

CONFIRMATION

Application registered S04/10/0031/2703

on

INITIAL TYPE TESTING

carried out pursuant to Council Directive 89/106/EEC of 21 December 1988 on the approximation of laws, regulations and administrative provisions of the Member States relating to construction products as amended by Council Directive 93/68/EEC of 22 July 1993

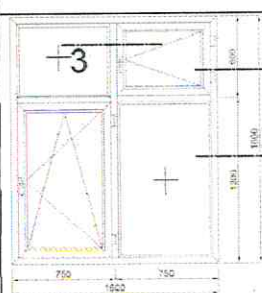
based on test and calculation reports no. **40-10-0140** and **40100063**

Manufacturer: ENDERPEN PVC YAPI ELEMENTARI San. ve Tic. A.Ş., 2. Organize Sanayi Bölgesi
TEDAŞ Yani Başpınar – GAZİANTEP, Turkey

Factory: ENDERPEN PVC YAPI ELEMENTARI San. ve Tic. A.Ş., 2. Organize Sanayi Bölgesi
TEDAŞ Yani Başpınar – GAZİANTEP, Turkey

Product standard: EN 14351-1: 2006 Windows and doors. Product standard, performance characteristics.
Part 1: Windows and external pedestrian doorsets without resistance to fire and/or smoke leakage characteristics

Product: PVC-U windows, system MAXILINE

Sample	Characteristic	Declared value	Test / calculation standard	Classification standard
 Dimensions (B x H): 1,500 m x 1,800 m Joint length: 6,198 m Window area: 2,700 m² Vent area: 1,189 m²	Air permeability (NB)	Class 3	EN 1026	EN 12207
	Watertightness (NB)	Class 5A	EN 1027	EN 12208
	Resistance to wind-load (NB)	Class C1	EN 12211	EN 12210
	Thermal transmittance U _w (NB)	2,6 W/m².K	EN ISO 10077-1 and EN ISO 10077-2	Declared value
	Acoustic performance R _w (C; C _{tr}) (NB)	32 (-1;-5) dB	EN 14351-1, annex B	Declared value

Note 1: Characteristics in competence of a notified laboratory are marked (NB).

Note 2: This confirmation is valid only with the above indicated test and calculation reports.

In Nitra, 30.03.2010

Daša Kozáková
Head of NB 1301
represented by
Ladislav Lósy

Director of Branch office Nitra



Osvedčovací miesto OM 04, člen EOTA
Notifikovaná osoba 1301
Autorizovaná osoba SK04
Autorizovaná osoba SKTC-105



Úsek preukazovania zhody
Studená 3, 821 04 Bratislava

Pobočka Bratislava
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Pobočka Nové Mesto n/Váhom
Trenčianska 1872/12, 915 05 Nové Mesto n/Váhom
Pobočka Nitra
Braneckého 2, 949 01 Nitra
Pobočka Zvolen
Jesenského 15, 960 01 Zvolen

Pobočka Žilina
A. Rudnaya 90, 010 01 Žilina
Pobočka Košice
Krmánova 5, 040 01 Košice
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Pobočka Tatranská Štrba
Štefánikova 24, 059 41 Tatranská Štrba

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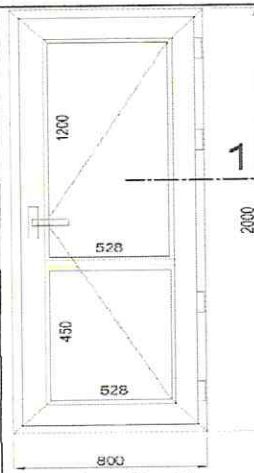
based on test and calculation reports no. 40-10-0141 and 40100063

Manufacturer: ENDERPEN PVC YAPI ELEMENTARI San. ve Tic. A.Ş., 2. Organize Sanayi Bölgesi
TEDAŞ Yani Başpınar – GAZİANTEP, Turkey

Factory: ENDERPEN PVC YAPI ELEMENTARI San. ve Tic. A.Ş., 2. Organize Sanayi Bölgesi
TEDAŞ Yani Başpınar – GAZİANTEP, Turkey

