

Calculation of thermal transmittance No. 40090491-2

Product	PVC windows veratec
Producer	ASAŞPEN PVC Kapı ve Pencere Sistemleri A.Ş., Akyazı İlçesi Küçücek Beldesi İstiklal Mah. ADAPAZARI, Turkey
Factory	ASAŞPEN PVC Kapı ve Pencere Sistemleri A.Ş., Akyazı İlçesi Küçücek Beldesi İstiklal Mah. ADAPAZARI, Turkey
Standards	EN ISO 10077-1:2006 Thermal performance of windows, doors and shutters. Calculation of thermal transmittance. Part 1: General (ISO 10077-1:2006) EN ISO 10077-2:2003 Thermal performance of windows, doors and shutters. Calculation of thermal transmittance. Part 2: Numerical method for frames (ISO 10077-2:2003)

Element 1 Single turn (and tilt) window **MAXI ROYAL**

Glazing	double	Frame profile	7052	Sash profile	7053
Spacer	aluminium			Glazing bar	7062

Dimensions of window (BxH) in m	1,180 x 1,490	Window area A_w	1,76 m ²
Dimensions of glazing (bxh) in m	0,942 x 1,252	Glazing area A_g	1,18 m ²
Length of visible perimeter of glass l_g			4,388 m
Elevated width of profile combination in m	0,119	Framing area A_f	0,58 m ²
Framing ratio on window area			32,9 %
Thermal transmittance of glazing U_g (declared by glass producer)			1,1 W/(m ² .K)
Linear thermal transmittance of glazing ψ_g			0,06 W/mK
Thermal transmittance of framing U_f (calculated)*			1,45 W/(m ² .K)
Calculated thermal transmittance of window U_w			1,36 W/(m ² .K)
Declared thermal transmittance of window U_w			1,4 W/(m².K)

Element 2 Single turn (and tilt) window **MAXI ROYAL**

Glazing triple Frame profile 7052 Sash profile 7053
 Spacer aluminium Glazing bar 7464

Dimensions of window (BxH) in m	1,180 x 1,490	Window area A_w	1,76 m ²
Dimensions of glazing (bxh) in m	0,942 x 1,252	Glazing area A_g	1,18 m ²
Length of visible perimeter of glass l_g			4,388 m
Elevated width of profile combination in m	0,119	Framing area A_f	0,58 m ²
Framing ratio on window area			32,9 %
Thermal transmittance of glazing U_g (declared by glass producer)			0,5 W/(m ² .K)
Linear thermal transmittance of glazing ψ_g			0,06 W/mK
Thermal transmittance of framing U_f (calculated)*			1,39 W/(m ² .K)
Calculated thermal transmittance of window U_w			0,94 W/(m ² .K)
Declared thermal transmittance of window U_w			0,9 W/(m².K)

Element 3 Single turn (and tilt) window **80 mm**

Glazing double Frame profile 8061 Sash profile 7054
 Spacer aluminium Glazing bar 7062

Dimensions of window (BxH) in m	1,180 x 1,490	Window area A_w	1,76 m ²
Dimensions of glazing (bxh) in m	0,942 x 1,252	Glazing area A_g	1,18 m ²
Length of visible perimeter of glass l_g			4,388 m
Elevated width of profile combination in m	0,119	Framing area A_f	0,58 m ²
Framing ratio on window area			32,9 %
Thermal transmittance of glazing U_g (declared by glass producer)			1,1 W/(m ² .K)
Linear thermal transmittance of glazing ψ_g			0,06 W/mK
Thermal transmittance of framing U_f (calculated)*			1,34 W/(m ² .K)
Calculated thermal transmittance of window U_w			1,33 W/(m ² .K)
Declared thermal transmittance of window U_w			1,3 W/(m².K)

Element 4 Single turn (and tilt) window **80 mm**

Glazing triple Frame profile 8061 Sash profile 7054
 Spacer aluminium Glazing bar 7464

Dimensions of window (BxH) in m	1,180 x 1,490	Window area A_w	1,76 m ²
Dimensions of glazing (bxh) in m	0,942 x 1,252	Glazing area A_g	1,18 m ²
Length of visible perimeter of glass l_g			4,388 m
Elevated width of profile combination in m	0,119	Framing area A_f	0,58 m ²
Framing ratio on window area			32,9 %
Thermal transmittance of glazing U_g (declared by glass producer)			0,5 W/(m ² .K)
Linear thermal transmittance of glazing ψ_g			0,06 W/mK
Thermal transmittance of framing U_f (calculated)*			1,3 W/(m ² .K)
Calculated thermal transmittance of window U_w			0,91 W/(m ² .K)
Declared thermal transmittance of window U_w			0,91 W/(m².K)

