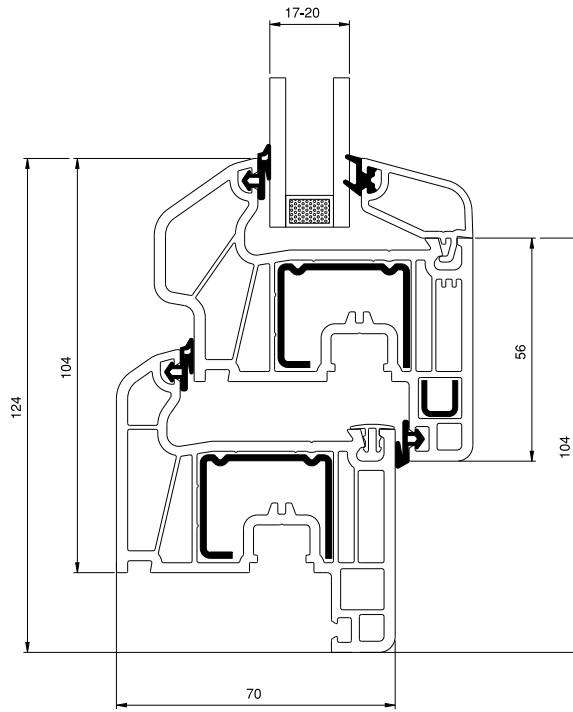
Frame detail for plain sash



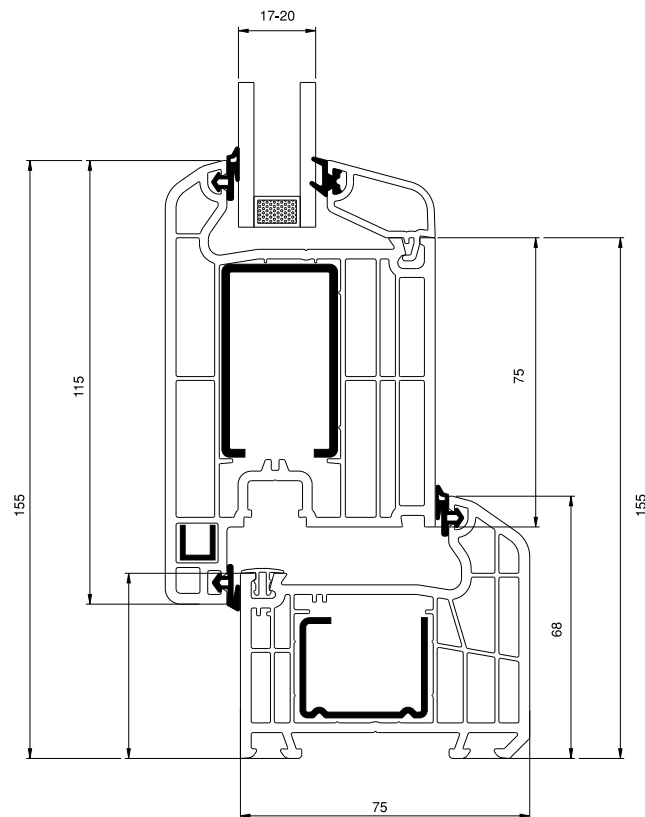
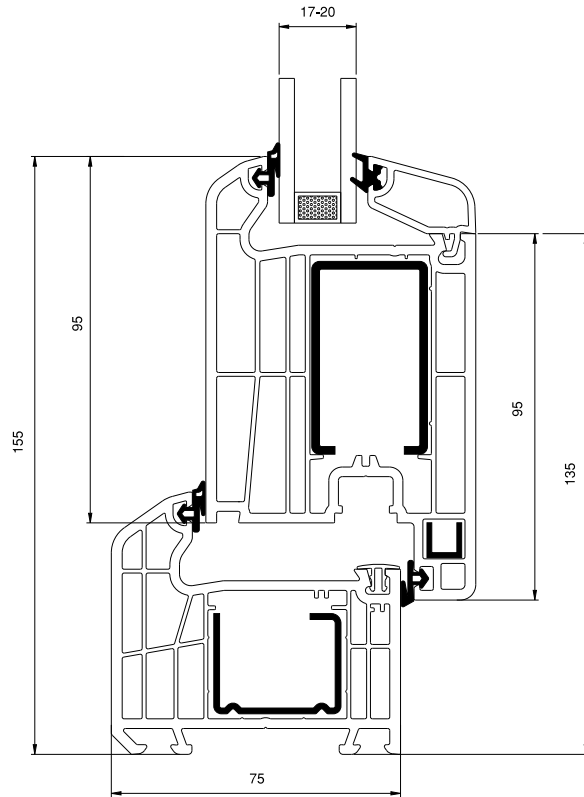
Frame detail for sash with water drip

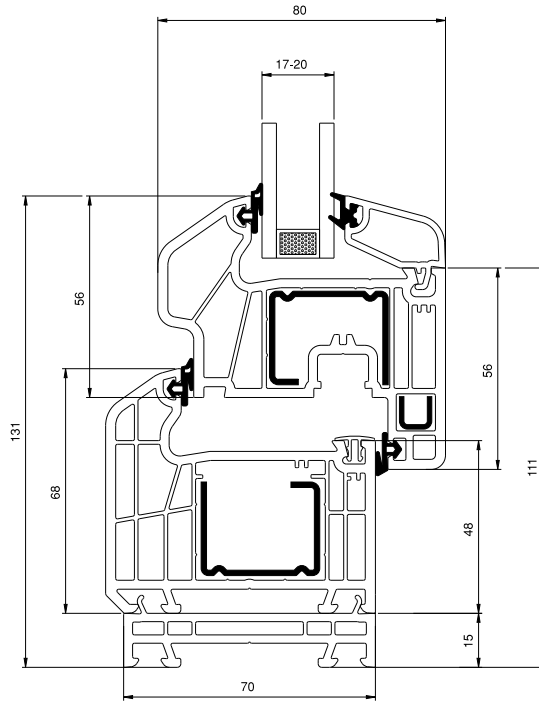


Frame Application for Meeting Rail (Outer overlapping system)

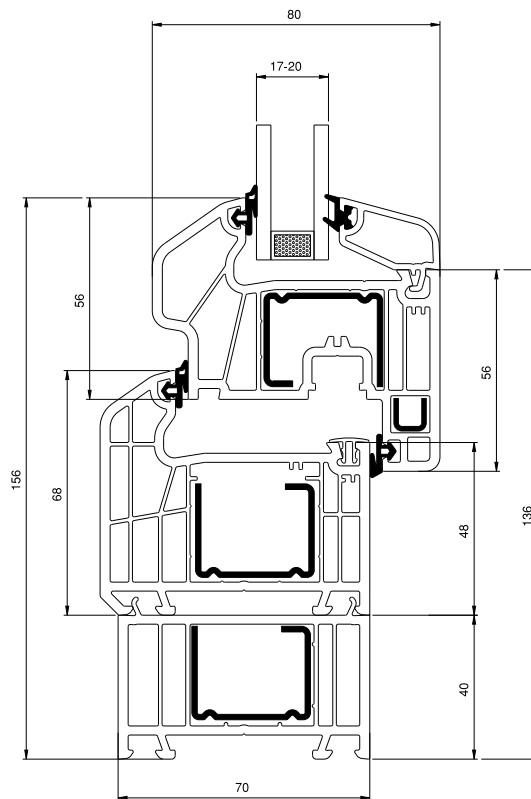


Sash Frame Application (Inner overlapping system)

