WINTECH®

UPVC WINDOWS, DOORS and SHUTTER SYSTEMS

WT 240 TECHNICAL CATALOG

GENERAL INFORMATION

TECHNICAL SPECIFICATIONS OF PROFILES

REINFORCEMENT PROFILES

ASSEMBLY OF PROFILES

ACCESSORIES

GENERAL INFORMATION

Exclusive specifications and benefits of UPVC doors and windows:

New UPVC windows with multi-glazed glasses are construction materials that are simply applicable with the common walls and, even, improve their functions.
The UPVC windows are easily usable, nicely depicted and in accordance with the above mentioned information, have a high grade of thermal and low sound conduction insulation.
The technical specifications of theWT240 profile series, submitted the evidence and highly efficient documents of these products to the purchasers.

1. High grade of thermal transfer resistance and low sound-conduction capability of UPVC profile, creates comfort inside. Temperature-exchange resistance for the UPVC frame profile is equal to 0.93m2, grade C/W (class1), for the UPVC sash profile is equal to 0.88 m2, grade C/W (class1). prevention of the infiltration of the sound of traffic flow is also 35 decibels (in class B).

2. The special specifications of manufacturing UPVC profiles, provide the possibility of numerous manufacturing of different types of windows with multi-mode sliding systems, not only with using the standard essentials but also with anti-theft equipments, these profiles are suitable for the double-glazed glasses up to 18mm in thickness.

3. Galvanized reinforcements profile is contrived in order to increase the static strength inside the frame,sash and mullion profile.

4. The cross-sectional shape of the width of the profiles and the thickness of the UPVC networks guarantee the strength of the welded profiles (weld 90˚c or weld in shape of V).

5. Special canal for installing locking mechanism provides the possibility of installation for amplifying equipment, therefore, the security and anti-theft characteristics increases in these products

6. Complete removal of undesirable moisture for use in seals and rubber gasket.

7. Height of the part that glass is contrived to protect the edges of the object from the Ultraviolet-Ray and UVB-Ray. Moreover, it makes the possibility of darkening and cooling of the indoor space minimum.

8. Applying high-standard UPVC raw-materials, guarantees the physical and chemical characteristics of the products produced from these raw productions. Durability in below zero temperatures, tensional strength, considerable toughness, thermal resistance, satisfaction level of quality and long life cycle are some of these characteristics.

9. UPVC profiles have health certificate for a wide range of users and are completely safe for the human health.

10. Because of the fireproof nature of the UPVC materials, UPVC profiles are incombustible. According to the fire-fighting certificate, UPVC profiles are in accordance with the fire-fighting rules and conforms to the combustibility rate G2 (limited ignition) and burning-rate B2 (medium-ignition).

11. It is possible to produce profile with any color spectrum and laminate coating.

12. The multi-glazed glass is the main part of the raw materials of UPVC windows. Based on the technical test of life cycle of the multi-glazed glasses, the longevity of these glasses could be guaranteed upto 20 years. Application of multi-glazed glasses has many advantages, for instance: increasing the temperature-protection (B2), decreasing noisiness (reduction of audio-disturbance about 30-50 decibel), moreover, these glasses are anti-freeze and anti-steam (upto temperature 40˚c).
New technology provides the possibility of manufacturing two-phase pressure insulated glasses and thereupon promotion of the quality and reliability. Suitable function of UPVC door or window is not only limited to the technical features or the quality of applied necessities but also is dependent on the montage accuracy. The Experienced and Skillful manufacturers use new connections in manufacturing the products. The relation between windows and various opening systems has its own specifications and special connections. Based on the purchaser's request, creating exclusive user connections is possible (Reinforcement of heat and thermal insulation or water-proofing). UPVC profiles surfaces don't require being covered with color-layer and they are easy to protect. Because of being smooth and having polished surface, dust does not accumulate on the profiles. The UPVC windows that successfully have been installed and operated are very suitable insulators against the environmental conditions for the residential and administrative complexes. However, this insulation leads to excessive moisture. Sometimes, this results in wet windows and the walls, especially in the cases of lack of a good ventilation inside the house. One of the actions that are applicable to prevention in this cases, is repairing the ventilation with using the tools that make the air-stream limited. The UPVC windows with the mentioned tools could create a passing air-stream with the size of 1.2 mm., and, meanwhile, preventing air-dryness and condensation in the inside space.

For increasing the longevity of UPVC windows, it's necessary to take the following preventive measures once in a year:

1. All the moving components should be lubricated by appropriate lubricants.

2. Seals must be check on to make sure that they are in an ideal mood, it shall be more attention to the tires of the glass part (all the damaged tires should be replaced).

3. Water evacuation grooves (grooves of rain water), must be checked, and if it is necessary, they should to be cleaned.

4. Outer surface of the UPVC profiles should be cleaned with water, and if it is needed, with detergent. Avoid using oil, petrol and other similar materials which are oil-based.

Heat Protection:
The UPVC windows guarantee a high level of thermal protection in order to ensure inside comfort. WT240 Multi-hole profiles, they provide excellent heat insulation. The rate of these profiles is 1.3 Wt. /m2.

Sound Protection:
Audio-insulation depends on the manufacturing factors of UPVC windows to a large extent, nevertheless, not only the frame,sash and mullion profile, but also the type of glass and execution of its function has a high importance.

Humidity and Ventilation:
The UPVC windows also provide air-circulation in the buildings. Room ventilation is necessary in order to ensure keeping fresh air inside (in order to eliminating the causes of pollution like CO2) and to create natural heat ventilation (stream outlet). The human beings are one of the main sources of moisture in the building. The moisture increases with their breathing. It is completely obvious that, breathing of this air once happened and then the moisture should get out of the room, otherwise, could lead to density of humidity in the internal surface of the windows and the edge of the walls.
Constant humidity concentration in the air could lead to growth of fungus on the furniture, walls and ceiling. UPVC profiles are suitable heat protectors and usually don not sweat or freeze.

The specifications of the UPVC Profiles provide using the standard and anti-theft equipments and essentials. Moreover, filling the holes and grooves doesn't need any special equipment.

Maintenance of the UPVC Profile:
Maintaining the UPVC profiles is very easy. They don't need any special repair or care but several simple rules should be considered in order to save the life cycle of these windows.

Annual care of the UPVC windows:
Periodically, check the outer side of the windows and if necessary, clean the outer sides. Water drain slots must be checked and if necessary, they must be patched. The caulk rubbers should be checked. Pay attention to the rubbers which are associated with glass and ,in case of damage, they must be changed. All the mobile components must be lubricated using suitable lubrication.

Cleaning of UPVC Profiles:
The UPVC profiles can be cleaned with regular water and detergent. Do not use any detergent that can cause wear, including powerful organic compounds.

The dust from the production process as well as the installation of the window on which it is accumulated can easily be eliminated by ordinary water and warm water. The use of oil, petrol and other substances should be strictly avoided.

Damages caused by machining and unwanted holes can be repaired with special adhesives and then filled. Different filling tools can be used for this purpose, but the filled space should be as small as possible. The filled surface should then be polished using a roller. Surface roughness and small scratches can be eliminated by finishing the surface.

Damaged UPVC profiles caused by machining can be repaired with parts of the same damaged profile. A small piece of the same profile should be turned into dough in the boiling process with hot air and to be used to cover the damaged part. This operation must be performed after all the steps mentioned above have been applied.

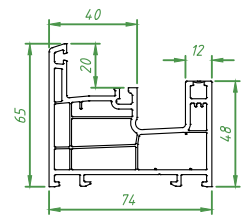
Well-installed UPVC windows provide a high degree of insulation against environmental factors. However, this insulation leads to excessive moisture. Occasionally, the lack of proper ventilation leads to wet walls and windows.

The only way to prevent this condensation is to improve ventilation conditions. Improvement of ventilation by means of fittings that limit the air flow to a limited extent. The UPVC windows with the mentioned specifications can create as much as 1-2 mm airflow space and prevent indoor air from condensation.

Specification of Wintech UPVC Profiles:

Wintech UPVC Windows are produced using high-quality PVC compound in the best structural condition. In the production of Wintech profiles, the production method is used in extrusion mode. Continuous monitoring of production not only ensures the dimensional quality but also the quality of the produced profiles. Production profiles are in accordance with the RAL RG 716/1 requirements.

UPVC compound used in production:	Wintech UPVC compound in compliance with EN 7748
Density:	1.46 g/cm3
Impact Strength (up to -40 °C):	no crack or rupture
Resistance to windloads:	Class C4/B4 according to EN 12210
Resistance to driving rain:	Class 9A according to EN 12208
Permeability of air:	Class 4 according to EN 12207
Tensile strength:	>= 40 N/mm2
Elasticity of Modulus:	>= 2500 N/mm2
Coeeficient of linear thermal expansion:	0.8*10-4 K-1
Thermal conductivity:	0.16 W/mK
Specific resistance:	1016 Ω cm
Fire behaviour:	self extinguishing, flame retardant
Resistant to:	acids, salts, salt solutions, bases, sea water, benzene, oil, lime, cement, fumes of all sorts
Wall thickness:	up to 3.5 mm
Possible processing techniques:	boring, milling, sawing, filing, welding, grinding
Corner joints:	welded
Types of openings:	turn, turn and tilt, tilt, sliding, folding
Possible glass types:	insulating or non-insulating glass types with all common glass thicknesses between 4 and 32 mm.
Seals:	EPDM-TPV and TPE
Seal Color:	BLACK
Main application areas:	residential houses, high-rise buildings, schools, administrative buildings, industrial buildings
Coefficient of heat transfer:	k = between 2.6 - 1.4 W/m2 K depending on the insulating glass used.



Frame Profile (Single Rail)
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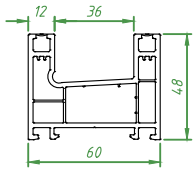

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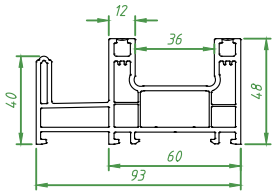

Sliding Fly Screen Frame Profile
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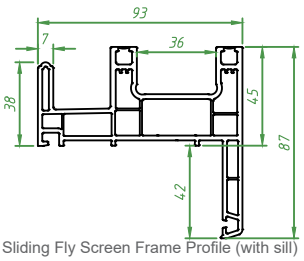

Sliding Fly Screen Frame Profile (with sill)
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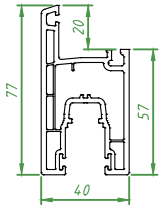

Sliding Sash Profile
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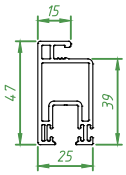

Sliding Fly Screen Sash Profile
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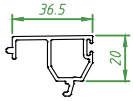

Frame Cover Profile (Single Rail)
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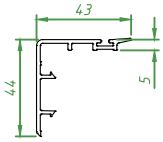

Sash Cover Profile
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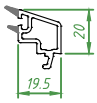

Single Glazed Bead Profile (6 mm)
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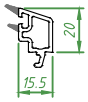

Single Glazed Bead Profile (10mm)
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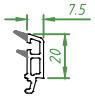

Double Glazed Bead Profile (18mm)
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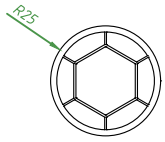

Pipe Angular Profile
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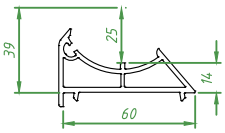

Angled Pipe Adaptor Profile
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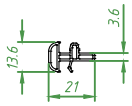

Coupling Profile
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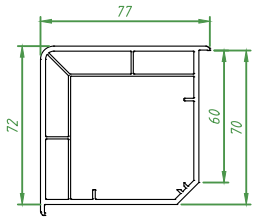

Corner Profile
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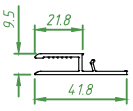

Holder Profile
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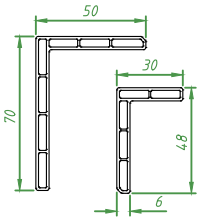
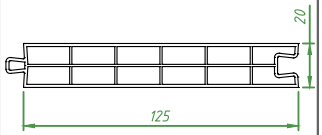


Sill (border) Profile
Code: 40108-0200 40108-01000



Panel Profile (20x125 mm)
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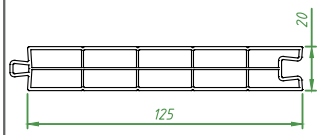

Panel Profile (20x125 mm- Groove) new
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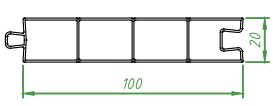

Panel Profile (20x100 mm)
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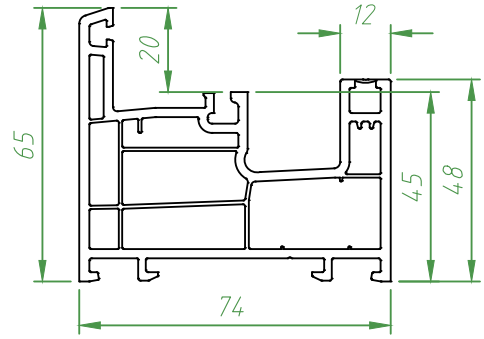
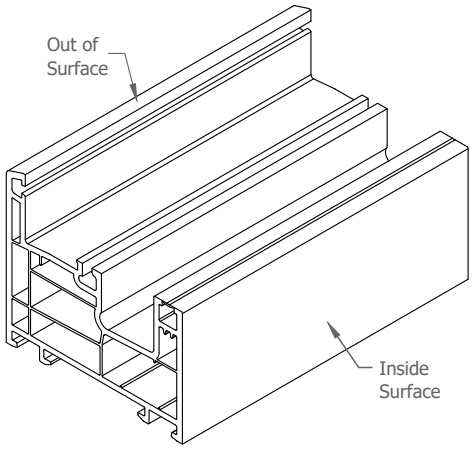
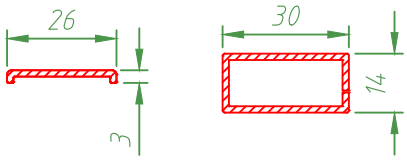
Sliding Frame Profile (Single Rail)







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	Brown Laminate / Dark Oak	●	*********	*********	*********
	Brown Laminate / Charcoal Brown	●	*********	*********	*********
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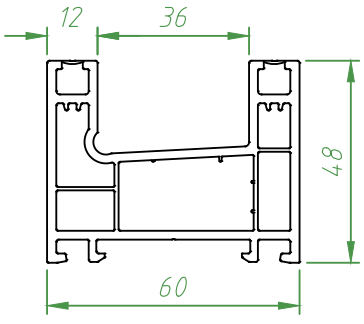
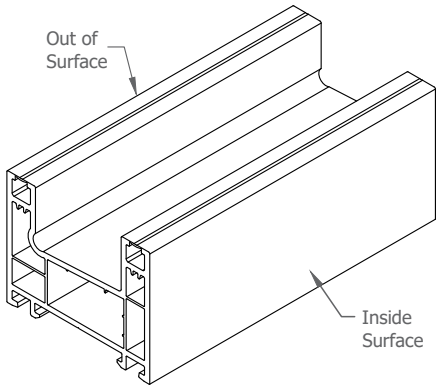
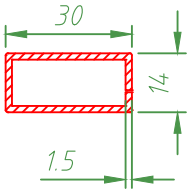
○ Without Rubber ● With Rubber

Sliding Frame Profile (Double Rail)







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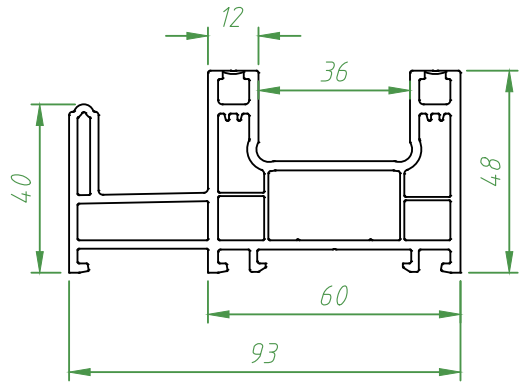
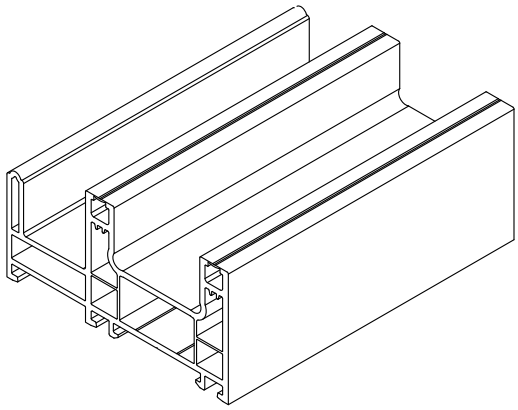
○ Without Rubber ● With Rubber

Sliding Fly Screen Frame Profile (Double Rail)





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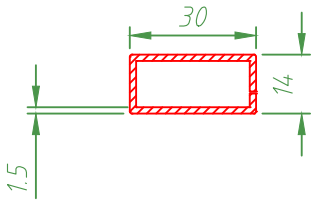
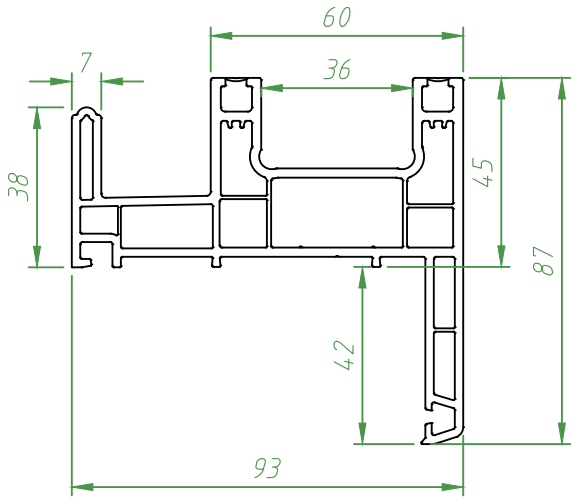
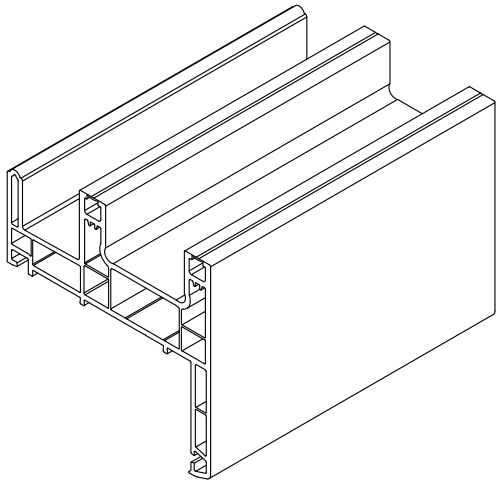
○ Without Rubber ● With Rubber



Sliding Fly Screen Frame Profile (With sill)





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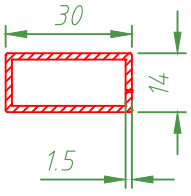
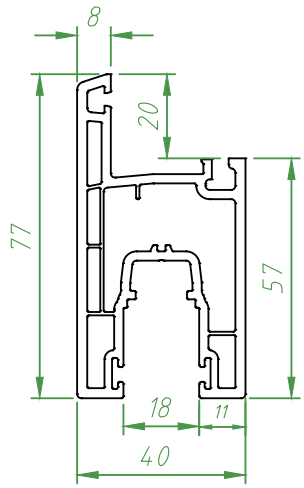
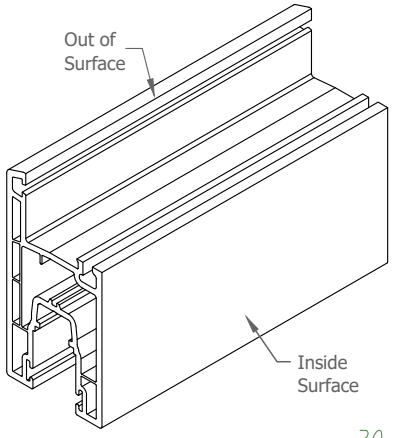
Gray Laminate / Wintech Gray	●	*********	*********	*********

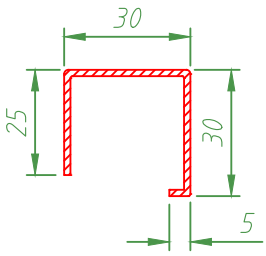
○ Without Rubber ● With Rubber



Sliding Sash Profile



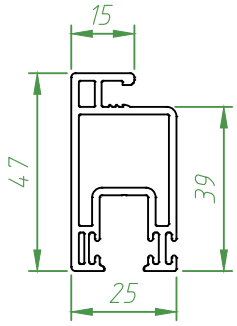


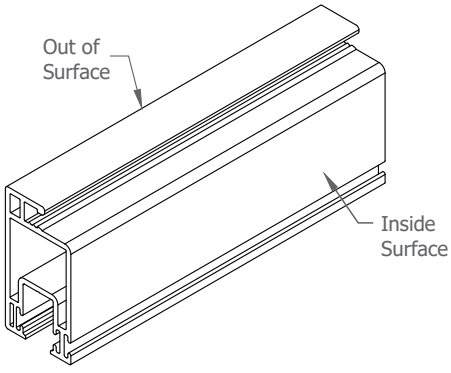


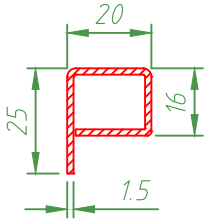
Profile Code			41240- 05000	Inside Lmainate	Outside Lmainate
	White / Without Rubber	○			
	White / With Rubber	●	*********	*********	*********
	Brown Laminate / Golden Oak	●	*********	*********	*********
	Brown Laminate / Dark Oak	●	*********	*********	*********
	Brown Laminate / Charcoal Brown	●	*********	*********	*********
	Gray Laminate / Wintech Gray	●	*********	*********	*********

○ Without Rubber ● With Rubber

Sliding Fly Screen Sash Profile



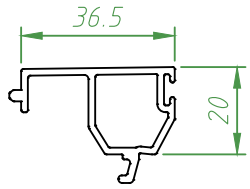


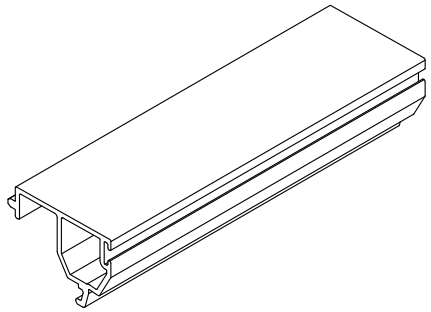


Profile Code			41240- 05100	Inside Lmainate	Outside Lmainate
	White / Without Rubber	○			
	White / With Rubber	●	*********	*********	*********
	Brown Laminate / Golden Oak	●	*********	*********	*********
	Brown Laminate / Dark Oak	●	*********	*********	*********
	Brown Laminate / Charcoal Brown	●	*********	*********	*********
	Gray Laminate / Wintech Gray	●	*********	*********	*********