Product standard: EN 14351-1: 2006 Windows and doors. Product standard, performance characteristics.
Part 1: Windows and external pedestrian doorsets without resistance to fire and/or smoke leakage characteristics

Product: PVC-U windows, system KLASLINE

Sample	Characteristic	Declared value	Test / calculation standard	Classification standard
 Dimensions (B x H): 0,800 m x 2,000 m Joint length: 5,314 m Window area: 1,600 m² Vent area: 1,404 m²	Air permeability (NB)	Class 4	EN 1026	EN 12207
	Watertightness (NB)	Class 5A	EN 1027	EN 12208
	Resistance to wind-load (NB)	Class C2	EN 12211	EN 12210
	Thermal transmittance U _w (NB)	2,6 W/m².K	EN ISO 10077-1 and EN ISO 10077-2	Declared value
	Acoustic performance R _w (C; C _{tr}) (NB)	32 (-1;-5) dB	EN 14351-1, annex B	Declared value
	Operating forces	Class 0	EN 12046-1	EN 13115
	Resistance to static torsion	Class 2	EN 14609	EN 13115

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In Nitra, 30.03.2010

Daša Kozáková
Head of NB 1301

represented by
Ladislav Lósy
Director of Branch office Nitra



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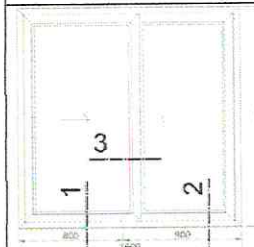
based on test and calculation reports no. **40-10-0139** and **40100063**

Manufacturer: ENDERPEN PVC YAPI ELEMENTARI San. ve Tic. A.Ş., 2. Organize Sanayi Bölgesi
TEDAŞ Yani Başpınar – GAZİANTEP, Turkey

Factory: ENDERPEN PVC YAPI ELEMENTARI San. ve Tic. A.Ş., 2. Organize Sanayi Bölgesi
TEDAŞ Yani Başpınar – GAZİANTEP, Turkey

Product standard: EN 14351-1: 2006 Windows and doors. Product standard, performance characteristics.
Part 1: Windows and external pedestrian doorsets without resistance to fire and/or smoke leakage characteristics

Product: PVC-U windows, system SUNLINE

Sample	Characteristic	Declared value	Test / calculation standard	Classification standard
 Dimensions (B x H): 1,600 m x 1,600 m Joint length: 9,190 m Window area: 2,560 m² Sash area: 2,381 m²	Air permeability (NB)	Class 2	EN 1026	EN 12207
	Watertightness (NB)	Class 0	EN 1027	EN 12208
	Resistance to wind-load (NB)	Class C2 / B3	EN 12211	EN 12210
	Thermal transmittance U _w (NB)	2,7 W/m².K	EN ISO 10077-1 and EN ISO 10077-2	Declared value
	Acoustic performance R _w (C; C _{tr}) (NB)	27 (-1;-2) dB	EN 14351-1, annex B	Declared value

Note 1: Characteristics in competence of a notified laboratory are marked (NB).

Note 2: This confirmation is valid only with the above indicated test and calculation reports.

In Nitra, 30.03.2010

Daša Kozáková
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Director of Branch office Nitra



Osvedčovací miesto OM 04, člen EOTA
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Štefánikova 24, 059 41 Tatranská Štrba

TEST REPORT No. 40-10-0140

ITEM

Number: 40100063
Client: BVA Certification and Foreign Trade Ltd.
A.Dilligil Cad Sutculer sok. No: 1/3 Mecidiyekoy / Istanbul, Turkey

SUBJECT

Product: Plastics window system MAXILINE
Manufacturer: Enderpen PVC Yapı Elemanları San. ve Tic. A.Ş.
2. Organize Sanayi Bölgesi TEDAŞ Yani Başpınar GAZIANTEP / TURKEY
Manufacturing plant: GAZIANTEP / TURKEY
Standard: EN 14351-1:2006 Windows and doors. Product standard, performance characteristics. Part 1: Windows and external pedestrian doorsets without resistance to fire and/or smoke leakage characteristics