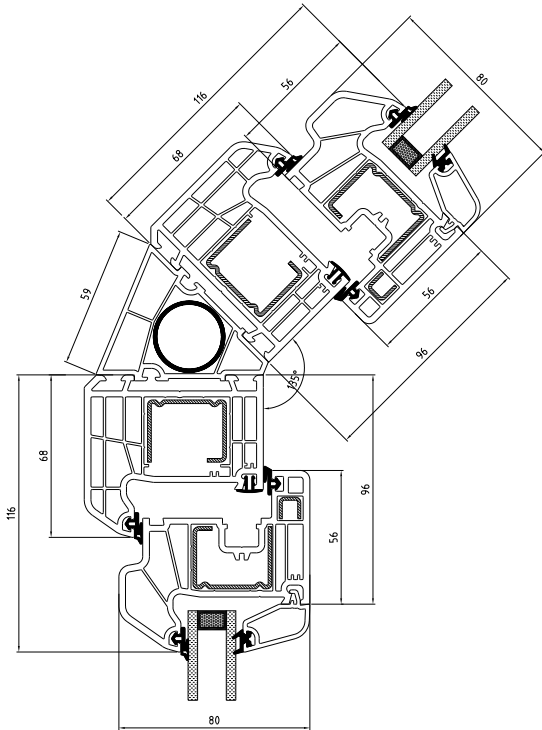




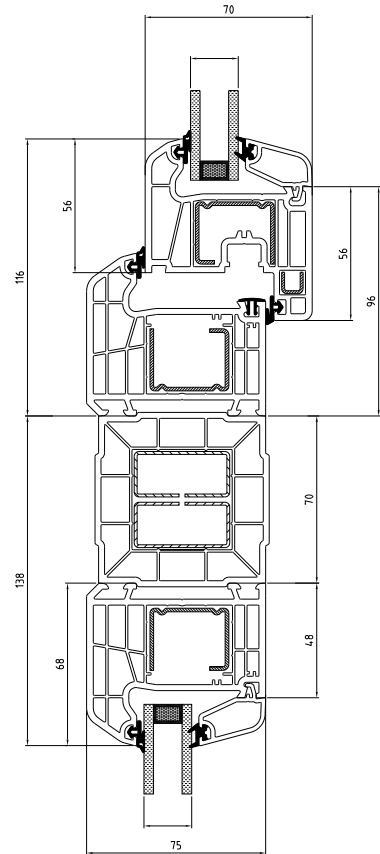
15 mm Frame Lifting Application



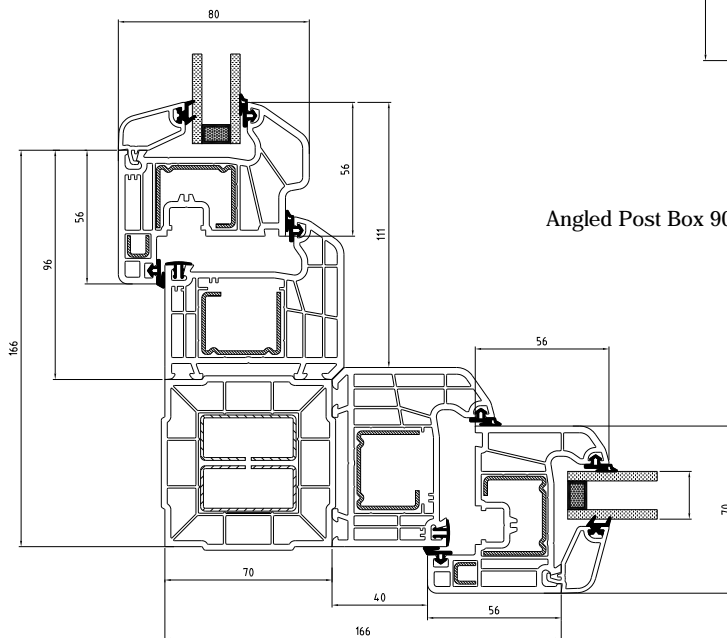
40 mm Frame Lifting Application



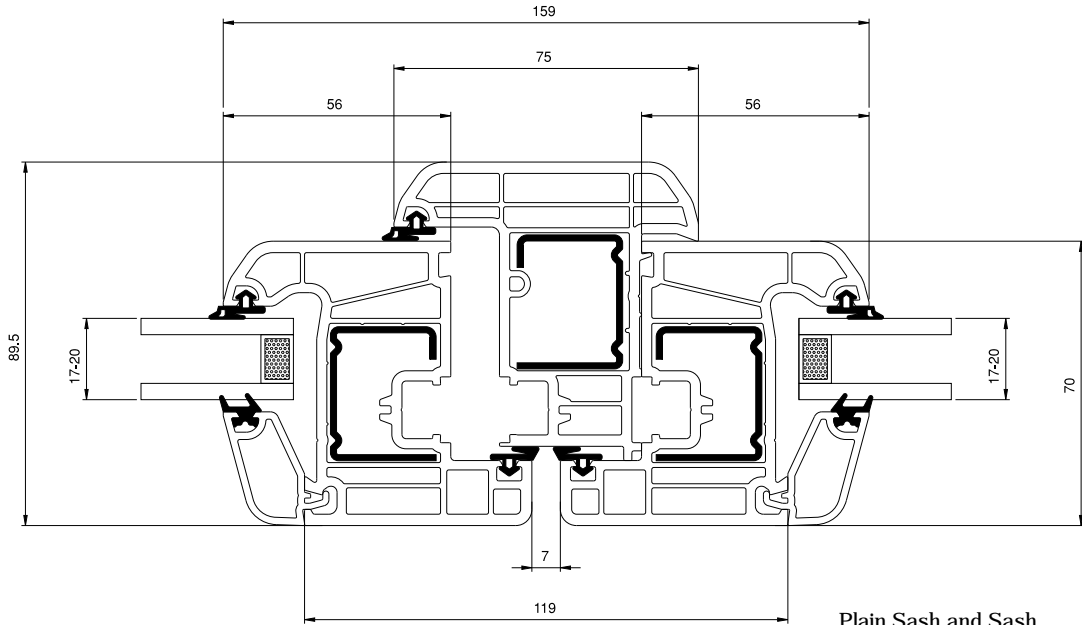
Application of 135° Angled Post Profile



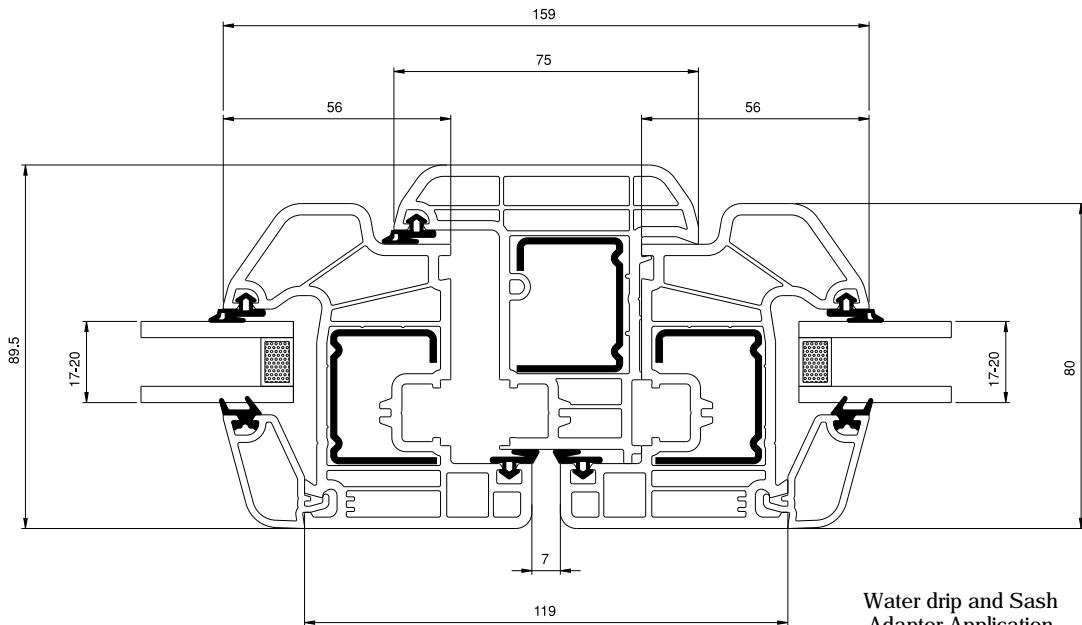
Angled Post Box 90° Profile and Grillage Applications



Angled Post Box 90° Profile Applications



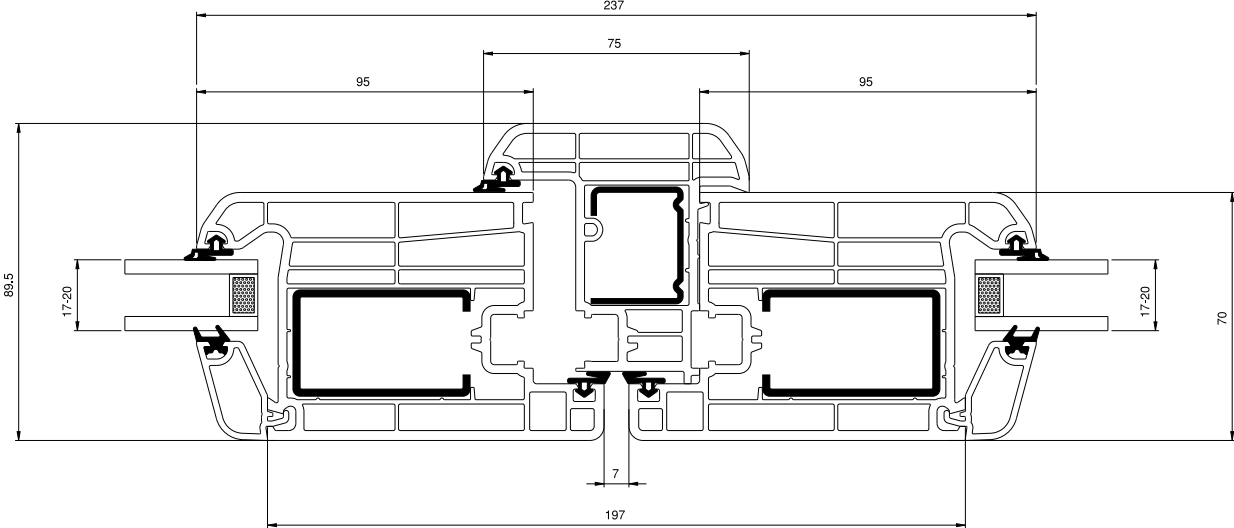
Plain Sash and Sash Adaptor Application



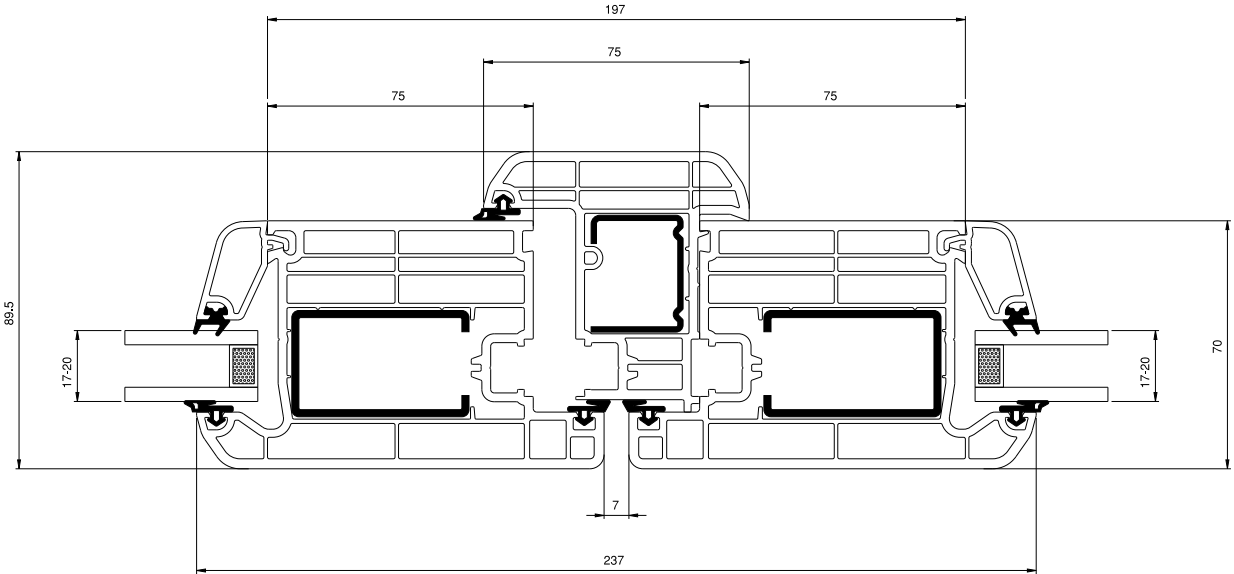
Water drip and Sash Adaptor Application

Note: Application is made without cutting the Sash Profile.  
As espagnolette counterpart, the Special" Espagnolette Counterpart Fitting Into Espagnolette Slot "is used.



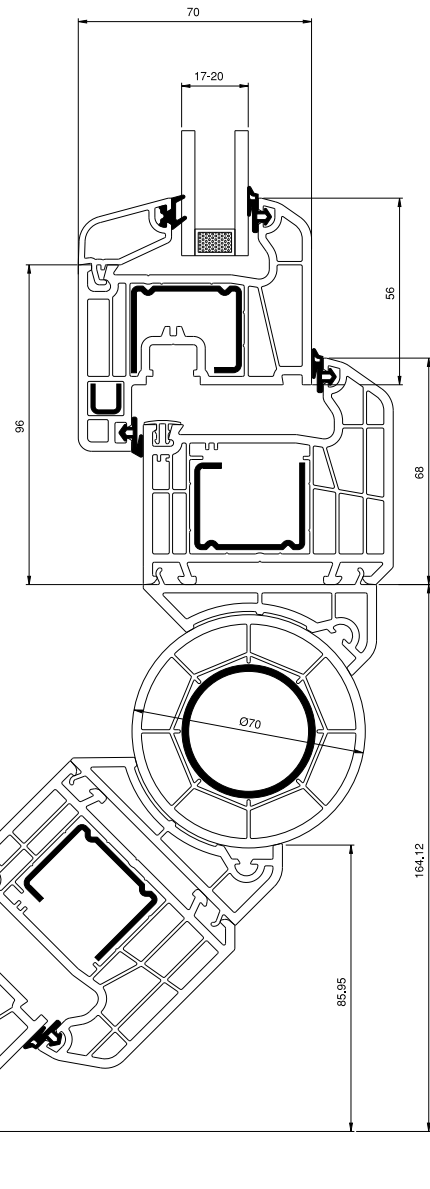
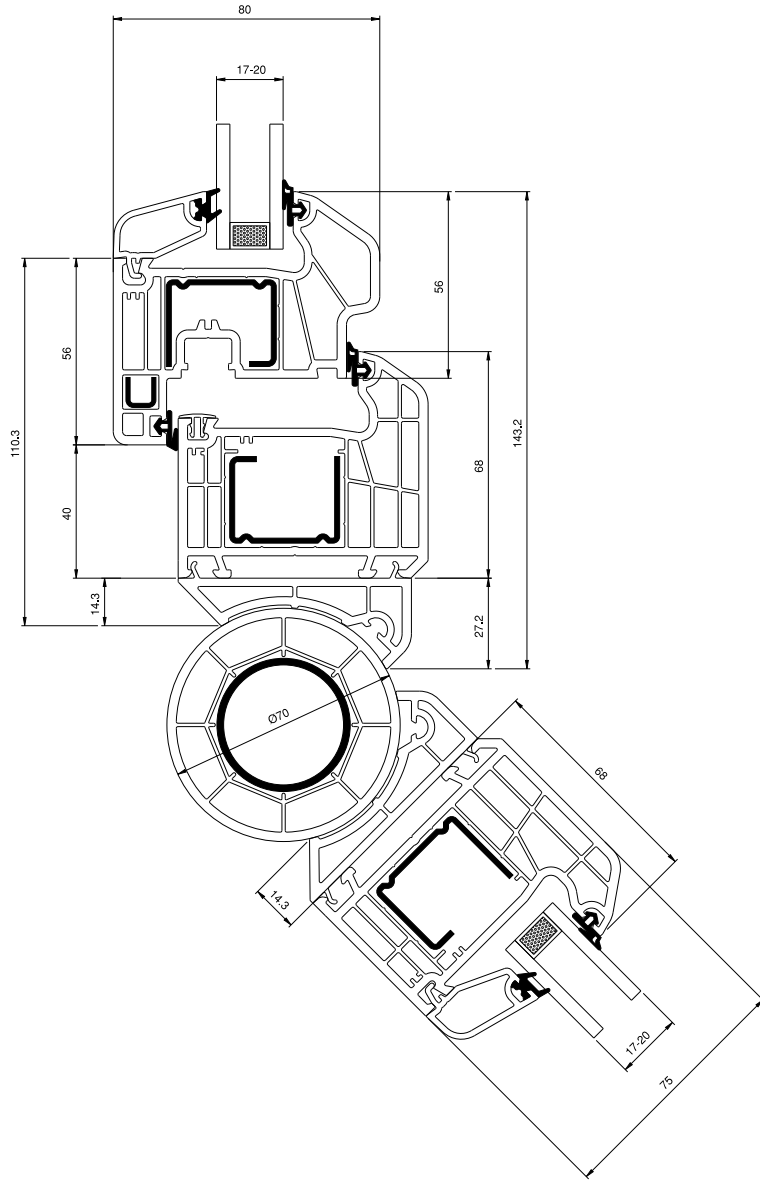