○ Without Rubber ● With Rubber

Frame Cover Profile (Single Rail)

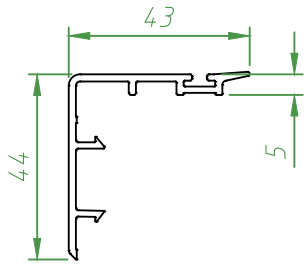


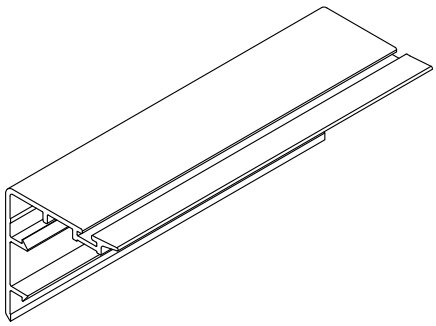


Profile Code					
	White / Without Rubber	○	41240- 06000	Inside Lmainate	Outside Lmainate
	White / With Rubber	●	*********		
	Brown Laminate / Golden Oak	●	*********	*********	*********
	Brown Laminate / Dark Oak	●	*********	*********	*********
	Brown Laminate / Charcoal Brown	●	*********	*********	*********
	Gray Laminate / Wintech Gray	●	*********	*********	*********

○ Without Rubber ● With Rubber

Sash Cover Profile

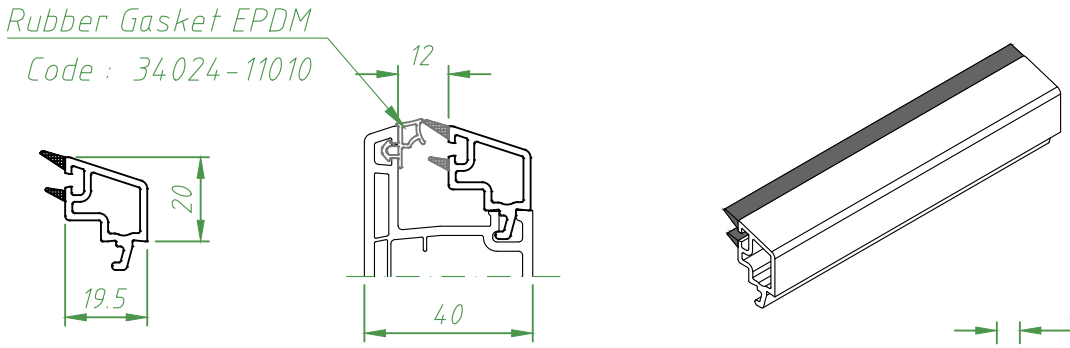


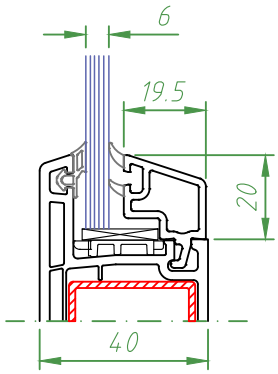


Profile Code					
	White / Without Rubber	○	41240- 03000	Inside Lmainate	Outside Lmainate
	White / With Rubber	●	*********		
	Brown Laminate / Golden Oak	●	*********	*********	*********
	Brown Laminate / Dark Oak	●	*********	*********	*********
	Brown Laminate / Charcoal Brown	●	*********	*********	*********
	Gray Laminate / Wintech Gray	●	*********	*********	*********

○ Without Rubber ● With Rubber

Single Glazing Bead Profile (4-6 mm)

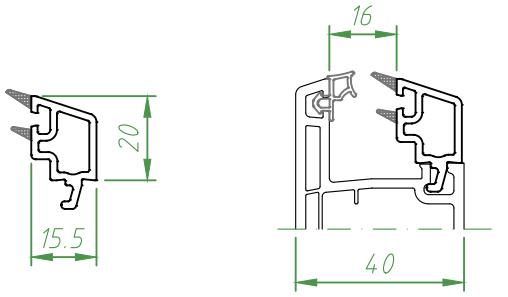


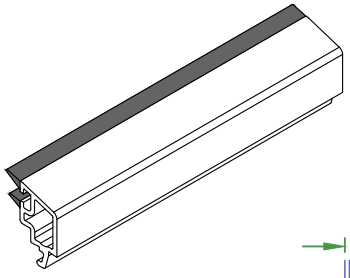


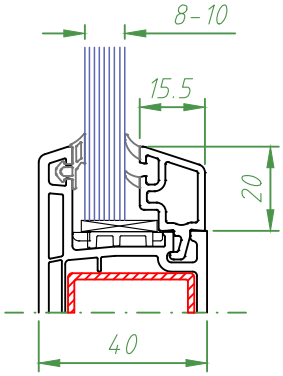
Profile Code					
	White / Without Rubber	○	*********	Inside Lmainate	Outside Lmainate
	White / With Rubber	●	40401- 96200		
	Brown Laminate / Golden Oak	●	*********	*********	*********
	Brown Laminate / Dark Oak	●	*********	*********	*********
	Brown Laminate / Charcoal Brown	●	*********	*********	*********
	Gray Laminate / Wintech Gray	●	*********	*********	*********

○ Without Rubber ● With Rubber

Single Glazing Bead Profile (10 mm)



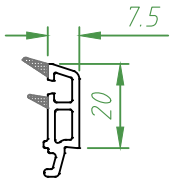


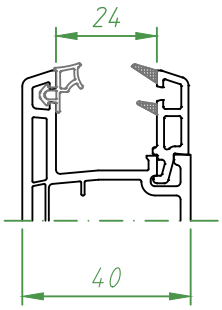


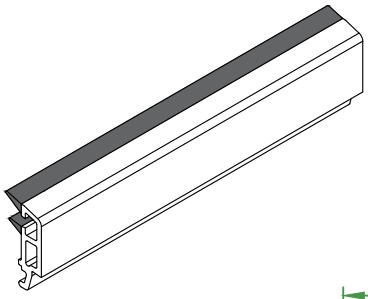
Profile Code					
	White / Without Rubber	○	*********	Inside Lmainate	Outside Lmainate
	White / With Rubber	●	40401- 96500		
	Brown Laminate / Golden Oak	●	*********	*********	*********
	Brown Laminate / Dark Oak	●	*********	*********	*********
	Brown Laminate / Charcoal Brown	●	*********	*********	*********
	Gray Laminate / Wintech Gray	●	*********	*********	*********

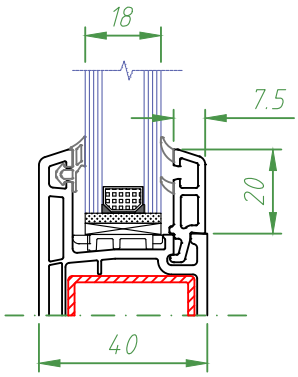
○ Without Rubber ● With Rubber

Double Glazing Bead Profile (18 mm)





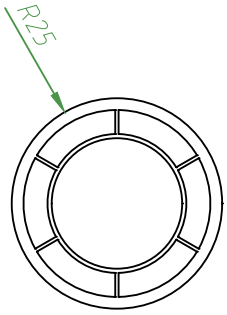


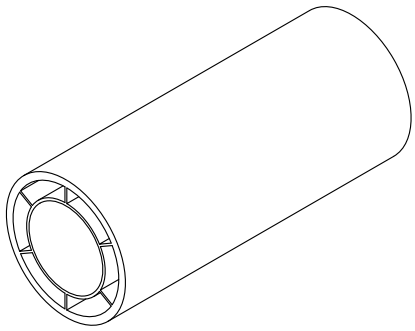


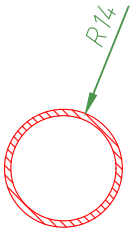
Profile Code					
	White / Without Rubber	○	*********	Inside Lmainate	Outside Lmainate
	White / With Rubber	●	40401- 96300		
	Brown Laminate / Golden Oak	●	*********	*********	*********
	Brown Laminate / Dark Oak	●	*********	*********	*********
	Brown Laminate / Charcoal Brown	●	*********	*********	*********
	Gray Laminate / Wintech Gray	●	*********	*********	*********

○ Without Rubber ● With Rubber

Pipe Angular Profile





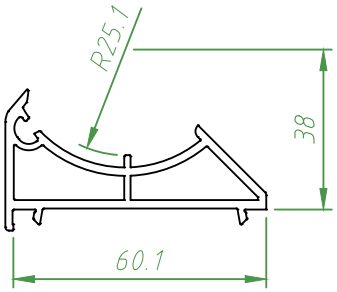


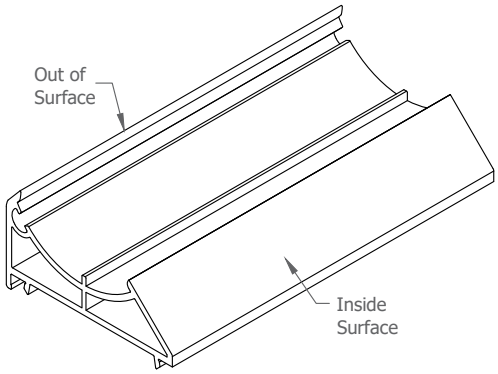
Profile Code				
	White / Without Rubber	○	40105- 05000	One side Lmainate *
	White / With Rubber	●	*********	
	Brown Laminate / Golden Oak	○	40105- 25003	40105- 05003
	Brown Laminate / Dark Oak	○	40105- 25033	40105- 05033
	Brown Laminate / Charcoal Brown	○	40105- 25053	40105- 05053
	Gray Laminate / Wintech Gray	○	40105- 25063	40105- 05063

○ Without Rubber ● With Rubber

Attention: One side of the laminate includes 50% of the profile.

Angled Pipe Adaptor Profile

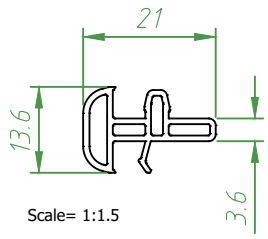




Profile Code					
	White / Without Rubber	O	40105- 04000	Inside Lmainate	Outside Lmainate
	White / With Rubber	●	*********		
	Brown Laminate / Golden Oak	O	40105- 24003	40105- 04002	40105- 04003
	Brown Laminate / Dark Oak	O	40105- 24033	40105- 04032	40105- 04033
	Brown Laminate / Charcoal Brown	O	40105- 24053	40105- 04052	40105- 04053
	Gray Laminate / Wintech Gray	O	40105- 24063	40105- 04062	40105- 04063

O Without Rubber ● With Rubber

Coupling Profile



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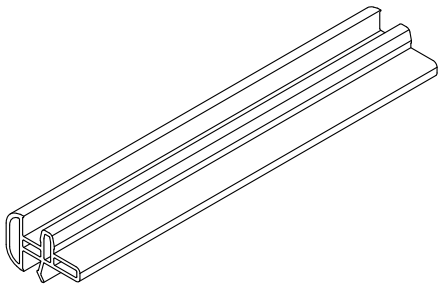
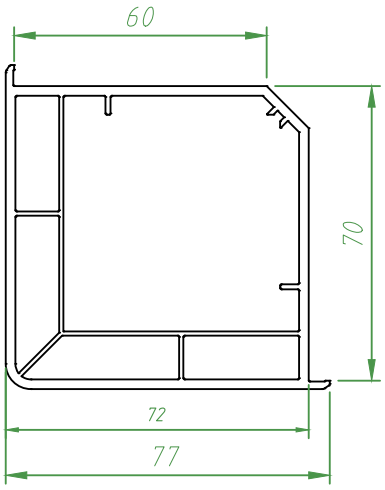
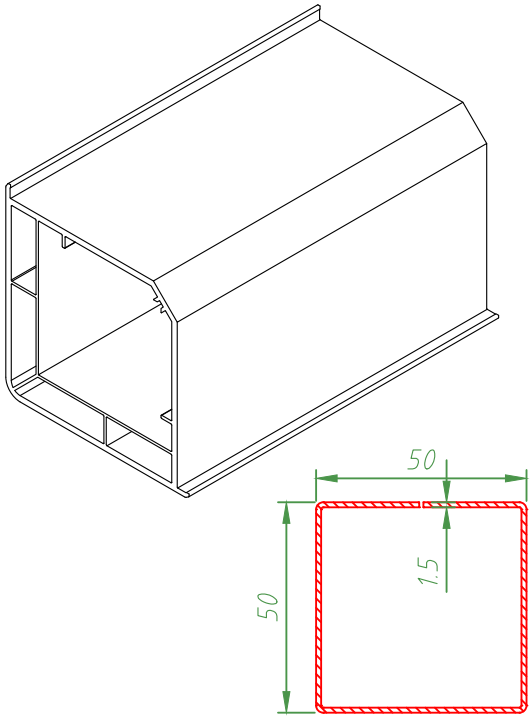


Profile Code			
	White / Without Rubber	O	40106- 01000
	White / With Rubber	●	*********
	Brown / Without Laminate	O	40106- 21000
	Gray / Without Laminate	O	40106- 61000
	*********	O	*********
	*********	O	*********

O Without Rubber ● With Rubber

Corner Profile

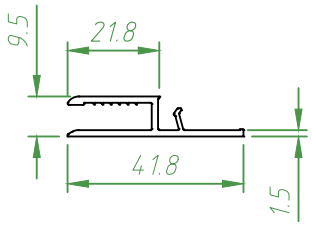


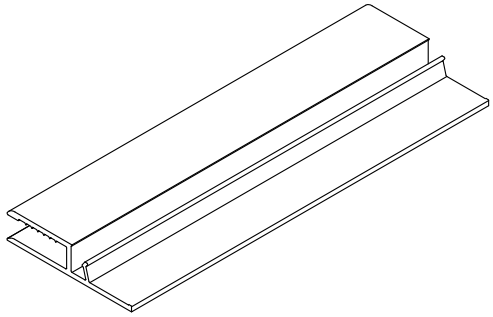


Profile Code					
White /	O	40106- 02000	Inside Lmainate	Outside Lmainate
White / With Rubber	●	*********		
Brown Laminate / Golden Oak	O	40106- 22003	*********	*********
Brown Laminate / Dark Oak	O	40106- 22033	*********	*********
Brown Laminate / Charcoal Brown	O	40106- 22053	*********	*********
Gray Laminate / Wintech Gray	O	40106- 22063	*********	*********

O Without Rubber ● With Rubber

Holder Profile

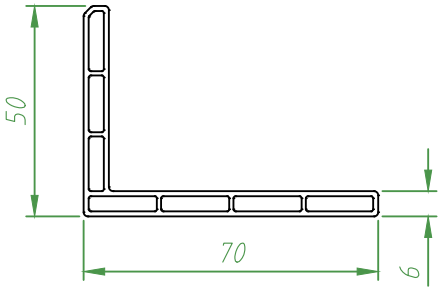


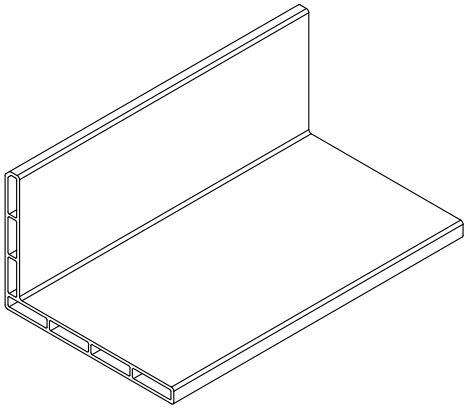


Profile Code			
White / Without Rubber	O	40106- 04000
White / With Rubber	●	*********
Brown / Without Laminate	O	40106- 24000
Gray / Without Laminate	O	40106- 64000
*********	O	*********
*********	O	*********

O Without Rubber ● With Rubber

Sill (border) Profile - 50x70 mm

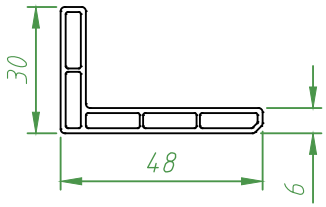


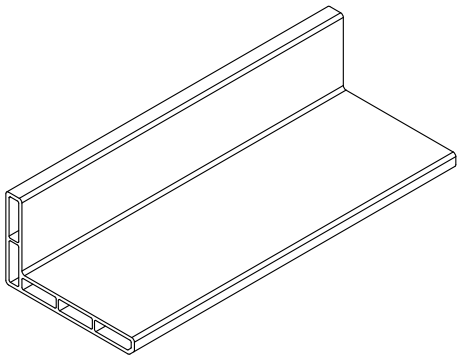


Profile Code				Inside Lmainate	Outside Lmainate
	White / Without Rubber	O	40108- 02000		
	White / With Rubber	●	*********		
	Brown Laminate / Golden Oak	O	40108- 22001	*********	*********
	Brown Laminate / Dark Oak	O	40108- 22031	*********	*********
	Brown Laminate / Charcoal Brown	O	40108- 22051	*********	*********
	Gray Laminate / Wintech Gray	O	40108- 22061	*********	*********

O Without Rubber ● With Rubber

Sill (border) Profile - 30x48 mm

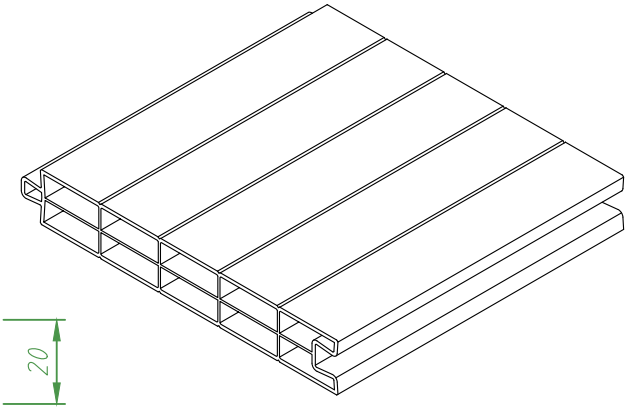


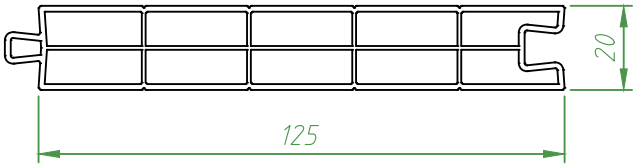


Profile Code				Inside Lmainate	Outside Lmainate
	White / Without Rubber	O	40108- 01000		
	White / With Rubber	●	*********		
	Brown Laminate / Golden Oak	O	40108- 21001	*********	*********
	Brown Laminate / Dark Oak	O	40108- 21031	*********	*********
	Brown Laminate / Charcoal Brown	O	40108- 21051	*********	*********
	Gray Laminate / Wintech Gray	O	40108- 21061	*********	*********

O Without Rubber ● With Rubber

Panel Profile (20 x 125 mm- Groove)

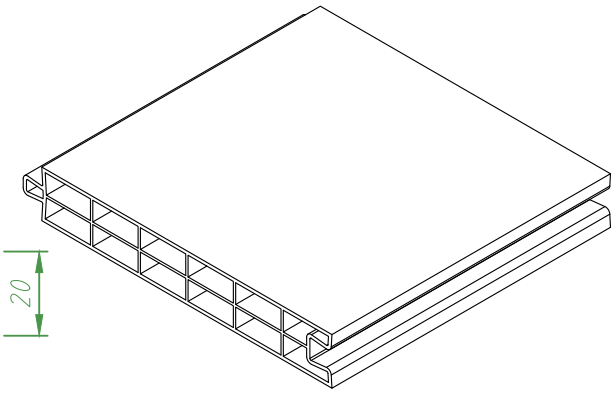


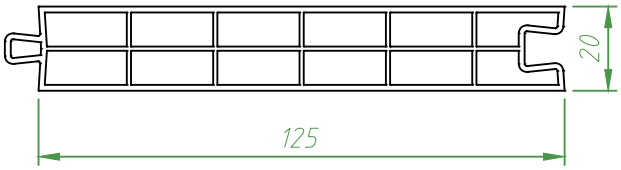


Profile Code				
	White / Without Rubber	O	40102- 02000	One side Lmainate
	White / With Rubber	●	*********	
	Brown Laminate / Golden Oak	O	40102- 22003	40102- 02003
	Brown Laminate / Dark Oak	O	40102- 22033	40102- 02033
	Brown Laminate / Charcoal Brown	O	40102- 22053	40102- 02053
	Gray Laminate / Wintech Gray	O	40102- 22063	40102- 02063

O Without Rubber ● With Rubber

Panel Profile (20 x 125 mm)

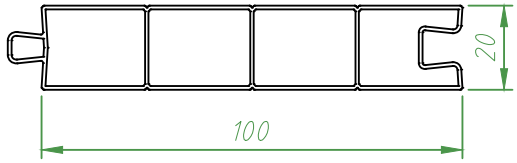


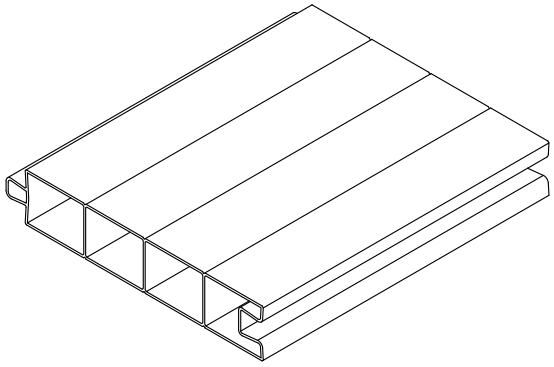


Profile Code				
	White / Without Rubber	O	40102- 04000	One side Lmainate
	White / With Rubber	●	*********	
	Brown Laminate / Golden Oak	O	40102- 24003	40102- 04003
	Brown Laminate / Dark Oak	O	40102- 24033	40102- 04033
	Brown Laminate / Charcoal Brown	O	40102- 24053	40102- 04053
	Gray Laminate / Wintech Gray	O	40102- 24063	40102- 04063

O Without Rubber ● With Rubber

Panel Profile (20 x 100 mm)

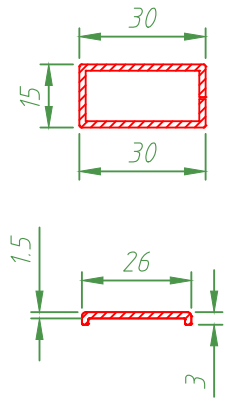


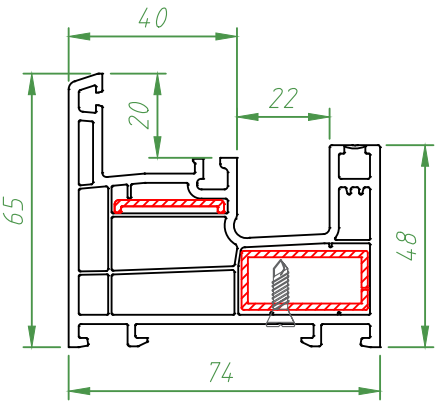


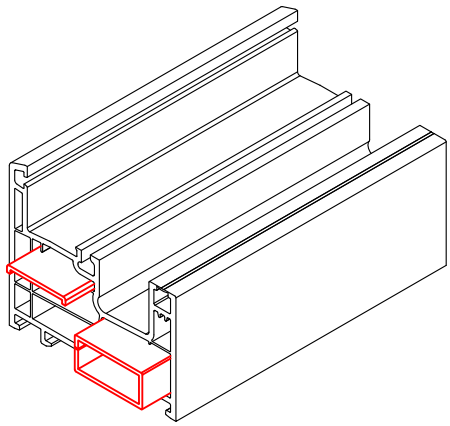
Profile Code				
	White / Without Rubber	O	40102- 03000	One side Lmainate
	White / With Rubber	●	*********	
	Brown Laminate / Golden Oak	O	40102- 23003	40102- 03003
	Brown Laminate / Dark Oak	O	40102- 23033	40102- 03033
	Brown Laminate / Charcoal Brown	O	40102- 23053	40102- 03053
	Gray Laminate / Wintech Gray	O	40102- 23063	40102- 03063

O Without Rubber ● With Rubber

Galvanized Reinforcing Profile Systems



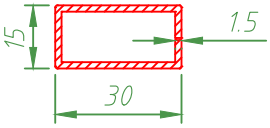


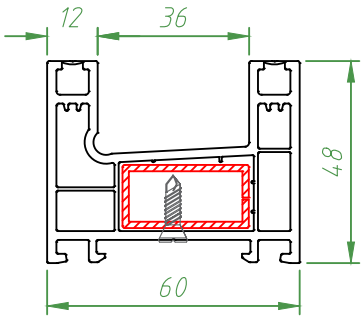


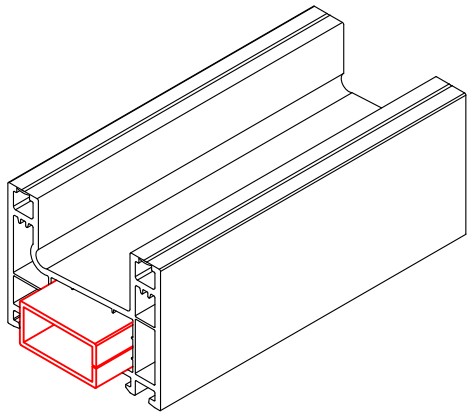
Thickness	Ix $(cm)^4$	Iy $(cm)^4$	Area	Weight
1.25 mm	0.38	1.15	103	808 gr /mt
1.5 mm	0.44	1.34	123	965 gr /mt
2 mm	0.54	1.70	161.1	1264 gr /mt

Reinforced profiles with a thickness of less than 1.25 mm are not approved.

