

# W 640 TECHNICAL CATALOG

GENERAL INFORMATION TECHNICAL SPECIFICATIONS OF PROFILES REINFORCEMENT PROFILES ASSEMBLY OF PROFILES ACCESSORIES

- UPVC WINDOWS, DOORS and SHUTTER SYSTEMS -

## GENERAL INFORMATION

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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 the 640 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 32mm 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 (13 mm) 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. Double seal (outdoor and indoor), prevents excessive dryness and provides maximum protection against the wind and rain and prevents freezing of the pipes in below zero temperatures, therefore, it guarantees the resistance of temperature exchange and sound protection to be extremely high.

- UPVC WINDOWS, DOORS and SHUTTER SYSTEMS

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9. 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.

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

11. 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).

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

13. 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:

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The UPVC windows guarantee a high level of thermal protection in order to ensure inside comfort. W640 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:

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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.



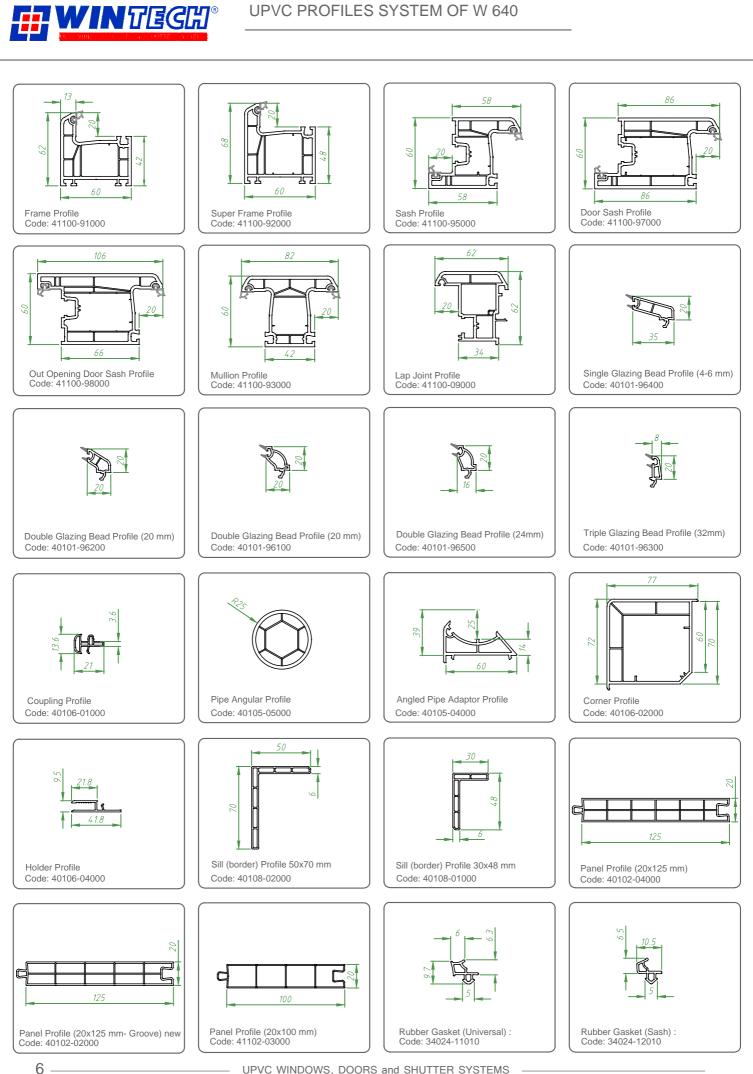


#### Specification of Wintech UPVC Profiles:

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.

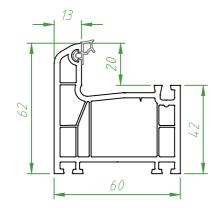
- UPVC WINDOWS, DOORS and SHUTTER SYSTEMS -

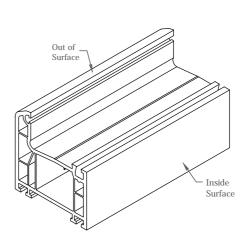


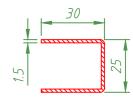
UPVC WINDOWS, DOORS and SHUTTER SYSTEMS

### Frame profile

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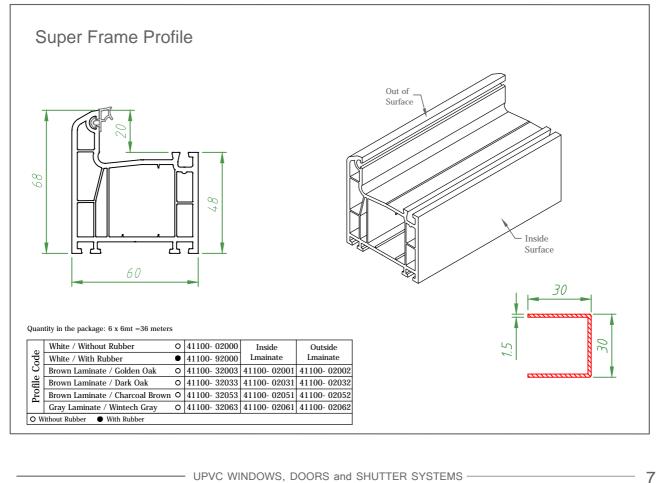






#### Quantity in the package: 6 x 6mt = 36 meters

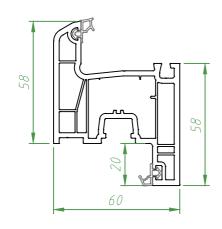
е	White / Without Rubber	0	41100- 01000	Inside	Outside					
ode	White / With Rubber	۰	41100- 91000	Lmainate	Lmainate					
U U	Brown Laminate / Golden Oak	0	41100- 31003	41100- 01001	41100- 01002					
file	Brown Laminate / Dark Oak	0	41100- 31033	41100- 01031	41100- 01032					
Profil	Brown Laminate / Charcoal Brown	0	41100- 31053	41100- 01051	41100- 01052					
_	Gray Laminate / Wintech Gray	0	41100- 31063	41100- 01061	41100- 01062					
O W	O Without Rubber • With Rubber									

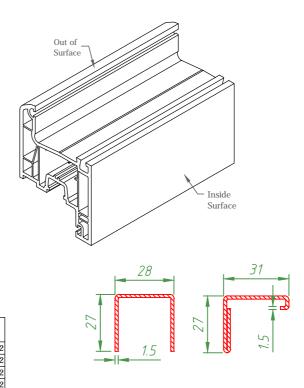


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#### Sash Profile

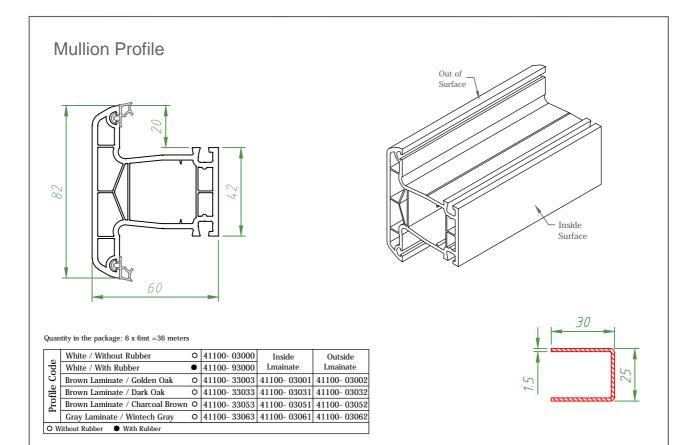
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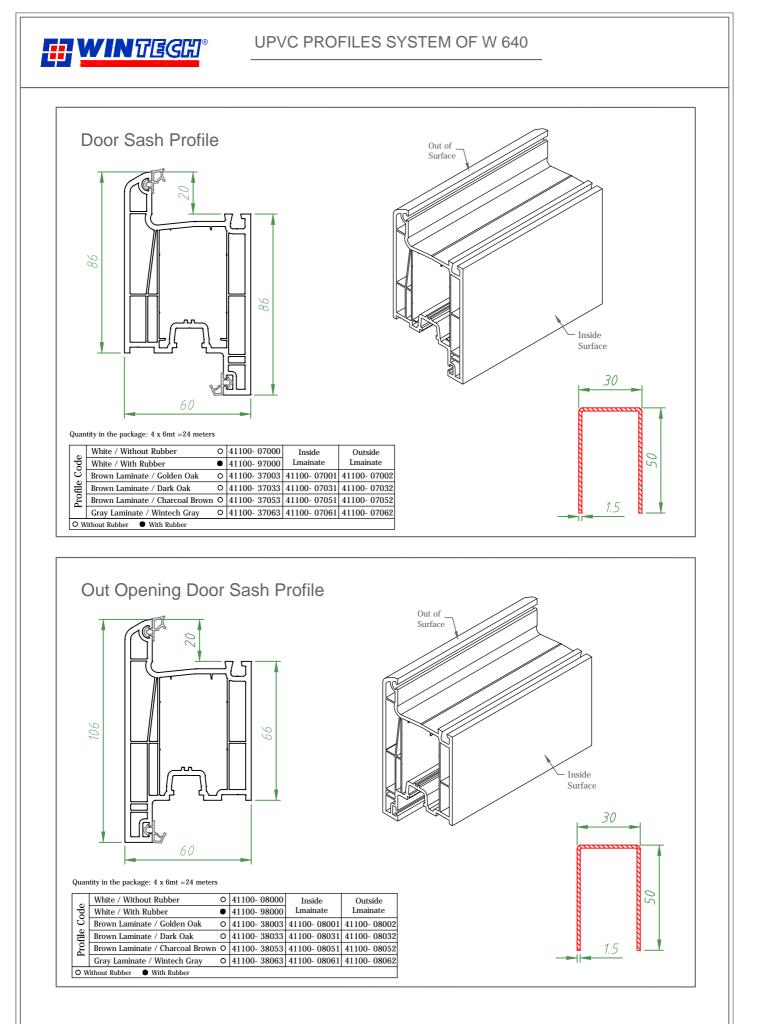




Quantity in the package:  $6 \times 6mt = 36$  meters

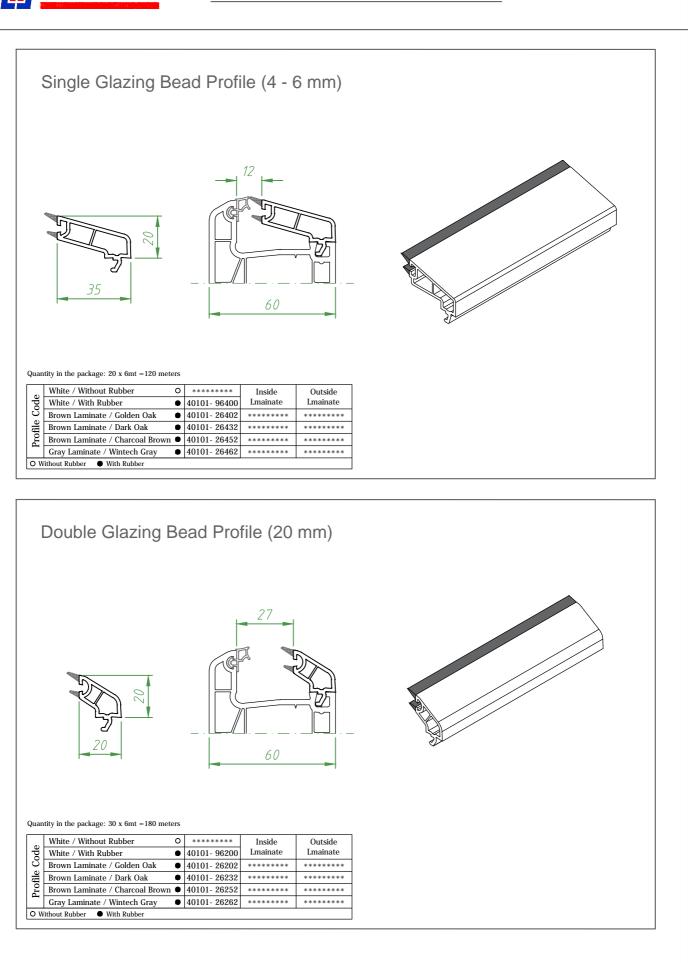
(D)	White / Without Rubber		41100- 05000	monue	Outside Lmainate					
ode	White / With Rubber	er  • 41100- 95000 Lmainate								
10	Brown Laminate / Golden Oak	0	41100- 35003	41100- 05001	41100- 05002					
Profile	Brown Laminate / Dark Oak	0	41100- 35033	41100- 05031	41100- 05032					
L CL	Brown Laminate / Charcoal Brown	0	41100- 35053	41100- 05051	41100- 05052					
1	Gray Laminate / Wintech Gray	0	41100- 35063	41100- 05061	41100- 05062					
01	Vithout Rubber 🔹 🛡 With Rubber									