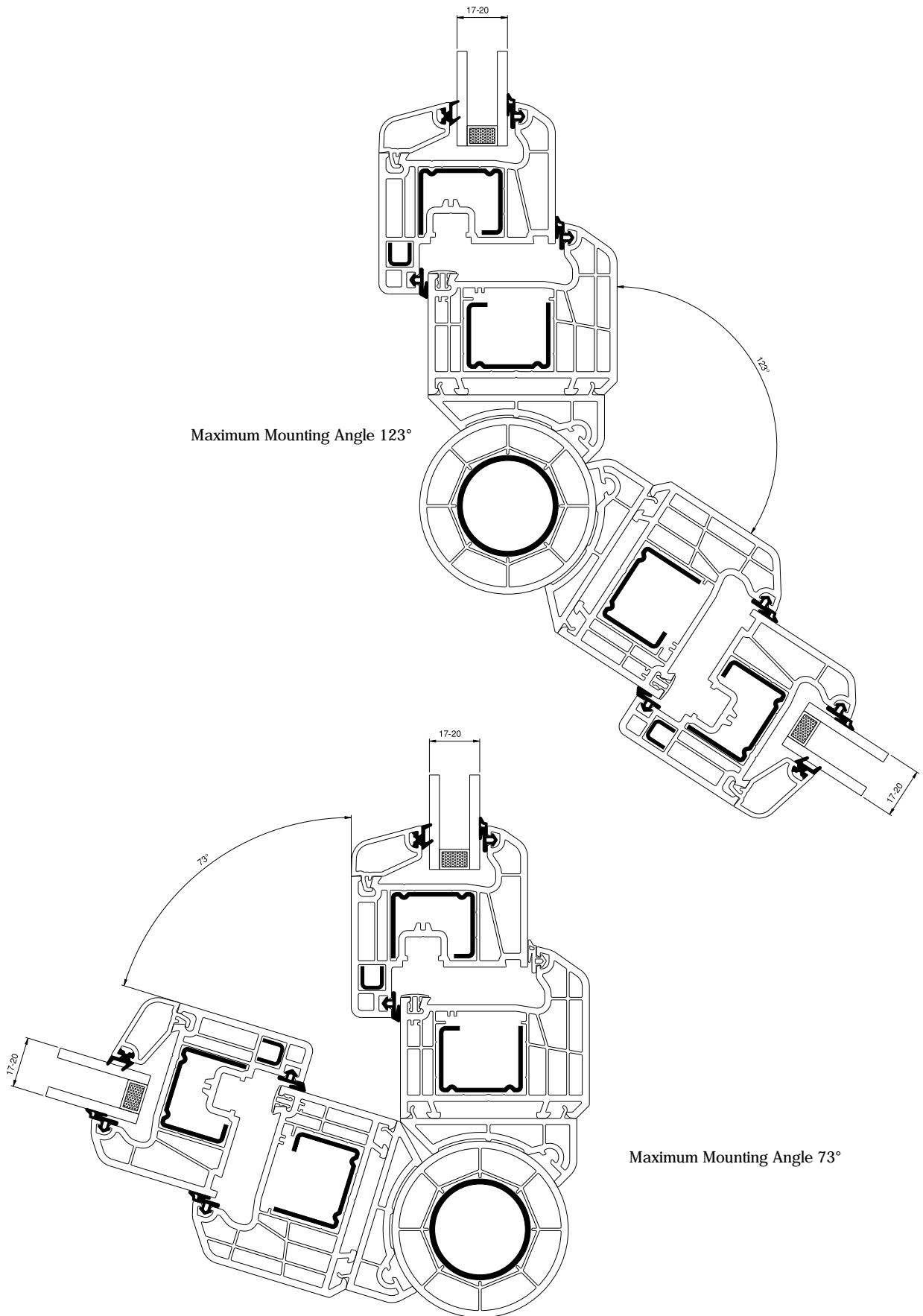
New Sash Adaptor Application with Inward Opening Locking Door

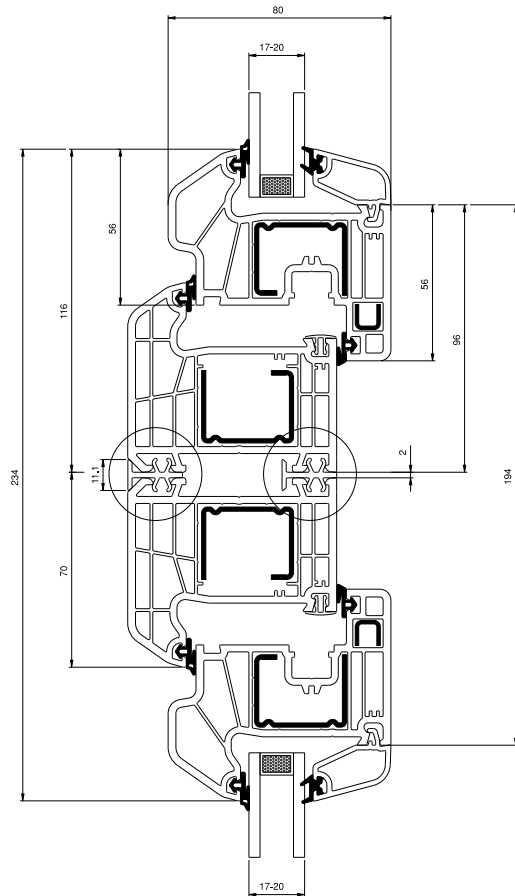
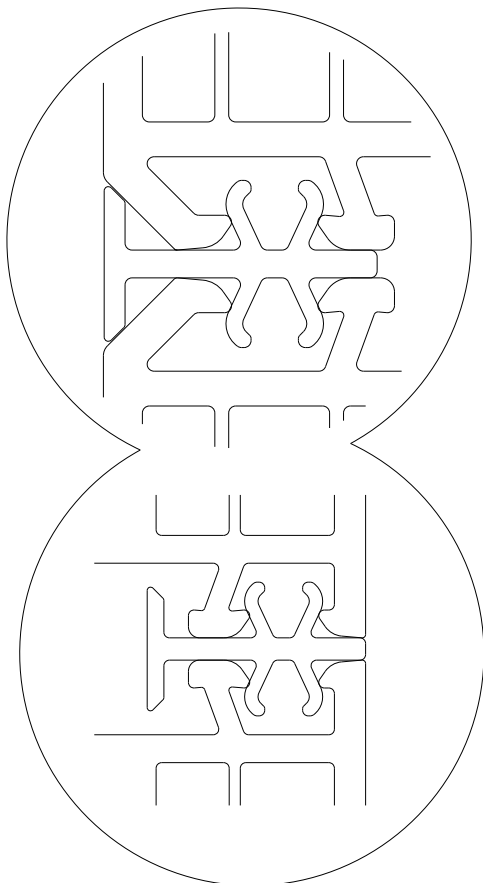
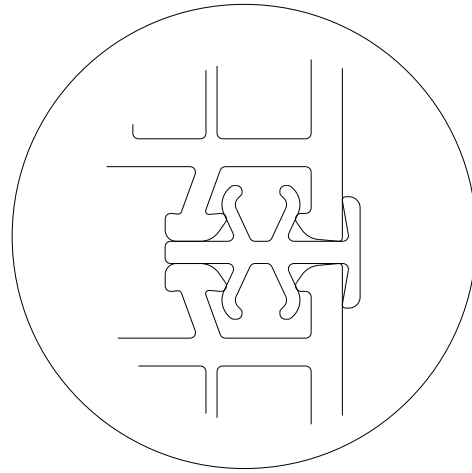
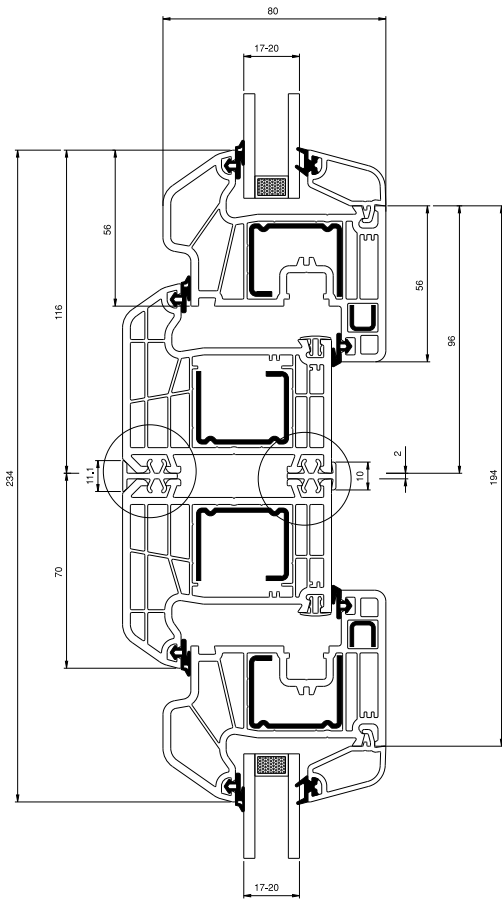


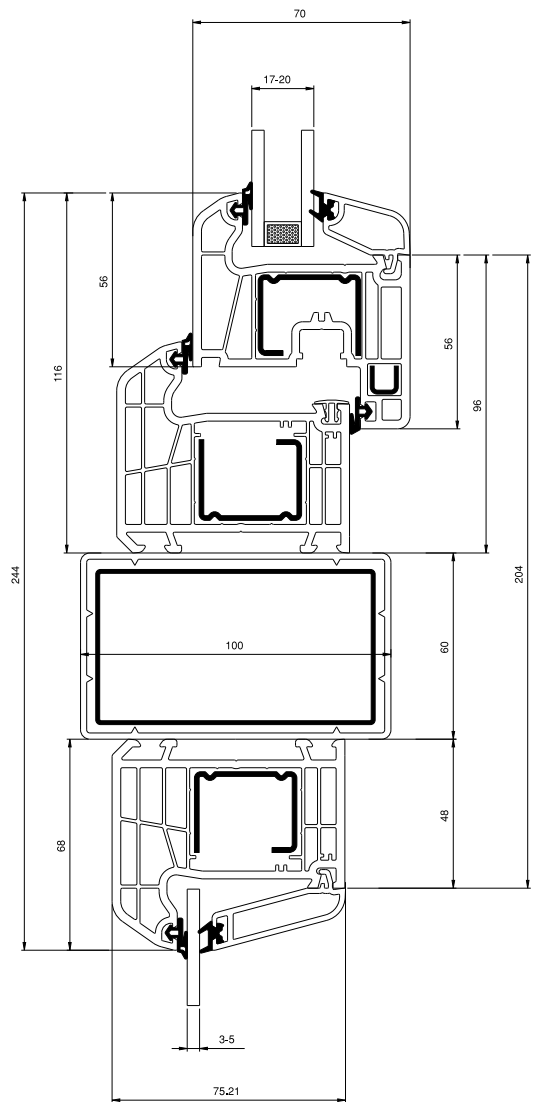
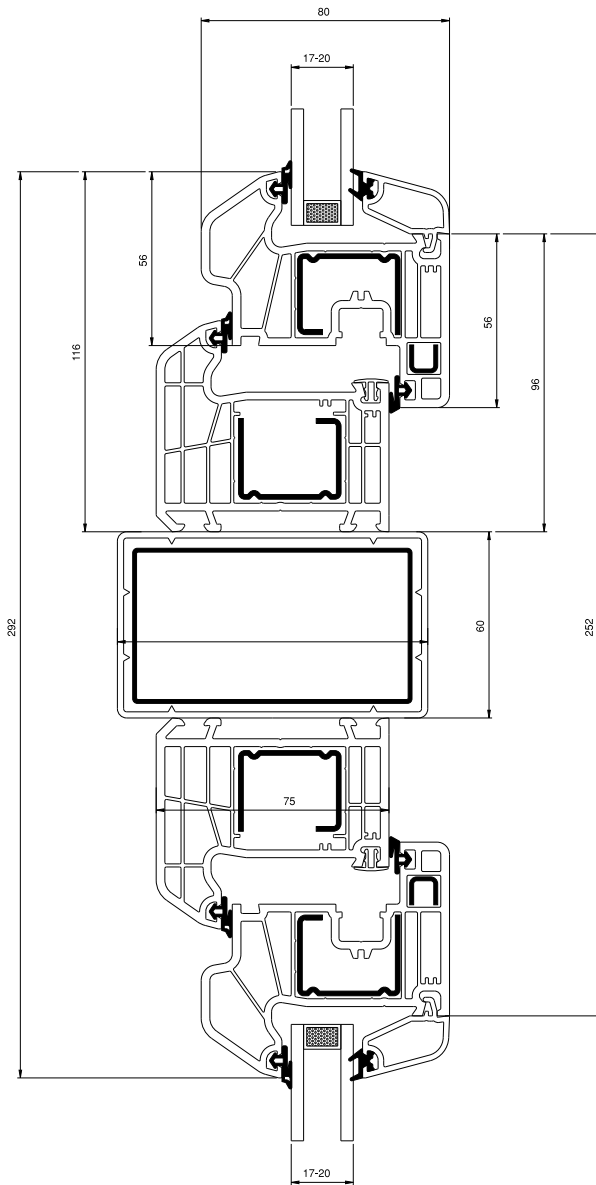
Sash Adaptor Application With Outward Opening Locking Door