Galvanized Reinforcing Profile Systems







Thickness	Ix $(cm)^4$	Iy $(cm)^4$	Area	Weight
1.25 mm	0.38	1.15	103	808 gr /mt
1.5 mm	0.44	1.34	123	965 gr /mt
2 mm	0.54	1.70	161.1	1264 gr /mt

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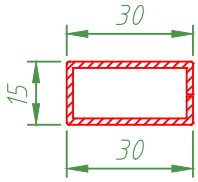
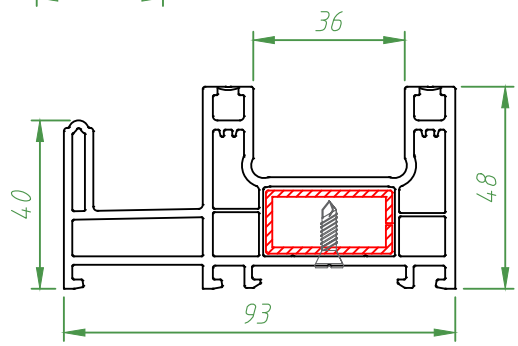
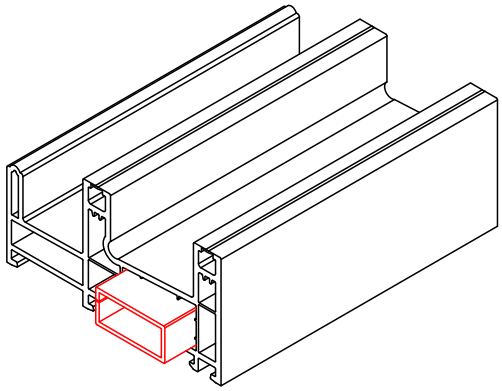
Galvanized Reinforcing Profile Systems







Thickness	Ix $(cm)^4$	Iy $(cm)^4$	Area	Weight
1.25 mm	0.38	1.15	103	808 gr /mt
1.5 mm	0.44	1.34	123	965 gr /mt
2 mm	0.54	1.70	161.1	1264 gr /mt

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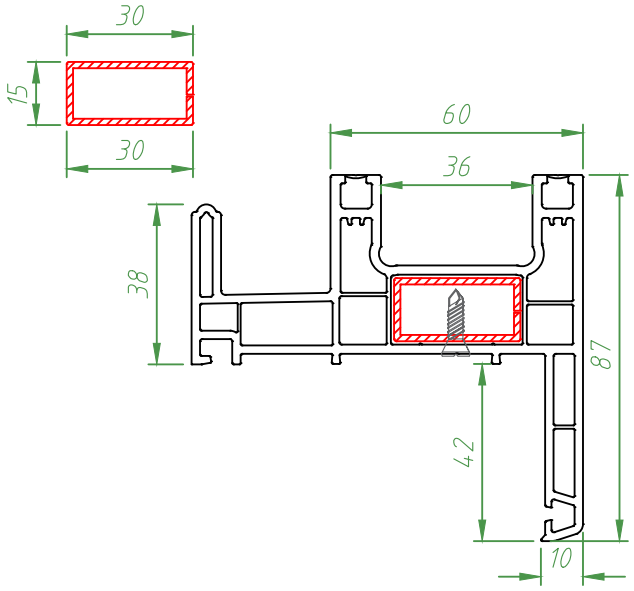
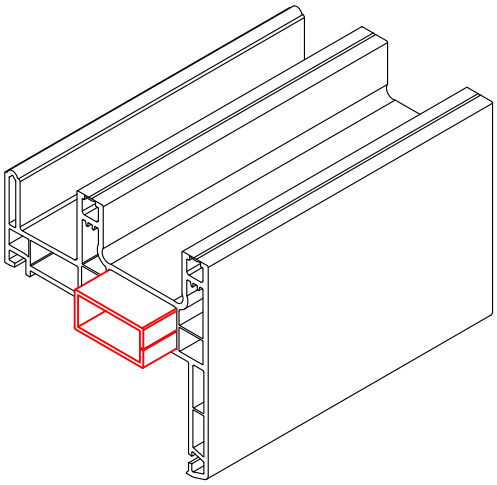
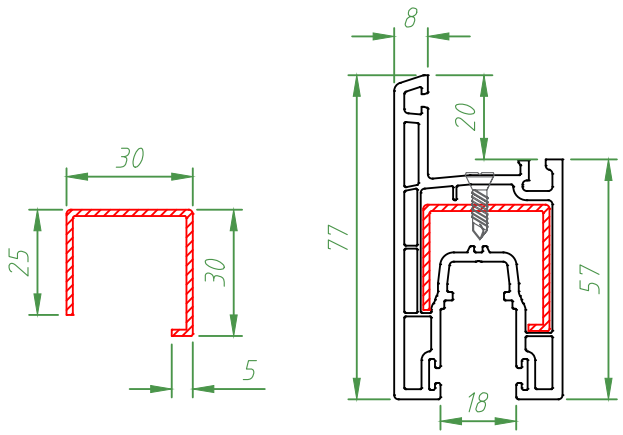
Galvanized Reinforcing Profile Systems

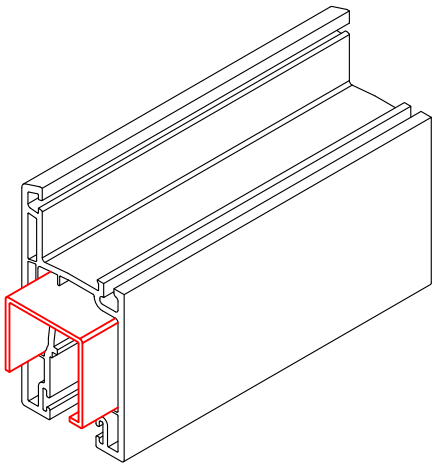




Thickness	Ix (cm)^4	Iy (cm)^4	Area	Weight
1.25 mm	0.38	1.15	103	808 gr /mt
1.5 mm	0.44	1.34	123	965 gr /mt
2 mm	0.54	1.70	161.1	1264 gr /mt

Galvanized Reinforcing Profile Systems

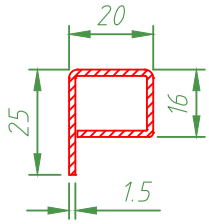


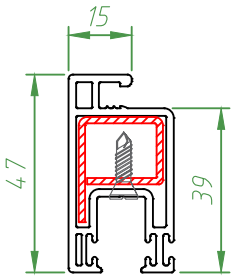


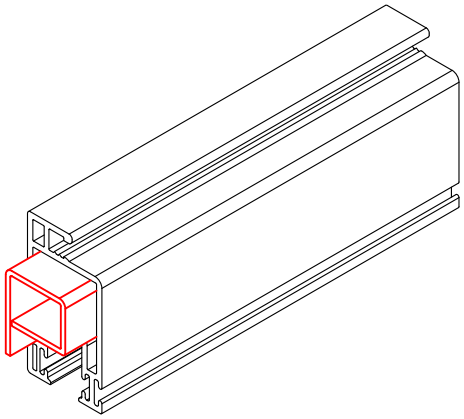
Thickness	Ix (cm)^4	Iy (cm)^4	Area	Weight
1.25 mm	0.91	1.71	105.5	828 gr /mt
1.5 mm	1.07	2.01	125.8	987 gr /mt
2 mm	1.37	2.56	165.4	1298 gr /mt

Reinforced profiles with a thickness of less than 1.25 mm are not approved.

Galvanized Reinforcing Profile Systems



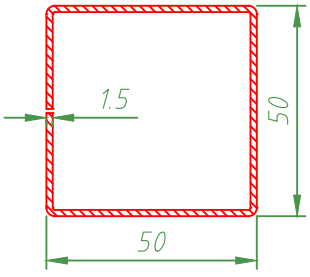


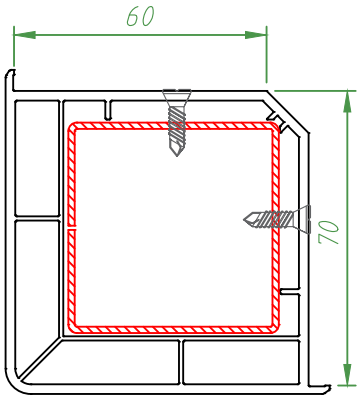


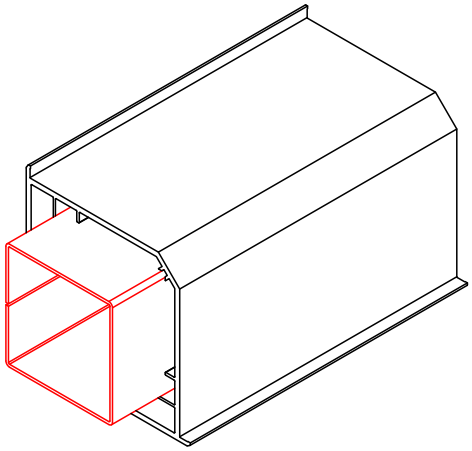
Thickness	Ix (cm)^4	Iy (cm)^4	Area	Weight
1.25 mm	0.37	0.61	92	722 gr /mt
1.5 mm	0.43	0.71	109.2	857 gr /mt
2 mm	0.54	0.9	142.5	1118 gr /mt

Reinforced profiles with a thickness of less than 1.25 mm are not approved.

Galvanized Reinforcing Profile Systems

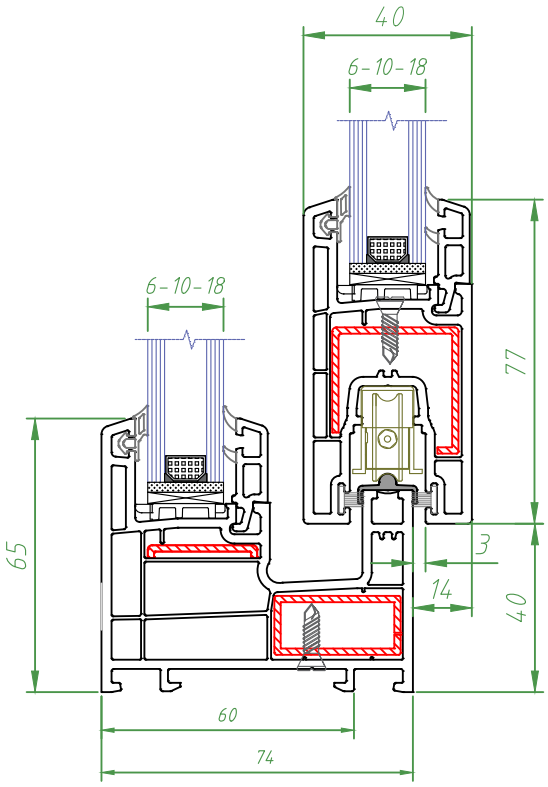






Thickness	Ix (cm)^4	Iy (cm)^4	Area	Weight
1.25 mm	9.51	9.43	240	1884 gr /mt
1.5 mm	11.22	11.13	286.2	2246 gr /mt
2 mm	14.46	14.34	376	2951 gr /mt

Reinforced profiles with a thickness of less than 1.25 mm are not approved.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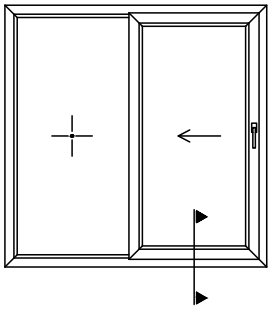

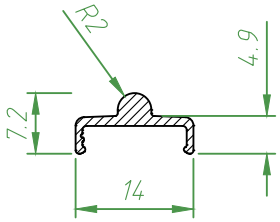
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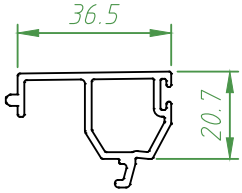
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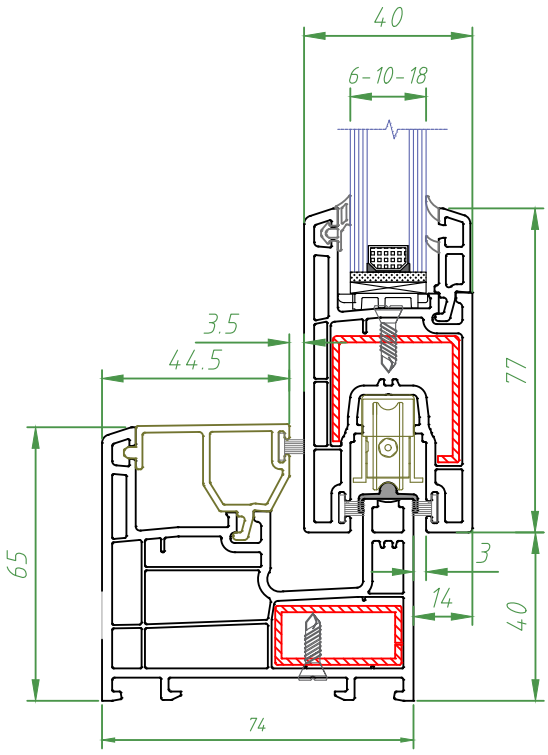
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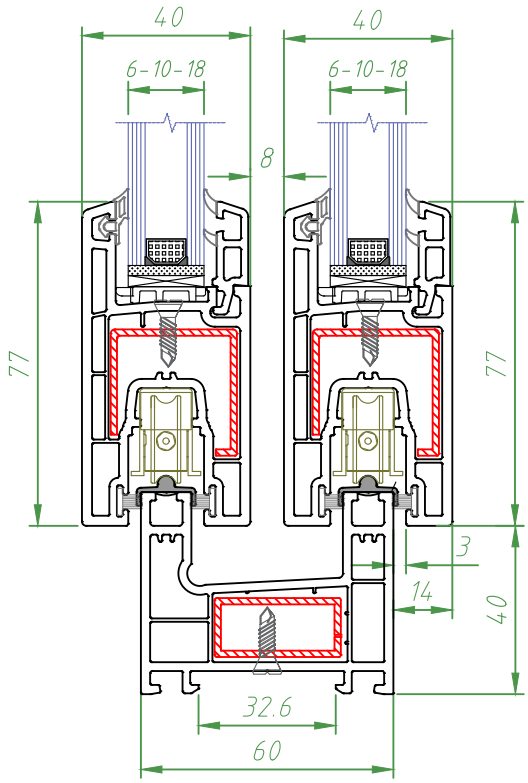
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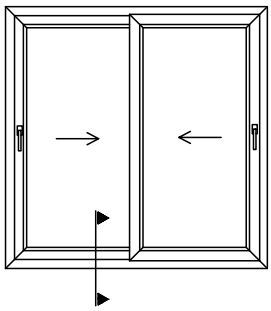

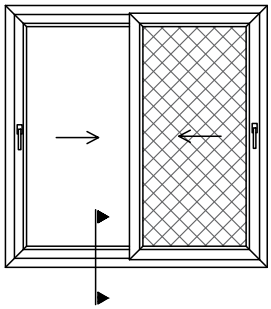

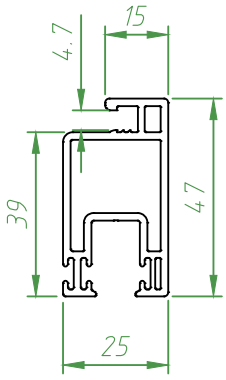
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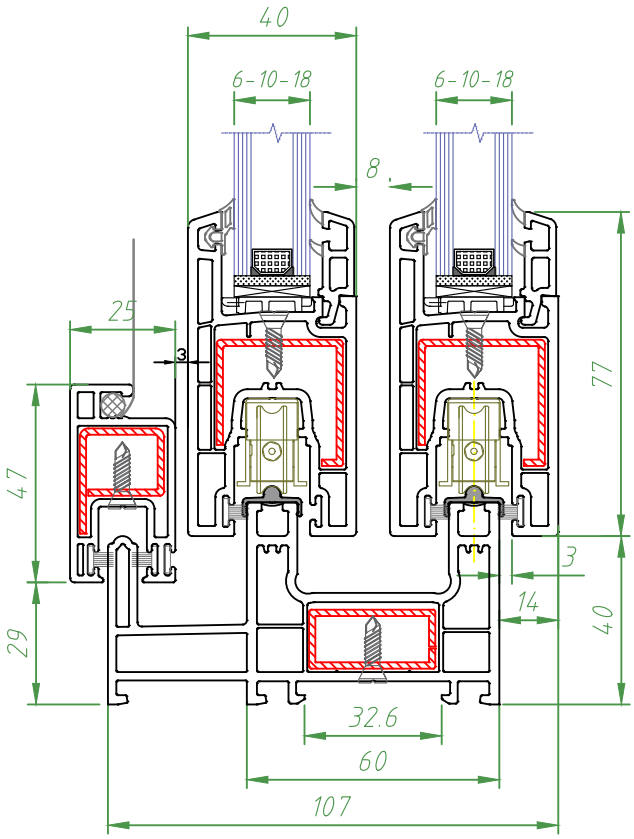
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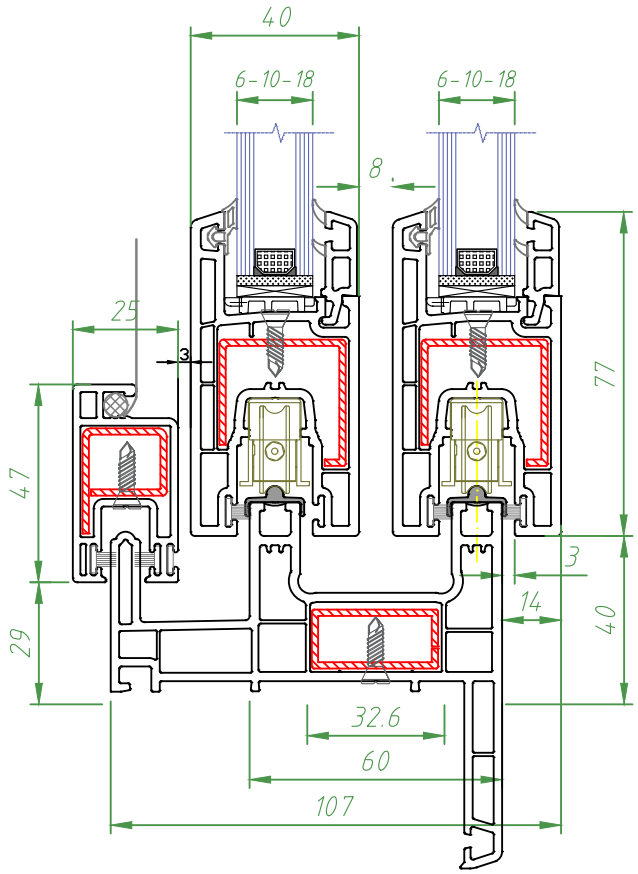
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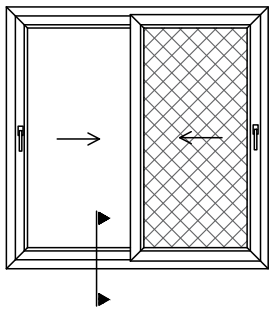