UPVC WINDOWS, DOORS and SHUTTER SYSTEMS -

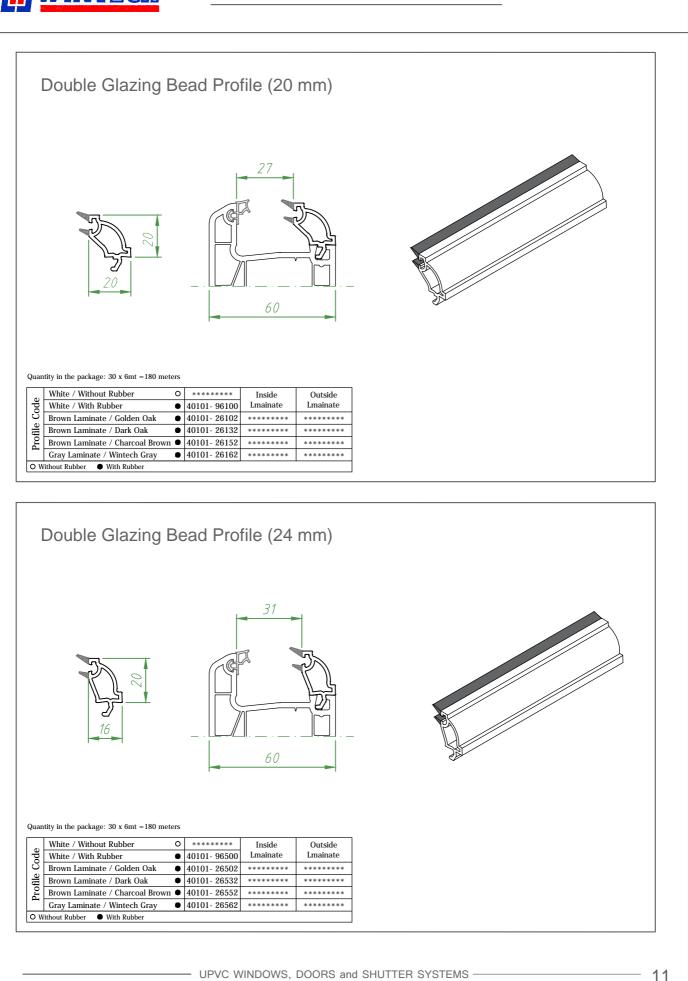




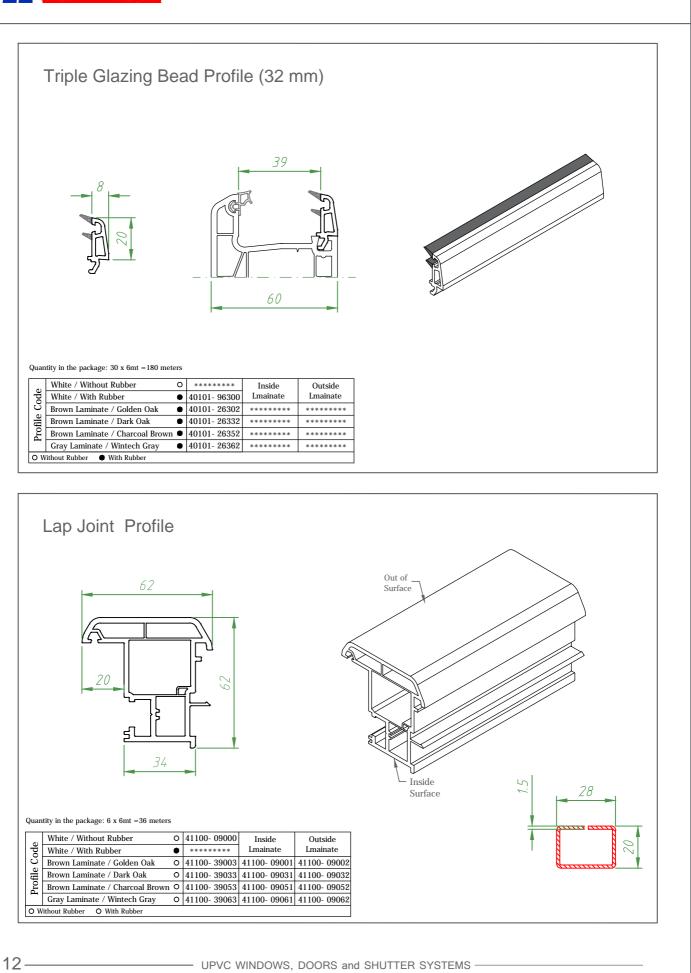
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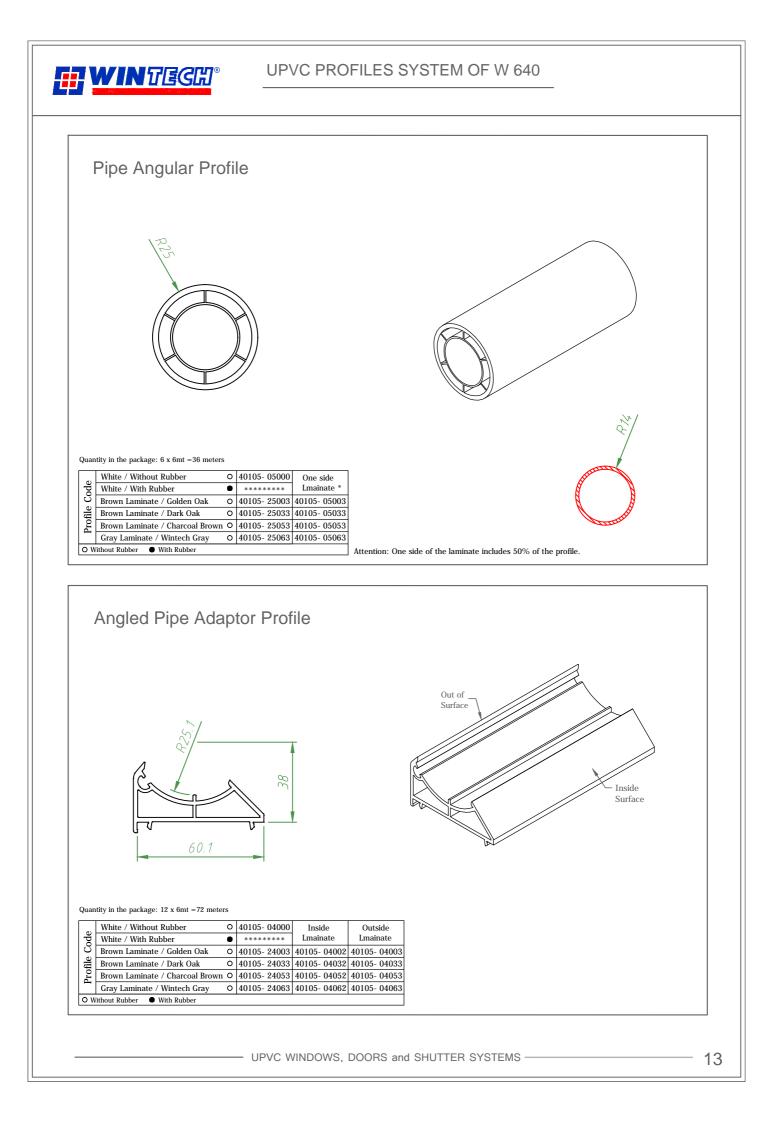
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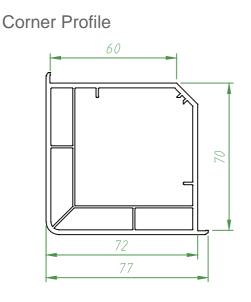


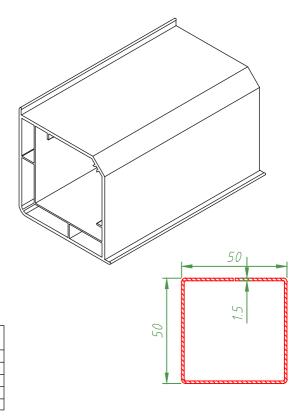








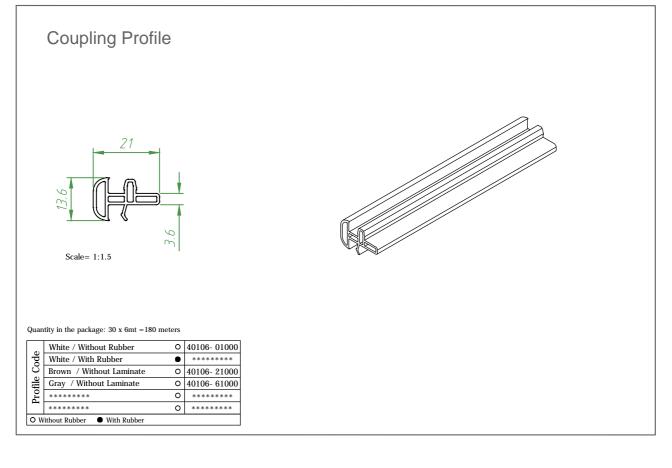




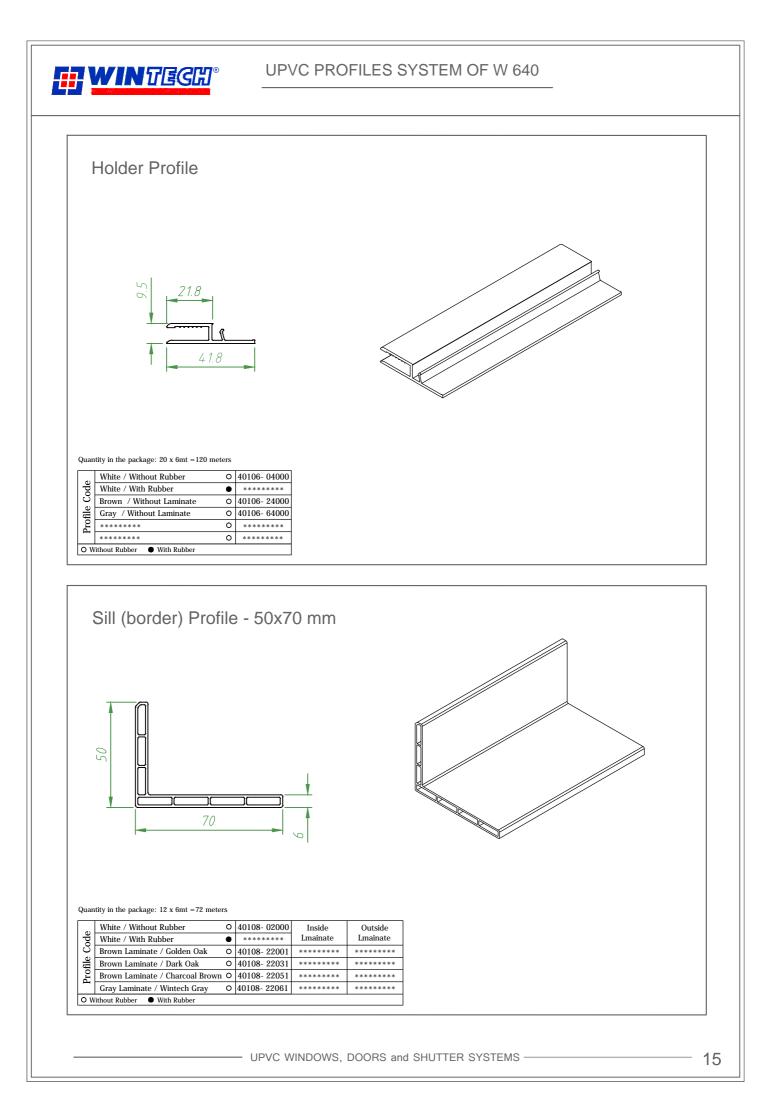
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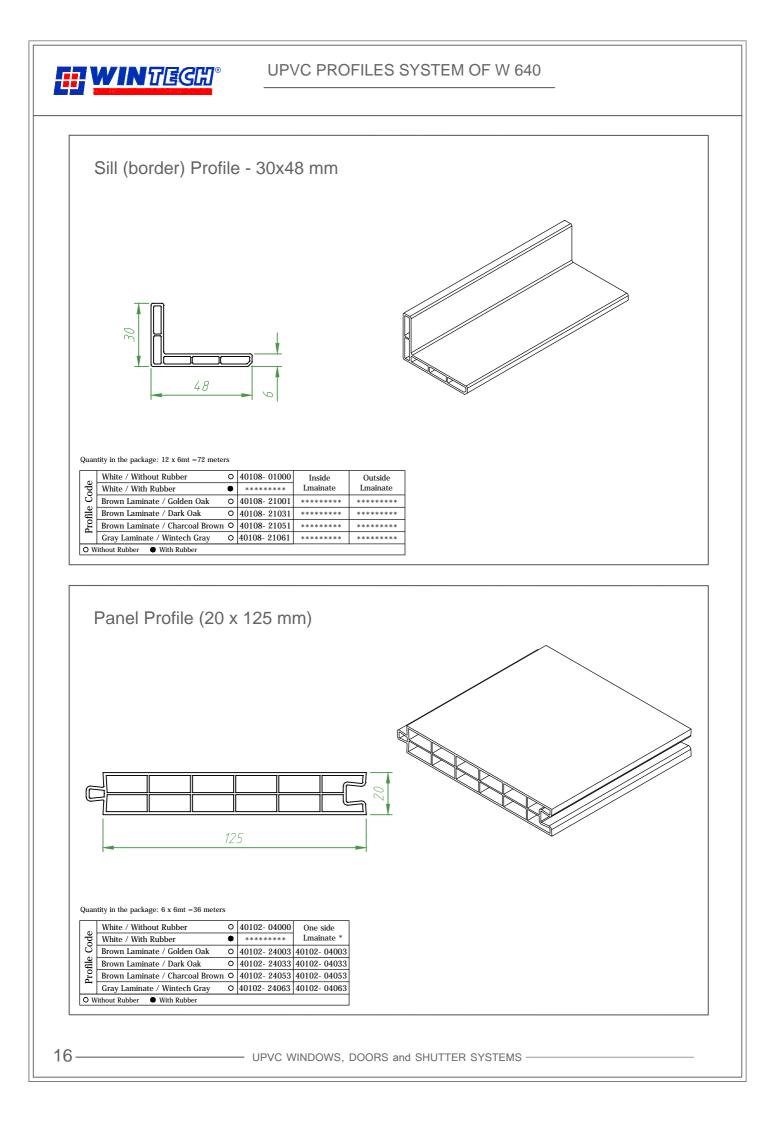
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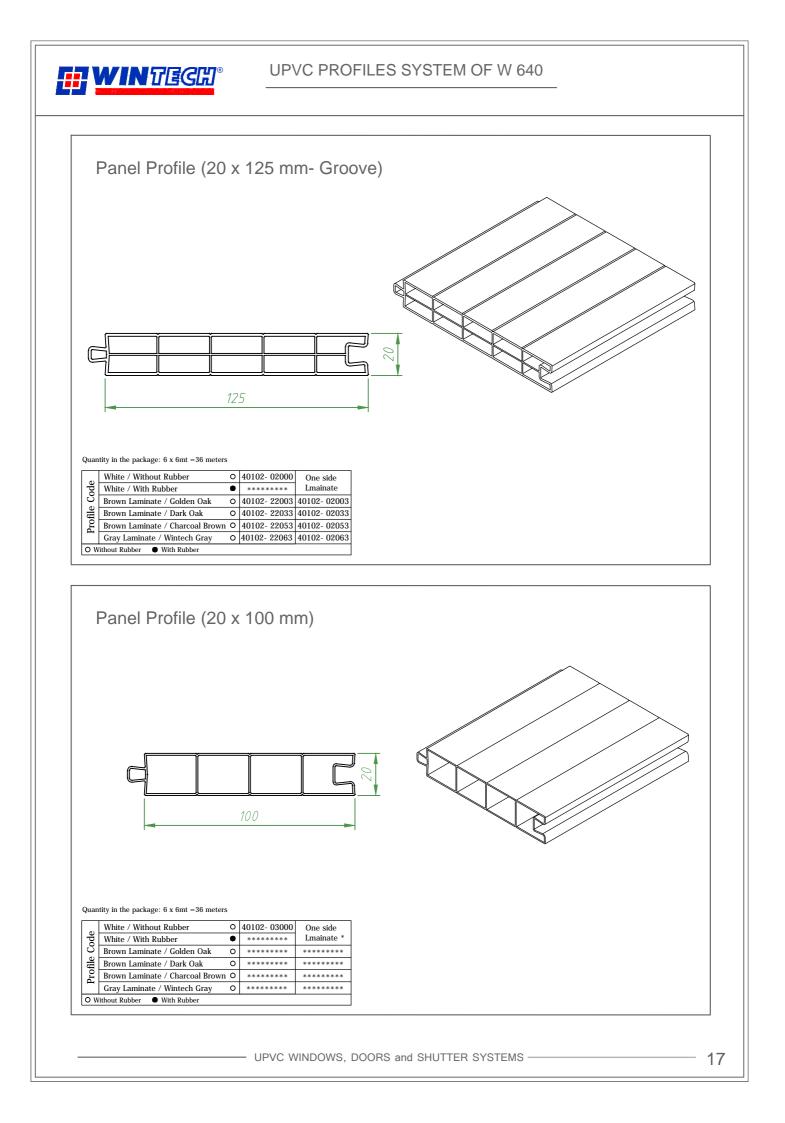
	White /	0	40106- 02000	Inside	Outside
Code	White / With Rubber	•	******	Lmainate	Lmainate
	Brown Laminate / Golden Oak	0	40106-22003	*****	*****
file	Brown Laminate / Dark Oak	0	40106- 22033	*****	******
Profile	Brown Laminate / Charcoal Brown	0	40106-22053	*****	******
	Gray Laminate / Wintech Gray	0	40106-22063	*****	*****
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UPVC WINDOWS, DOORS and SHUTTER SYSTEMS –