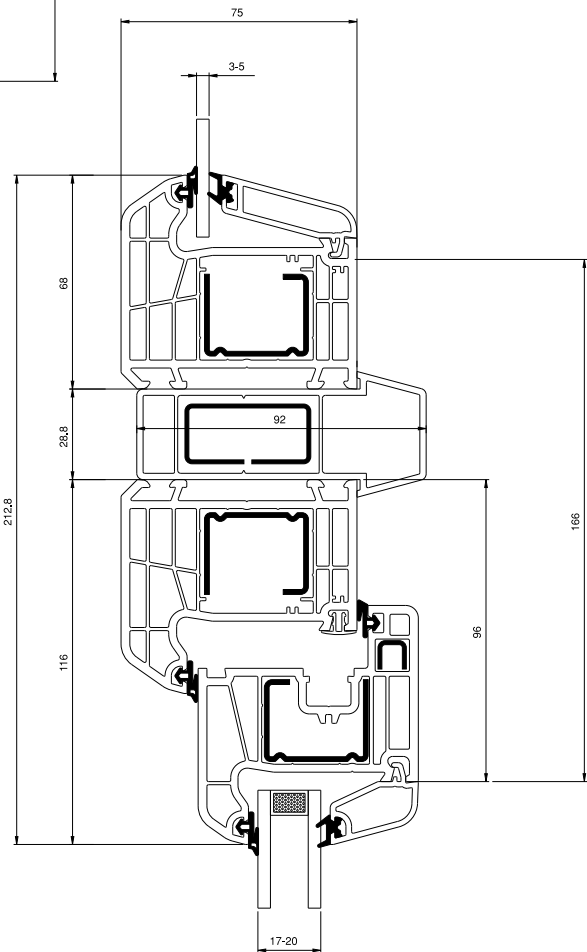
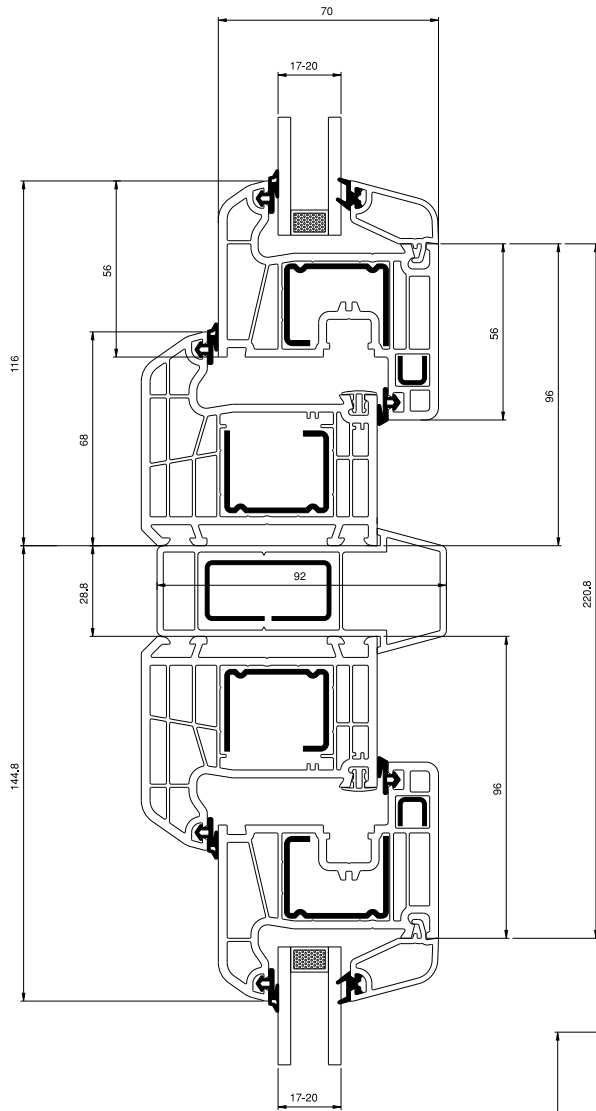
Note: Application is made without cutting the locking door profile.  
As espagnolette counterpart, the Special" Espagnolette Counterpart Fitting Into Espagnolette Slot "is used.

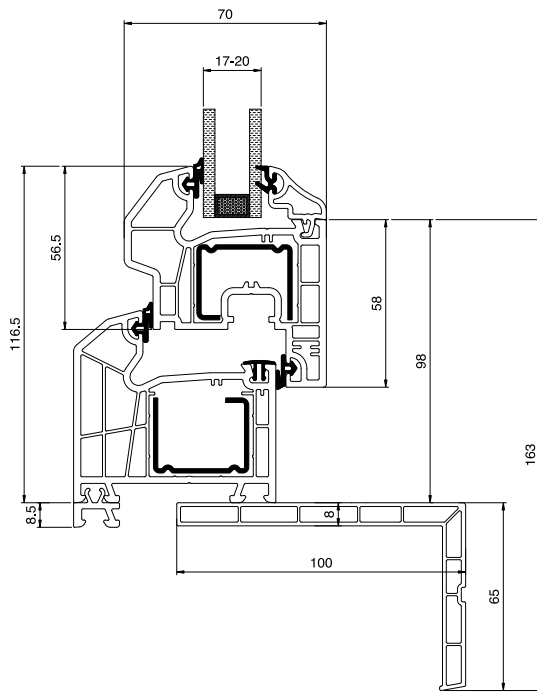




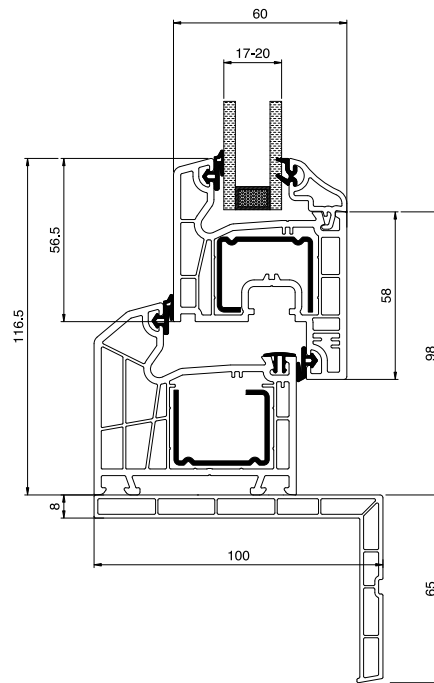




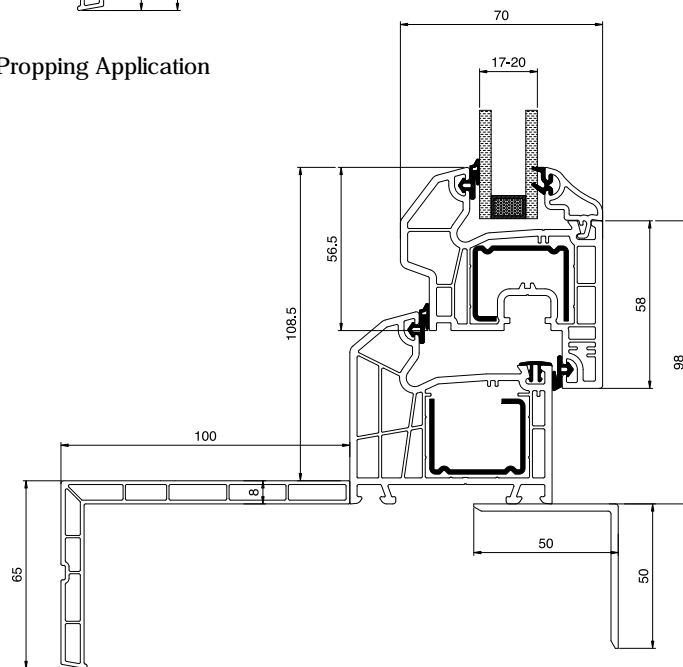




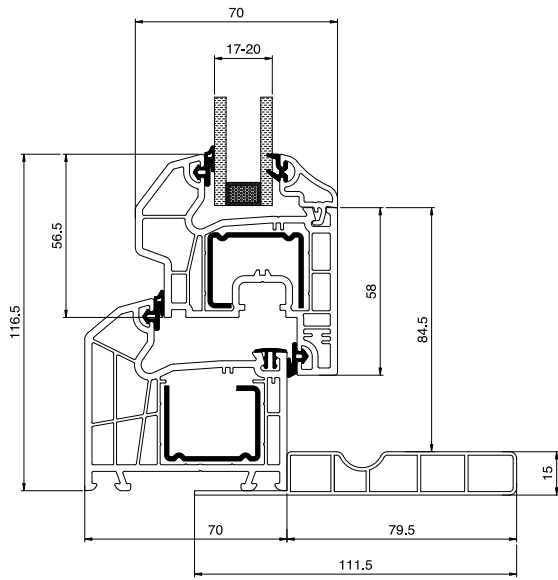
New Window Casing and Casing Propping Application



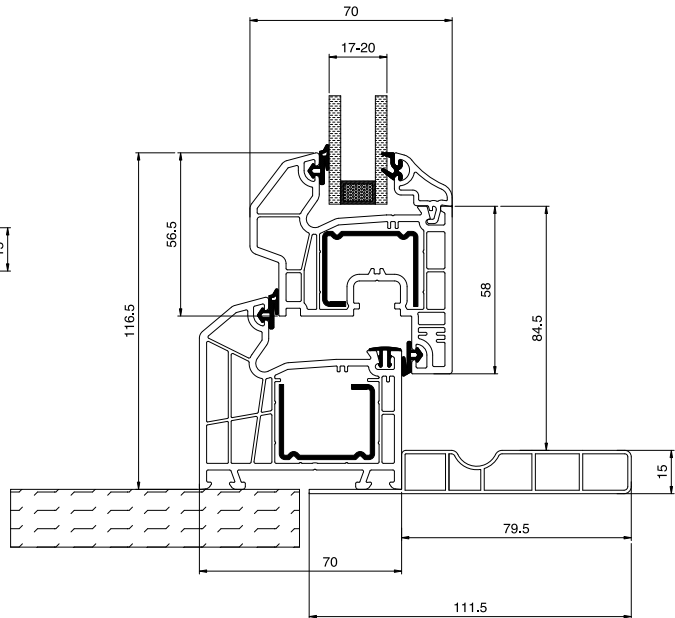
New Window Casing Application



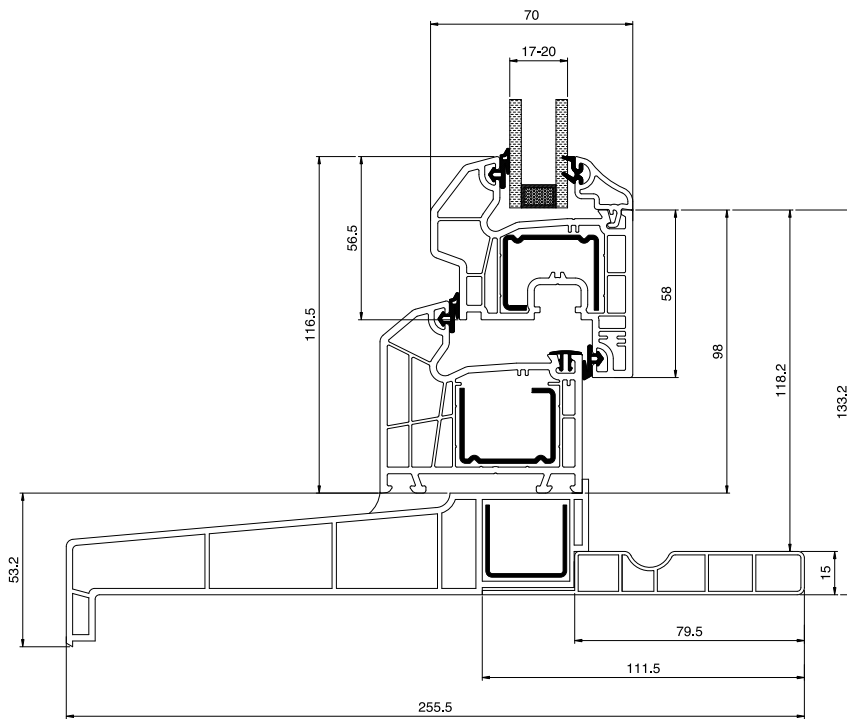
New Window Casing and 50 x 50 Casing Application