DESCRIPTION OF TEST ELEMENT

Table 1 - Four-part window compound of upper fixed and side-hung inwards right opening parts and lower turn and tilt and fixed part

Overall dimension (B x H)	(1500x1800) mm	Area	2,700 m ²
Vent dimension (B x H)	(699x550) mm	Area	0,384 m ²
	(700x1150) mm	Area	0,805 m ²
		Total area of opening vents	1,189 m ²
Joint length	6,198 m		
Frame	Maxiline Kasa Prf.		
Sash	Maxiline Kanat Prf. venting and drainage openings: no		
Mullion / transom	Maxiline orta kayıt Pft.		
Glazing bead	Cift cam citasi		
Sealing	Inner and outer gasket		
Hardware	PAVO (side-hung) and KALE (T&T)	Locking points 0+2+4+0	Hinges 0+2+2+0
Glazing	Not marked IGU 18 mm thick		
Drainage and venting of decompression hole	Drainage openings in lower part of frame – no Venting openings on frame – no		

Client's identification: Enderpen
Date of manufacture: Not given
Place and date of sampling: Not given
Sampling by: Client
Place and date of take over: Laboratory branch in Nitra, 29.01.2010
Laboratory sample No: 10032

TESTS

Table 2 – Test standards

Characteristic – type of test	Test method
Air permeability – A	EN 1026 Windows and doors – Air permeability – Test method.
Watertightness – A	EN 1027 Windows and doors – Watertightness – Test method.
Resistance to wind load – A	EN 12211 Windows and doors – Resistance to wind load – Test method.

Test conditions: Temperature: 19 °C, Humidity: 39 %, Air pressure: 1002,3 hPa
Date: 02.02.2010
Test performed by: Ing. Miroslav Boleček

Table 3 - Used measuring instruments and equipment:

No.	Name	Range	Division
M400036	Measuring tape	(1 to 5000) mm	1 mm
M400170	Test chamber	(1 to 1000) Pa	1 Pa
M400171	Air gauge	(+/- 4000) Pa	1 Pa
M400172	Water flow meter	(0,01 to 50) l	0,01 l
M400173	Anemometer	(0,5 to 40) m ³ /h	0,01 m ³ /h
M400174	Anemometer	(30 to 400) m ³ /h	0,01 m ³ /h
M400175	Way transducer	(- 50 to + 50) mm	0,01 mm
M400176	Way transducer	(- 50 to + 50) mm	0,01 mm
M400177	Way transducer	(- 50 to + 50) mm	0,01 mm
M400178	Way transducer	(- 50 to + 50) mm	0,01 mm
M400179	Way transducer	(- 50 to + 50) mm	0,01 mm
M400180	Way transducer	(- 50 to + 50) mm	0,01 mm