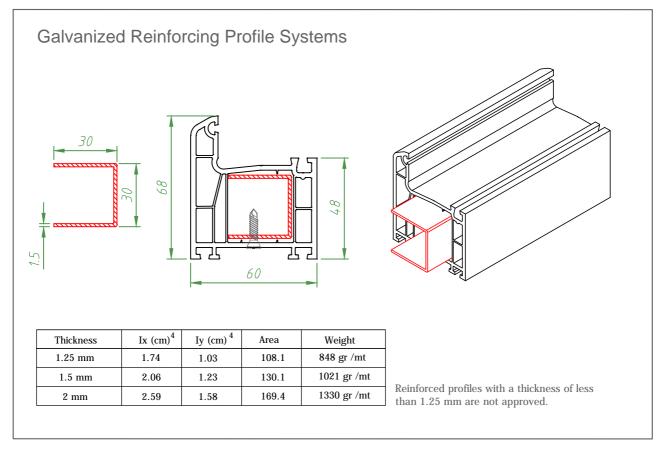






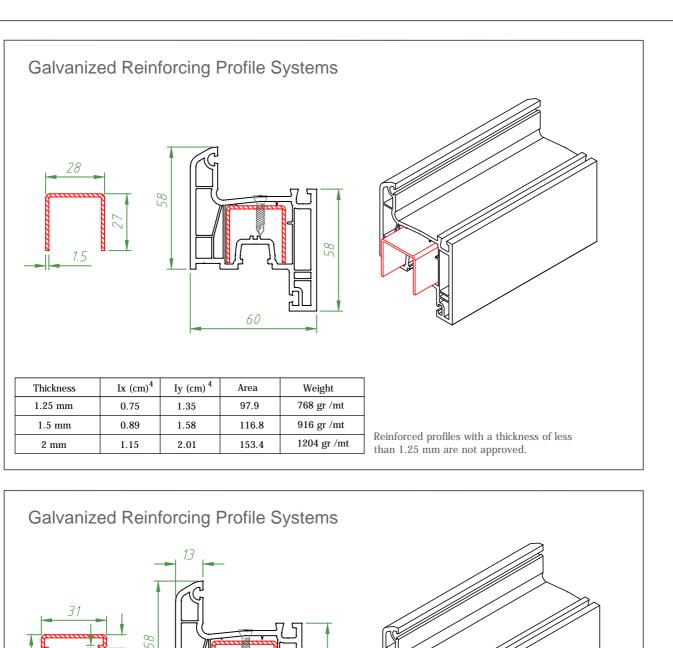


#### Galvanized Reinforcing Profile Systems 30 62 2 72 25 5 60 Iy (cm) $^4$ Ix (cm)<sup>4</sup> Thickness Area Weight 1.25 mm 0.96 1.15 101.6 797 gr /mt 953 gr /mt 1.5 mm 1.35 1.14 121.4 Reinforced profiles with a thickness of less 1.48 159.4 1251 gr /mt 2 mm 1.70 than 1.25 mm are not approved.



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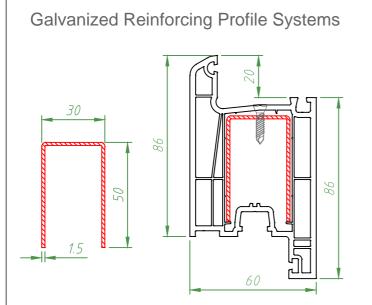




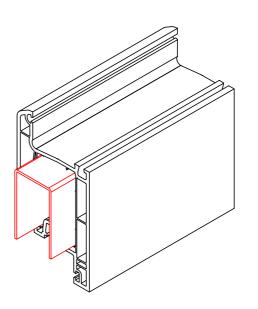
Thickness	Ix (cm) <sup>4</sup>	Iy (cm) <sup>4</sup>	Area	Weight
1.25 mm	0.38	1.56	104.3	818 gr /mt
1.5 mm	0.45	1.83	124.8	980 gr /mt
2 mm	0.6	2.30	168.3	1321 gr /mt

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

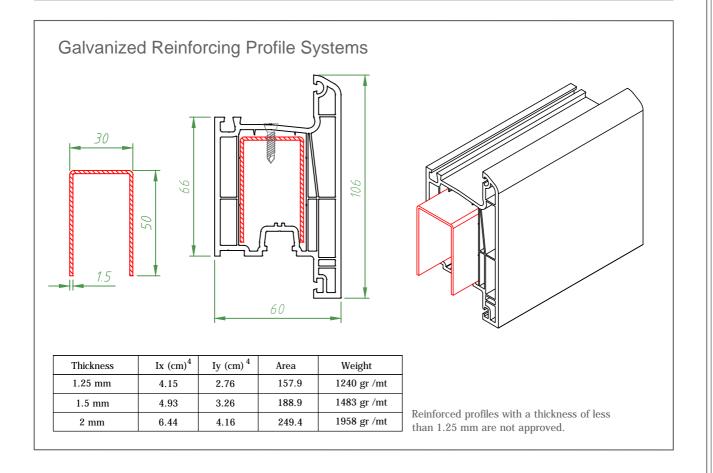


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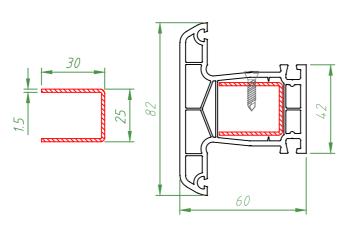
Thickness	Ix (cm) <sup>4</sup>	Iy (cm) $^4$	Area	Weight
1.25 mm	4.15	2.76	157.9	1240 gr /mt
1.5 mm	4.93	3.26	188.9	1483 gr /mt
2 mm	6.44	4.16	249.4	1958 gr /mt

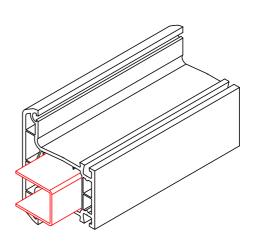
Reinforced profiles with a thickness of less than 1.25 mm are not approved.





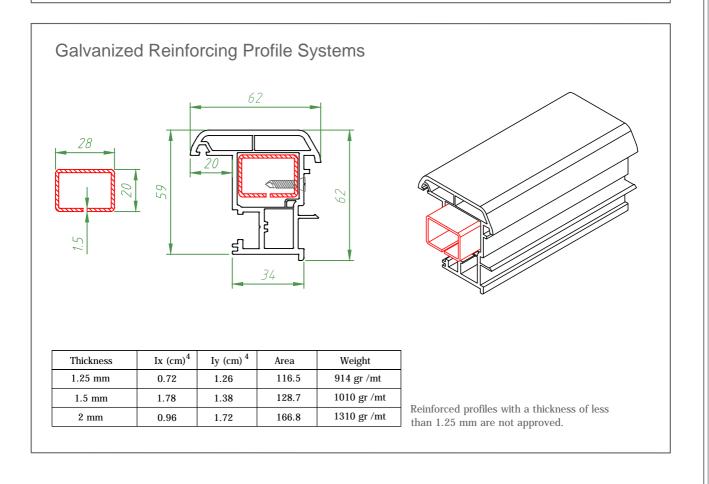
### Galvanized Reinforcing Profile Systems



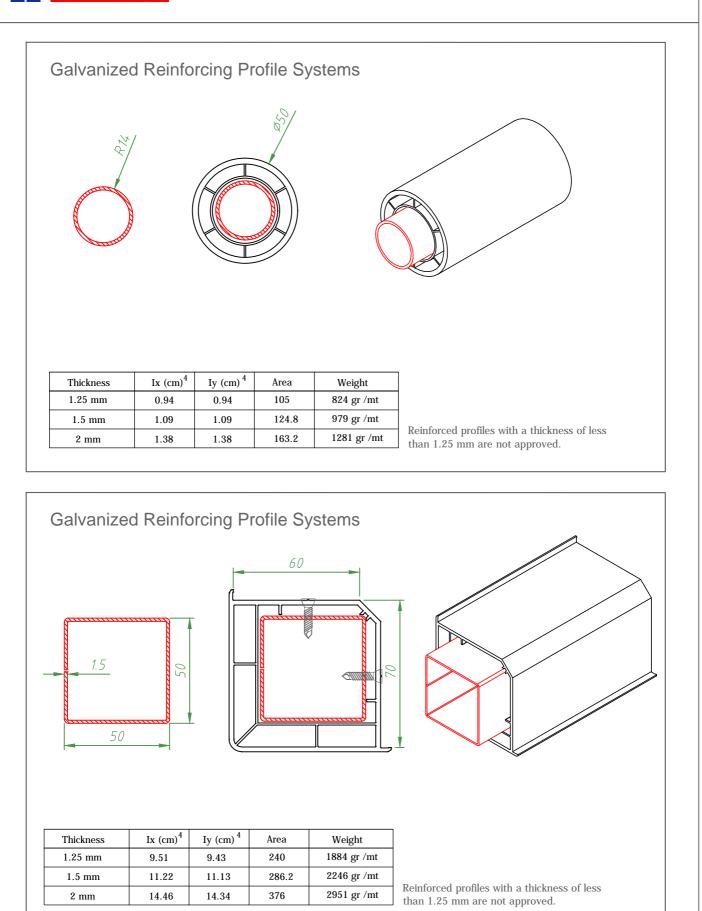


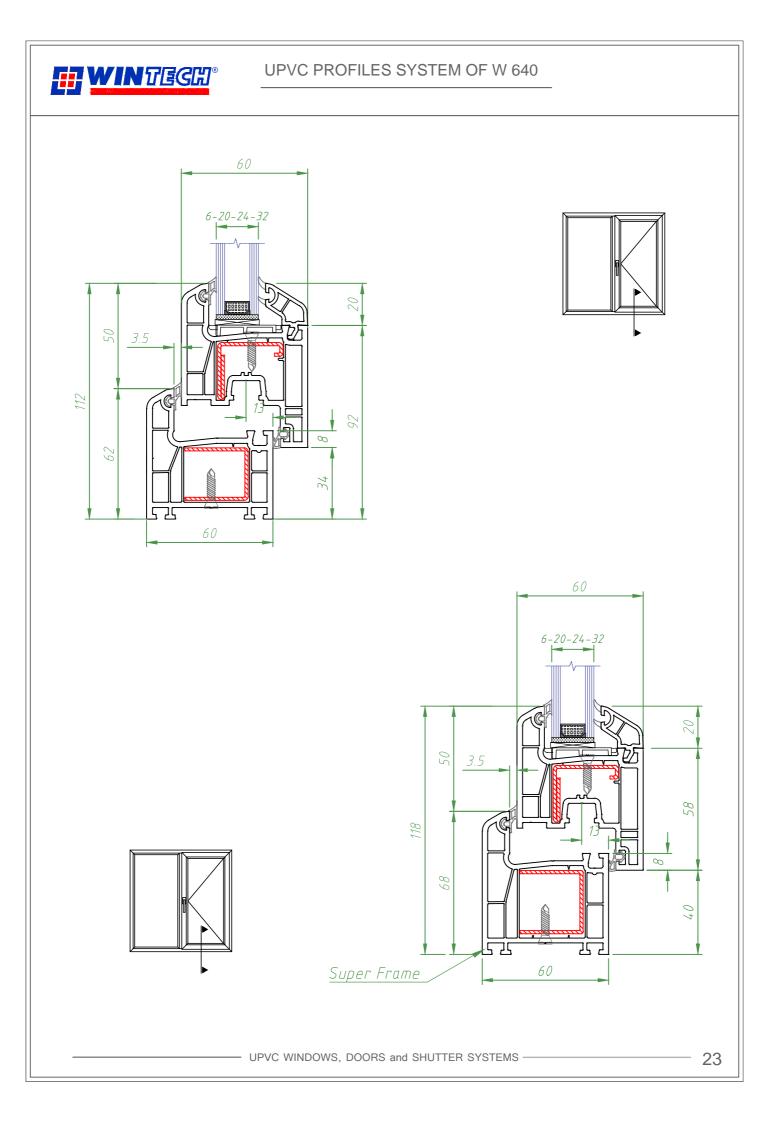
Thickness	Ix (cm) <sup>4</sup>	Iy (cm) $^4$	Area	Weight
1.25 mm	0.96	1.15	101.6	797 gr /mt
1.5 mm	1.35	1.14	121.4	953 gr /mt
2 mm	1.70	1.48	159.4	1251 gr /mt