Element 5 Single turn (and tilt) window **MAXI EMPIRE**

Glazing double Frame profile 1252 Sash profile 7054
 Spacer aluminium Glazing bar 7062

Dimensions of window (BxH) in m	1,180 x 1,490	Window area A_w	1,76 m ²
Dimensions of glazing (bxh) in m	0,958 x 1,268	Glazing area A_g	1,21 m ²
Length of visible perimeter of glass l_g			4,452 m
Elevated width of profile combination in m	0,111	Framing area A_f	0,54 m ²
Framing ratio on window area			30,9 %
Thermal transmittance of glazing U_g (declared by glass producer)			1,1 W/(m ² .K)
Linear thermal transmittance of glazing ψ_g			0,06 W/mK
Thermal transmittance of framing U_f (calculated)*			1,49 W/(m ² .K)
Calculated thermal transmittance of window U_w			1,37 W/(m ² .K)
Declared thermal transmittance of window U_w			1,4 W/(m².K)

Element 6 Single turn (and tilt) window **MAXI EMPIRE**

Glazing triple Frame profile 1252 Sash profile 7054
 Spacer aluminium Glazing bar 7464

Dimensions of window (BxH) in m	1,180 x 1,490	Window area A_w	1,76 m ²
Dimensions of glazing (bxh) in m	0,958 x 1,268	Glazing area A_g	1,21 m ²
Length of visible perimeter of glass l_g			4,452 m
Elevated width of profile combination in m	0,111	Framing area A_f	0,54 m ²
Framing ratio on window area			30,9 %
Thermal transmittance of glazing U_g (declared by glass producer)			0,5 W/(m ² .K)
Linear thermal transmittance of glazing ψ_g			0,06 W/mK
Thermal transmittance of framing U_f (calculated)*			1,45 W/(m ² .K)
Calculated thermal transmittance of window U_w			0,95 W/(m ² .K)
Declared thermal transmittance of window U_w			0,95 W/(m².K)

Element 7 Single turn (and tilt) window **MAXI RIVIERA**

Glazing double Frame profile 7066 Sash profile 7065
 Spacer aluminium Glazing bar 7062

Dimensions of window (BxH) in m	1,180 x 1,490	Window area A_w	1,76 m ²
Dimensions of glazing (bxh) in m	0,978 x 1,288	Glazing area A_g	1,26 m ²
Length of visible perimeter of glass l_g			4,532 m
Elevated width of profile combination in m	0,101	Framing area A_f	0,50 m ²
Framing ratio on window area			28,4 %
Thermal transmittance of glazing U_g (declared by glass producer)			1,1 W/(m ² .K)
Linear thermal transmittance of glazing ψ_g			0,06 W/mK
Thermal transmittance of framing U_f (calculated)*			1,37 W/(m ² .K)
Calculated thermal transmittance of window U_w			1,33 W/(m ² .K)
Declared thermal transmittance of window U_w			1,3 W/(m².K)

Element 8 Single turn (and tilt) window **MAXI RIVIERA**

Glazing triple Frame profile 7066 Sash profile 7065
 Spacer aluminium Glazing bar 7464

Dimensions of window (BxH) in m	1,180 x 1,490	Window area A_w	1,76 m ²
Dimensions of glazing (bxh) in m	0,978 x 1,288	Glazing area A_g	1,26 m ²
Length of visible perimeter of glass l_g			4,532 m
Elevated width of profile combination in m	0,101	Framing area A_f	0,50 m ²
Framing ratio on window area			28,4 %
Thermal transmittance of glazing U_g (declared by glass producer)			0,5 W/(m ² .K)
Linear thermal transmittance of glazing ψ_g			0,06 W/mK
Thermal transmittance of framing U_f (calculated)*			1,31 W/(m ² .K)
Calculated thermal transmittance of window U_w			0,88 W/(m ² .K)
Declared thermal transmittance of window U_w			0,88 W/(m².K)

Element 9 Sliding window **HEBE SCHIEBE**

Glazing double Frame profile 1701 Sash profile 1702
 Spacer aluminium Glazing bar 7062

Dimensions of window (BxH) in m	2,400 x 2,100	Window area A_w	5,04 m ²
Dimensions of glazing (bxh) in m	1,923 x 1,734	Glazing area A_g	3,33 m ²
Length of visible perimeter of glass l_g	7,314 m	Framing area A_{f1}	1,71 m ²
Elevated width of profile combination in m	0,183	Framing area A_{f1}	1,51 m ²
Elevated width of profile combination in m	0,111	Framing area A_{f2}	0,19 m ²
Framing ratio on window area			33,8 %
Thermal transmittance of glazing U_g (declared by glass producer)			1,1 W/(m ² .K)
Linear thermal transmittance of glazing ψ_g			0,06 W/mK
Thermal transmittance of framing U_{f1}			1,62 W/(m ² .K)
Thermal transmittance of framing U_{f2}			1,87 W/(m ² .K)
Calculated thermal transmittance of window U_w			1,37 W/(m ² .K)
Declared thermal transmittance of window U_w			1,4 W/(m².K)