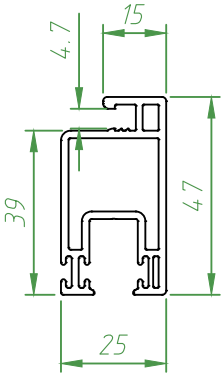
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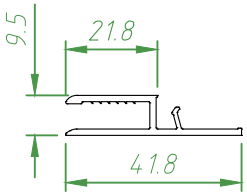
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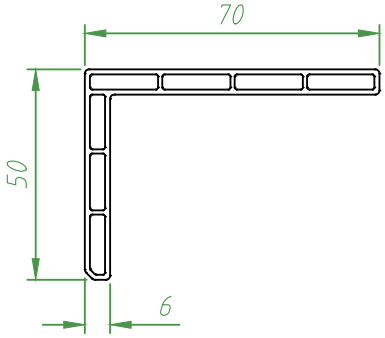
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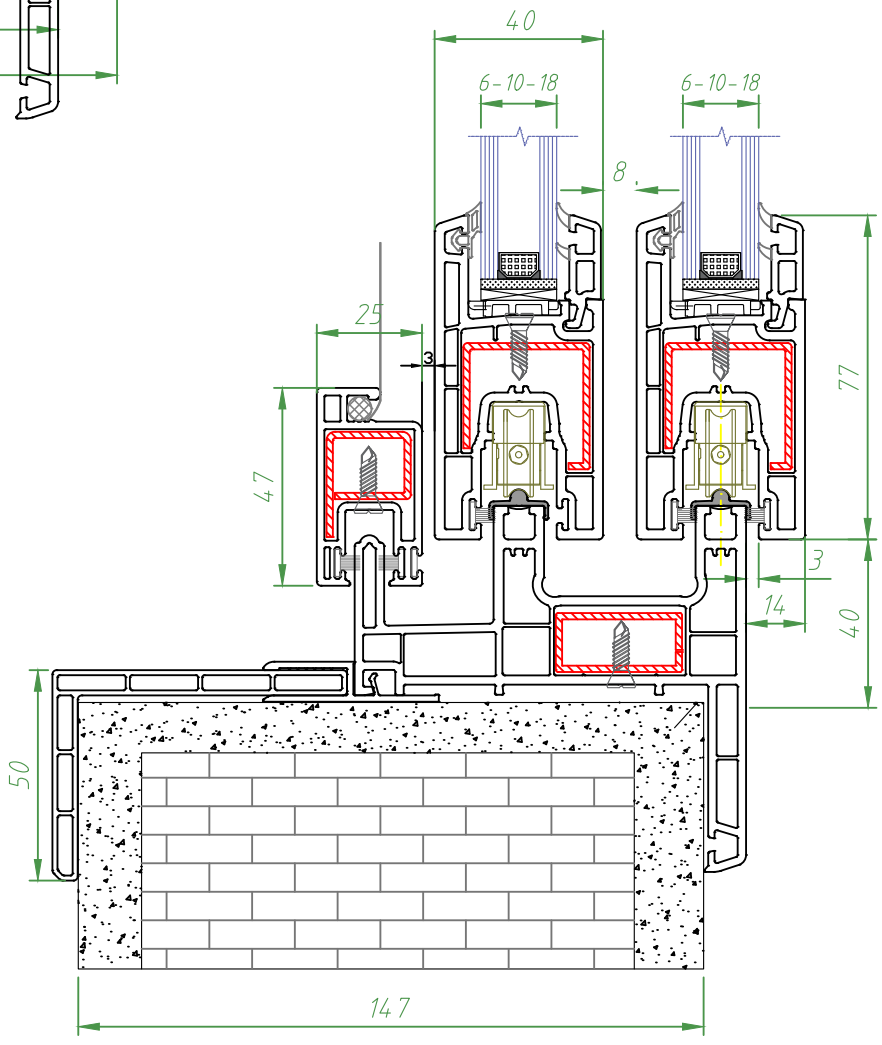
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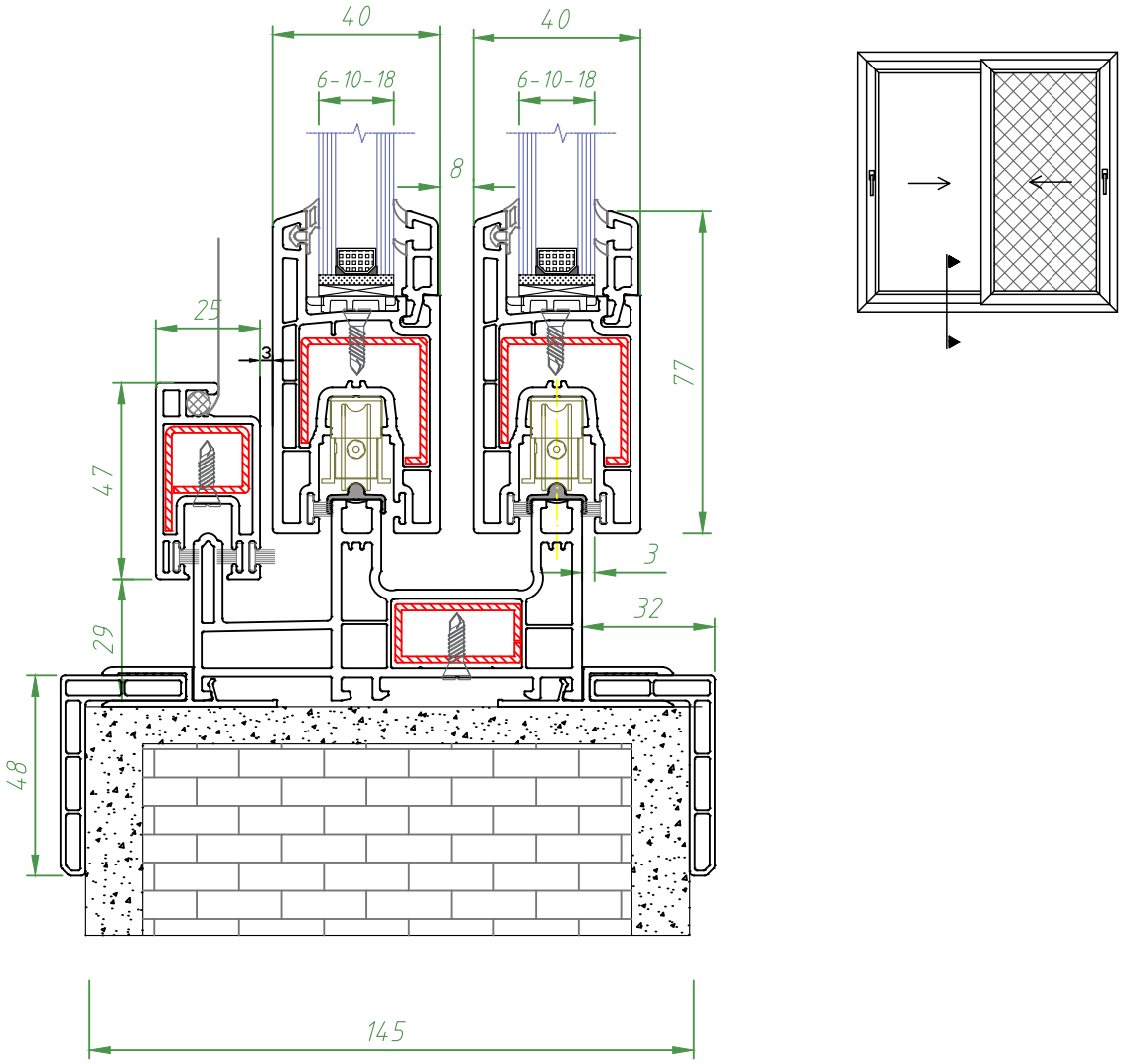
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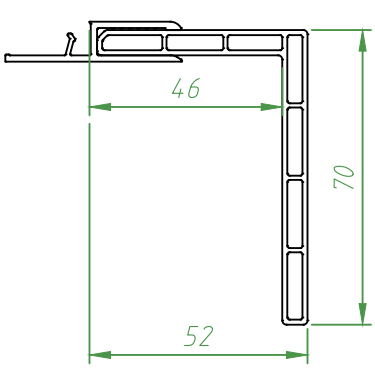
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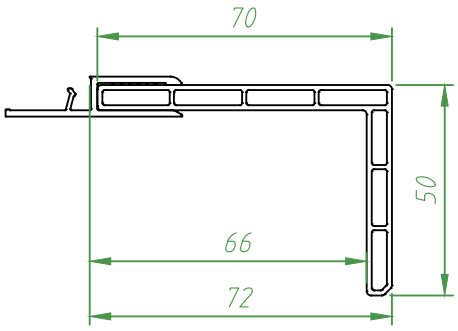
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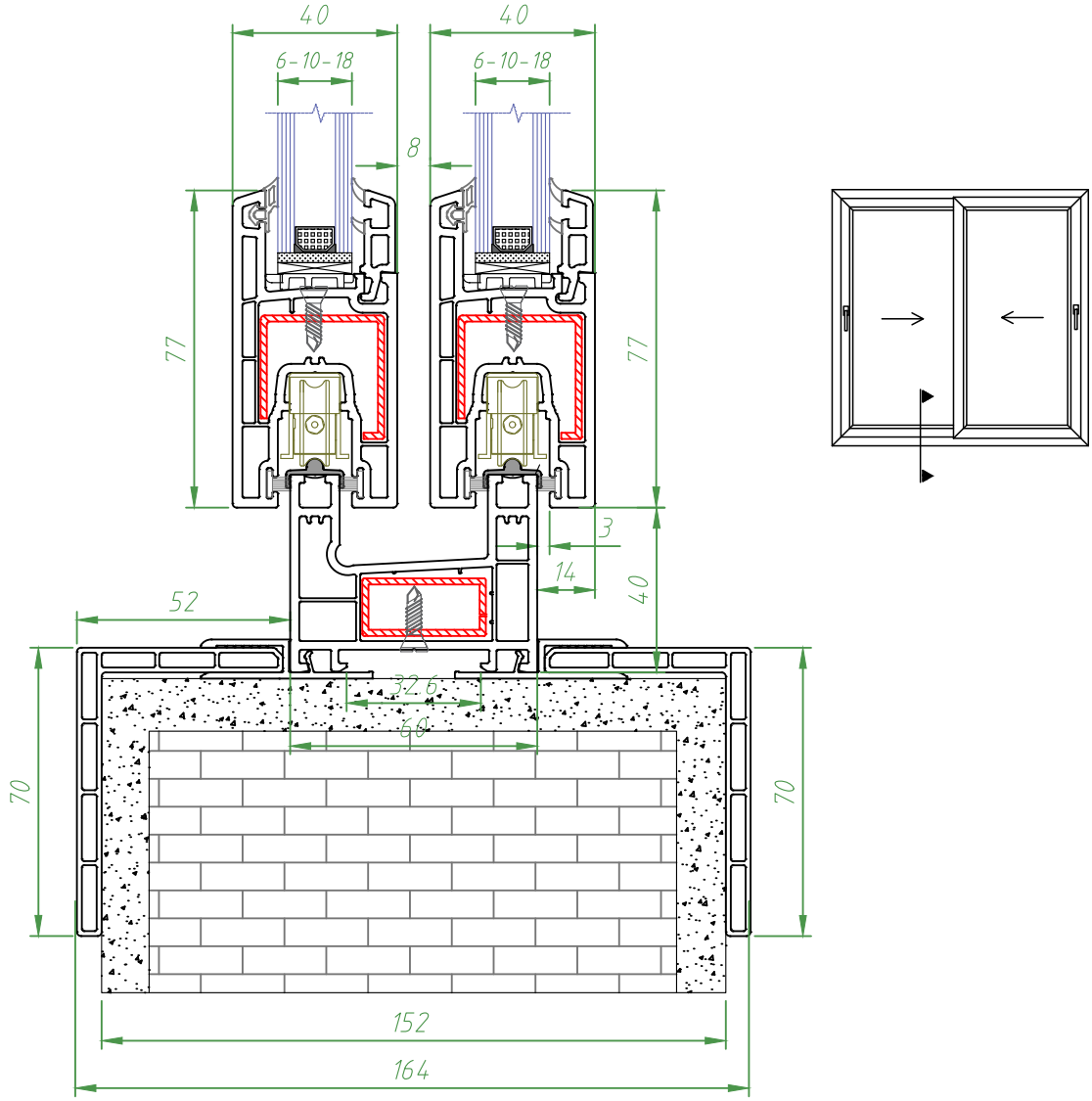
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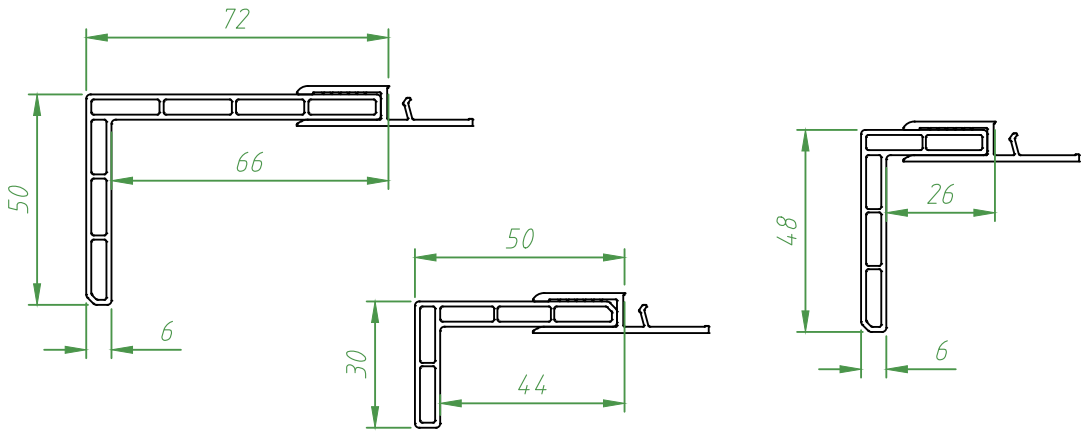
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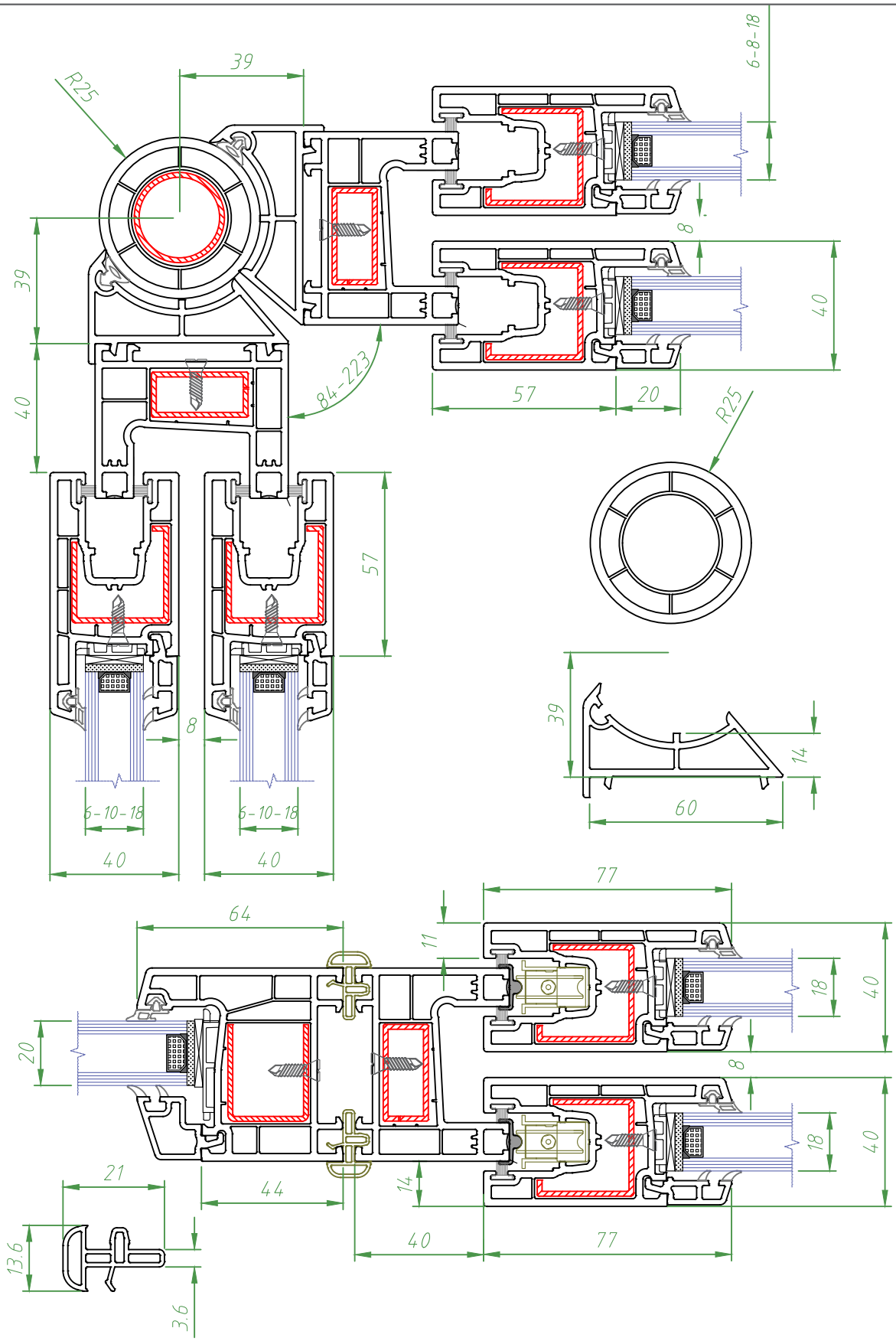
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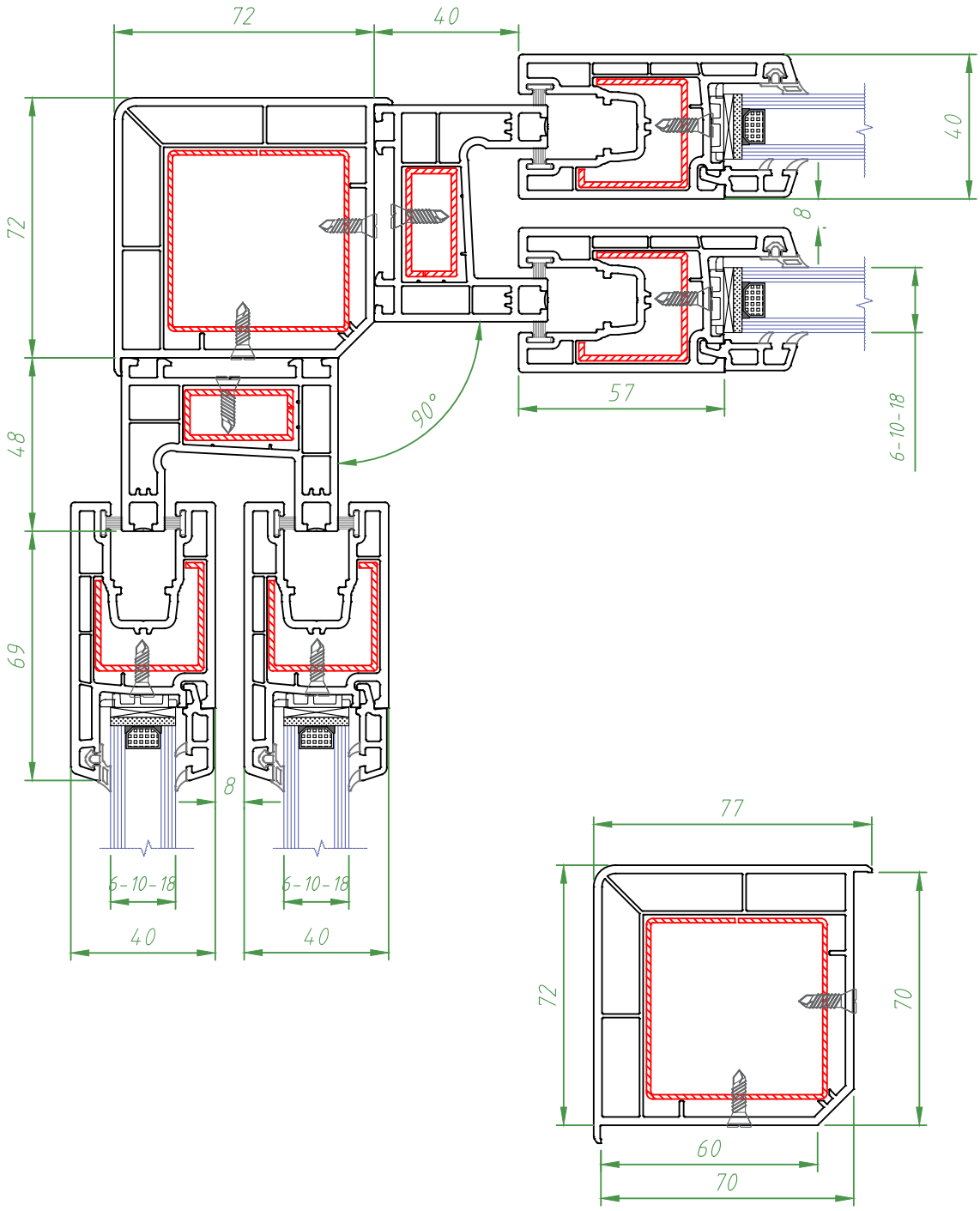
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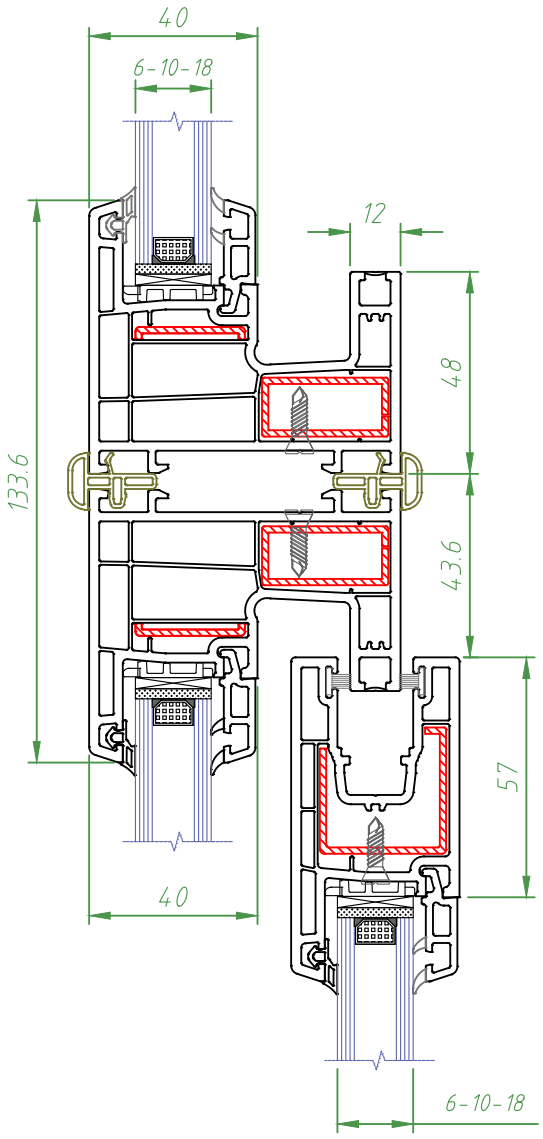
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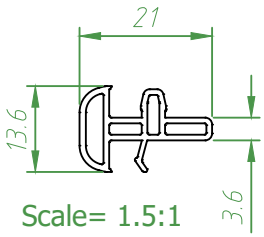
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13.6
3.6