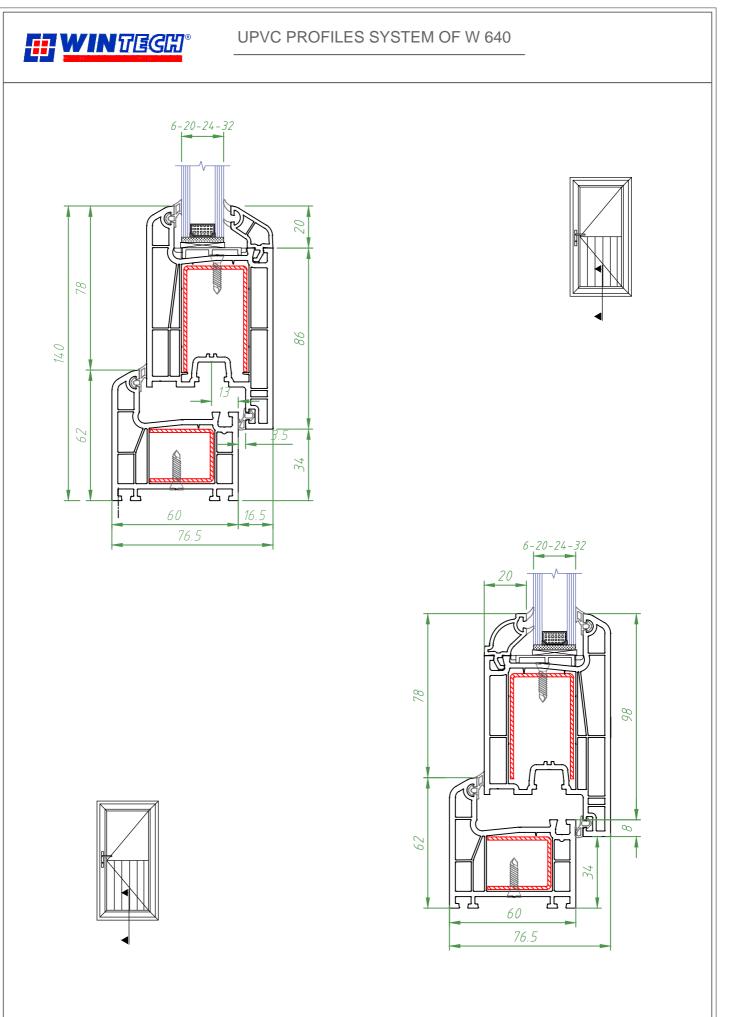
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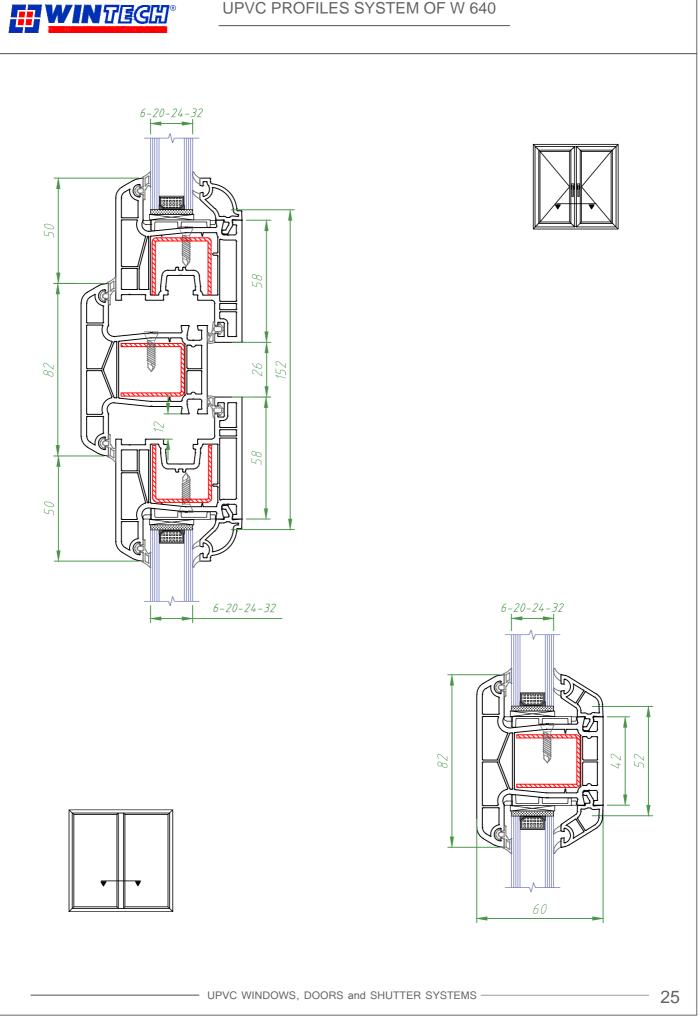


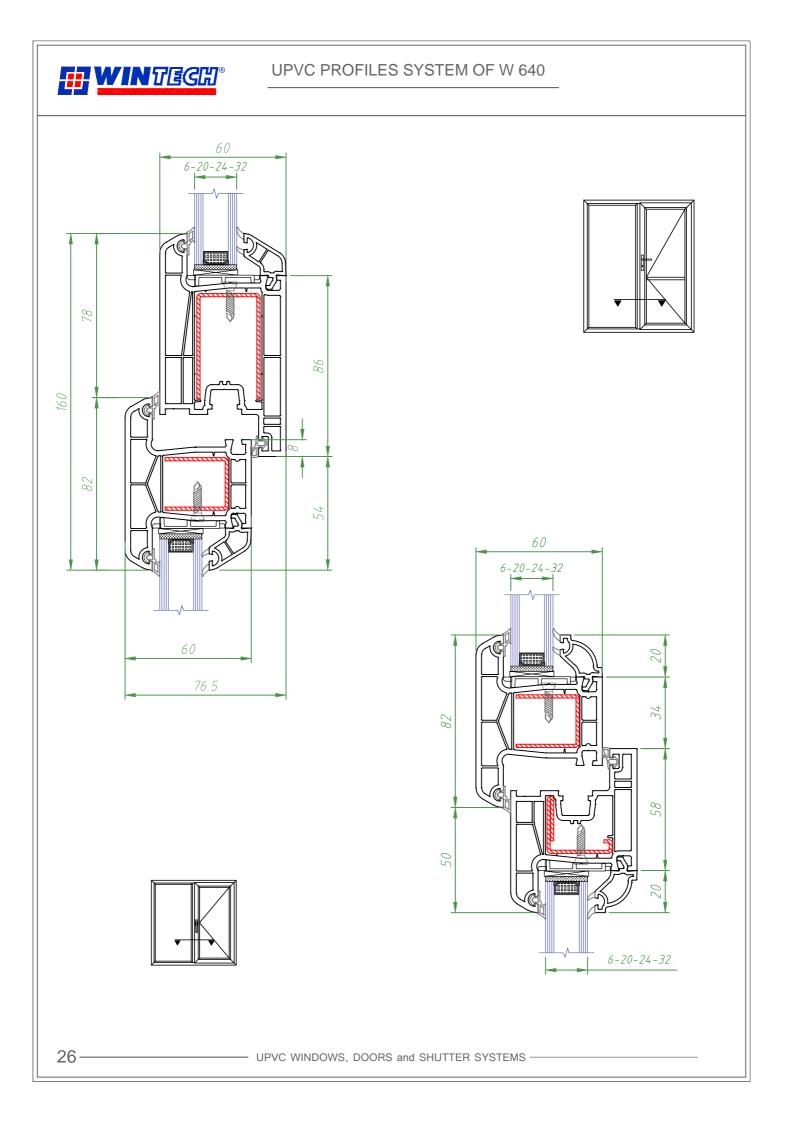


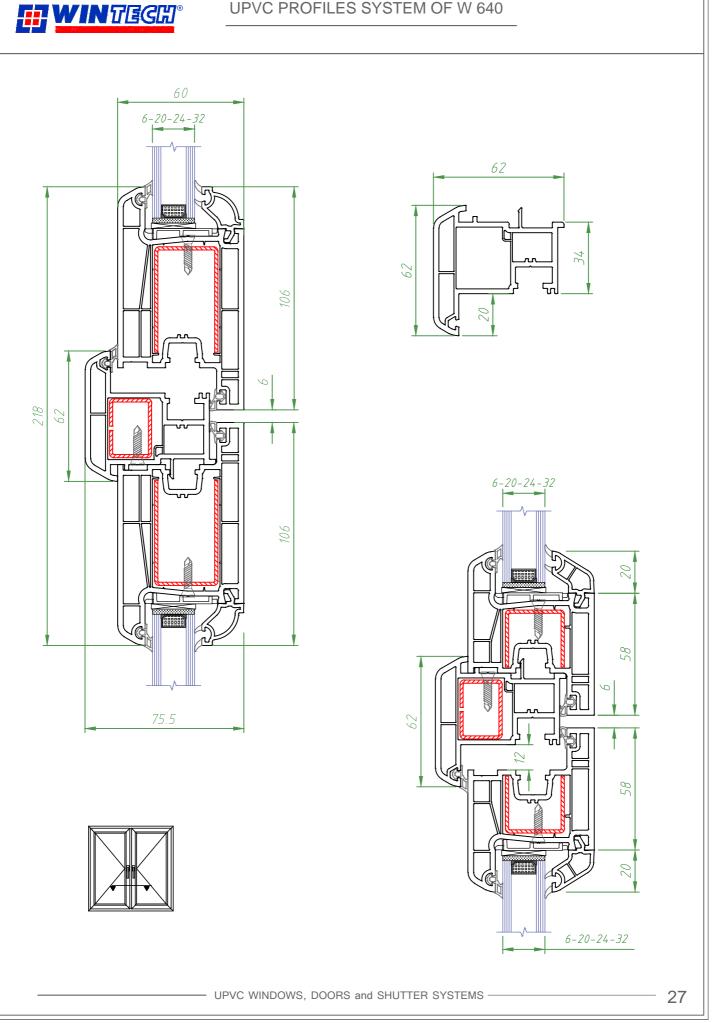


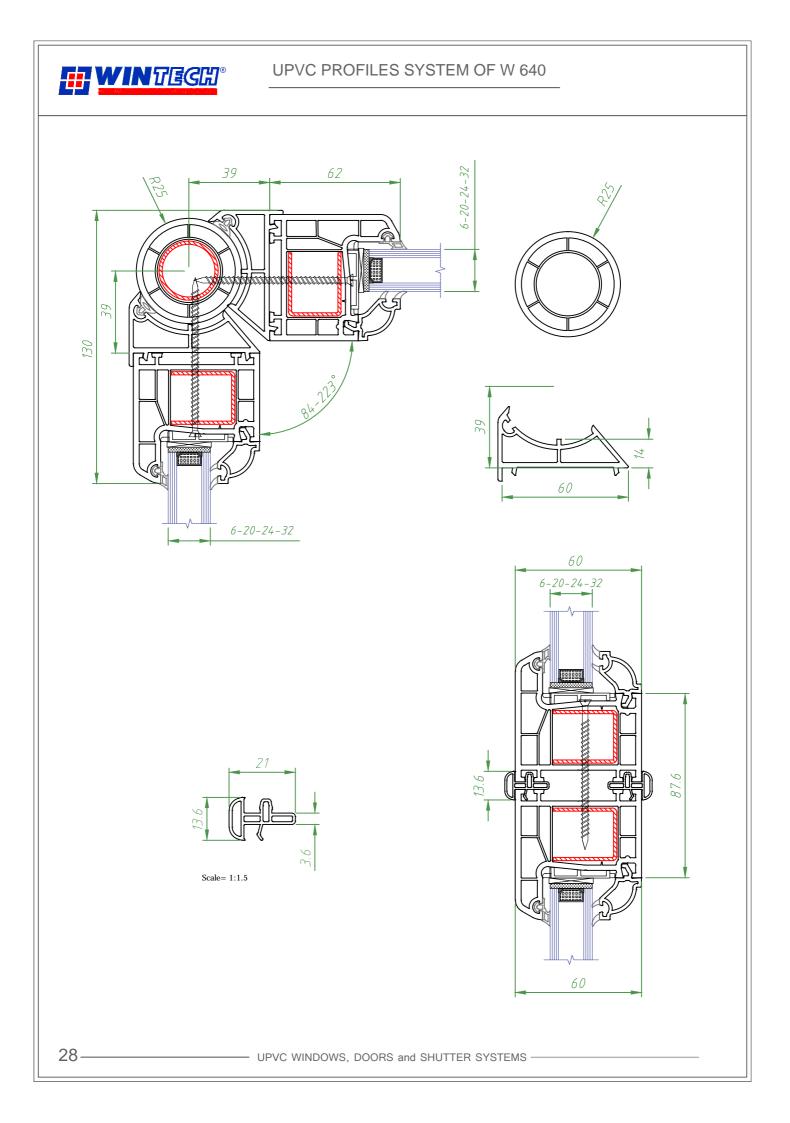
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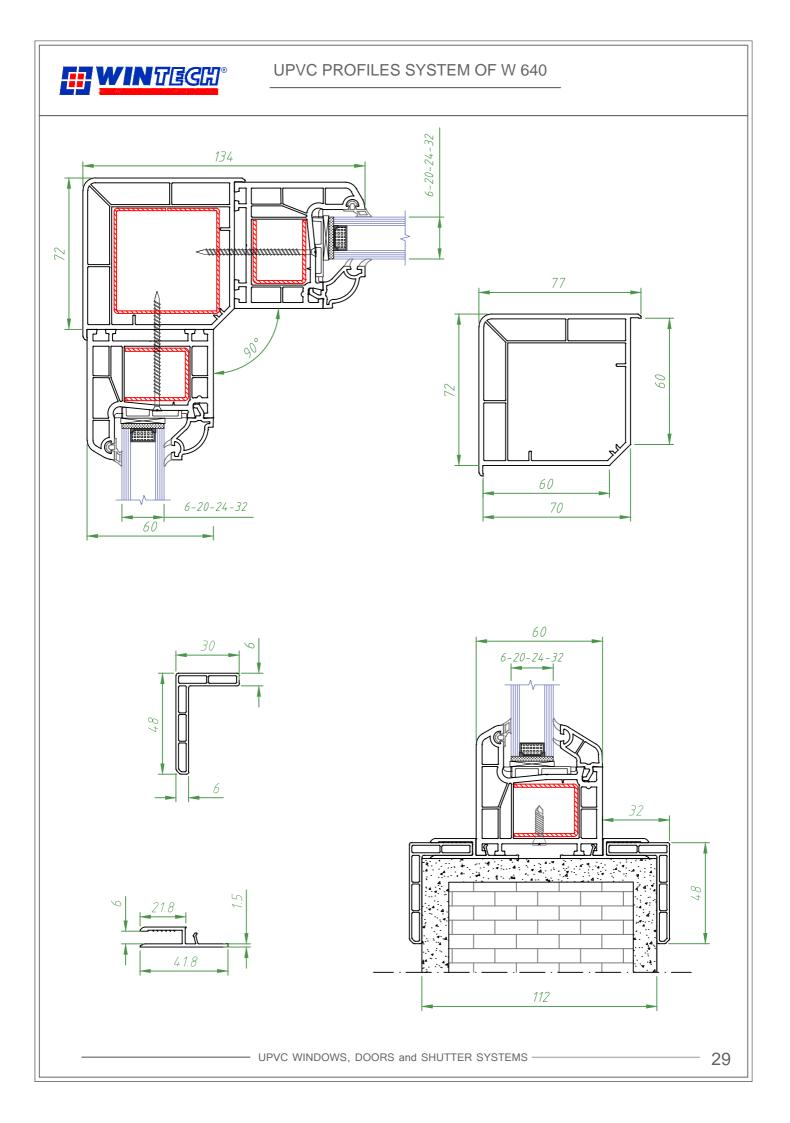
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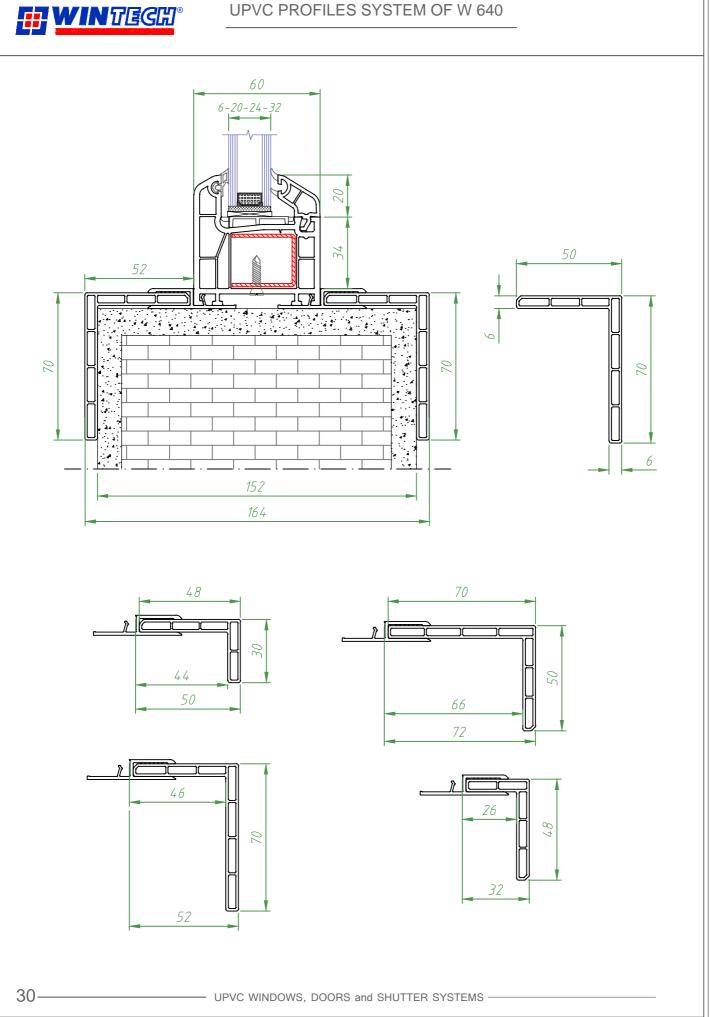