Inner Parapet Application

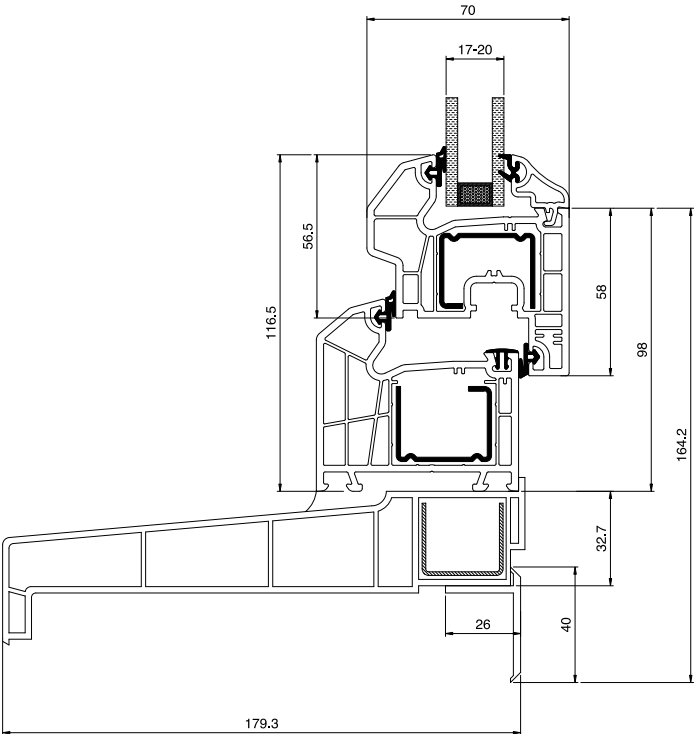


Inner Parapet and Marble Application

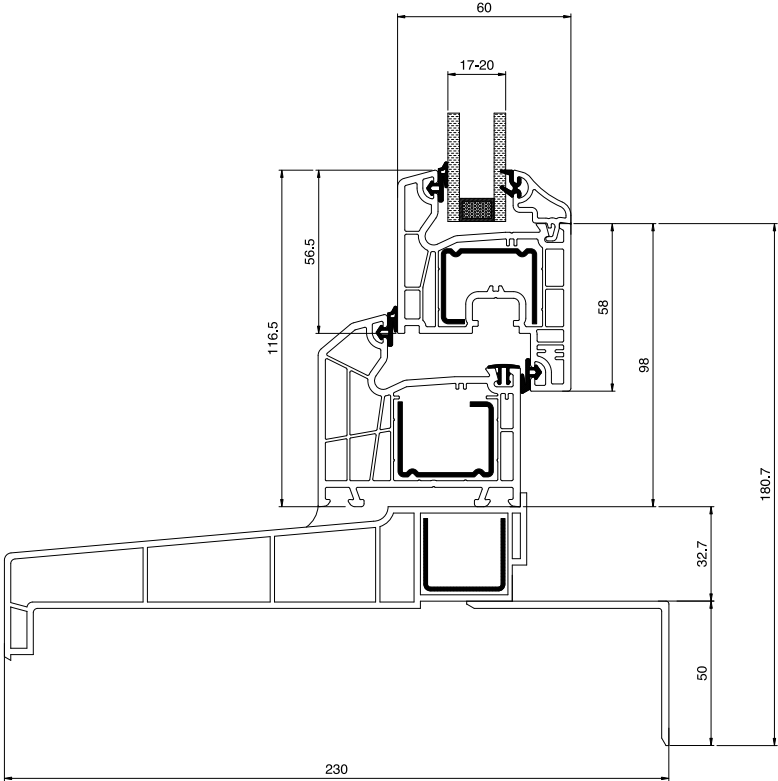


Inner Parapet and Outer Sill Application

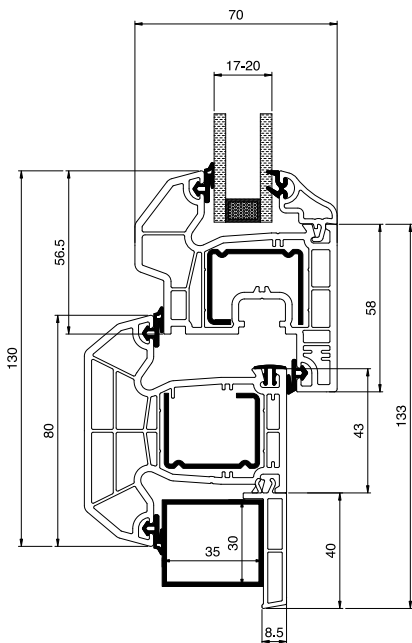




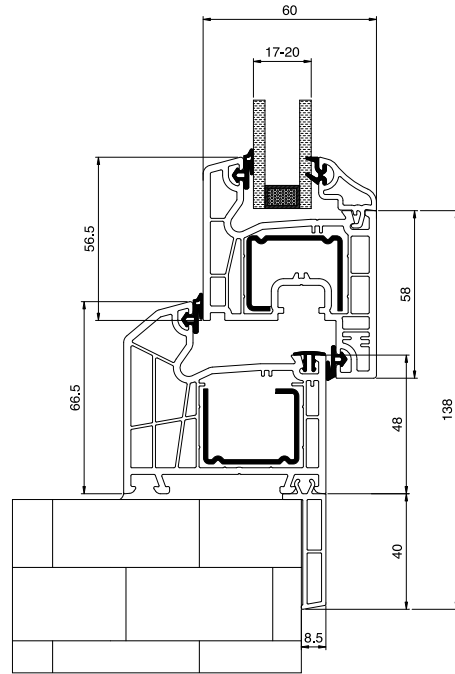
Outer Sill and Assymmetric T Application



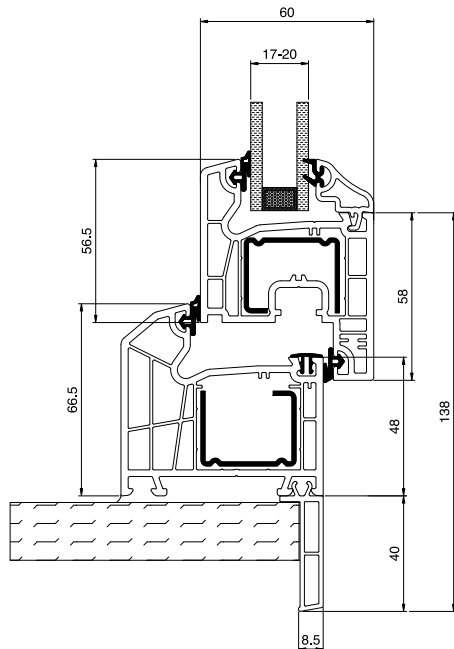
Outer Sill and 50 x 70 Casing Application



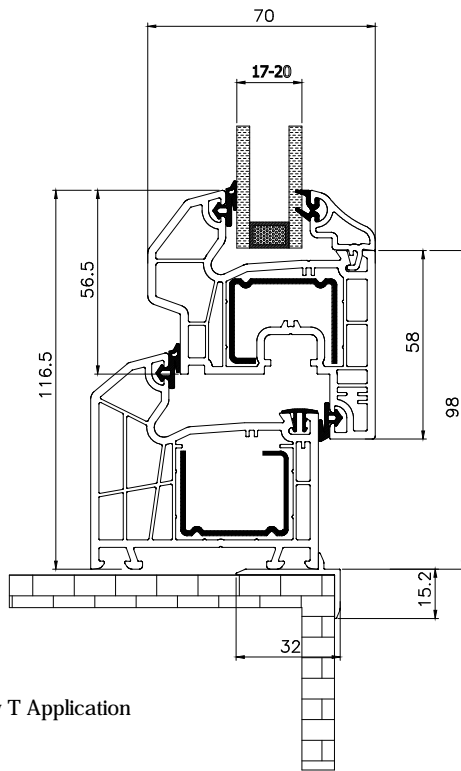
From Mullion to Frame (Overlapping Frame)  
Zero Casing Application  
Note: One of the zero casing claws must be broken.