Element 10 Single turn (and tilt) window

Glazing double Frame profile 7056 Sash profile 7053
 Spacer aluminium Glazing bar 7062

Dimensions of window (BxH) in m	1,180 x 1,490	Window area A_w	1,76 m ²
Dimensions of glazing (bxh) in m	0,962 x 1,272	Glazing area A_g	1,22 m ²
Length of visible perimeter of glass l_g			4,468 m
Elevated width of profile combination in m	0,109	Framing area A_f	0,53 m ²
Framing ratio on window area			30,4 %
Thermal transmittance of glazing U_g (declared by glass producer)			1,1 W/(m ² .K)
Linear thermal transmittance of glazing ψ_g			0,06 W/mK
Thermal transmittance of framing U_f (calculated)*			1,47 W/(m ² .K)
Calculated thermal transmittance of window U_w			1,36 W/(m ² .K)
Declared thermal transmittance of window U_w			1,4 W/(m².K)

Element 11 Fix + turn window

Glazing	double	Frame profile	1252	Sash profile	7054
Spacer	aluminium	Mullion	1253	Glazing bar	7062
Dimensions of window (BxH) in m	1,180	x	1,490	Window area A_w	1,76 m ²
Dimensions of glazing1 (bxh) in m	0,439	x	1,366	Glazing area A_{g1}	0,60 m ²
Dimensions of glazing2 (bxh) in m	0,439	x	1,268	Glazing area A_{g2}	0,56 m ²
Length of visible perimeter of glass l_{g1}					3,610 m
Length of visible perimeter of glass l_{g2}					3,414 m
Elevated width of profile comb. 11.1 in m			0,062	Framing area A_{f1}	0,15 m ²
Elevated width of profile comb. 11.2 in m			0,129	Framing area A_{f2}	0,19 m ²
Elevated width of profile comb. 11.3 in m			0,111	Framing area A_{f3}	0,26 m ²
Framing ratio on window area					34,2 %
Thermal transmittance of glazing U_g (declared by glass producer)					1,1 W/(m ² .K)
Linear thermal transmittance of glazing ψ_g					0,06 W/mK
Thermal transmittance of framing U_{f1}					1,68 W/(m ² .K)
Thermal transmittance of framing U_{f2}					1,66 W/(m ² .K)
Thermal transmittance of framing U_{f3}					1,50 W/(m ² .K)
Calculated thermal transmittance of window U_w					1,51 W/(m ² .K)
Declared thermal transmittance of window U_w					1,5 W/(m ² .K)

Element 12 Single turn (and tilt) window

Glazing	double	Frame profile	7052	Sash profile	7057
Spacer	aluminium			Glazing bar	77062
Dimensions of window (BxH) in m	1,180	x	1,490	Window area A_w	1,76 m ²
Dimensions of glazing (bxh) in m	0,884	x	1,194	Glazing area A_g	1,06 m ²
Length of visible perimeter of glass l_g					4,156 m
Elevated width of profile combination in m			0,148	Framing area A_f	0,70 m ²
Framing ratio on window area					40,0 %
Thermal transmittance of glazing U_g (declared by glass producer)					1,1 W/(m ² .K)
Linear thermal transmittance of glazing ψ_g					0,06 W/mK
Thermal transmittance of framing U_f (calculated)*					1,34 W/(m ² .K)
Calculated thermal transmittance of window U_w					1,34 W/(m ² .K)
Declared thermal transmittance of window U_w					1,3 W/(m ² .K)

Element 13 Single turn (and tilt) window

Glazing	double	Frame profile	7068	Sash profile	7065
Spacer	aluminium			Glazing bar	7062
Dimensions of window (BxH) in m	1,180	x	1,490	Window area A_w	1,76 m ²
Dimensions of glazing (bxh) in m	0,978	x	1,288	Glazing area A_g	1,26 m ²
Length of visible perimeter of glass l_g					4,532 m
Elevated width of profile combination in m			0,101	Framing area A_f	0,50 m ²
Framing ratio on window area					28,4 %
Thermal transmittance of glazing U_g (declared by glass producer)					1,1 W/(m ² .K)
Linear thermal transmittance of glazing ψ_g					0,06 W/mK
Thermal transmittance of framing U_f (calculated)*					1,42 W/(m ² .K)
Calculated thermal transmittance of window U_w					1,35 W/(m ² .K)
Declared thermal transmittance of window U_w					1,3 W/(m ² .K)

Note:

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