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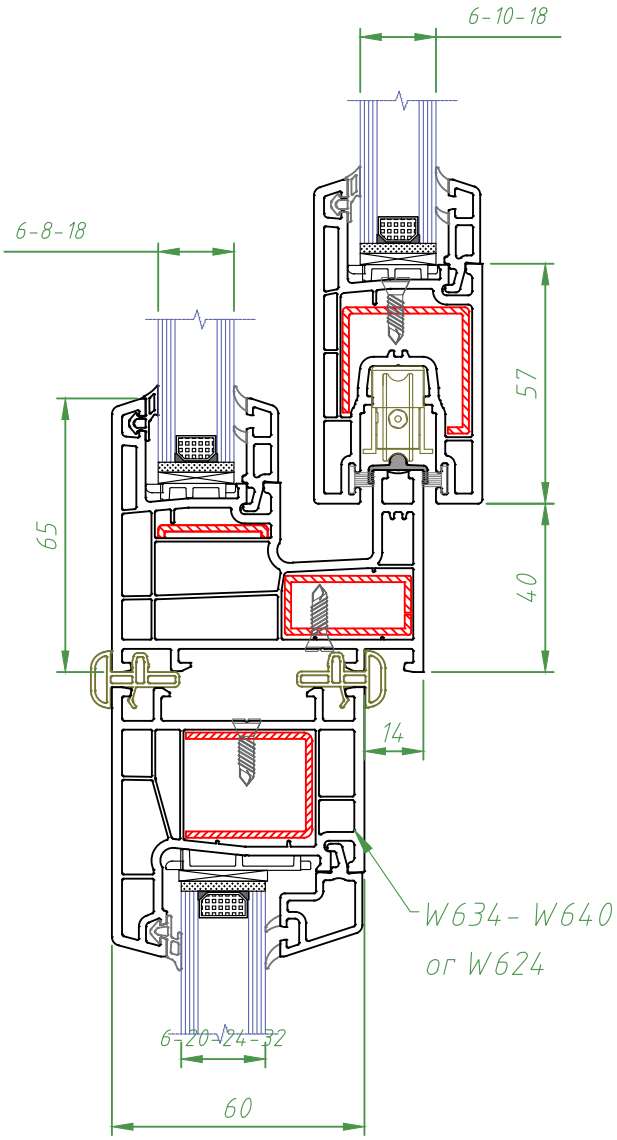
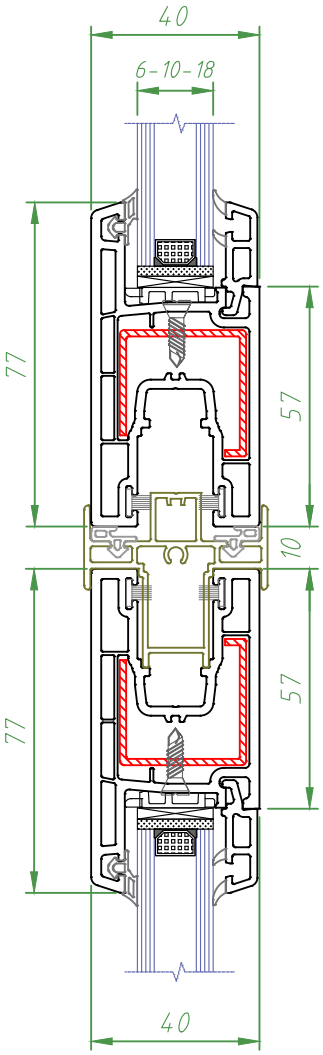

6-10-18
6-8-18
57
65
40
14
W634- W640
or W624
6-20-24-32
60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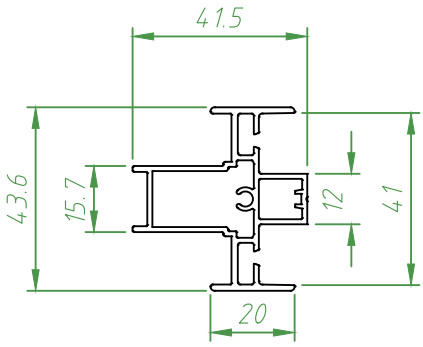
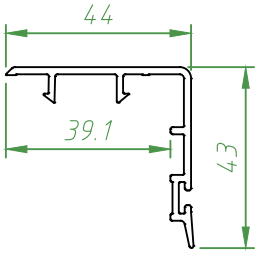
77
57
10
57
77
40


41.5
43.6
15.7
12
41
20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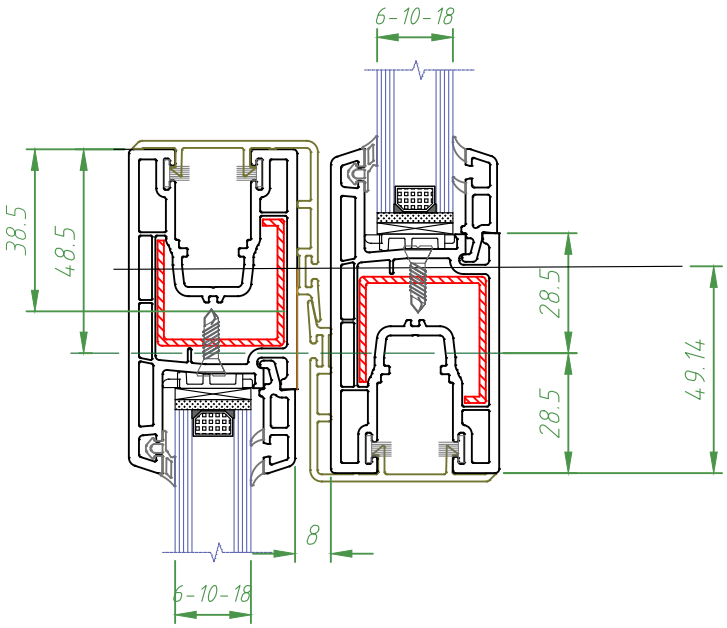
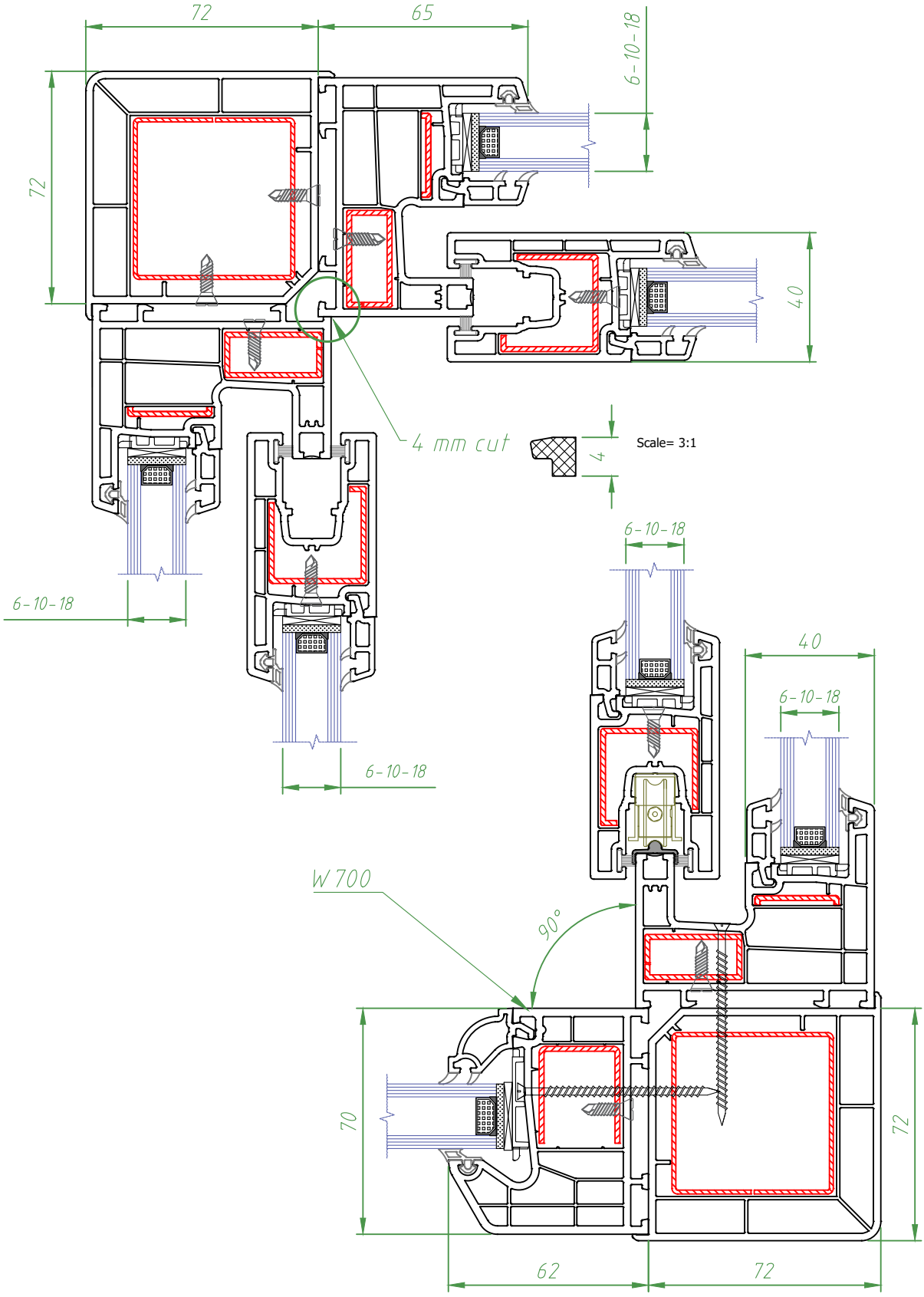
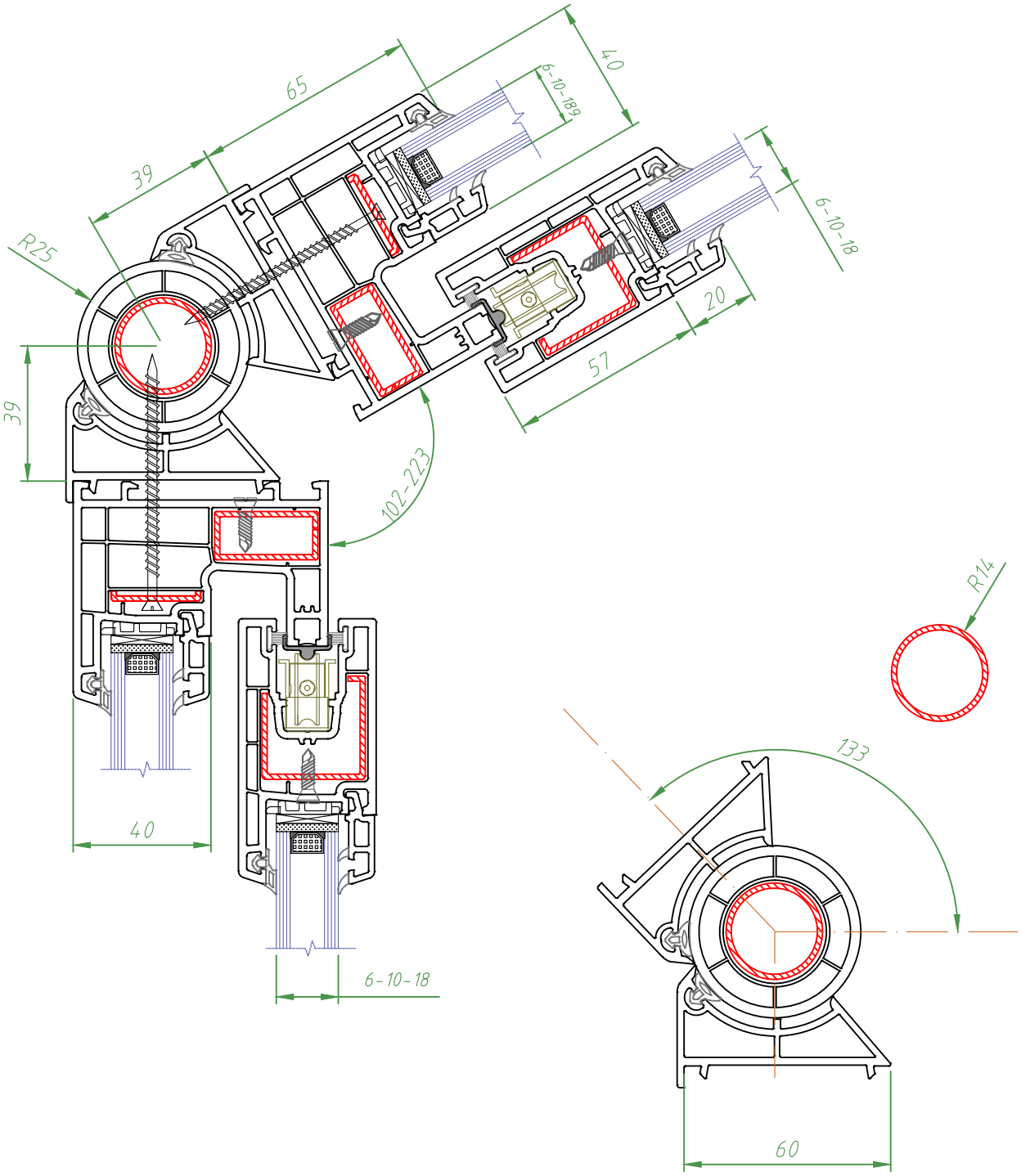
39.1
43


6-10-18
38.5
48.5
28.5
28.5
49.14
8
6-10-18


72
65
6-10-18
72
40
4 mm cut
4
Scale= 3:1
6-10-18
6-10-18
6-10-18
40
6-10-18
W 700
90°
70
72
62
72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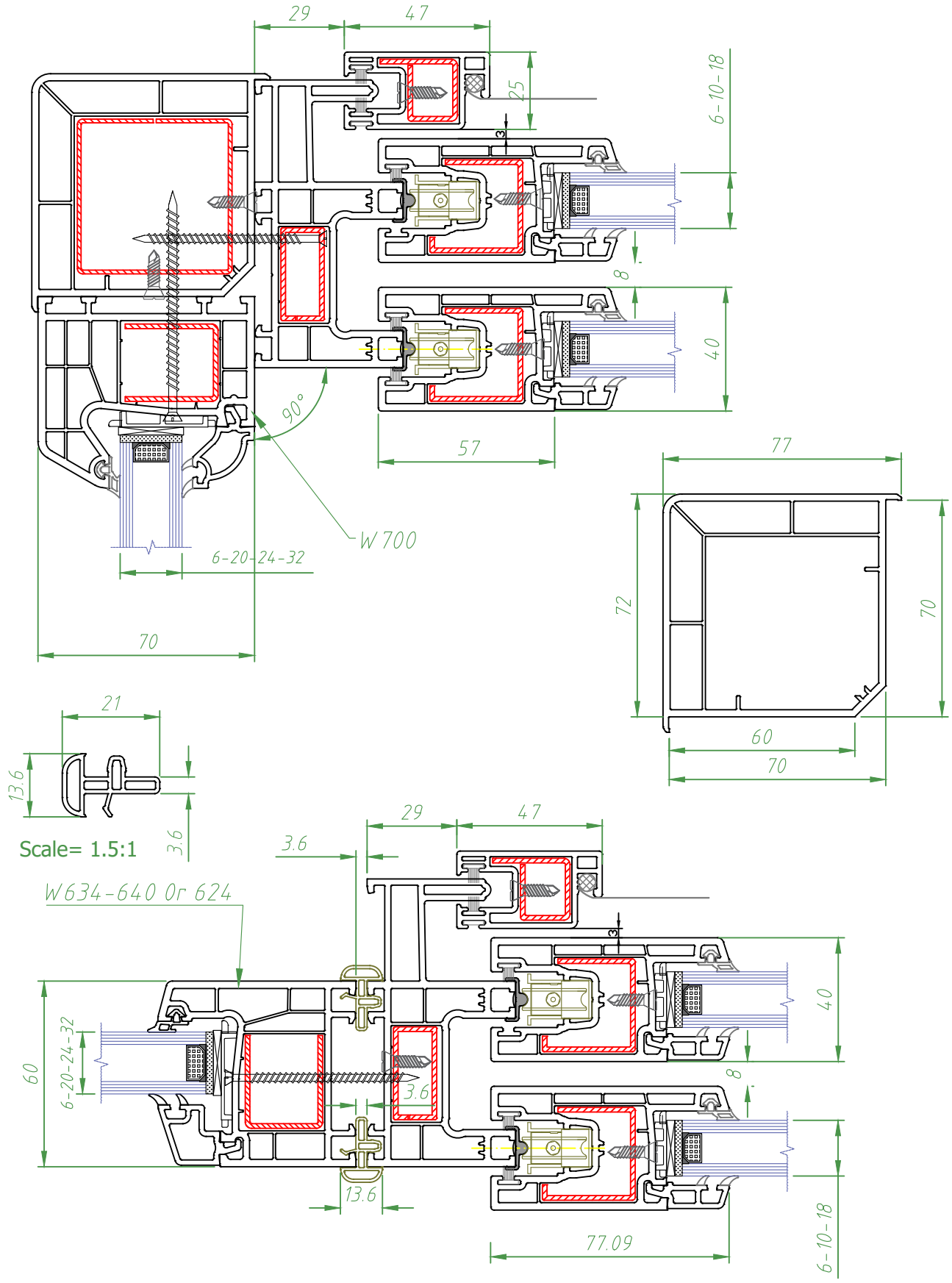
R25
6-10-18
20
57
39
102-223
40
6-10-18
R14
133
60


29
47
25
6-10-18
8
40
90°
57
W 700
6-20-24-32
70
77
72
70
60
70
21
13.6
3.6
Scale= 1.5:1
29
47
3.6
W634-640 Or 624
40
60
6-20-24-32
3.6
8
13.6
77.09
6-10-18

STATIC CALCULATION

General Information :

According to DIN 18056 standard, the mechanical strength of the corner fittings for an area larger than 9 meters or an area where the smaller part is greater than 2 meters should be calculated without any exceptions. There is usually no need to figure out these calculations for windows that are installed at short distances on the wall. However, vertical and horizontal intermediate components and interfaces should always be calculated.

In DIN 18056, the maximum deviation for these is given below:
For a thickness that has a storage space of up to 300 cm. Distance from space F=L/200

For the thickness of the storage space that is greater than 300 cm Distance from space F=L/300

Space is used when the insulated glass is used. production values are used, but the general rule is the distance from the space : F=L/300.

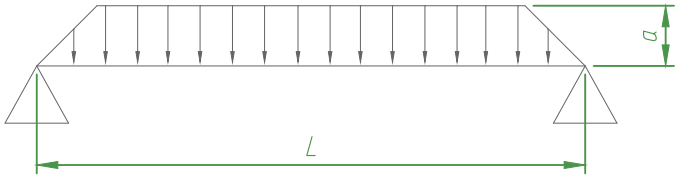
CALCULATION OF WINDOW:

a= Height of Loading cm

L= Distances Between Abutments cm

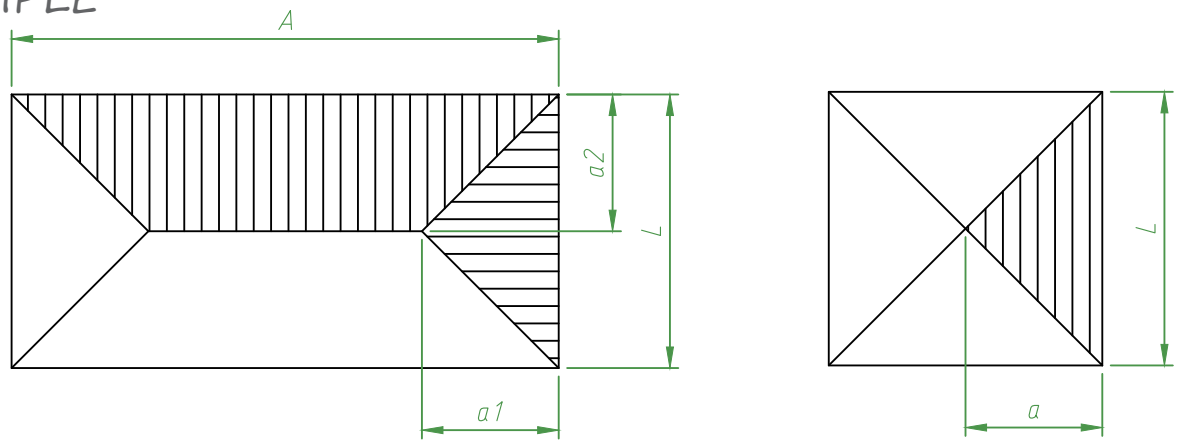
W= Wind Load : c.q (kN\m)

J = Moment of Inertia



category of forcing	height of buliding	wind speed	dynamic pressure (Q)		multiplied with coefficient c=1.2 p=cxQ F		multiplied with coefficient c=1.2 p=cxQ G		factor of changing
	mt	m/s	kp/m2	KN/m2	kp/m2	KN/m2	kp/m2	KN/m2	
A	0-8	28.3	50	0.5	60	0.6	60	0.6	1.00
A	8-20	35.8	80	0.8	96	0.96	96	0.96	1.6
A	20-100	42	110	1.1	132	1.32	132	1.32	2.2
A	> 100	45.6	130	1.3	156	1.56	156	1.56	2.6

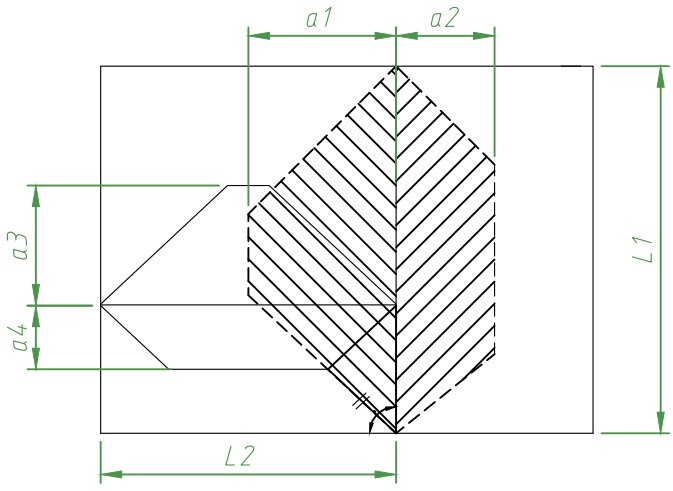
CALCULATION IS PERFORMED WITH THE HELP OF A SAMPLE



a = Width of Loading
L = Distance between Abutments

The distance between the supports (L) is the length of the floating rod. Width A is calculated assuming that a cross-section of 4 triangles is located on the square at the point of intersection.
There are loads of two triangles and two ropes on the rectangle.

SKETCH OF LOAD DISTRIBUTION ON WINDOW WITH VERTICAL AND MULLION PROFILE



a = Width of Loading (cm)
L = Distance of Abutment (cm)
If the graphic is drawn with scale, "a" is defined as width of loading.