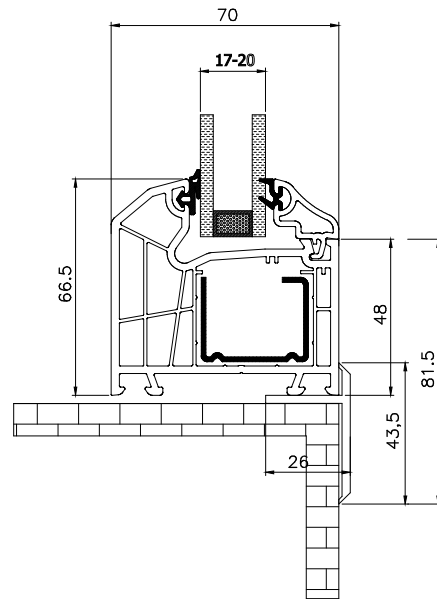
Zero Casing Application



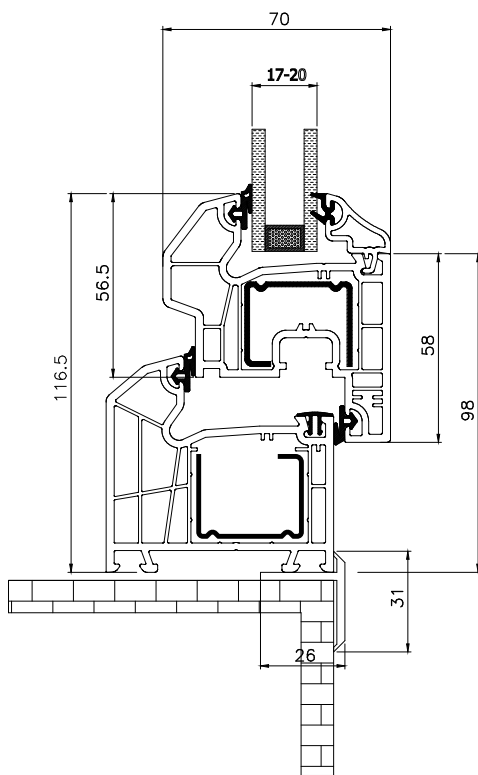
Zero Casing and Marble Application



Claw T Application

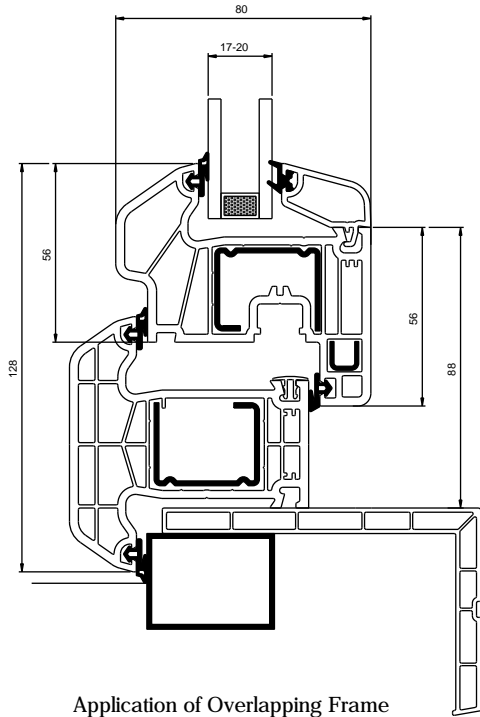


Wide Asymmetric T Application

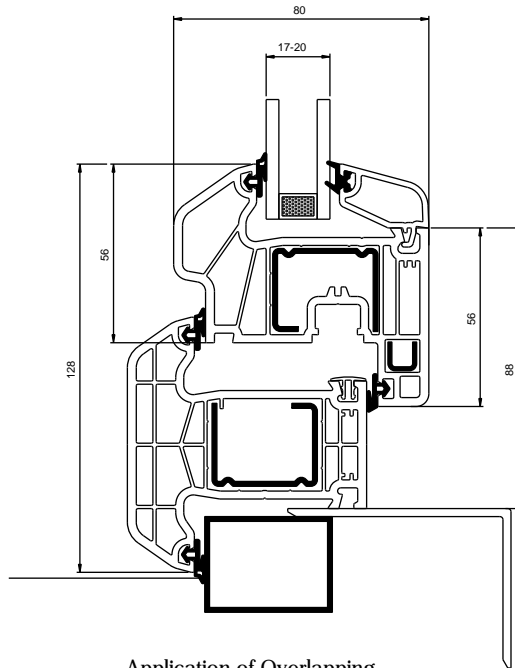


Narrow Asymmetric T Application

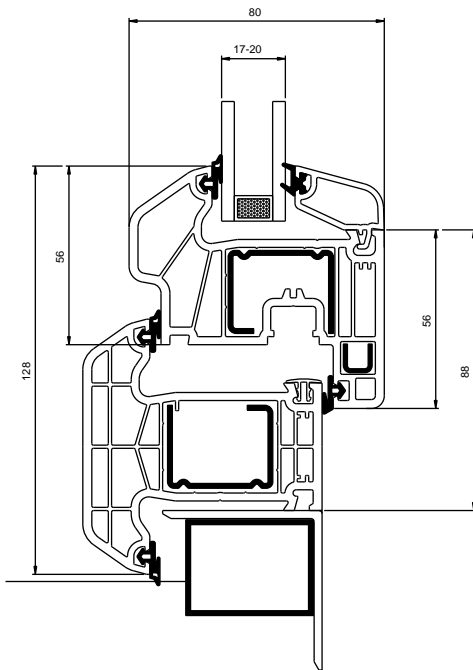
# w75 MULLION (OVERLAPPING) FRAME APPLICATIONS



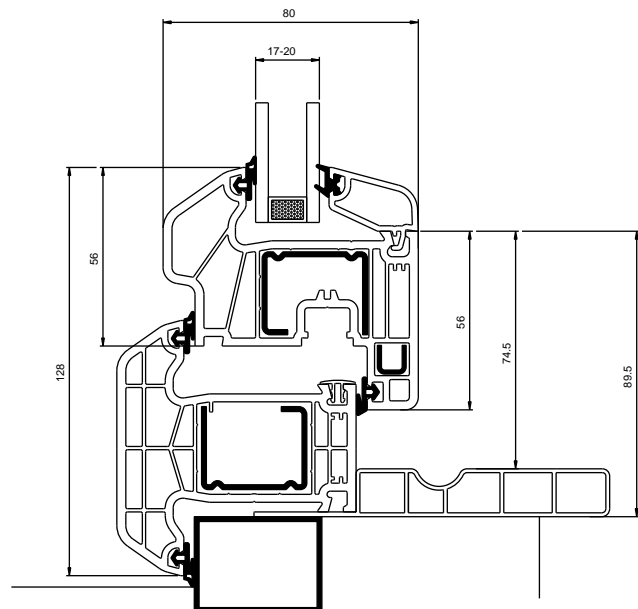
Application of Overlapping Frame with New Window Lining



Application of Overlapping Frame with 50 x 70 Lining Profile

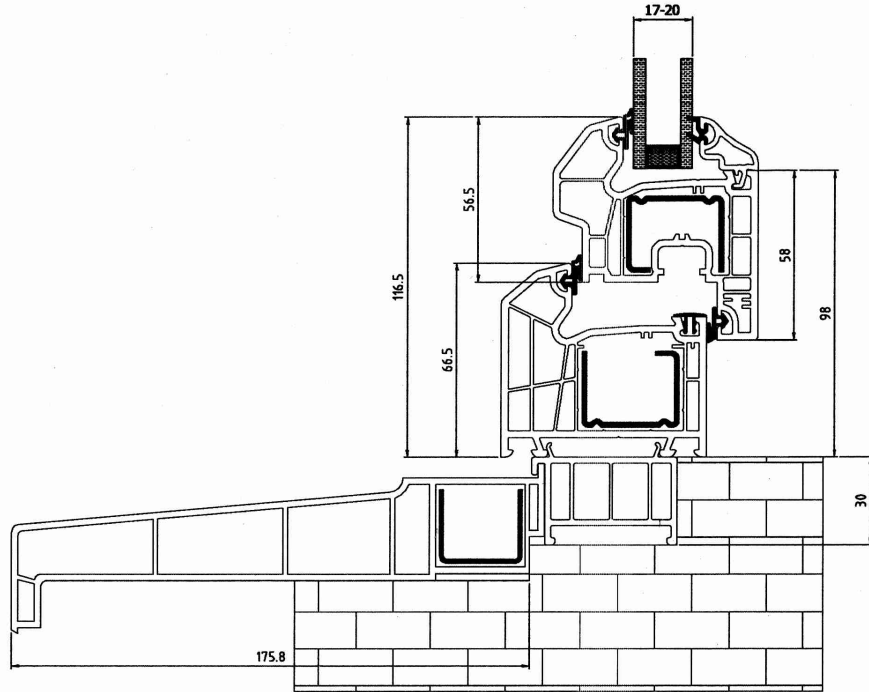


Application of Overlapping Frame with 50 x 50 Lining Profile

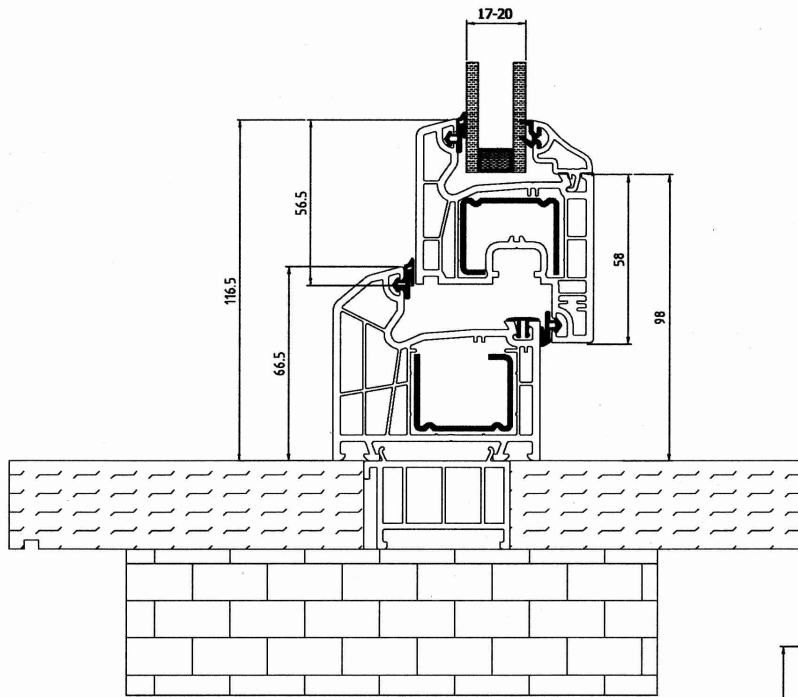


Overlapping Frame Application with Inner Parapet

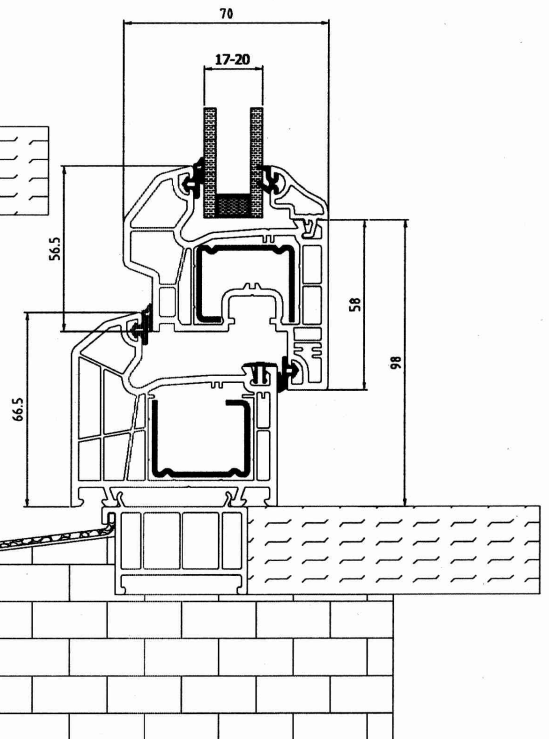
# FRAME BOTTOM ASSEMBLY APPLICATIONS w75



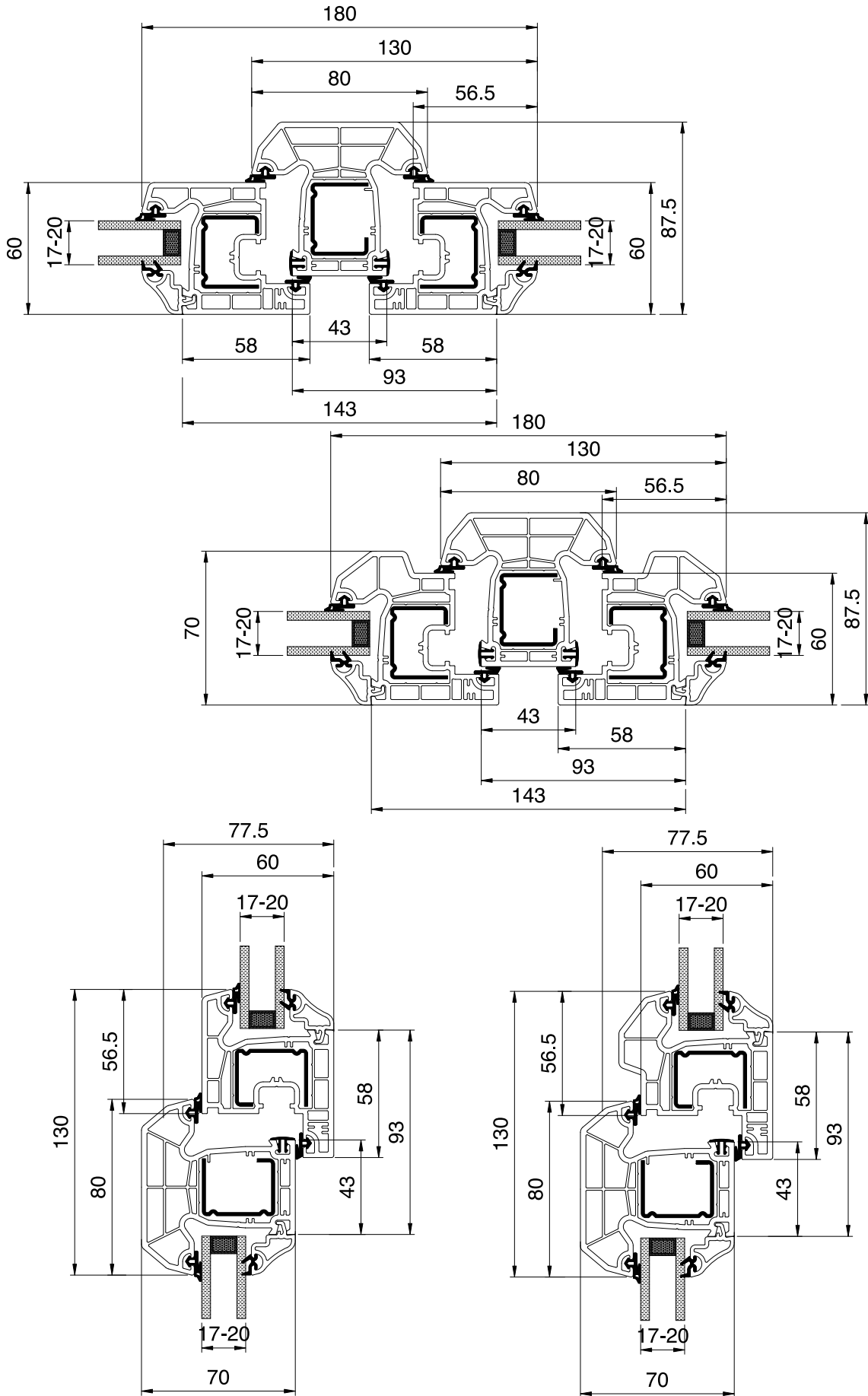
Marble and Frame  
Bottom Assembly Application