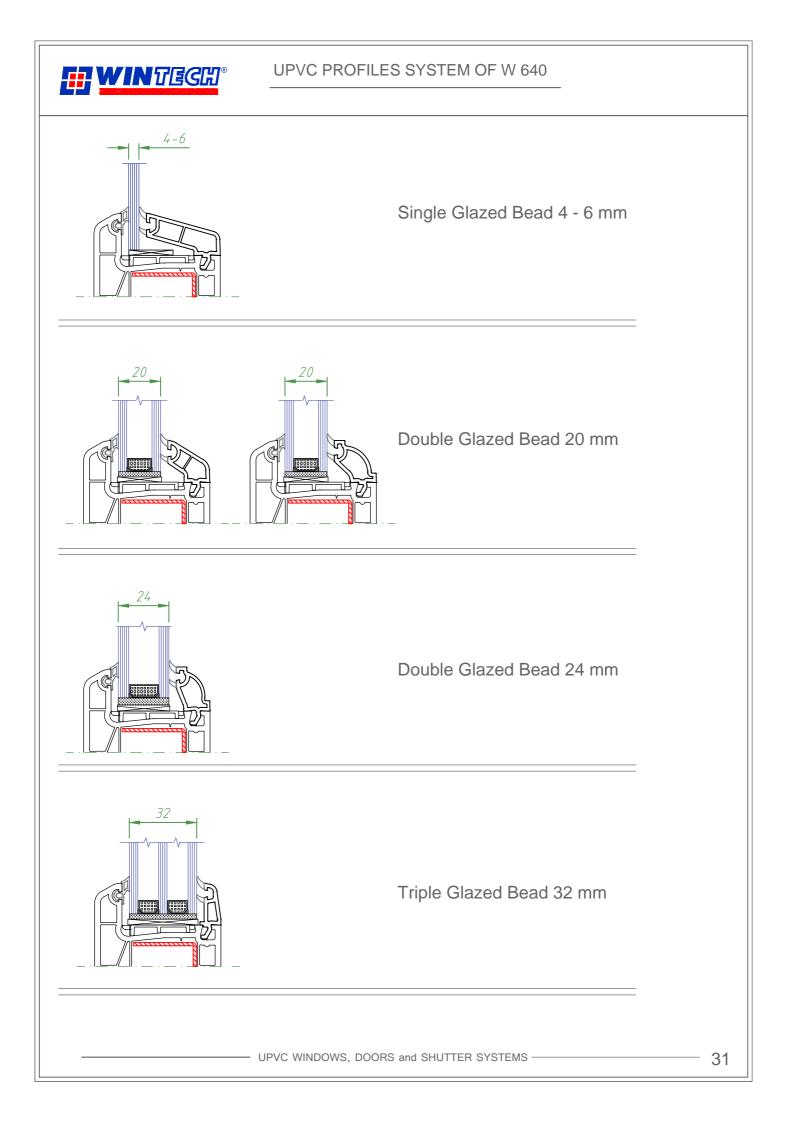












## STATIC CALCULATION General Information :

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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.

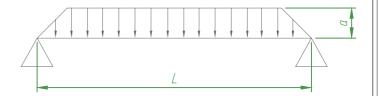
CALCULATION OF WINDOW:

a= Height of Loading cm

L= Distances Between Abutments cm

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

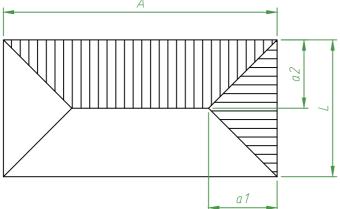
J = Moment of Inertia

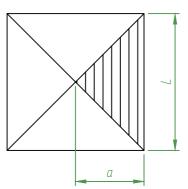


of	height of buliding		dynan (Q)	nic pressure	multiplie coefficies p=cxQ		multiplied coefficien p=cxQ	factor of changing	
forcing	mt	m/s	kp/m2	KN/m2	kp/m2	KN/m2	kp/m2	KN/m2	
A	0-8	28.3	50	0.5	60	0.6	60	0.6	1.00
A	8-20	35.8	80	0.8	96	0.96	96	0.96	1.6
A	20-100	42	110	1.1	132	1.32	132	1.32	2.2
A	> 100	45.6	130	1.3	156	1.56	156	1.56	2.6

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CALCULATION IS PERFORMED WITH THE HELP OF A SAMPLE





a = Width of Loading

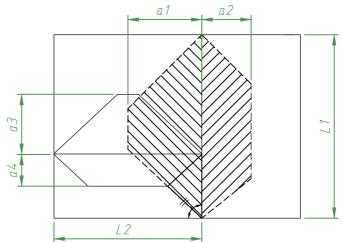
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L = Distance between Abutments

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.

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Longevity and strength of the window against wind force against the UPVC window profile and the inertia of the reinforced (ly, lx) 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.

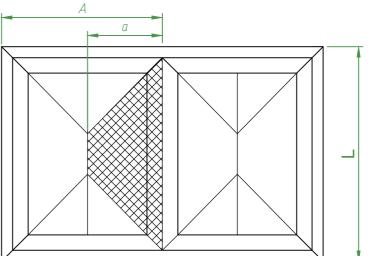
The shape and thickness of the reinforcement profiles are used to determine the maximum size of the window, in addition to the height at which the quadrilateral is installed and the wind power is also associated.

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)	$Ix = \frac{W^{4}L.a}{1920.E.f} (25-40 \left(\frac{a}{L}\right)^{2} + 16 \left(\frac{a}{L}\right)^{4})$												
Ix = Required N	Ix = Required Moment of Inertia (cm⁴)												
$W = Wind Load( N/mm)^2$													
E = Modulus of Elasticity (E = 2600 N/mm2 / E = 210.000N/mm <sup>2</sup> )													
f = Allowable D	eflection (L/	300 ) cm											
a = Width of Loa	ading ( cm )												
L = Space of Ab	outment ( cm )												
1													
0.0	aa 1 / <sup>2</sup>		$2.0000$ N/( $2.0^{2}$										

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

UPVC WINDOWS, DOORS and SHUTTER SYSTEMS

									]	L =	= he	eig	t	of	sa	sh	( c	m	)											11	2	
	This m f=H/3c Consult Thickn	350	340	330	310	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160	150	140	130	120	110	100				240.0		
	oment of 00 <0,8 c : glass fin ess of the	13.88	12.36	10.97	0.60	7.48	6.53	5.67	4.90	4.21	3.60	3.05	2.68	2.35	2.04	1.76	1.50	1.28	1.07	0.89	0.73	0.59	0.47	0.37	0.28	0.21	20			N 000		EN WINDEGH
	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.	20.69	18.41	14.42	12.69	11.12	9.70	8.42	7.27	6.24	5.32	4.51	3.96	3.46	3.00	2.58	2.21	1.87	1.56	1.30	1.06	0.85	0.67	0.52	0.39	0.29	30			210.000 N/MM2	MODI II I IS OF FI ASTIMITY	<u>GE</u>
	hart is fo num per ermine t ers for di	27.33	24.31	21.54	16.72	14.64	12.76	11.06	9.54	8.18	6.97	5.90	5.17	4.51	3.90	3.35	2.85	2.40	2.00	1.65	1.34	1.07	0.84	0.64	0.48	0.34	40			(	ידו/וד	UF
	or double missible type and fferent a	33.76	30.01	26.57	20.59	18.01	15.67	13.57	11.69	10.01	8.51	7.19	6.29	5.46	4.71	4.03	3.42	2.87	2.38	1.94	1.56	1.23	0.95	0.72	0.52		50		SELE	-	$\langle$	OVC PF
	-glazed s deviation features listances	39.92	36.45	31.36	24.25	21.18	18.41	15.91	13.68	11.69	9.92	8.35	7.28	6.31	5.42	4.61	3.89	3.24	2.67	2.16	1.72	1.34	1.01	0.74	0.54		60		SELECT OF C			UPVC PROFILES
UPV	systems. 1) of the g and heig	$\vdash$	+	35.58	+	+	$\vdash$	18.06	15.49	13.20	11.17	9.38	8.15	7.03	6.01	5.09	4.26	3.52	2.87	2.30	1.80	1.37	1.22	0.75			70	a = w	CORRECT T PROFILE			
UPVC WINDOW, DOORS and SHUTTER	lass. Ihts.	$\vdash$	+	40.07	+	+	$\vdash$	19.98	17.09	14.52	12.25	10.25	8.86	7.60	6.46	5.43	4.51	3.69	2.97	2.34							08	width of sash ( cm	[ T PRO]			SYSTEM OF W 640
W, DOOR		$\vdash$	+	43.90	+	+			18.46	15.63	13.13	10.94	9.41	8.02	6.77	5.64	4.64	3.75	3.03								90	ash ( cm				F W 64
S and SH		$\vdash$	+	47.34	+	+	$\vdash$			-		+	+		6.93	5.71										_	100	) / a= A/2	WITH RESPECT			0
			+	50.36 5	+	+							9.97	8.37												0	_	/2				
SYSTEMS-		$\vdash$	+	52.92 5	+-	+					14.50	11.85															120		WIND I			
			+	56.00 5	+	+		25.45 2		17.68			_													_	130 1		TO WIND PRESSURE			
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		$\square$	+	57.64 5	+	37.16																					150 1			lind P	eight	
			+	58.17	0 02								_													_	160 17			ressur	Of As	
		78.08	67.61		+					_			_													_	170 180			re 60	sembl	
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35																											200			2	Height Of Assembly = 0-8 mt	