TEST RESULTS

Table 4 – Air permeability

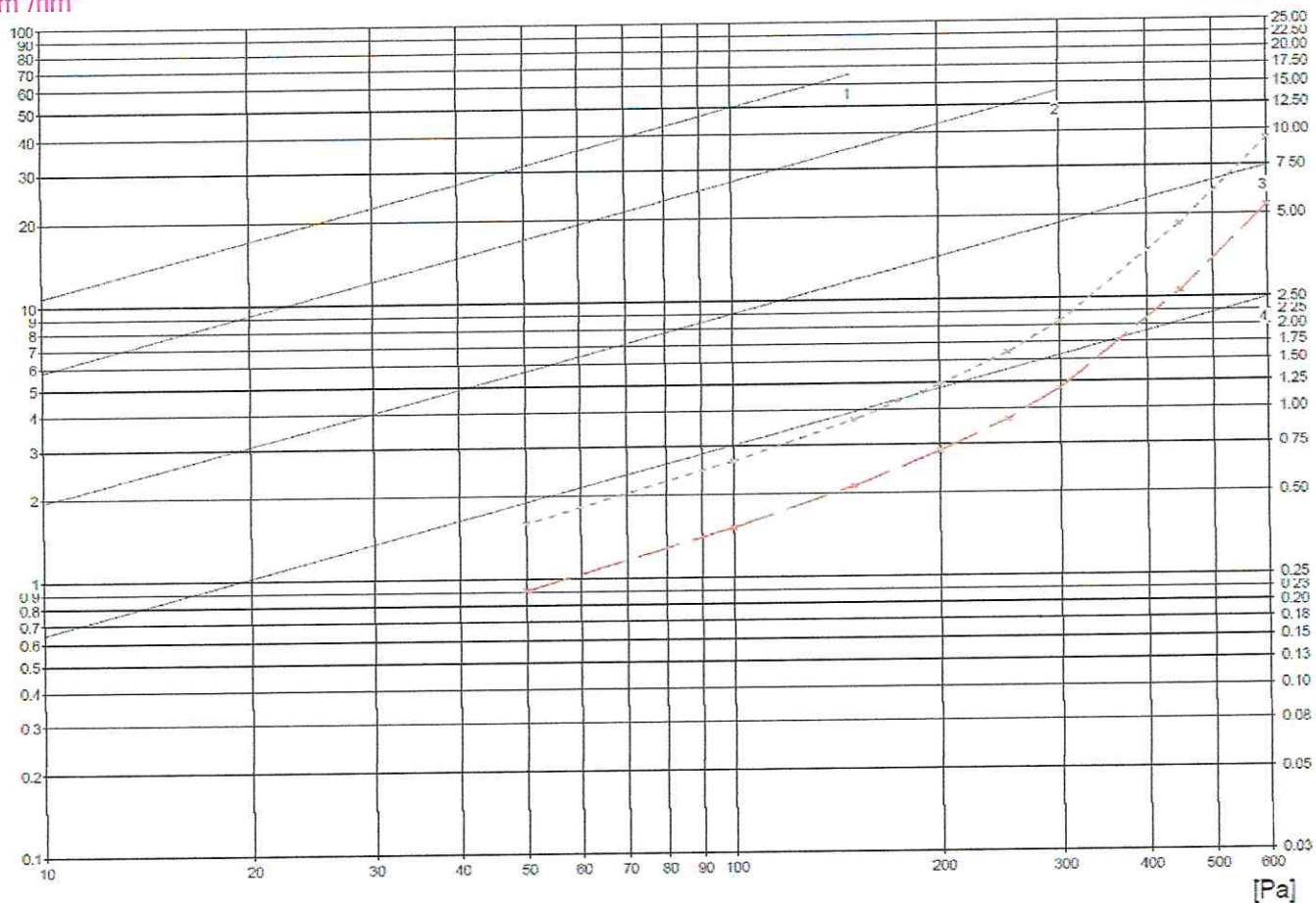
Temperature: 19 °C	Humidity: 39 %	Air pressure: 1002,3 hPa
Window area: 2,700 m ²	Joint length: 6,198 m	

Sample No.	Pressure	Total V [m ³ /h]	Window area		Seal length	
			V _a [m ³ /(h.m ²)]	Class	V _l [m ³ /(h.m)]	Class
10032	[Pa]					
	50	2,45	0,90	4	0,39	4
	100	4,08	1,51	4	0,65	4
	150	5,72	2,12	4	0,92	4
	200	7,64	2,83	4	1,23	3
	250	9,93	3,67	4	1,60	3
	300	12,80	4,74	4	2,06	3
	450	28,59	10,58	3	4,61	3
	600	57,74	21,38	3	9,31	2
	-50	1,76	0,65	4	0,28	4
	-100	2,55	0,94	4	0,41	4
	-150	3,08	1,14	4	0,49	4
	-200	3,27	1,21	4	0,52	4
	-250	3,49	1,29	4	0,56	4
	-300	3,41	1,26	4	0,55	4
	-450	5,27	1,95	4	0,85	4
	-600	9,44	3,49	4	1,52	4
Φ						
10032	50	2,10	0,78	4	0,34	4
	100	3,32	1,22	4	0,53	4
	150	4,40	1,63	4	0,71	4
	200	5,45	2,02	4	0,88	4
	250	6,71	2,48	4	1,08	4
	300	8,10	3,00	4	1,30	4
	450	16,93	6,27	4	2,73	3
	600	33,59	12,44	3	5,41	3
Class 3						