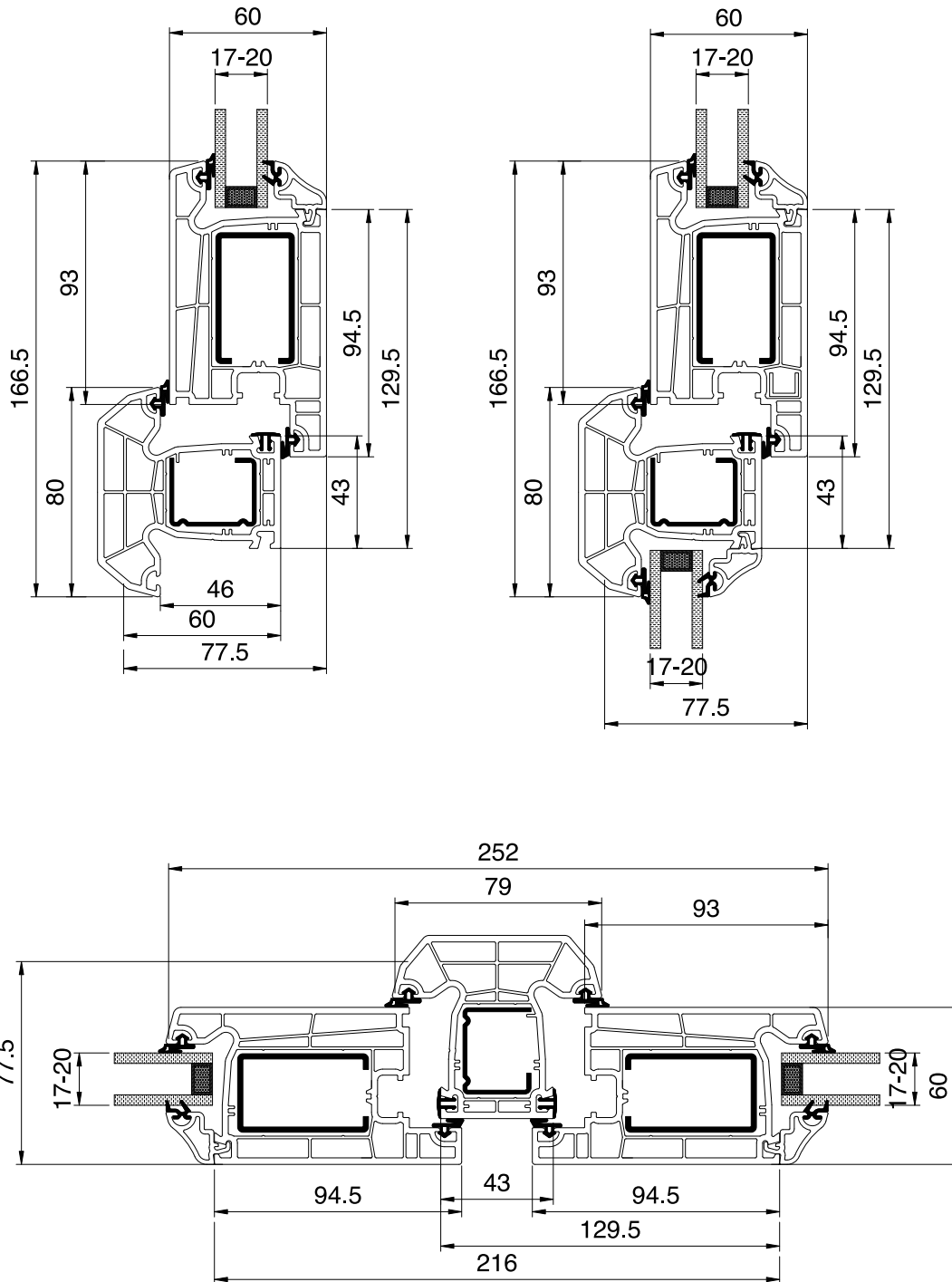
Frame Bottom Assembly  
Application with Outer Sill



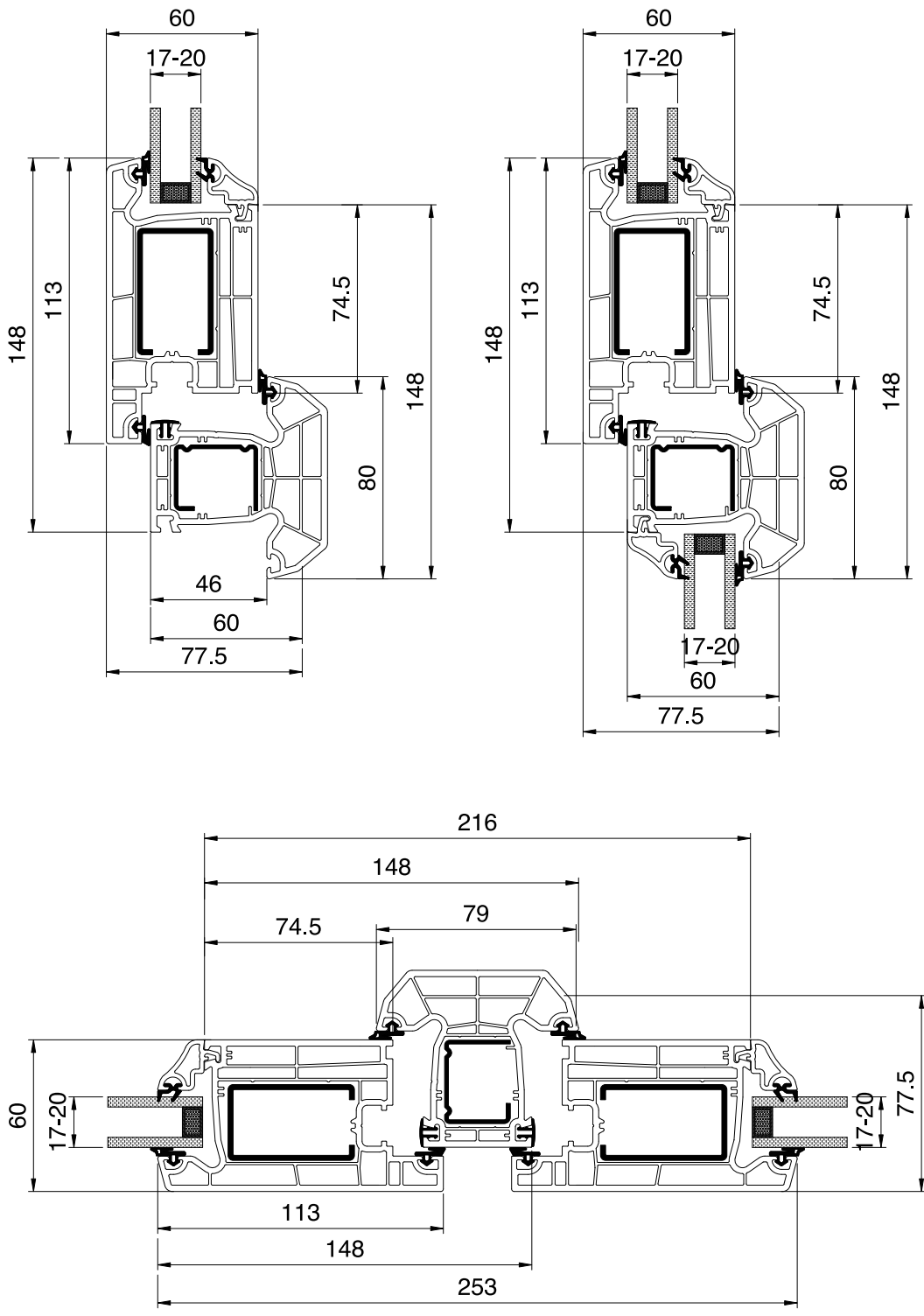
Metal Sill and Frame  
Bottom Assembly Application



# MULLION AND LOCKING DOOR APPLICATIONS w75

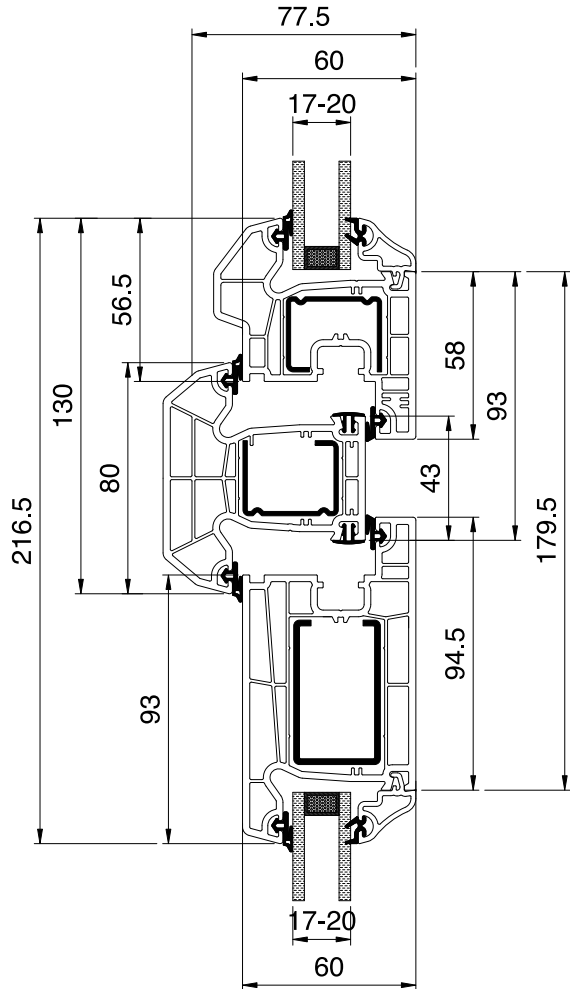
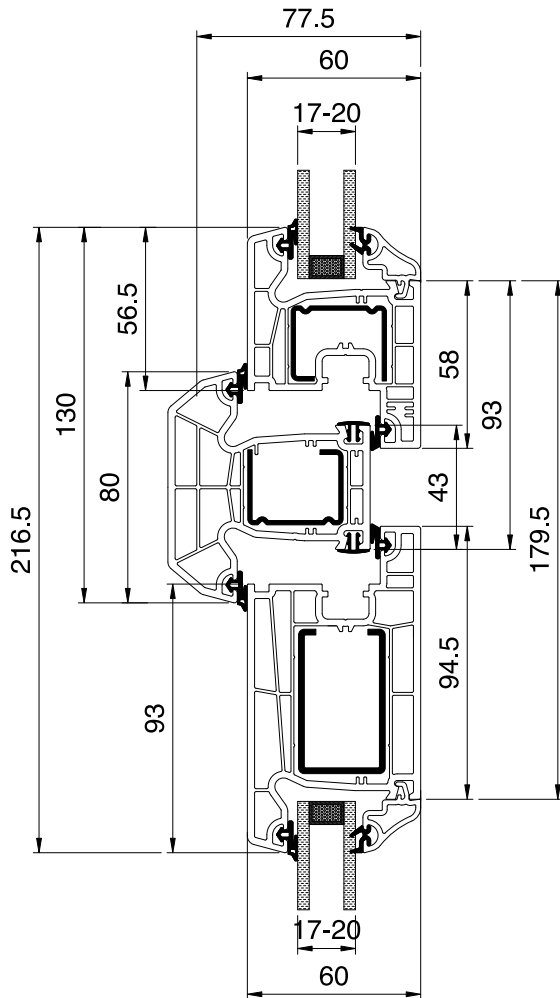