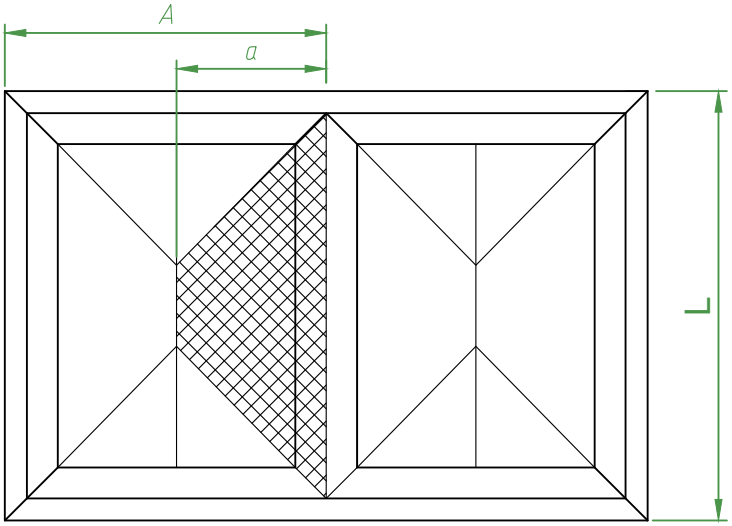
The group that belongs to the load depends on the height of the building where the window will be installed.
For an example;
if the building has an altitude of 18 meters, this will include group B and all windows are accepted from the ground up to 18 meters for group B and the required computing will follow.

STATIC CALCULATION

Longevity and strength of the window against wind force against the UPVC window profile and the inertia of the reinforced (Iy, Ix) galvanizing profile are used in the production of the product. The main function of the reinforcing profiles used in doors and windows made of flexible PVC is used. It is a requirement to provide mechanical strength requirements that enable the corner fittings of the door and PVC windows to function properly.
The shape and thickness of the reinforcement profiles are used to determine the maximum size of the window, in addition to the height at which the quadrilateral is installed and the wind power is also associated.

General rules:

Maximum bale Exterior Size in Figure.
The largest portion required is given as M.
The weight of the glass or panel is up to 25 kg / m, while the maximum measurements are inaccurate and inaccurate. Limitations imposed by the company providing the gallon should also be considered.



$Ix = \frac{W^4 L.a}{1920.E.f}(25\text{-}40\left(\frac{a}{L}\right)^2 + 16\left(\frac{a}{L}\right)^4)$
Ix = Required Moment of Inertia (cm^4)
W = Wind Load($N/mm)^2$
E = Modulus of Elasticity (E = 2600 N/mm2 / E = 210.000N/mm^2)
f = Allowable Deflection (L / 300) cm
a = Width of Loading (cm)
L = Space of Abutment (cm)

0 - 8 m	60 kp/m^2	600 pa	0.0006 N/mm^2
8 - 20 m	96 kp/m^2	960 pa	0.00096 N/mm^2
20 - 100 m	132 kp/m^2	1320 pa	0.00132N/mm^2
> 100 m	156 kp/m^2	1560 pa	0.00156 N/mm^2

MODULUS OF ELASTICITY
= 210.000 N/MM2

Height Of Assembly = 0-8 mt
Wind Pressure 60 kp/ m

SELECT OF CORRECT T PROFILE WITH RESPECT TO WIND PRESSURE

L = height of sash (cm)	a = width of sash (cm) / a= A/2																		
	20	30	40	50	60	70	80	90	100		120	130	140	150	160	170	180	190	200
100	0.21	0.29	0.34							110									
110	0.28	0.39	0.48	0.52	0.54														
120	0.37	0.52	0.64	0.72	0.74	0.75													
130	0.47	0.67	0.84	0.95	1.01	1.22													
140	0.59	0.85	1.07	1.23	1.34	1.37													
150	0.73	1.06	1.34	1.56	1.72	1.80													
160	0.89	1.30	1.65	1.94	2.16	2.30	2.34												
170	1.07	1.56	2.00	2.38	2.67	2.87	2.97	3.03											
180	1.28	1.87	2.40	2.87	3.24	3.52	3.69	3.75											
190	1.50	2.21	2.85	3.42	3.89	4.26	4.51	4.64											
200	1.76	2.58	3.35	4.03	4.61	5.09	5.43	5.64	5.71										
210	2.04	3.00	3.90	4.71	5.42	6.01	6.46	6.77	6.93										
220	2.35	3.46	4.51	5.46	6.31	7.03	7.60	8.02	8.28	8.37									
230	2.68	3.96	5.17	6.29	7.28	8.15	8.86	9.41	9.78	9.97									
240	3.05	4.51	5.90	7.19	8.35	9.38	10.25	10.94	11.44	11.75	11.85								
250	3.60	5.32	6.97	8.51	9.92	11.17	12.25	13.13	13.81	14.27	14.50								
260	4.21	6.24	8.18	10.01	11.69	13.20	14.52	15.63	16.52	17.16	17.55	17.68							
270	4.90	7.27	9.54	11.69	13.68	15.49	17.09	18.46	19.59	20.44	21.02	21.32	270						
280	5.67	8.42	11.06	13.57	15.91	18.06	19.98	21.65	23.05	24.16	24.96	25.45	25.61						
290	6.53	9.70	12.76	15.67	18.41	20.93	23.21	25.22	26.93	28.33	29.4	30.12	30.48						
300	7.48	11.12	14.64	18.01	21.18	24.12	26.80	29.19	31.27	33.00	34.37	36.36	36.69	37.16					
310	8.53	12.69	16.72	20.59	24.25	27.66	30.79	36.09	37.62	38.20	39.92	41.23	42.11	42.55					
320	9.69	14.42	19.02	23.44	27.63	31.57	35.21	38.51	41.44	43.98	46.09	47.46	48.96	49.69	49.93				
330	10.97	16.33	21.54	26.57	31.36	35.58	40.07	43.90	47.34	50.36	52.92	56.00	56.58	57.64	58.17				
340	12.36	18.41	24.31	30.01	36.45	40.60	45.41	49.83	53.84	57.39	60.45	62.99	65.00	66.45	67.32	67.61			
350	13.88	20.69	27.33	33.76	39.92	45.77	51.26	56.34	60.97	65.11	68.73	71.80	74.29	76.17	77.44	78.08			

This moment of inertia chart is for double-glazed systems.
f=H/300 <0,8 cm (Maximum permissible deviation)
Consult glass firms to determine type and features of the glass.
Thickness of the glass alters for different distances and heights.

MODULUS OF ELASTICITY
= 210.000 N/MM2

Height Of Assembly = 8-20 mt
Wind Pressure 96 kp/ m

SELECT OF CORRECT T PROFILE WITH RESPECT TO WIND PRESSURE

L = height of sash (cm)	a = width of sash (cm) / a= A/2																		
	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200
100	0.33	0.46	0.54	0.57															
110	0.45	0.63	0.76	0.83	0.87														
120	0.59	0.84	1.02	1.14	1.18														
130	0.76	1.08	1.34	1.52	1.62	1.67													
140	0.95	1.36	1.71	1.98	2.14	2.20													
150	1.17	1.69	2.14	2.50	2.75	2.88													
160	1.43	2.07	2.64	3.11	3.46	3.67	3.74												
170	1.72	2.50	3.21	3.80	4.27	4.59	4.75												
180	2.04	2.99	3.84	4.58	5.19	5.63	5.91	6.00											
190	2.41	3.53	4.56	5.46	6.22	6.81	7.22	7.42											
200	2.81	4.13	5.36	6.45	7.38	8.14	8.69	9.03	9.14										
210	3.28	4.80	6.24	7.54	8.67	9.61	10.34	10.83	11.08										
220	3.75	5.54	7.21	8.74	10.09	11.24	12.16	12.84	13.25	13.39									
230	4.29	6.34	8.28	10.06	11.66	13.04	14.18	15.06	15.65	15.95									
240	4.88	7.22	9.44	11.50	13.37	15.01	16.39	17.50	18.30	18.79	18.99								
250	5.75	8.52	11.15	13.62	15.87	17.87	19.60	21.02	22.1	22.83	23.21								
260	6.74	9.98	13.09	16.01	18.7	21.12	23.24	25.02	26.43	27.46	28.08	28.29							
270	7.84	11.63	15.27	18.70	21.89	24.78	27.35	29.54	31.34	32.71	33.64	34.11	270						
280	9.07	13.47	17.70	21.71	25.46	28.89	31.96	34.64	36.88	38.65	39.94	40.72	40.98						
290	10.45	15.52	20.41	25.08	29.45	33.48	37.13	40.35	43.09	45.33	47.03	48.18	48.76						
300	11.97	17.79	23.43	28.81	33.88	38.59	42.88	46.71	50.03	52.80	54.99	56.58	57.54	57.88					
310	13.66	20.31	26.76	32.94	38.79	44.26	49.27	53.78	57.75	61.13	63.87	65.96	67.37	68.08					
320	15.51	23.08	30.43	37.50	44.22	50.51	56.33	61.61	66.30	70.36	73.74	76.41	78.34	79.50	79.89				
330	17.54	26.12	34.47	42.51	50.18	57.40	64.11	70.24	75.75	80.57	84.67	88.00	90.52	92.22	93.07				
340	19.87	29.46	38.9	48.01	56.72	64.96	72.65	79.74	86.14	91.82	96.7	100.7	104.0	106.3	107.7	108.1			
350	22.21	33.10	43.73	54.02	63.88	73.24	82.01	90.14	97.55	104.1	109.9	114.8	118.8	121.8	123.9	124.9			

This moment of inertia chart is for double-glazed systems.
f=H/300 <0,8 cm (Maximum permissible deviation)
Consult glass firms to determine type and features of the glass.
Thickness of the glass alters for different distances and heights.

MODULUS OF ELASTICITY
= 210.000 N/MM2

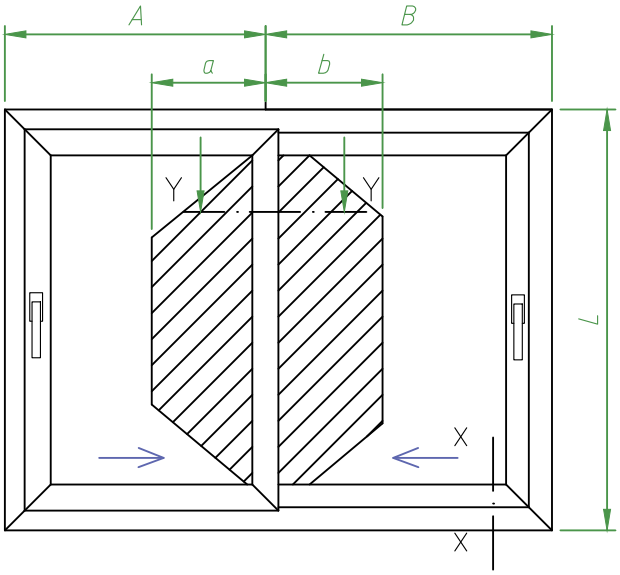
Height Of Assembly = 8-20 mt
Wind Pressure 96 kp/ m

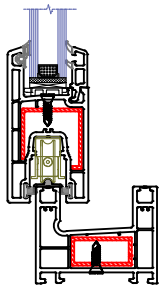
SELECT OF CORRECT T PROFILE WITH RESPECT TO WIND PRESSURE

L = height of sash (cm)	a = width of sash (cm) / a= A/2																		
	20	30	40	50	60	70	80	90	100		120	130	140	150	160	170	180	190	200
100	0.46	0.63	0.75	0.79						110									
110	0.62	0.87	1.05	1.14	1.21														
120	0.81	1.15	1.41	1.57	1.63														
130	1.04	1.48	1.84	2.10	2.23	2.32													
140	1.30	1.88	2.35	2.72	2.94	3.20													
150	1.61	2.33	2.95	3.44	3.78	3.96													
160	1.96	2.58	3.63	4.27	4.75	5.05	5.15												
170	2.36	3.44	4.41	5.23	5.87	6.31	6.53												
180	2.81	4.11	5.28	6.30	7.13	7.74	8.12	8.25											
190	3.31	4.85	6.27	7.51	8.56	9.37	9.92	10.20											
200	3.87	5.68	7.36	8.86	10.15	11.19	11.95	12.41	12.57										
210	4.48	6.6	8.58	10.36	11.92	13.21	14.21	14.89	15.24										
220	5.16	7.61	9.91	12.01	13.88	15.46	16.72	17.65	18.22	18.41									
230	5.90	8.72	11.38	13.83	16.03	17.93	19.50	20.70	21.52	21.94									
240	6.71	9.93	12.98	15.81	18.38	20.64	22.54	24.06	25.17	25.84	26.7								
250	7.91	11.71	15.34	18.72	21.82	24.58	26.95	28.90	30.39	31.40	31.91								
260	9.26	13.73	18.00	22.01	25.71	29.04	31.95	34.40	36.34	37.75	38.61	38.90							
270	10.70	15.99	20.99	25.71	30.10	34.08	37.60	40.62	43.09	44.98	46.25	46.90							
280	12.47	18.52	24.34	29.86	35.01	39.73	43.95	47.63	50.70	53.15	54.91	55.98	56.34						
290	14.36	21.34	28.07	34.48	40.49	46.04	51.05	55.47	59.25	62.33	64.67	66.25	67.05						
300	16.46	24.46	32.21	39.61	46.59	53.06	58.97	64.23	66.79	72.60	75.61	77.79	79.11	79.55					
310	18.77	27.92	36.79	45.30	53.34	60.85	67.75	73.95	79.41	84.05	87.83	90.70	92.63	93.60					
320	21.32	31.73	41.84	51.56	60.80	69.45	77.45	84.72	91.17	96.75	101.4	105.06	107.71	109.31	109.85				
330	24.12	35.92	47.40	58.46	69.00	78.93	88.15	96.65	104.16	110.79	116.42	120.99	124.47	126.80	127.97				
340	27.19	40.51	53.48	66.01	77.99	89.32	99.90	109.64	118.45	126.26	132.99	138.59	143.00	146.18	148.1	148.75			
350	30.54	45.62	60.13	74.28	87.83	100.7	112.77	123.94	134.13	143.24	151.21	157.96	163.43	167.58	170.37	171.77			

This moment of inertia chart is for double-glazed systems.
f=H/300 <0,8 cm (Maximum permissible deviation)
Consult glass firms to determine type and features of the glass.
Thickness of the glass alters for different distances and heights.

STATIC CALCULATION EXAMPLE





Section X_X

Height of Window L = 180 cm

Width of Area A = 100 cm

Width of Area B = 100 cm

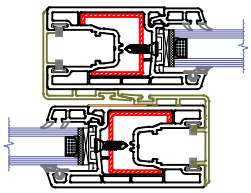
Width of Loading a = 50 cm

Width of Loading b = 50 cm

Height of Building h = 8 mt

Wind Pressure q= 50 kp/m^2

Constant Multiply c = 1.2



Section Y_Y

Wind Load w= q x c = 50 x 1.2 = 60 kp/m

Allowable Deflection L/300 F = 180 / 300 = 6 mm

Modulus of Elasticity E= 2.1x10^6 kp/cm

Ix = Required Moment of Inertia (cm^4) $Ix_1=\frac{W\,L^4.a}{1920.E.F}\left(25-40\left(\frac{a}{L}\right)^2+16\left(\frac{a}{L}\right)^4\right)$

$$Ix_2=\frac{W\,L^4.b}{1920.E.f}\left(25-40\left(\frac{b}{L}\right)^2+16\left(\frac{b}{L}\right)^4\right)$$

$$Ix_1 = \frac{0.00060 \times 180^4 \times 50}{1920 \times 21{,}100{,}000 \times 0.6}\left(25-40\left(\frac{50}{180}\right)^2 + 16\left(\frac{50}{180}\right)^4\right) = 2.87\ cm^4$$

$$Ix_2 = \frac{0.00060 \times 180^4 \times 50}{1920 \times 21{,}100{,}000 \times 0.6}\left(25-40\left(\frac{50}{180}\right)^2 + 16\left(\frac{50}{180}\right)^4\right) = 2.87\ cm^4$$

Height of Installation 0-8 m
Wind Pressure 60kp/m²

L = height of sash (cm)	width of sash				
	20	≥ 30cm	>40	50	60
100	0.21	0.29	0.34	0.36	
110	0.28	0.39	0.48	0.52	
120	0.37	0.52	0.64	0.72	0.74
130	0.47	0.67	0.84	0.95	1.01
140	0.59	0.85	1.07	1.23	1.34
150	0.73	1.06	1.34	1.56	1.72
160	0.89	1.30	1.65	1.94	2.16
170	1.07	1.56	2.00	2.38	2.67
180	1.28	1.87	2.40	2.87	3.24
190	1.50	2.21	2.85	3.42	3.89

Required maximum measurement at 180 cm height and 50 cm width is chosen from the chart.

Sum of $Ix = Ix_1 + Ix_2$ 2.87+2.87=5.74cm

Sum of Ix on chart $Ix = Ix_1 + Ix_2$ 2,87+2,87 = 5,74cm

With this calculation, the accuracy of the chart is verified.

System is considered as Sash + Mullion Profile + Sash.

Sash Reinforcement Ix = 2.56 cm (Thickness= 2mm)

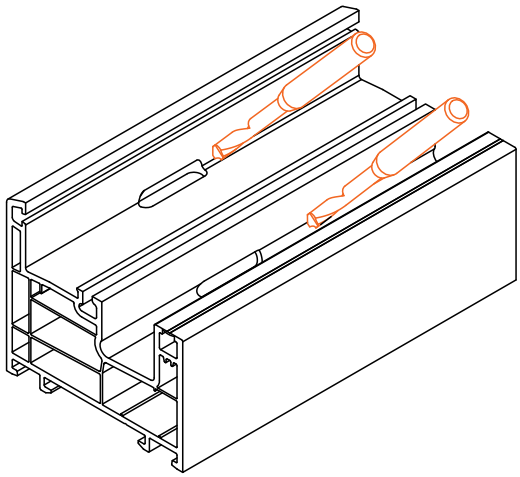
Sash Reinforcement Ix = 2.56 cm (Thickness= 2mm)

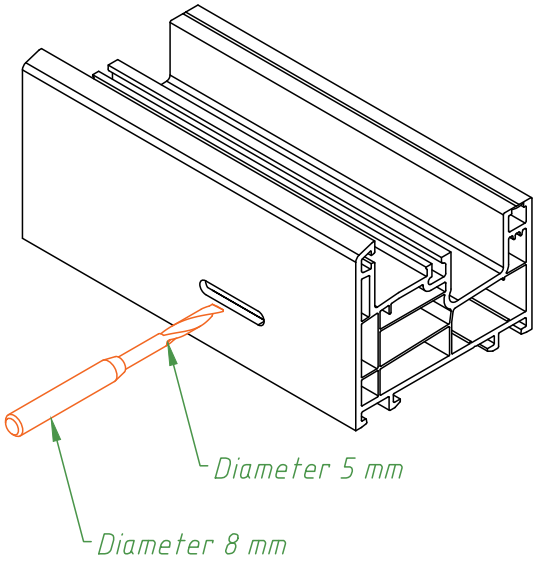
Total Ix in the System = 2.56 + 2.56 = 5.12 cm

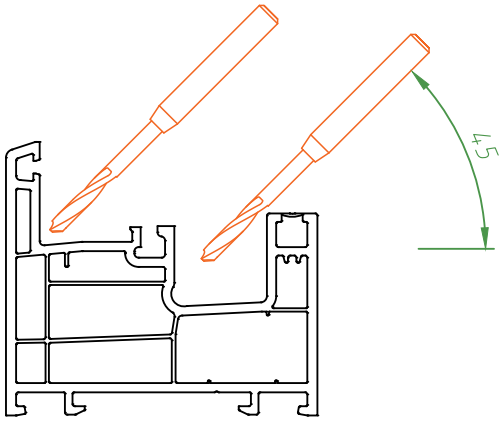
Total Ix of Reinforcement in the system < Required

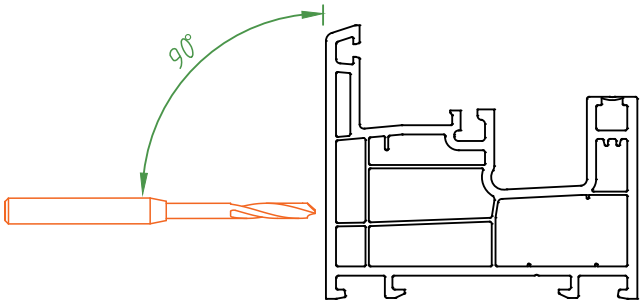
5.12 cm < 5.74 cm with the help of Reinforcement stated above ,the window with reinforcement profile is not possible.