Airloss positive rising

m^3/hm^2

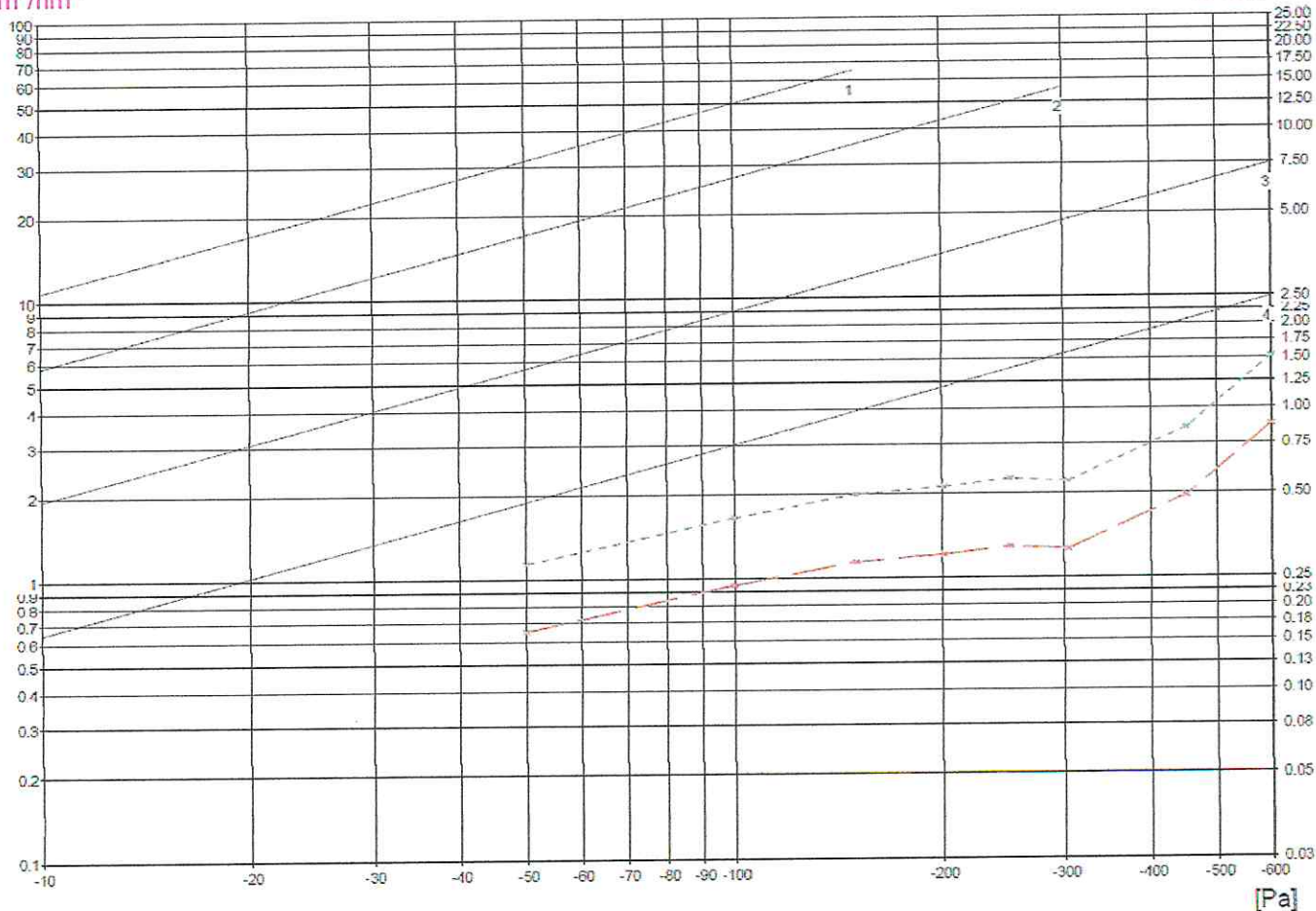
m^3/hm



Airloss negative falling

m^3/hm^2

m^3/hm



Airloss – average

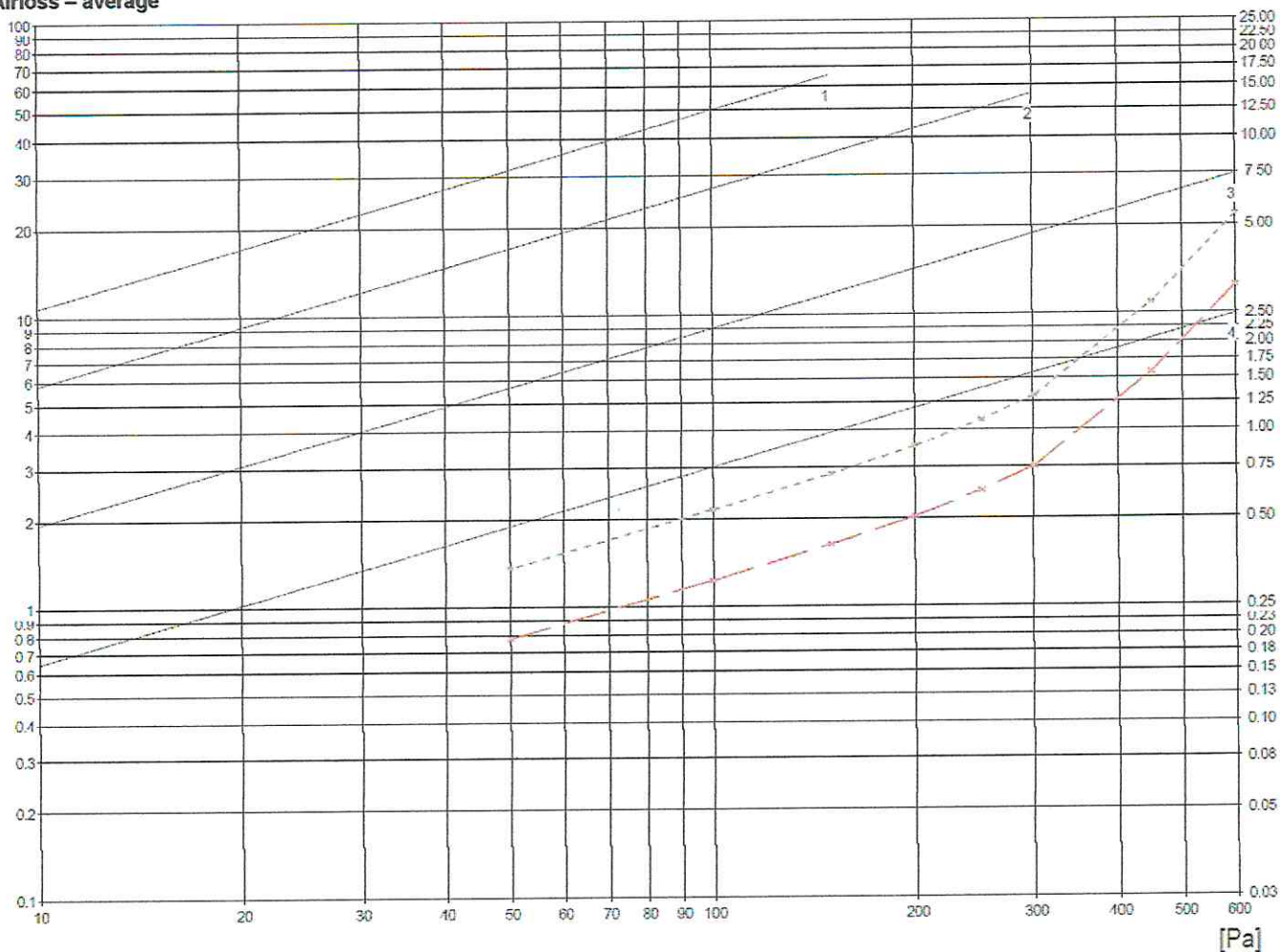


Table 5 – Watertightness

Spraying method: A	Spraying angle: 24°	Vol. water	Total vol. water	
1. spraying pipe	Number of nozzles: 4	2 l/min	8 l/min	480 l/hour
2. spraying pipe	Number of nozzles: 0	1 l/min	0 l/min	0 l/hour