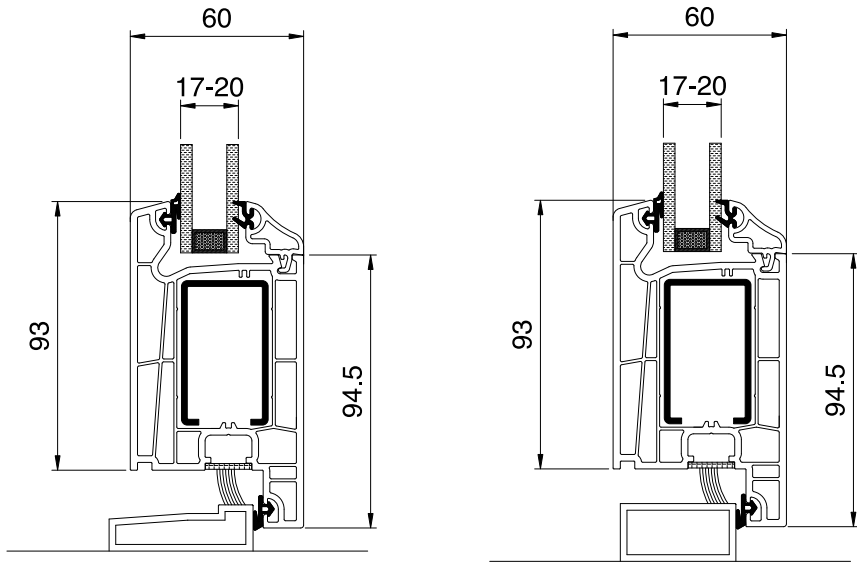
# w75 MULLION AND OUTWARD OPENING LOCKING DOOR APPLICATIONS



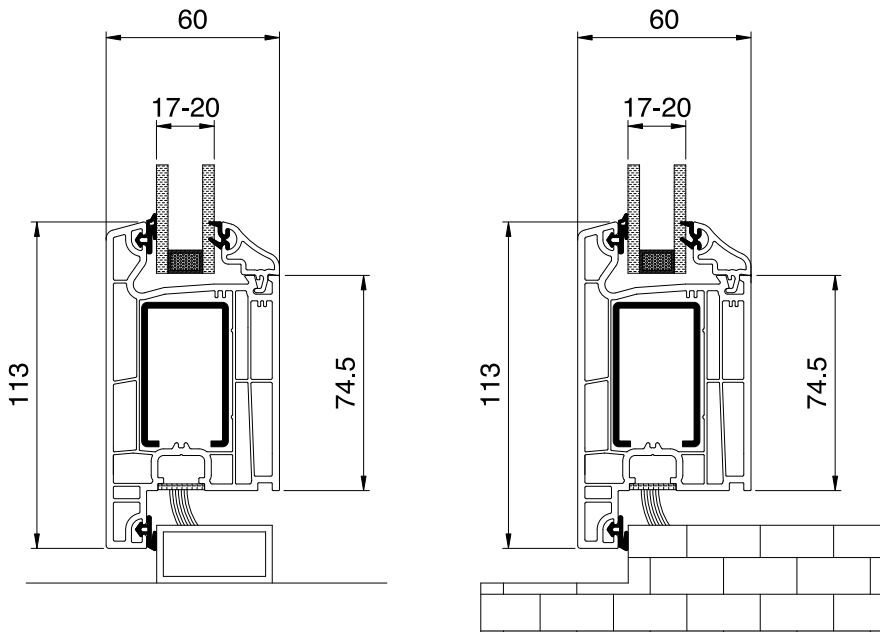


# MULLION, SASH AND LOCKING DOOR APPLICATIONS w75

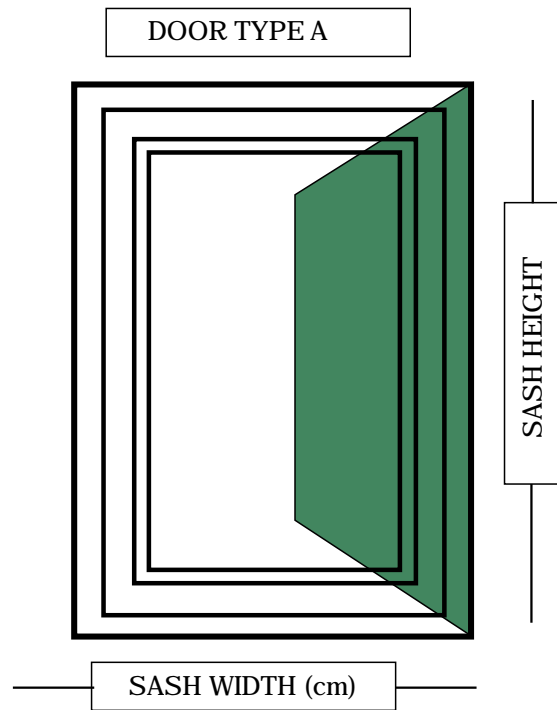




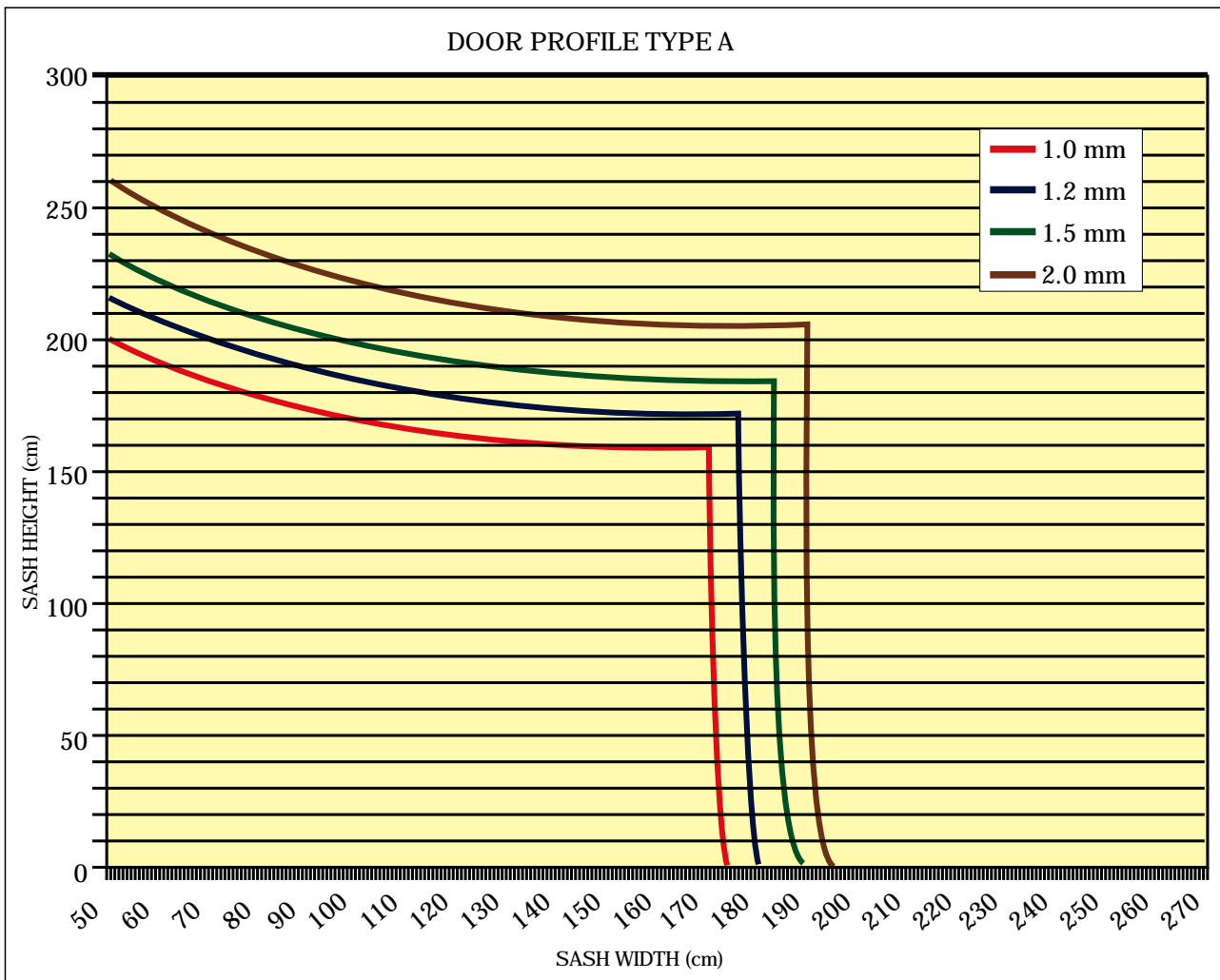
Threshold Application with Inward Opening Locking Door

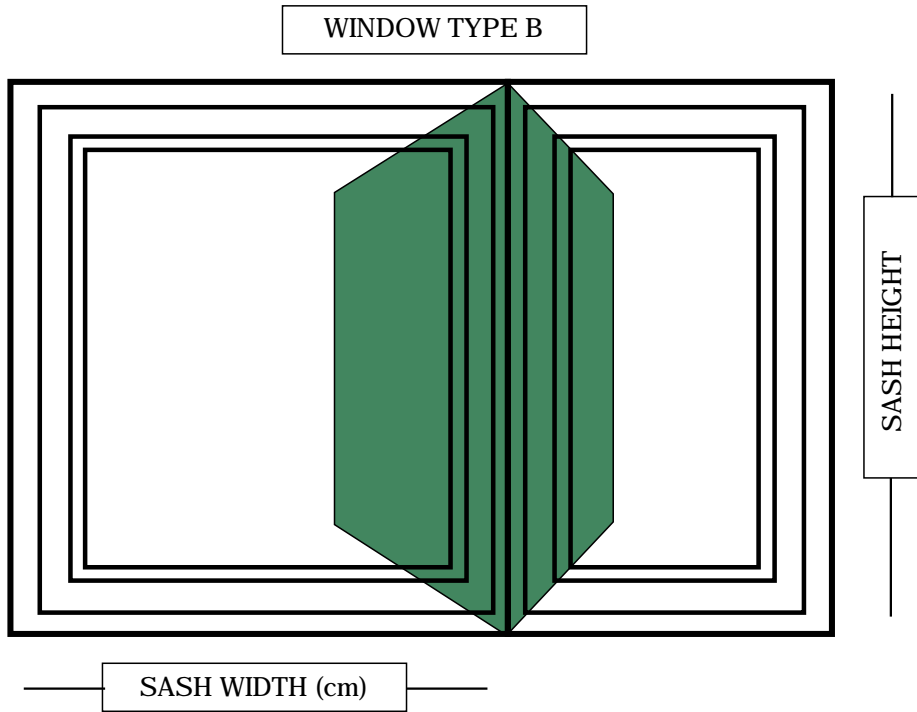


Threshold Applications with Outward Opening Locking Door



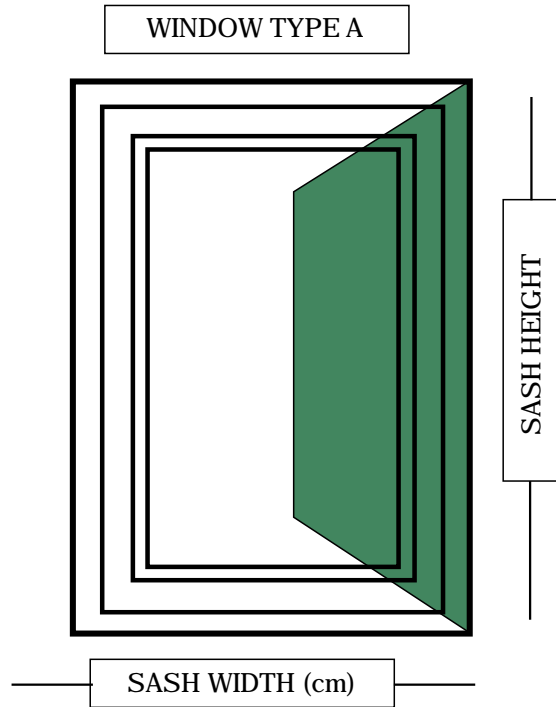
SASH HEIGHT LIMITS DEPENDING ON THE WALLTHICKNESS OF REINFORCEMENT STEEL





SASH HEIGHT LIMITS DEPENDING ON THE WALLTHICKNESS OF REINFORCEMENT STEEL





SASH HEIGHT LIMITS DEPENDING ON THE WALLTHICKNESS OF REINFORCEMENT STEEL