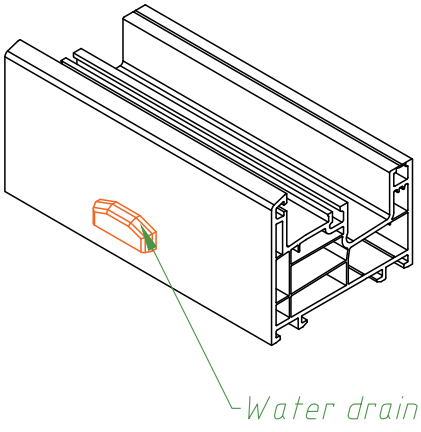
Drainage And Smoothing Out Pressure Holes



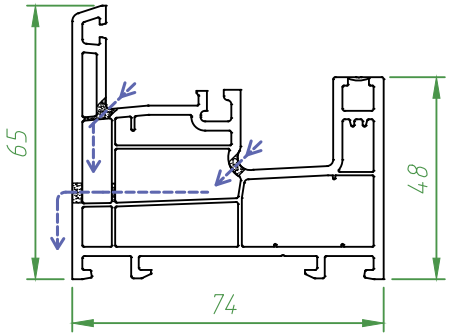


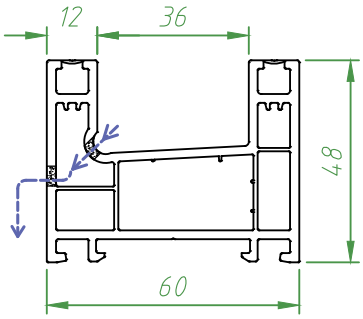


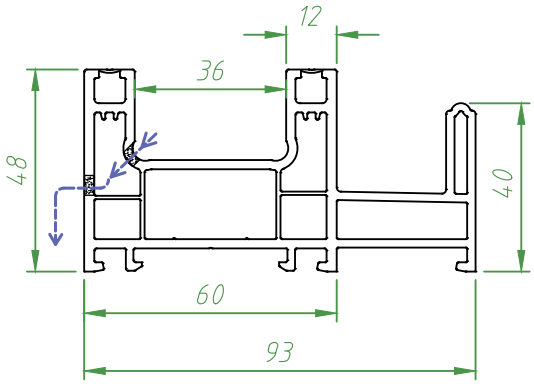


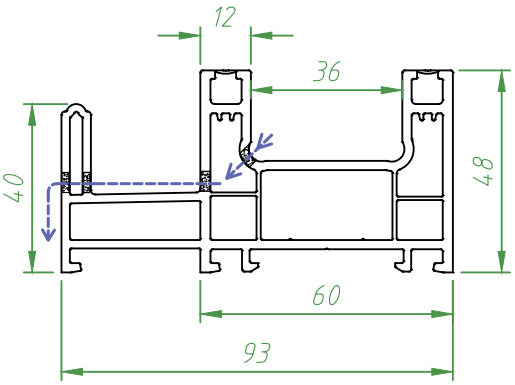


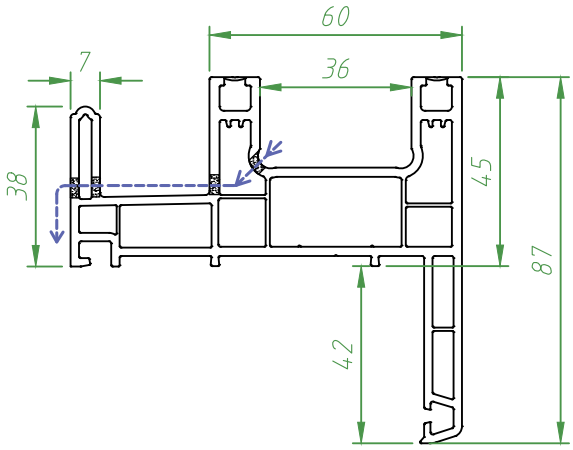
Drainage And Smoothing Out Pressure Holes

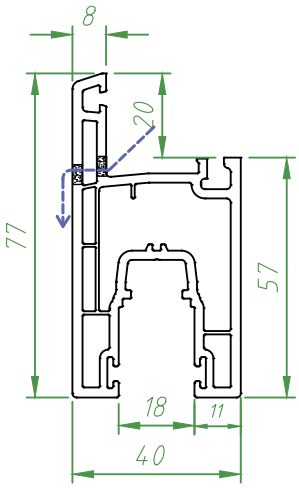






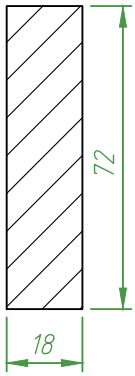


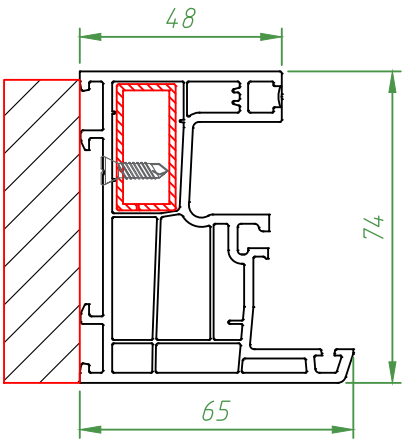


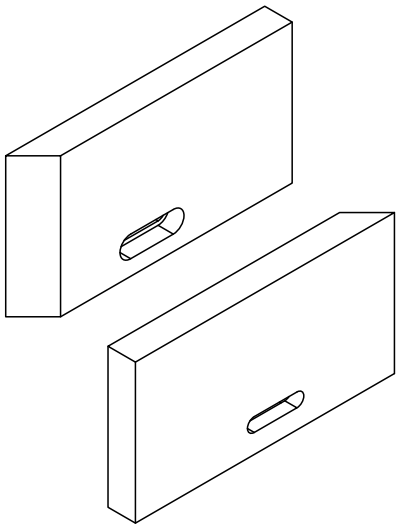


Profile Section Length - X<500 mm1 - Hole
500mm<x-profile section's lenght<1000mm - 2 holes
1000mm<x-profile section's lenght<2000mm - 3 holes
2000mm<x-profile section's lenght<3000mm - 3 holes

Accessories (welding mold systems)

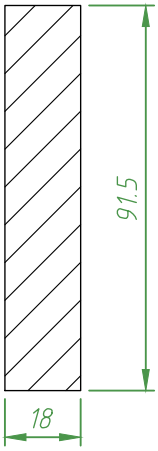


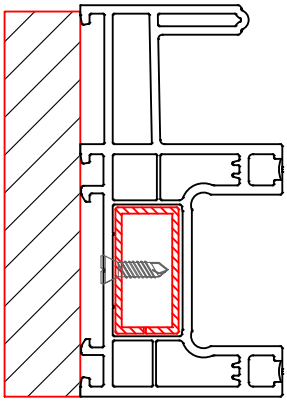


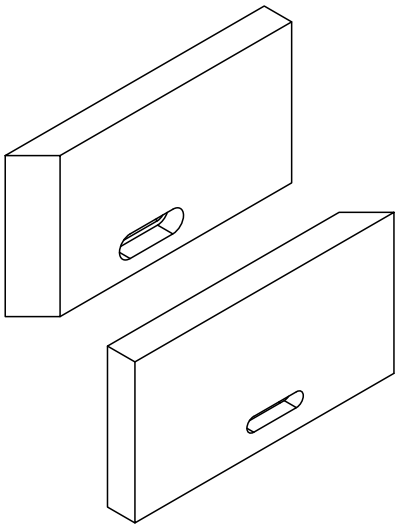


Technical Code	Machine name	Single head	Double head
	KABAN Machines	32401-19100	32401-19200
	MURAT Machines	32402-19100	32402-19200
	OZGENC Machines	32403-19100	32403-19200
	YILMAZ Machines	32404-19100	32404-19200

Accessories (welding mold systems)

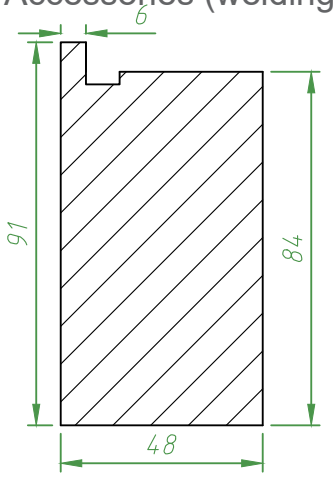


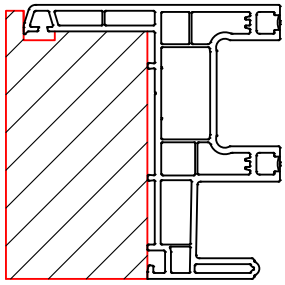


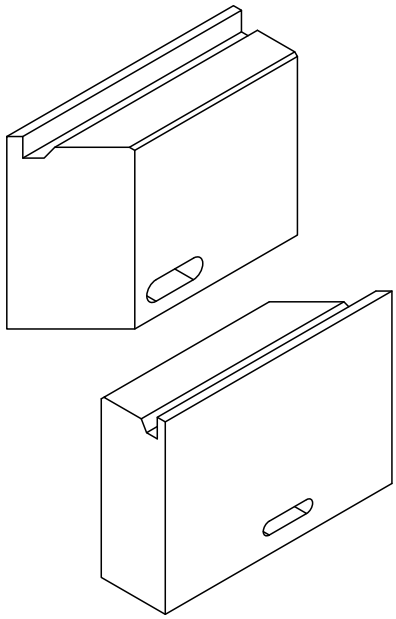


Technical Code	Machine name	Single head	Double head
	KABAN Machines	32401-16100	32401-16200
	MURAT Machines	32402-16100	32402-16200
	OZGENC Machines	32403-16100	32403-16200
	YILMAZ Machines	32404-16100	32404-16200

Accessories (welding mold systems)

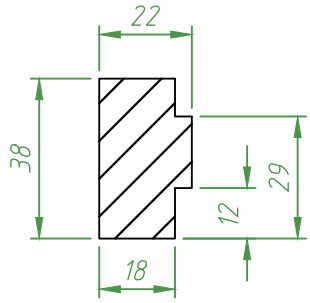


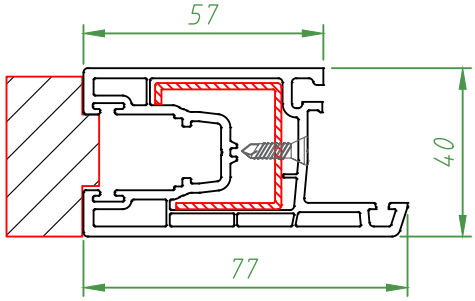


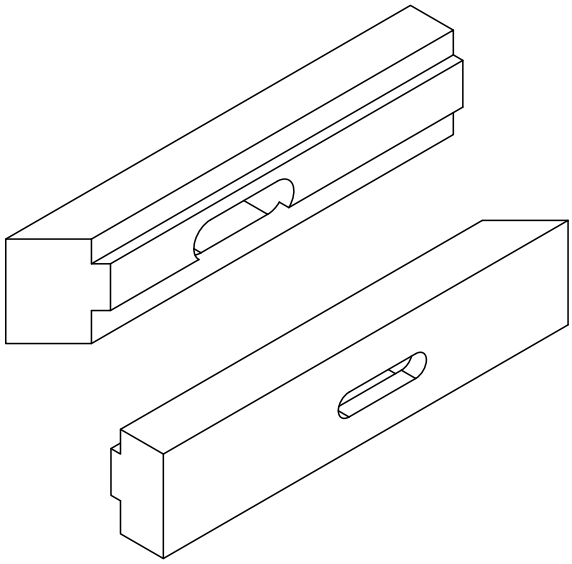


Technical Code	Machine name	Single head	Double head
	KABAN Machines	32401-16100	32401-16200
	MURAT Machines	32402-16100	32402-16200
	OZGENC Machines	32403-16100	32403-16200
	YILMAZ Machines	32404-16100	32404-16200

Accessories (welding mold systems)

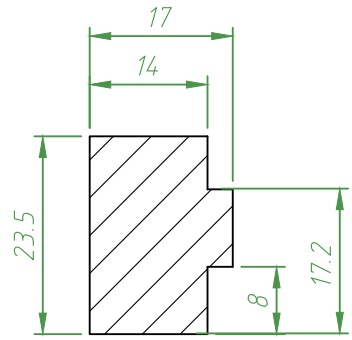






Technical Code	Machine name	Single head	Double head
	KABAN Machines	32401-21100	32401-21200
	MURAT Machines	32402-21100	32402-21200
	OZGENC Machines	32403-21100	32403-21200
	YILMAZ Machines	32404-21100	32404-21200

Accessories (welding mold systems)



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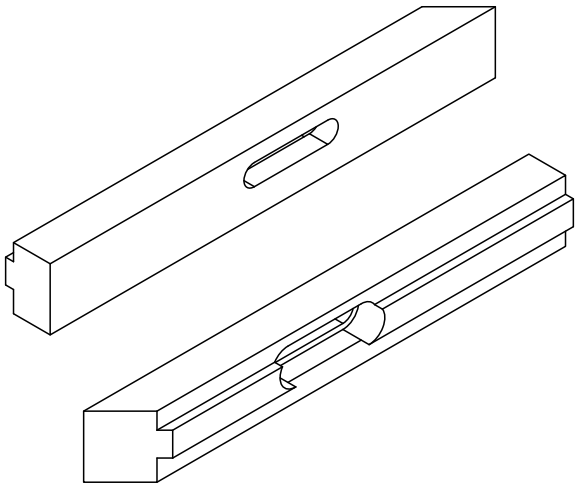
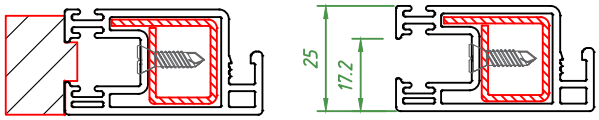
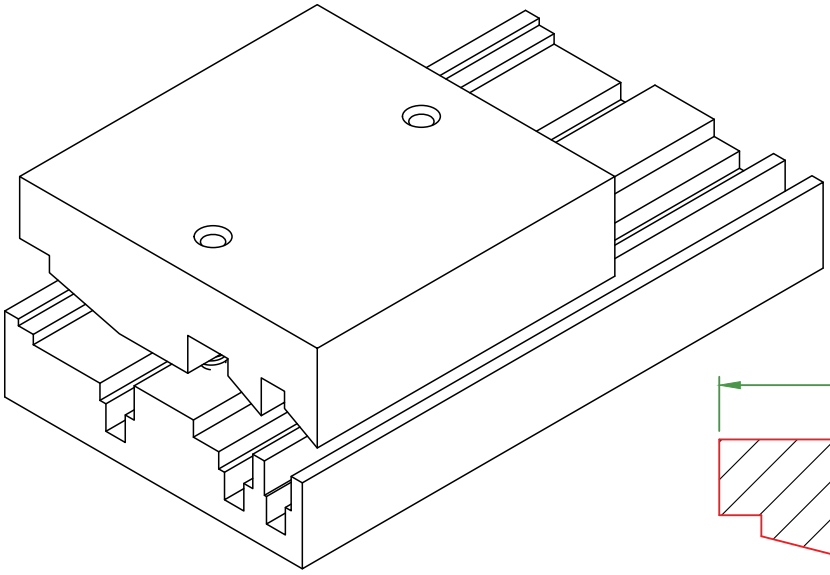
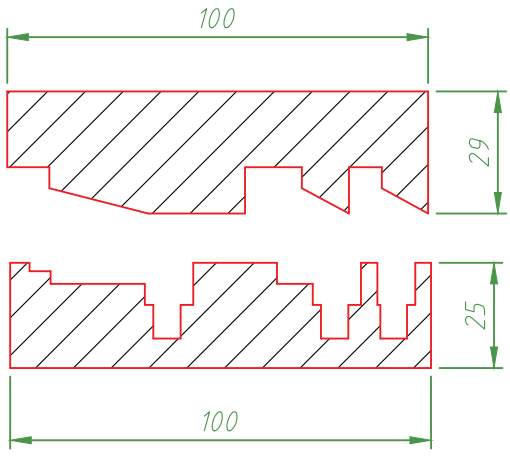




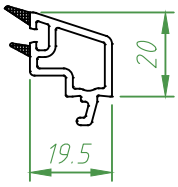
Technical Code	Machine name	Single head	Double head
	KABAN Machines	32401-11100	32401-11200
	MURAT Machines	32402-11100	32402-11200
	OZGENC Machines	32403-11100	32403-11200
	YILMAZ Machines	32404-11100	32404-11200



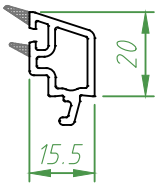


KABAN Machines Code: 31002- 63402
MURAT Machines Code: 31002- 63401
OZGENC Machines Code: 31002- 63404
YILMAZ Machines Code: 31002- 63406

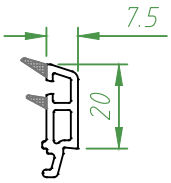
Accessories (Cutting Fixture)



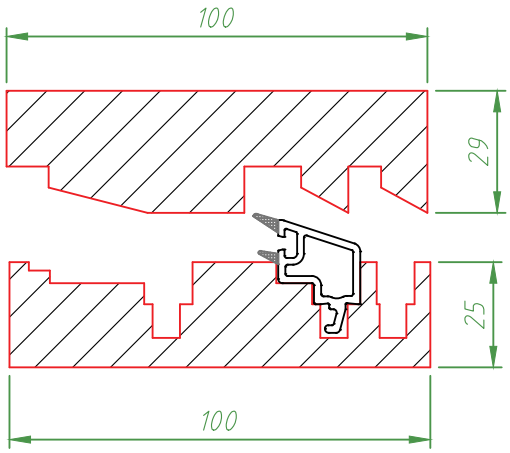
Single Glazing Bead Profile (4-6 mm)

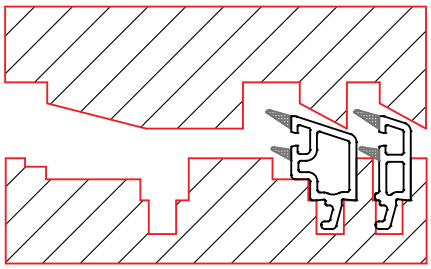


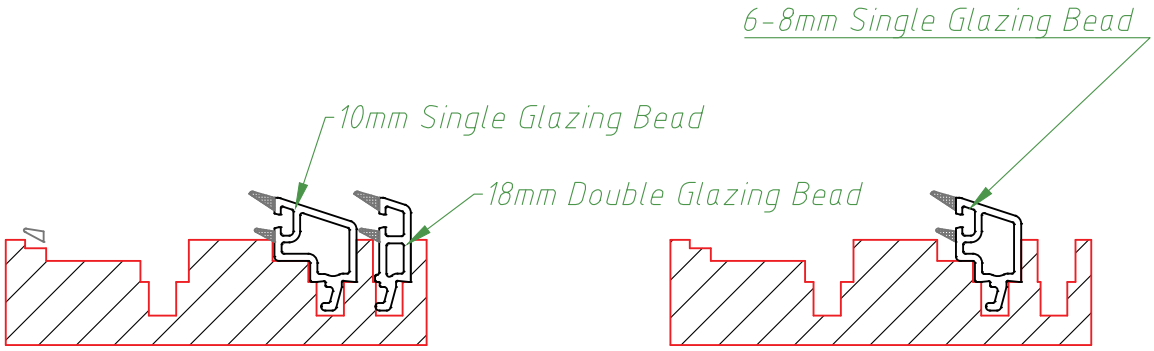
Single Glazing Bead Profile (10 mm)



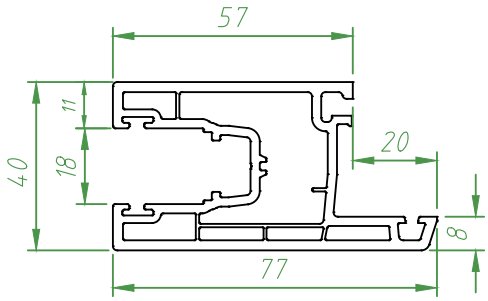
Double Glazing Bead Profile (18 mm)

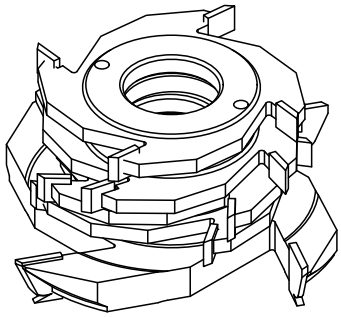






Accessories (Milling Blade - Mullion Profile)

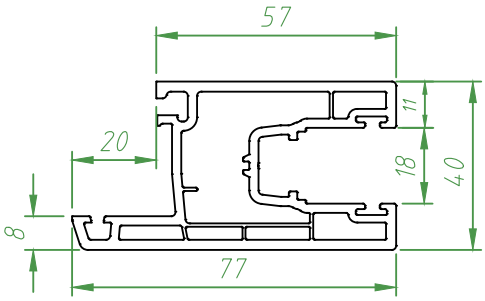


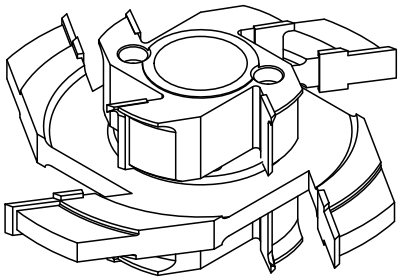


Code (Normal): 31001-24003

Code (elumatec Machines): 31001-24006

Accessories (Blade Cleaner- Sash Profile)

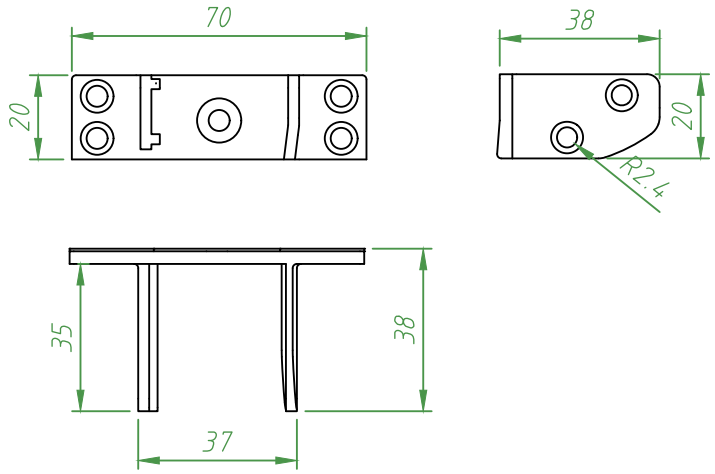


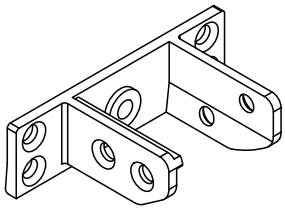


Code (Normal): 31001-24005

Code (elumatech Machines): 31001-24006

Accessories (Mullion Profile Connectors)





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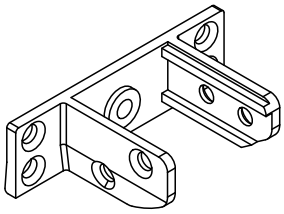
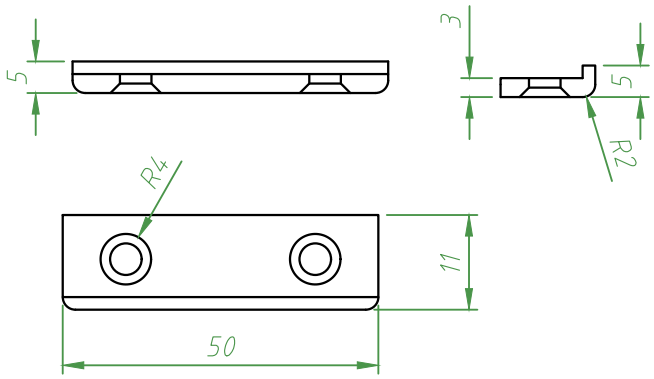


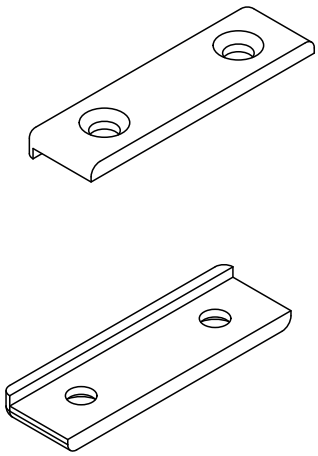
Right

Code (White): 34007- 11240

Code (Brown):34007- 11241

Accessories (Sash Profile Guides)

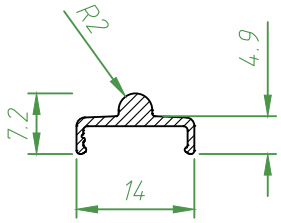




Code (White): 34009- 34010

Code (Brown):34007- 34011

Accessories (Aluminum Rail Profile)