<text></text>			ショー	31	5															
eq:eq:eq:eq:eq:eq:eq:eq:eq:eq:eq:eq:eq:e	N N N	DULU 10.00	S OF	ELAS <sup>-</sup> MM2	TICIT	<u>≻</u>									He	ight ( nd Pu	Jf Ass ressur	e 96	y = 8. kp/ n	-20
$ \begin{array}{  c   c  c  c  c  c  c  c  c  c  c  c  $						SELE	CT OF C	ORREC	LT PRO	FILE WI	TH RES	PECT TO	ONIW (	PRESSI	JRE					
1         20         30         40         50         70         80         90         100         120         130         140         150								a		f sash ( c		A/2								
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$			20	30	40	50	60	70	80	90	100		120	130	$\vdash$	150	160	$\vdash$		06
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Lation of the lattice of the lattic		110	0.45	0.63	0.76	0.83	0.87													
Lation 100 100 100 100 100 100 100 100 100 10		120	0.59	0.84	1.02	1.14	1.18	ļ												
Lation 10.97 1.50 1.11 1.95 2.14 2.50 2.15 2.88 4.15 6.00 1.17 2.50 3.21 2.40 4.17 2.50 2.14 1.25 2.15 2.81 3.61 3.67 3.71 4.59 4.15 6.00 1.13 1.50 1.17 2.50 3.21 2.80 4.17 4.59 4.17 4.50 4.17 2.50 3.21 2.80 4.20 1.00 1.12 2.50 3.21 2.80 4.13 5.51 3.64 5.19 5.63 5.91 6.00 1.00 1.12 2.50 3.21 2.50 3.21 2.50 3.21 2.50 3.10 8.11 8.69 9.03 9.14 1.81 5.50 1.55 1.59 5.57 8.81 4.88 7.22 9.44 1.15 1.30 1.35 1.30 1.12 1.00 1.16 1.304 1.2.18 1.5.00 1.87 1.50 1.55 1.59 5.57 8.82 9 4.13 2.00 2.81 4.13 1.50 1.55 1.59 5.57 8.8.14 8.69 9.03 9.14 1.81 5.50 1.55 1.59 5.57 8.8.29 4.13 2.50 2.57 8.8.1 4.88 7.22 9.44 1.15 1.30 1.50 1.15 2.10 2.30 3.53 7.51 1.50 1.55 1.59 5.57 8.8.3 3.50 4.27 9.54 1.30 1.57 1.22 2.20 3.57 8.8.3 3.50 4.27 9.54 3.33 7.50 4.87 9.50 7.91 9.70 1.00 2.10 2.10 2.10 2.10 2.10 2.10 2.1		130	0.76	1.08	1.34	1.52	1.62	1.67										+		
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Tip         Tip <thtip< th=""> <thtip< th=""> <thtip< th=""></thtip<></thtip<></thtip<>		160	1.13	2.07	2.64	3 11	3 46	3.67	3 74									+		
Iso $2.04$ $2.99$ $3.84$ $4.58$ $5.19$ $5.63$ $5.91$ $6.00$ $6.01$ $6.03$ $6.01$ $6.03$ $6.01$ $6.03$ $6.01$ $6.01$ $6.03$ $6.01$ $6.03$ $6.01$ $6.03$ $6.01$ $1.03$ $1.018$ $1.016$ $11.06$ $13.01$ $1.06$ $11.06$ $13.01$ $1.018$ $1.010$ $1.012$ $1.012$ $1.012$ $1.012$ $1.012$ $1.012$ $1.012$ $1.012$ $1.012$ $1.012$ $1.012$ $1.012$ $1.012$ $1.012$ $1.012$ $1.012$ $1.012$ $1.012$		170	1.72	2.50	3.21	3.80	4.27	4.59	4.75											+
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	( เม	180	2.04	2.99	3.84	4.58	5.19	5.63	5.91	6.00										
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011 <th< td=""><td>ses</td><td>210</td><td>3.28</td><td>4.80</td><td>6.24</td><td>7.54</td><td>8.67</td><td>9.61</td><td>10.34</td><td>10.83</td><td>11.08</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>	ses	210	3.28	4.80	6.24	7.54	8.67	9.61	10.34	10.83	11.08									
Effect2304.296.348.2810.0611.6613.0414.1815.0615.6515.9515.9515.9615.6515.9515.99 <td>ĵ0</td> <td>220</td> <td>3.75</td> <td>5.54</td> <td>7.21</td> <td>8.74</td> <td>10.09</td> <td>11.24</td> <td>12.16</td> <td>12.84</td> <td>13.25</td> <td>13.39</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	ĵ0	220	3.75	5.54	7.21	8.74	10.09	11.24	12.16	12.84	13.25	13.39								
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$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	giəi	240	4.88	7.22	9.44	11.50	13.37	15.01	16.39	17.50	18.30		18.99							
Li 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 21.87 21.12 23.24 25.02 34.64 34.31 270 280 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 48.76 300 11.97 17.79 23.43 28.81 33.85 42.86 53.05 64.13 57.75 66.13 65.96 67.37 68.08 310 13.66 20.31 26.76 32.94 38.79 44.26 49.27 55.78 65.13 65.96 57.37 68.08 320 15.51 23.08 30.43 37.50 44.22 50.51 56.33 61.61 66.50 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 96.7 100.7 104.0 106.3 107.7 340 19.87 29.46 38.9 48.01 56.72 64.96 72.65 79.74 86.14 91.82 96.7 100.7 104.0 106.3 107.7 340 19.87 29.46 38.9 avent is for double-glazed systems. This moment of inertia chart is for double glazed systems. This moment of inertia chart is for double glazed systems. This moment of inertia chart is for double glazed systems. f=H/500 <0.8  coll startine type and features of the glass.  This moment of the glass alters for different distances and heights.  This to be glass alters for different distances and heights.  This to be glass alters for different distances and heights.  This to be glass alters for different distances and heights.  This to be glass alters for different distances and heights.  This to be glass alters for different distances and heights.  This to be glass alters for different distances and heights.  This to be glass alters for different distances and heights.  This to be glass alters for different distances and heights.  This to be glass alters for different distances and heights.  This to be glass alters for different distances and heights.  This to be glass alters for different distances and heights.  This to be distances and heights.  This to be distances and heights.  This to be distance and heights.  This to be distance	4 =	250	5.75	8.52	11.15	13.62	15.87	17.87	19.60	21.02	22.1									
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Γ	260	6.74	9.98	13.09	16.01	18.7	21.12	23.24	25.02	26.43			28.29						
2809.07 $13.47$ $17.70$ $21.71$ $25.46$ $28.89$ $31.96$ $34.64$ $36.88$ $38.65$ $39.94$ $40.72$ $40.98$ 290 $10.45$ $15.52$ $20.41$ $25.08$ $29.45$ $33.48$ $37.13$ $40.35$ $43.09$ $45.33$ $47.03$ $48.18$ $48.76$ $300$ $11.97$ $17.79$ $23.43$ $28.81$ $33.88$ $38.59$ $42.25$ $49.27$ $53.78$ $57.75$ $61.13$ $65.96$ $67.37$ $68.08$ $320$ $15.51$ $23.08$ $30.43$ $37.50$ $44.22$ $50.51$ $56.33$ $61.61$ $66.30$ $70.36$ $73.74$ $76.41$ $78.34$ $79.50$ $330$ $17.54$ $26.12$ $34.47$ $42.25$ $50.51$ $56.33$ $61.61$ $70.36$ $73.74$ $70.36$ $79.50$ $330$ $17.54$ $26.12$ $34.47$ $42.51$ $50.18$ $73.76$ $68.08$ $79.53$ $340$ $19.87$ $29.46$ $38.9$ $48.01$ $56.72$ $64.96$ $72.55$ $79.74$ $86.14$ $91.82$ $96.7$ $100.7$ $104.0$ $106.3$ $107.7$ $350$ $22.21$ $33.10$ $43.73$ $54.02$ $63.88$ $73.24$ $82.01$ $90.52$ $92.22$ $93.07$ $350$ $22.221$ $33.10$ $43.75$ $104.11$ $109.9$ $114.8$ $118.8$ $121.8$ $123.9$ $71/7$ $720.60$ $80$ $80.15$ $97.55$ $104.11$ $109.9$ $114.8$		270	7.84	11.63	15.27	18.70	21.89	24.78	27.35	$ \rightarrow$	_				27/0					
29010.4515.5220.4125.0829.45 $33.48$ $37.13$ $40.55$ $43.09$ $45.33$ $47.05$ $48.16$ $57.84$ $57.54$ $57.88$ 30011.9717.7923.4328.8133.859 $49.27$ $53.78$ $57.75$ $61.13$ $65.96$ $67.37$ $68.08$ 31013.6620.3126.7632.9438.79 $44.26$ $49.27$ $53.78$ $57.75$ $61.13$ $65.96$ $67.37$ $68.08$ 32015.5123.08 $30.43$ $37.50$ $44.22$ $50.51$ $56.33$ $61.61$ $66.30$ $70.36$ $73.74$ $79.50$ $79.89$ 33017.54 $26.12$ $34.47$ $42.51$ $50.18$ $57.40$ $64.11$ $70.24$ $75.75$ $80.57$ $84.67$ $88.00$ $90.52$ $92.22$ $93.07$ $340$ 19.8729.46 $38.9$ $48.01$ $56.72$ $64.96$ $72.65$ $79.74$ $75.75$ $80.57$ $84.67$ $88.00$ $90.52$ $92.22$ $93.07$ $340$ 19.8729.46 $38.9$ $48.01$ $56.72$ $64.96$ $72.65$ $79.75$ $80.57$ $84.67$ $88.00$ $90.52$ $92.22$ $93.07$ $350$ 22.21 $33.10$ $43.73$ $54.02$ $63.88$ $73.24$ $82.01$ $90.51$ $104.0$ $106.7$ $107.7$ $7his moment of inertia chart is for double-glazed systems.f=H/500 < c0.8 cm (Maximum permissible deviation)$		280	9.07	13.47	17.70	21.71	25.46	28.89	31.96	$\rightarrow$	$\rightarrow$	$\rightarrow$	$\rightarrow$	$\rightarrow$	40.98					
30011.9717.7923.4328.8133.8838.5946.7150.0352.8054.9956.5857.5457.8831013.6620.3126.7632.9438.7944.2649.2753.7857.7561.1365.9667.3768.0832015.5123.0830.4337.5044.2250.5156.3361.6166.3073.7476.4178.3479.5079.8933017.5426.1234.4742.5150.1857.4064.1170.2475.7580.5784.6788.0090.5293.0734019.8729.4638.948.0156.7264.9672.6579.7486.1491.8296.7100.7104.0106.3107.735022.2133.1043.7354.0263.8873.2482.0190.1497.55104.1109.9114.8118.8123.97his woment of inertia chart is for double glazed systems.f=H/500 0.55104.1109.9114.8118.8123.97hickness of the glass alters for different distances and heights.		290	10.45	15.52	20.41	25.08	29.45	33.48	37.13	40.35	$\rightarrow$	$\rightarrow$	$\rightarrow$	$\rightarrow$	$\rightarrow$					
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 96.7 100.7 104.0 106.3 107.7 350 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 This woment 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.		300	11.97	17.79	23.43	28.81	33.88	38.59	42.88	46.71	$\rightarrow$	_	$\rightarrow$	$\rightarrow$	+	7.88				
32015.5123.0830.4337.5044.2250.5156.3361.61 $66.30$ 70.3673.74 $76.41$ $78.34$ $79.50$ $79.89$ 33017.5426.1234.47 $42.51$ 50.1857.40 $64.11$ $70.24$ $75.75$ $80.57$ $84.67$ $88.00$ $90.52$ $92.22$ $93.07$ 34019.8729.46 $38.9$ $48.01$ $56.72$ $64.96$ $72.65$ $79.74$ $86.14$ $91.82$ $96.7$ $100.7$ $104.0$ $106.3$ $107.7$ 35022.21 $33.10$ $43.73$ $54.02$ $63.88$ $73.24$ $82.01$ $90.14$ $97.55$ $104.11$ $109.9$ $114.8$ $118.8$ $121.8$ $123.9$ This moment of inertia chart is for double-glazed systems. $f=H/500$ $c_0$ ,8 $c_0$ ,8 $c_0$ ,8 $c_0$ ,8 $c_0$ ,9 $114.8$ $118.8$ $121.8$ $123.9$ This moment of inertia chart is for double-glazed systems.f=H/500 $c_0$ ,8 $c_0$ ,9f=H/500 $c_0$ ,8 $c_0$ ,9 $c_0$ ,9This moment of inertia chart is for double-glazed systems.f=H/500 $c_0$ ,8 $c_0$ ,9 $c_0$ ,9<		310	13.66	20.31		32.94	38.79	44.26					$\rightarrow$			8.08				
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$		320	15.51	23.08		37.50	44.22	50.51				- L	_		- L		79.89		+	1
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$		330	10.01	20.12		10.01	81.00	04.10									1077	1001		+
		350	19.01	33 10		54.00	20.12	04.90 73.74										100.1		
						170.70	100.00		110.20	TL.UL	2	1				0		V-1-7		
	_	This mon f=H/300	vent of Iv <0,8 cm	vertia chi (Maxim	art is foi um perv	r double - nissible a	-glazed s eviation	ystems. )												
		Consult g Thickness	s of the a	s to dete lass alter	rmine tu s for dif	ype and Ferent d	features	of the gl	ass. nts.											
						-														

									]	L =	= h	eig	ght	of	sa	sh	( c:	m	)											  \	MC	
	This m f=H/3c Consult Thickn	<u>340</u>	330	320	310	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160	150	140	130	120	110	100				210.000 N/MM2	MODULUS OF ELASTICITY	<b>HINNERGH</b> ®
	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.	30.54	24.12	21.32	18.77	16.46	14.36	12.47	10.70	9.26	7.91	6.71	5.90	5.16	4.48	3.87	3.31	2.81	2.36	1.96	1.61	1.30	1.04	0.81	0.62	0.46	20			IN OC	JS OF	<b>TIE</b> (
	inertia ( m (Maxi ms to de glass alt	40.31	35.92	31.73	27.92	24.46	21.34	1	1	13.73	11.71	9.93	8.72	7.61	6.6	5.68	4.85	4.11	3.44	2.58	2.33	1.88	1.48	1.15	0.87	0.63	30			MM2	ELAS	
	chart is f mum per termine ers for d	53.48 60.13	47.40	41.84	36.79	32.21	28.07	24.34	20.99	18.00	15.34	12.98	11.38	9.91	8.58	7.36	6.27	5.28	4.41	3.63	2.95	2.35	1.84	1.41	1.05	0.75	40				TICIT	UP
	or doubl rmissible type and lifferent	74.28	58.46	51.56	45.30	39.61	34.48	29.86	25.71	22.01	18.72	15.81	13.83	12.01	10.36	8.86	7.51	6.30	5.23	4.27	3.44	2.72	2.10	1.57	1.14	0.79	50		SELE		$\prec$	VC PR
	e-glazed deviatio d feature distances	87.83	69.00	60.80	53.34	46.59	40.49	35.01	30.10	25.71	21.82	18.38	16.03	13.88	11.92	10.15	8.56	7.13	5.87	4.75	3.78	2.94	2.23	1.63	1.21		60		SELECT OF CORRECT T PROFILE			UPVC PROFILES SYSTEM OF W 640
	systems n) s of the s and he	89.32 100.7	78.93	69.45	60.85	53.06	46.04	39.73	34.08	29.04	24.58	20.64	17.93	15.46	13.21	11.19	9.37	7.74	6.31	5.05	3.96	3.20	2.32				70		ORREC			LSAS S
C WINDO	glass. ghts.	99.90 112.77	88.15	77.45	67.75	58.97	51.05	43.95	37.60	31.95	26.95	22.54	19.50	16.72	14.21	11.95	9.92	8.12	6.53	5.15							08	a = width	T T PRC			TEM OF
W, DOOR		109.04	96.65	84.72	73.95	64.23	55.47	47.63	40.62	34.40	28.90	24.06	20.70	17.65	14.89	12.41	10.20	8.25									90	= width of sash (	FILE W			- W 64
UPVC WINDOW, DOORS and SHUTTER S		118.43	104.16	91.17	79.41		$\rightarrow$	50.70	43.09	36.34	30.39	25.17	21.52	18.22	15.24	12.57										1	100	(cm)/	WITH RESPECT TO WIND PRESSURE			
		143.24	110.79				$\rightarrow$	53.15	44.98	37.75	31.40	25.84	21.94	18.41												110		a = A/2	PECT T			
YSTEMS-		151.21	116.42	101.4			-			38.61	31.91	26.7															120		O WIND			
		157.96	120.99	105.06	$\vdash$			55.98	46.90	38.90																	130		PRESS			
		143.00 163.43		107.71	$\vdash$		67.05	56.34																			140		URE	~	He	
		140.18 167.58		109.31 1	93.60	79.55																					150			IVA r	eight (	
		148.1 170.37	127.97	109.85																							160			ressur	Of As	
		148.73	1 10 75																								170			WIND FIESSURE TO KPI M	sembly	
																											180			Kp/ V	8 = 6	
																											190			1	Height Of Assembly = 8-20 mt	
31	í																										200				nt	

Т

**UPVC PROFILES SYSTEM OF W 640** WINTEGH® STATIC CALCULATION EXAMPLE b Π Х Section X X Height of Window L = 180 cm Width of Area A = 100 cm 30x25x30 27x28x27 27x28x27 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  $q=50 \text{ kp/m}^2$ Constant Multiply c = 1.2 Section Y Y Wind Load w=  $q \times c = 50 \times 1.2 = 60$  kp/m Allowable Deflection L/300 F = 180 / 300 = 6 mmModulus of Elasticity  $E= 2.1 \times 10^6 \text{ kp/cm}$ Ix = Required Moment of Inertia (cm<sup>4</sup>) Ix<sub>1</sub>= $\frac{W L^4}{1920 E}$  (25-40  $\left(\frac{a}{L}\right)^2$  + 16 $\left(\frac{a}{L}\right)^4$ )  $lx_2 = \frac{W L^4_{.b}}{1920.F.f} (25-40 (\frac{b}{l})^2 + 16 (\frac{b}{l})^4)$ 38 UPVC WINDOWS, DOORS and SHUTTER SYSTEMS

/IN	7ech	® U	IPVC PR	OFILES	SYSTEN	I OF W 6	40			
	, ,				+ $16\left(\frac{50}{18} + 16\left(\frac{5}{18}\right)\right)$					
Height of Installation 0-8 m Wind Pressure 60kp/m <sup>2</sup>										
			width of		(cm)	1	1			
		20	30	40	50	60				
	100	0.21	0.29	0.34	0.36					
E E	110	0.28	0.39	0.48	0.52		1			
( c	120	0.37	0.52	0.64	0.72	0.74	1			
ash	130	0.47	0.67	0.84	0.95	1.01	]			
of s	140	0.59	0.85	1.07	1.23	1.34				
= height of sash ( cm )	150	0.73	1.06	1.34	1.56	1.72				
eig	160	0.89	1.30	1.65	1.94	2.16				
µ	170	1.07	1.56	2.00	2.38	2.67				
Γ	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  $|x = |x_1 + |x_2$ Sum of  $|x = |x_1 + |x_2$ Sum of  $|x = |x_1 + |x_2$ 2,87+2.87=5.74cm

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

System is considered as Sash + Mullion Profile + Sash.

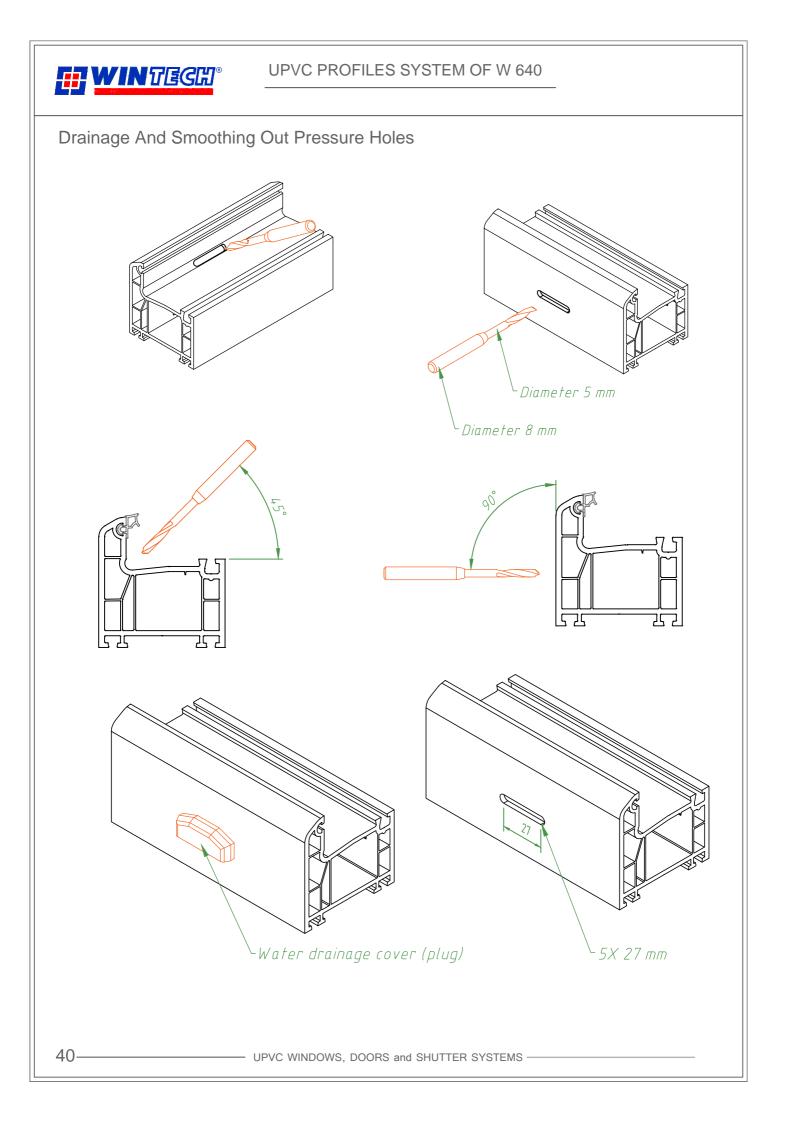
Sash Reinforcement IX = 2.01 cm (Thickness= 2mm) Mullion Reinforcement IX = 1.48 cm (Thickness= 2mm) Sash Reinforcement IX = 2.01 cm (Thickness= 2mm)

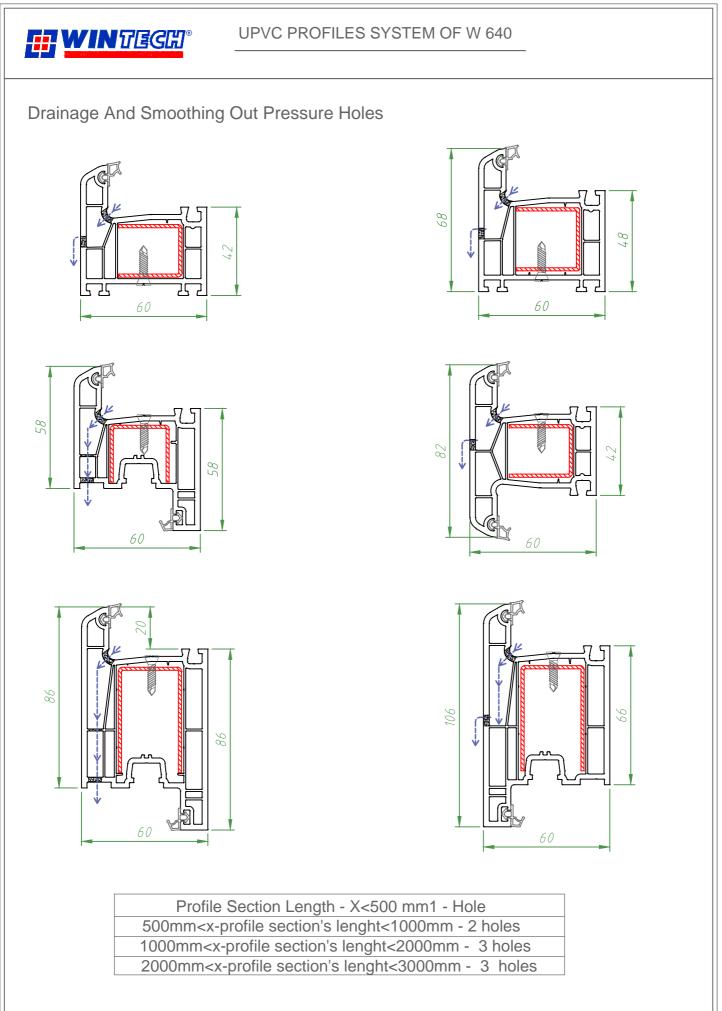
Total Ix in the System = 2.01 + 1.48 + 2.01 = 5.5 cm

Total Ix of Reinforcement in the system < Required

5.5 cm < 5.74 cm with the help of Reinforcement stated above ,the window with reinforcement profile is Impossible.

UPVC WINDOWS, DOORS and SHUTTER SYSTEMS -

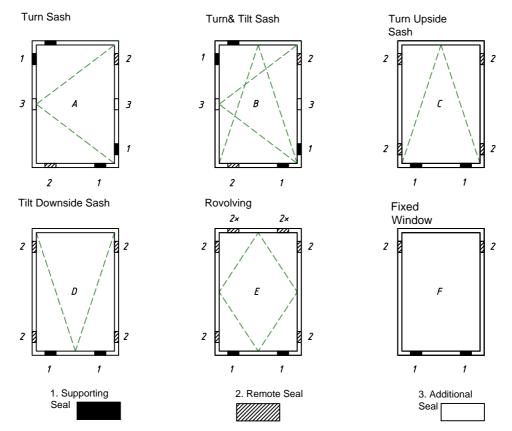




UPVC WINDOWS, DOORS and SHUTTER SYSTEMS -

#### Supporting Seal-in Case Of Revolving Sash

**WIN**TEGEI



Supporting Seal-in Case Of Revolving Sash

To transport the final product, use special cork or plastic or foam corners to prevent curling or damage to products. All window components should be tight. The protective label on the profile is only after the window is installed.

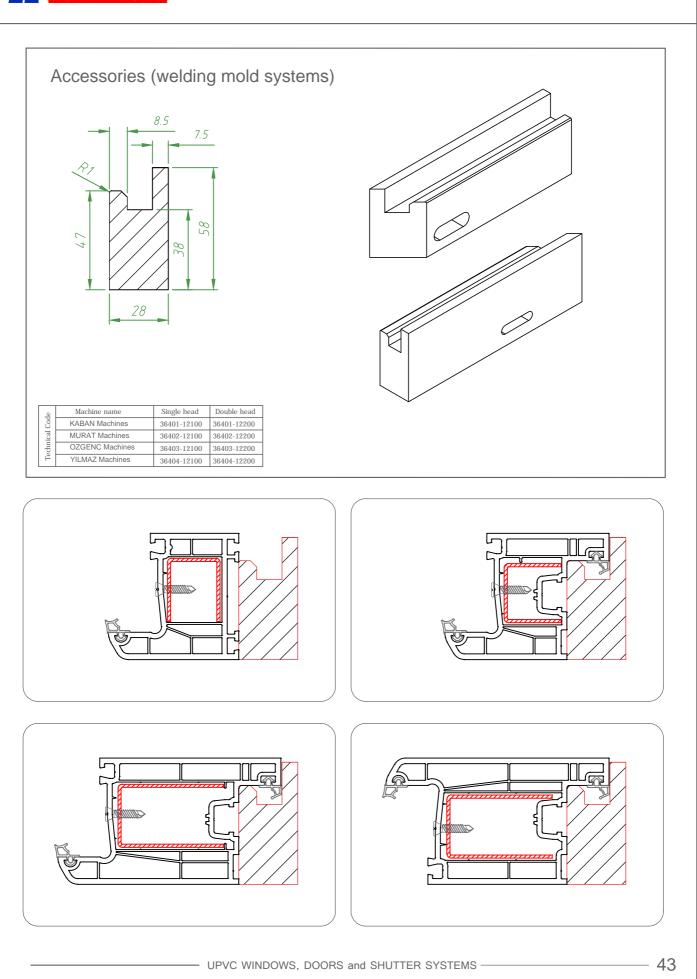
To adjust the window in place, use an anchor or bolts. Without an amplified profile, the hinged screw spacing is greater than 600 mm, or the reinforcement profile is 700 mm. The distance between the anchorage and the inner corner

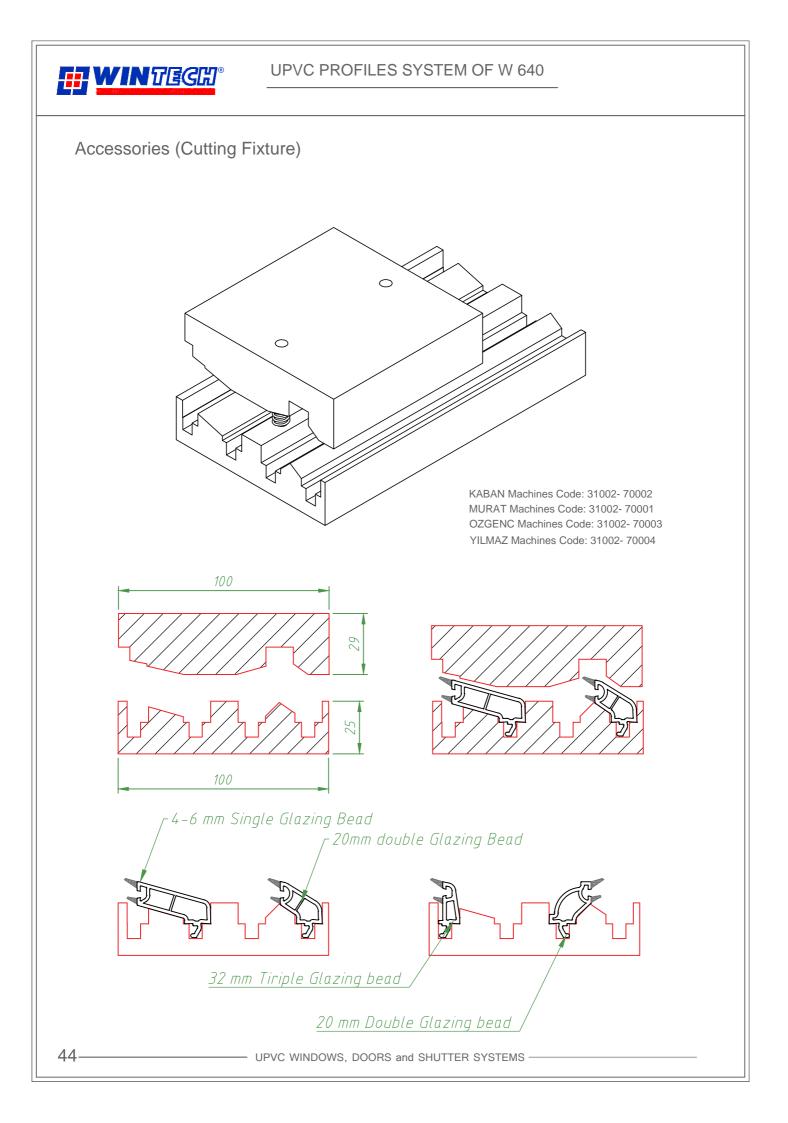
should not be less than 100 mm and between the support and the outer corner of 200 mm.