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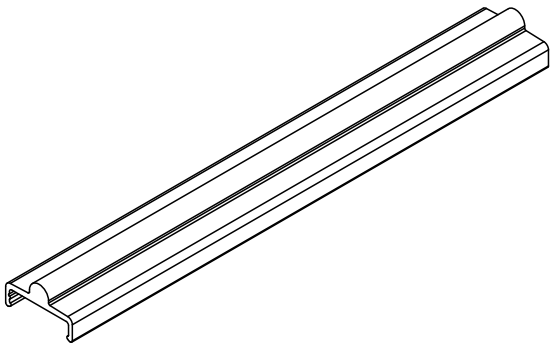
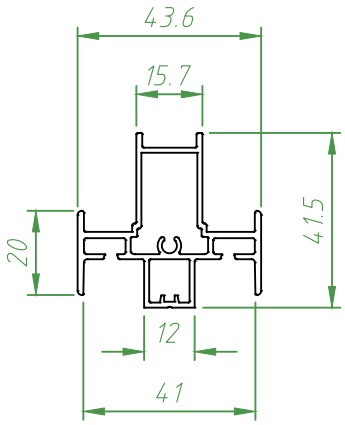
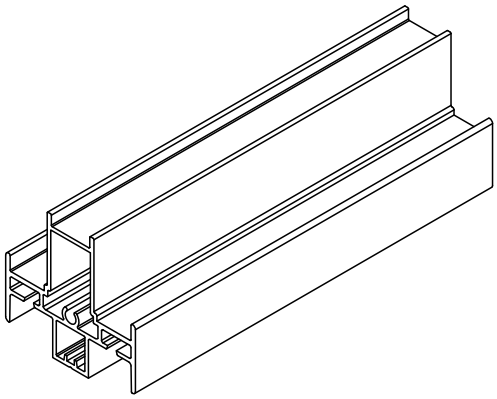


Code : 34025- 11030

Accessories (Aluminum Adaptor Profile)

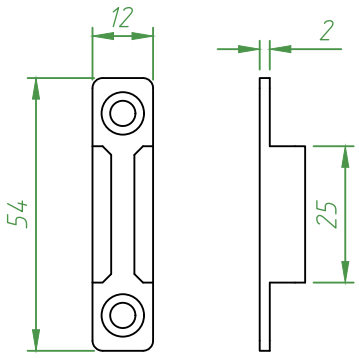


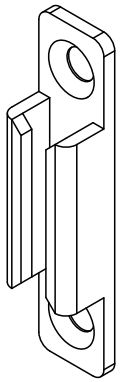


Code (White): 34025- 12030

Code (Brown):**********

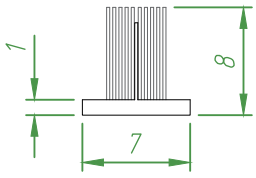
Accessories (Locker)

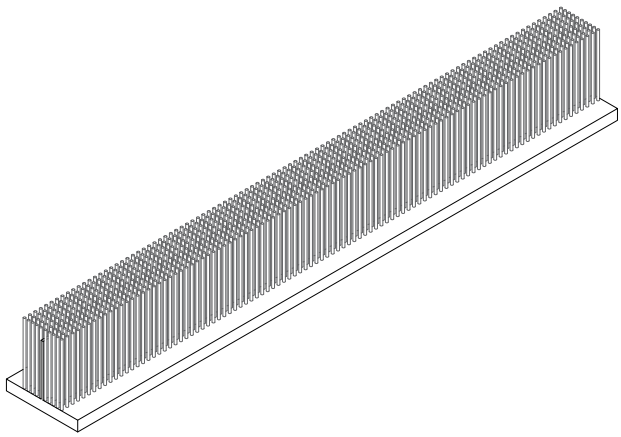




Code (White): 34005- 14060

Accessories (Pile Weather Strip)

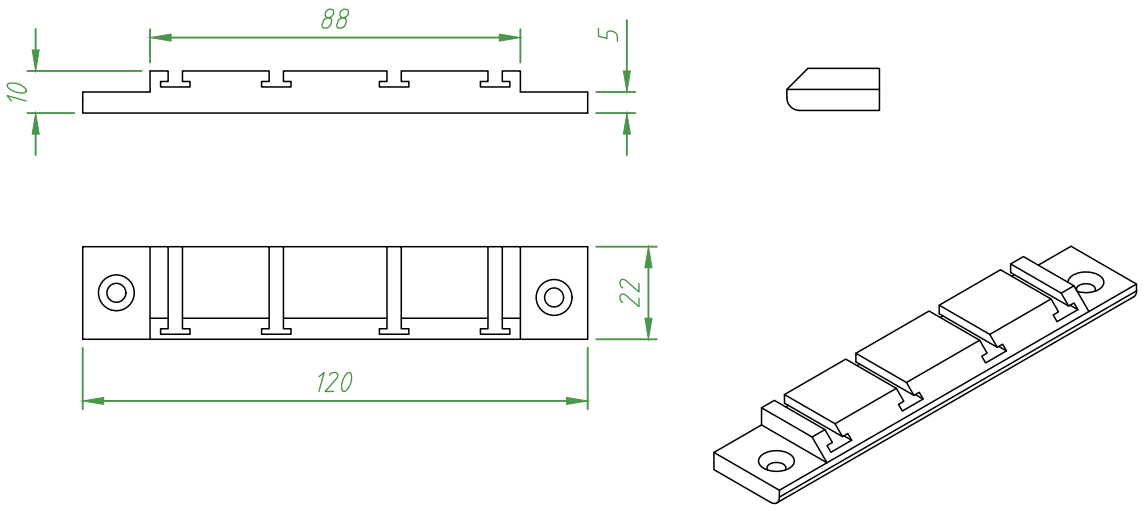




Code (White): 34007- 11070
Code (Brown):34007- 11071

Code (White): 34012- 10090
Code (Brown):34012- 10091

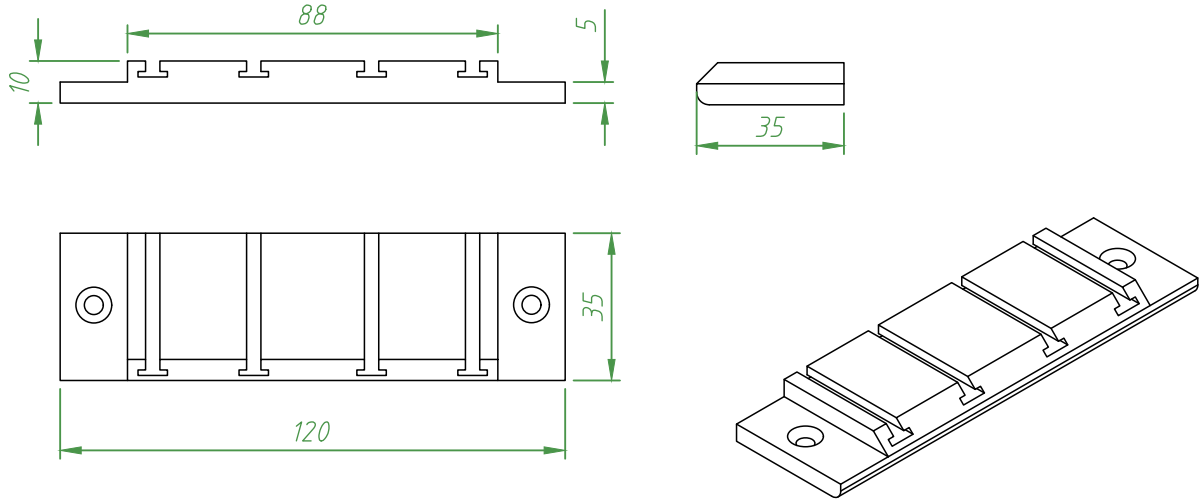
Accessories (Insulated Single Rail Profile)



Code (White): 34009- 24020

Code (Brown):34009- 24021

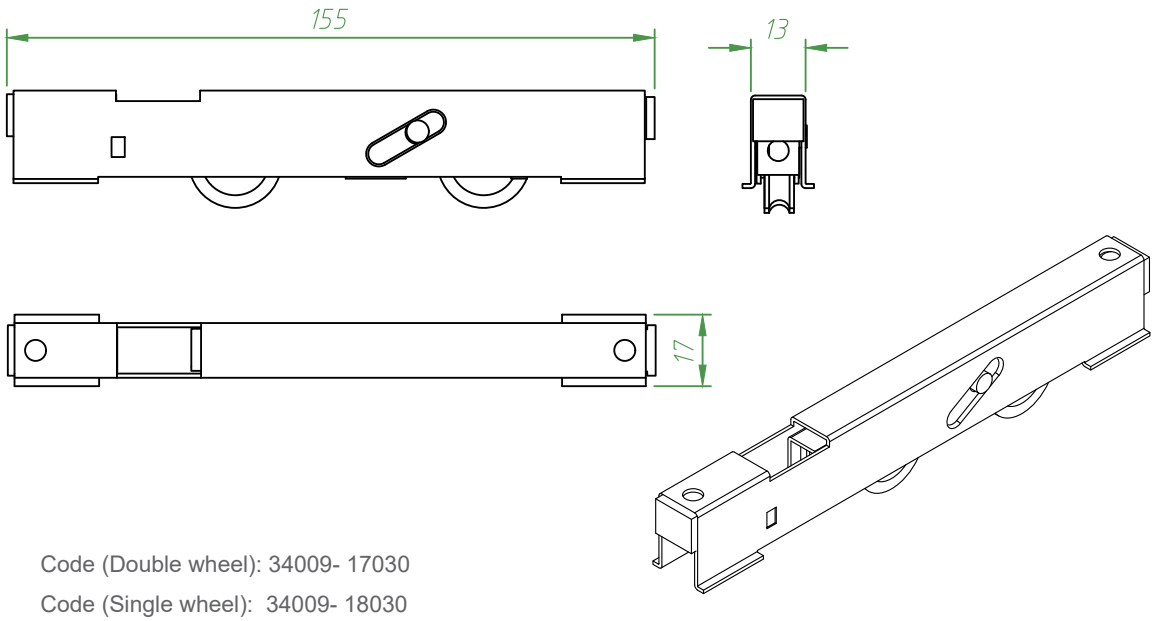
Accessories (Insulated Double Rail Profile)



Code (White): 34009- 24010

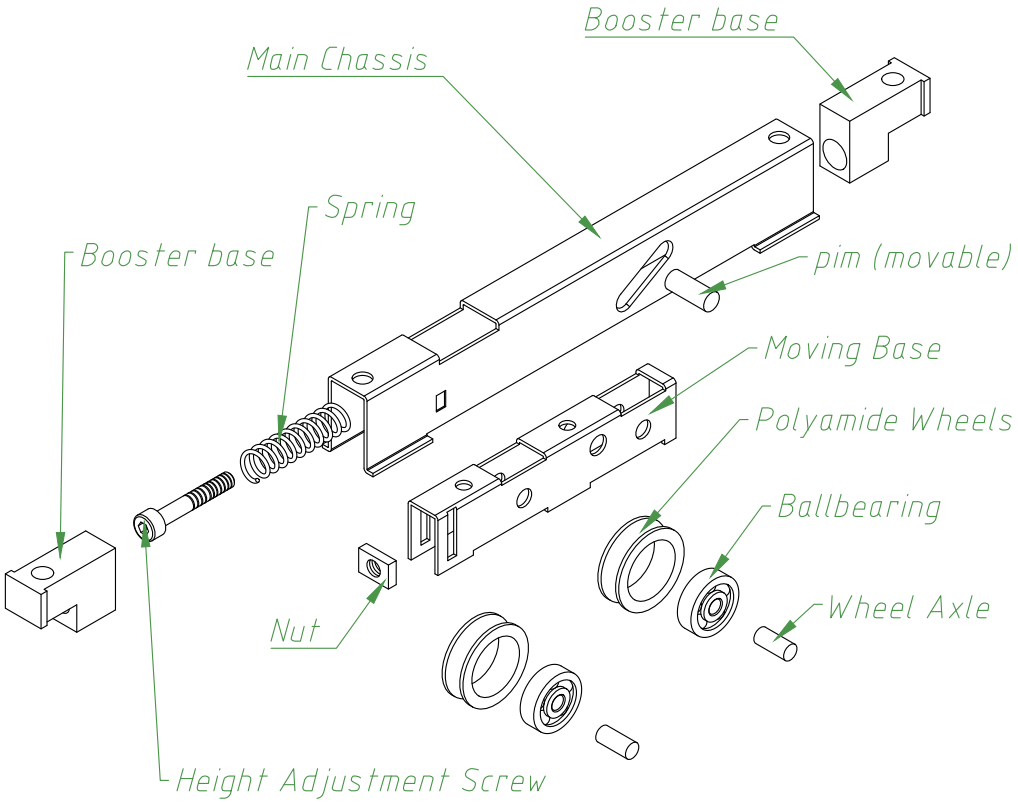
Code (Brown):34009- 24011

Accessories (Sliding Roller- Double Wheel)

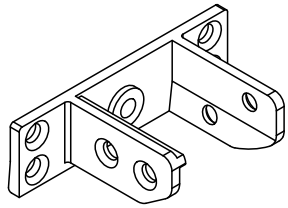


Code (Double wheel): 34009- 17030

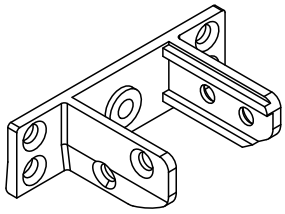
Code (Single wheel): 34009- 18030



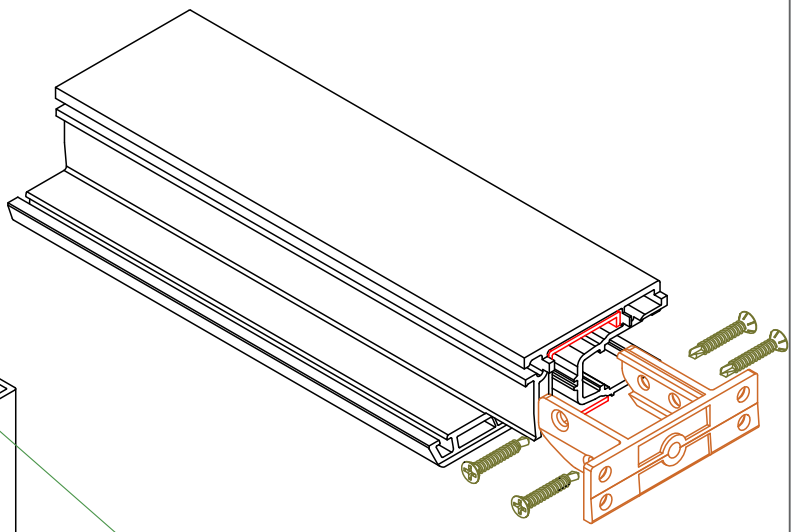
Assembling Accessories (Profile Connectors)

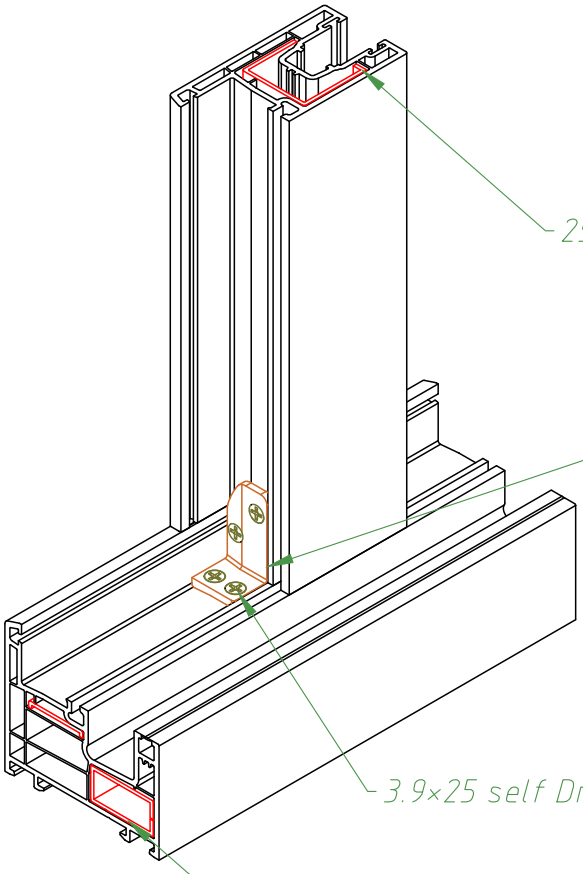


Left

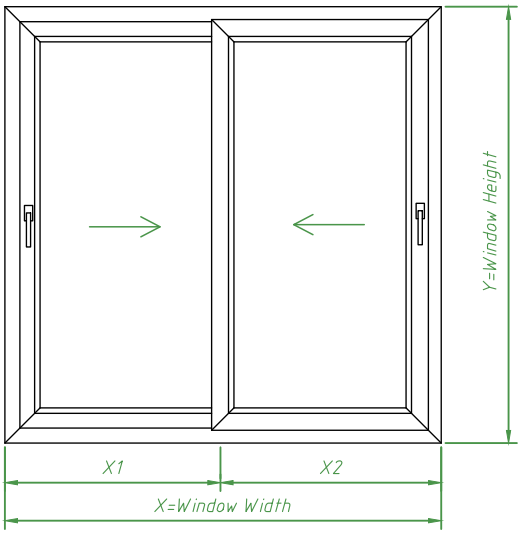


Right





Technical Calculation



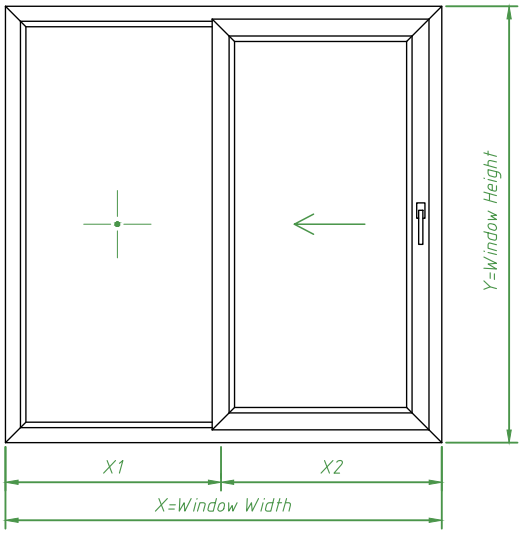
W T 240 Frame (Double Rail)

Calculations:

Frame Measure (Vertical) : Y + 6
Frame Measure (Horizontal) : X + 6

Sash Measure (Vertical) : Y - 74
Sash Measure (Horizontal) : X1 + 5
Sash Measure (Horizontal) : X2 + 5

Cover Sash Measure (Vertical) : Y - 80



W T 240 Frame (Single Rail)

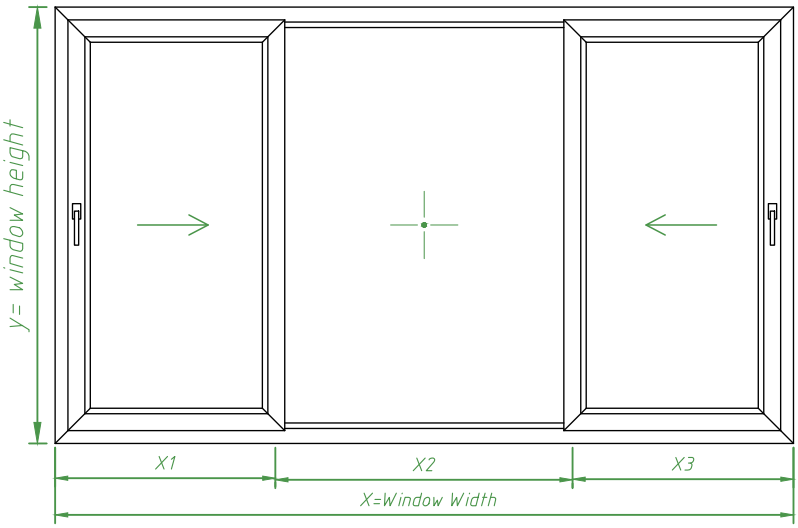
Calculations:

Frame Measure (Vertical) : Y + 6
Frame Measure (Horizontal) : X + 6

Sash Measure (Vertical) : Y - 74
Sash Measure (Horizontal) : X2 + 15

Mullion Measure (Vertical) : Y - 84

Cover Sash Measure (Vertical) : Y - 80



W T 240 Frame (Single Rail)

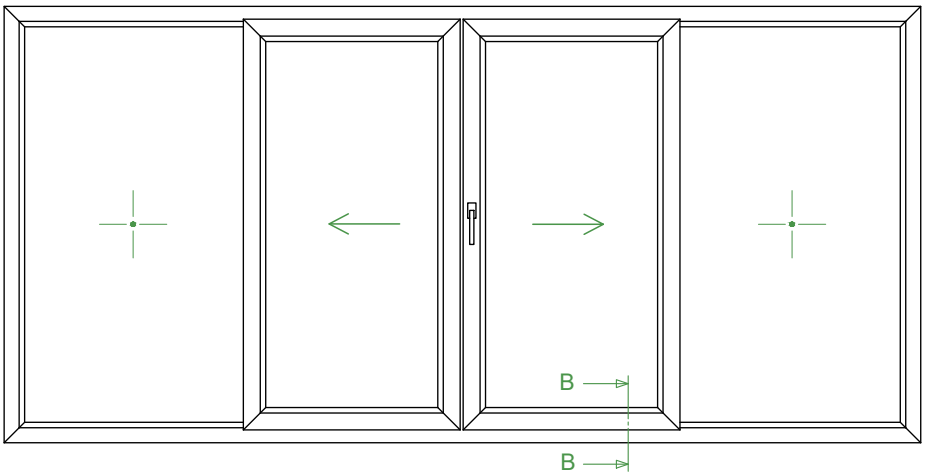
Calculations:

Frame Measure (Vertical) : Y + 6
Frame Measure (Horizontal) : X + 6

Sash Measure (Vertical) : Y - 74
Sash Measure (Horizontal) : X1 + 15
Sash Measure (Horizontal) : X3 + 15

Mullion Measure (Vertical) : Y - 84

Technical Calculation



W T 240 Frame (Single Rail)

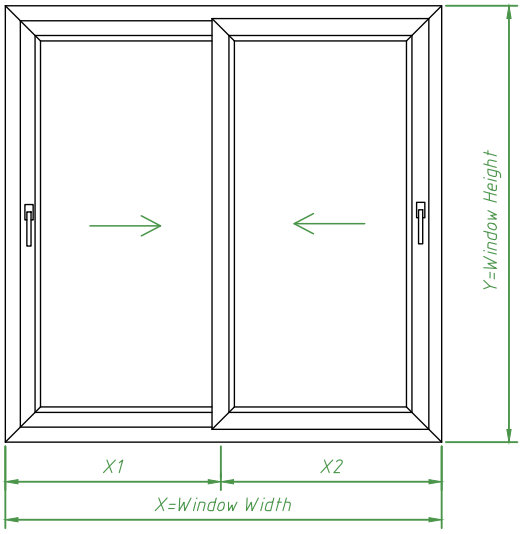
Frame Measure (Vertical) : Y + 6
Frame Measure (Horizontal) : X + 6

Sash Measure (Vertical) : Y - 74
Sash Measure (Horizontal) : X2 + 50

Mullion Measure (Vertical) : Y - 84

Cover Sash Measure (Vertical) : Y - 80

ALM Adaptor Measure (Vertical) : Y - 102



W T 240 Frame (Double Rail - with sill)

Calculations:

Frame Measure (Vertical) : Y + 90
Frame Measure (Horizontal) : X + 90

Sash Measure (Vertical) : Y - 68
Sash Measure (Horizontal) : X1 + 8
Sash Measure (Horizontal) : X2 + 8