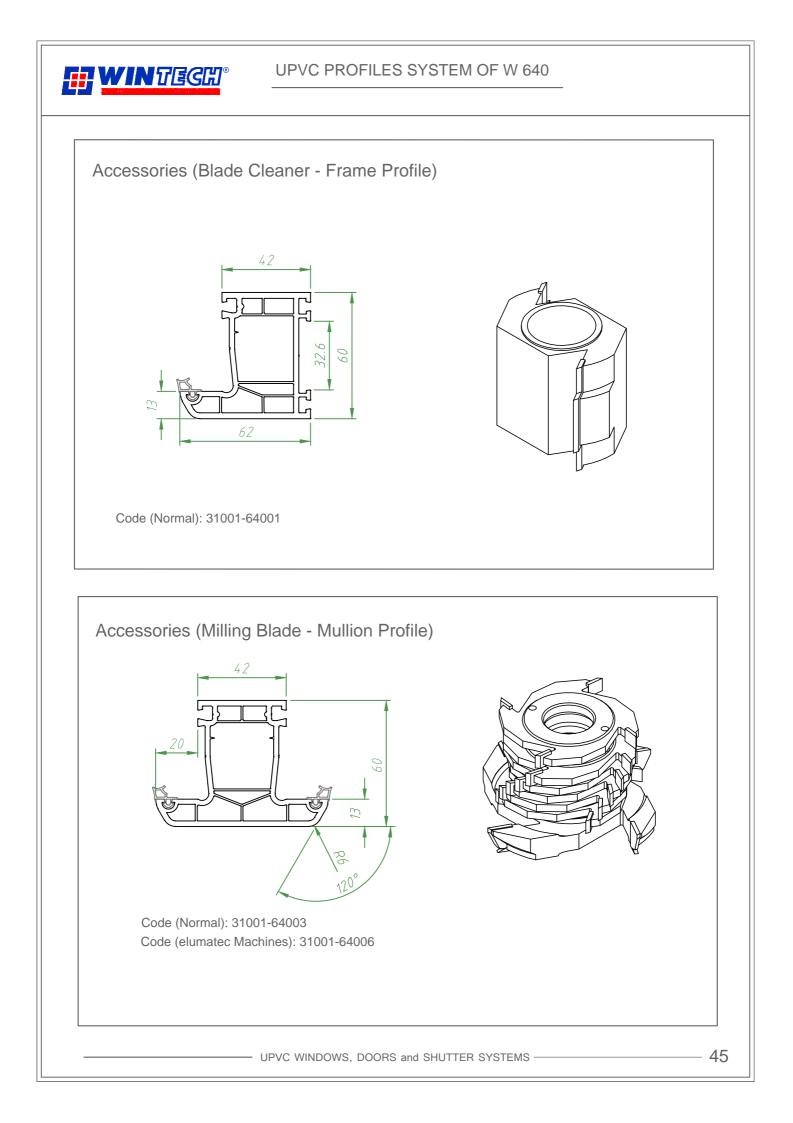
The fasteners are used to consider increasing the structural size of the windows during installation. The clamps stacked up and down the wall. Systems with no moving parts for better placement in a closed group. It is not advisable to fix the frame in the middle of the cross section of the profile or in the corners to the frame.

On the contrary, the windows with the above-mentioned specifications should be cleaned up. The bottom side of the window must be completely resistant to water penetration. The windows are installed in the frames and fitted. Wall holes should be filled with well-insulated materials. Exterior rubbers prevent rain from entering the inside. Internal rubber seals prevent condensation. The rubber seals should be flat and integrated.



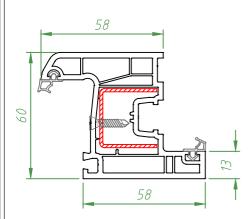


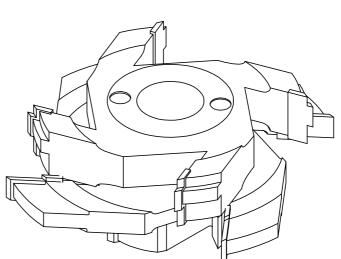




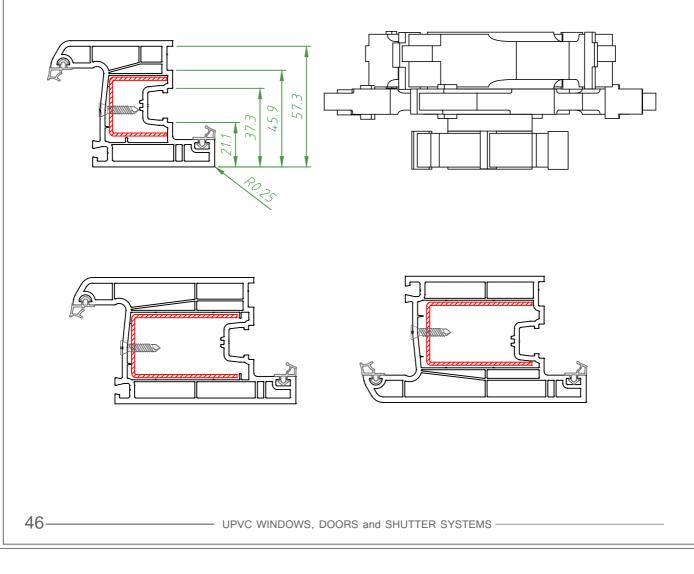


Accessories (Blade Cleaner- Sash and Door Sash Profile)

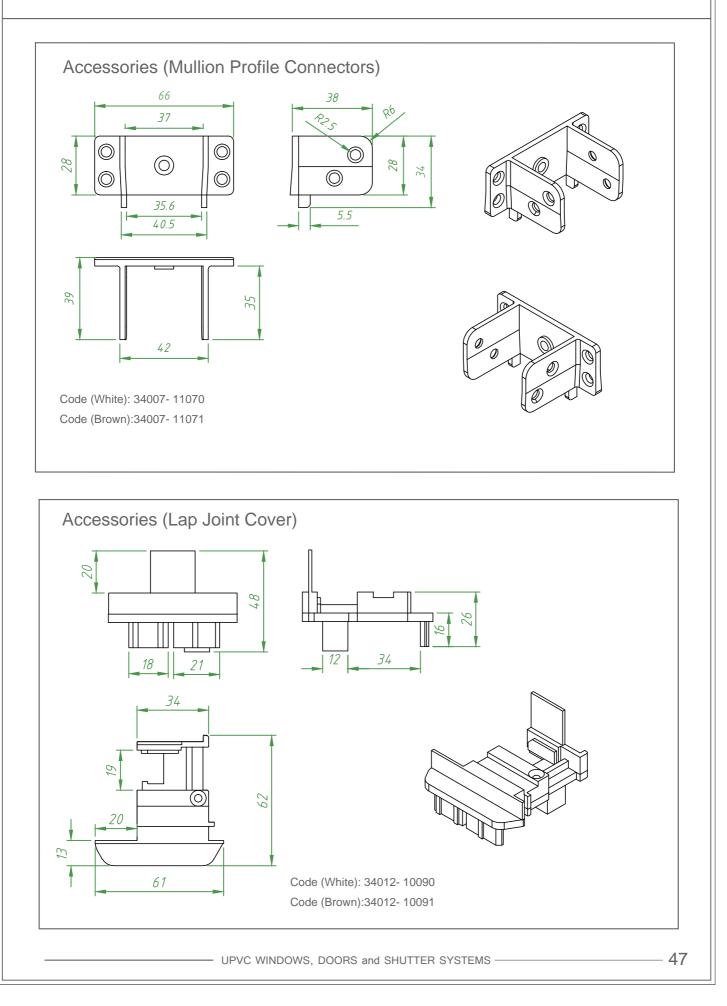


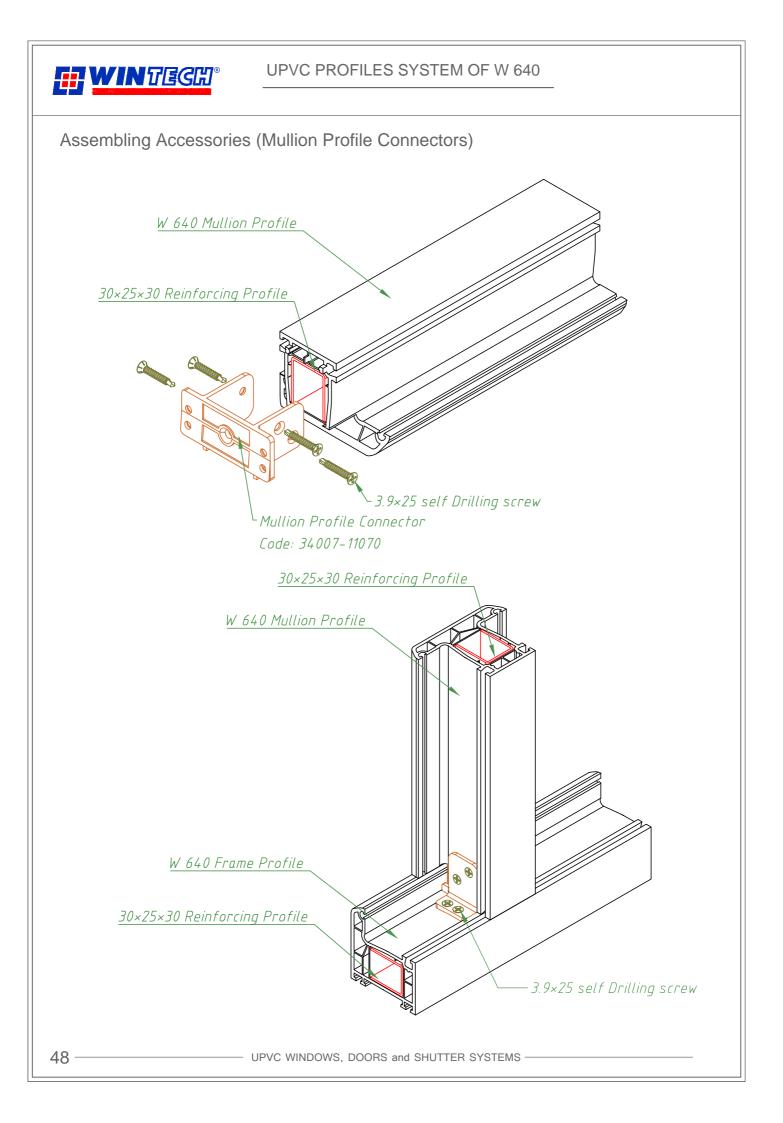


Code (Normal): 31001-62405 Code (elumatec Machines): 31001-64007



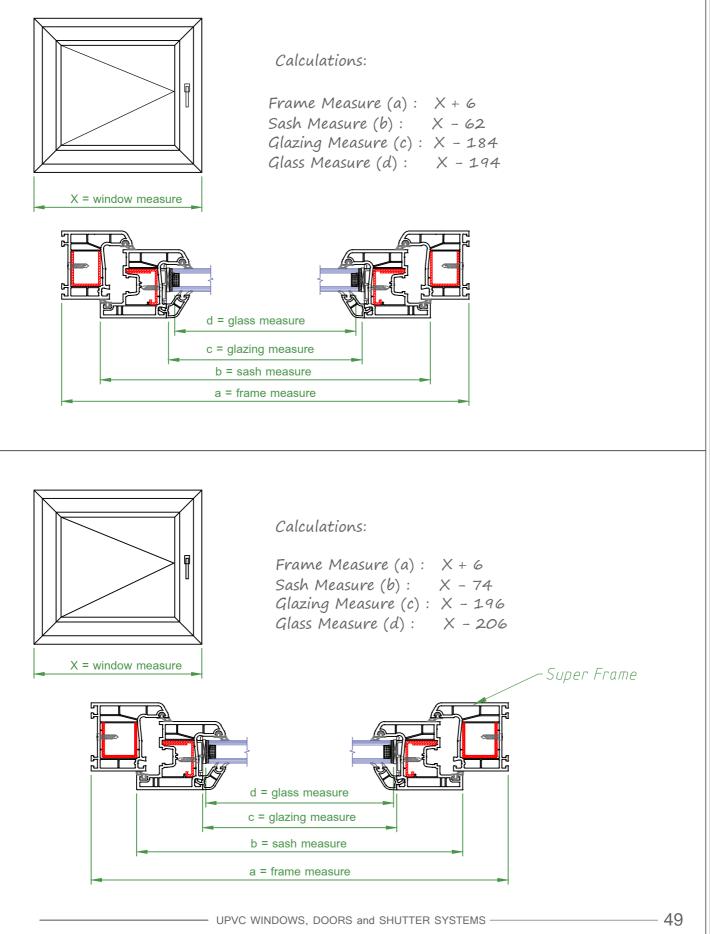






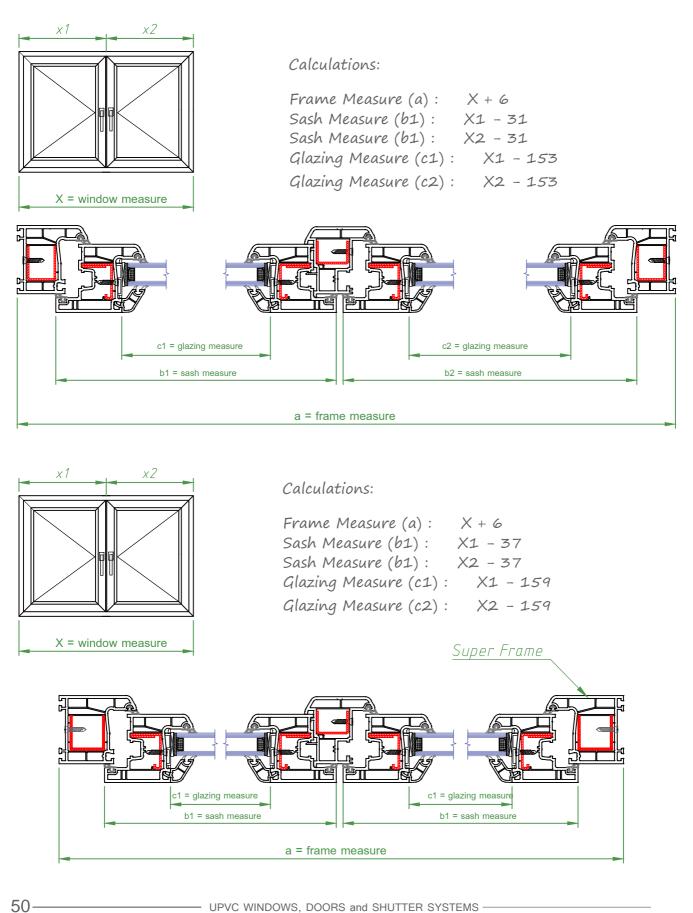








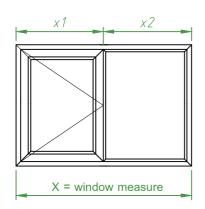




# **WIN**TEGEI<sup>®</sup>

## UPVC PROFILES SYSTEM OF W 640

**Technical Calculation** 



Calculations:

Frame Measure (a) :	X + 6
Sash Measure (b) :	X1 - 41
Glazing Measure (c1) :	X1 - 163
Glazing Measure (c2) :	X2 - 63