Sample No.	Pressure [Pa]	Time [min]	Remark
10032	0	15:00	ok
	50	05:00	ok
	100	05:00	ok
	150	05:00	ok
	200	05:00	ok
	250	02:00	water penetration
Class 5A			

Table 6 – Resistance to wind load

Sample No.	Test	Pressure [Pa]	
10032	P1 – for deflection	800	- 800
	P2 – for cycles	- 400	400
	P3 – for safety test	- 1 200	1 200

Table 7 - Deflection – positive rising

Sample No..	Pressure [Pa]	Distance between the way transducers a01 ↔ c03 = 1700 mm			3 pressure pulses - 880 Pa	
10032		Deflection [mm]			Measured deflection [mm]	Relative deflection [%]
	400	a01= -0,44	b02= -4,66	c03 = -0,83	- 3,995	1/426
	800	a01= -1,00	b02= -9,96	c03 = -1,87	- 8,525	1/199
	0	a01= -0,01	b02= -0,13	c03 = -0,02	- 0,115	1/14783

Table 8 - Deflection – negative falling

Sample No.		Distance between the way transducers a01 ↔ c03 = 1700 mm			3 pressure pulses - -880 Pa	
	Pressure [Pa]	Deflection [mm]			Measured deflection [mm]	Relative deflection [%]
10032	-400	a01= 0,38	b02= 4,65	c03 = 0,81	4,055	1/419
	-800	a01= 0,93	b02= 10,13	c03 = 1,79	8,770	1/194
	0	a01= 0,02	b02= 0,10	c03 = 0,01	0,085	1/20000

Table 9 - Cycles

Sample No.	Pressure P2 = - 400 Pa / 400 Pa	
10032	Damage of sample	no damage
	Performance faults	no performance faults

Table 10 - Air permeability after 50 cycles

Sample No.	Pressure	Total	Window area			Seal length		
	[Pa]	V [m³/h]	V _a [m³/(h.m²)]	Class	difference V _a [m³/(h.m²)]	V _i [m³/(h.m)]	Class	difference V _i [m³/(h.m)]
10032	50	2,34	0,87	4	0,041	0,378	4	0,018
	100	3,86	1,43	4	0,079	0,623	4	0,034
	150	5,51	2,04	4	0,075	0,889	4	0,033
	200	7,5	2,78	4	0,050	1,210	3	0,022
	250	10,15	3,76	4	0,084	1,638	3	0,036
	300	13,56	5,02	4	0,283	2,188	3	0,123
	450	30,78	11,40	3	0,813	4,966	3	0,254
	600	60,07	22,25	3	0,816	9,692	2	0,375
	-50	1,48	0,55	4	0,104	0,239	4	0,045
	-100	2,28	0,84	4	0,101	0,368	4	0,044
	-150	2,72	1,01	4	0,135	0,439	4	0,058
	-200	2,95	1,09	4	0,119	0,476	4	0,051
	-250	3,41	1,26	4	0,028	0,550	4	0,012
	-300	3,76	1,39	4	0,128	0,607	4	0,055
	-450	7,02	2,60	4	0,648	1,133	4	0,282
	-600	12,55	4,65	4	1,154	2,025	4	0,502
φ								
10032	50	1,91	0,71	4	0,072	0,308	4	0,031
	100	3,07	1,14	4	0,090	0,495	4	0,039
	150	4,12	1,53	4	0,105	0,665	4	0,045
	200	5,22	1,93	4	0,085	0,842	4	0,037
	250	6,78	2,51	4	0,027	1,094	4	0,012
	300	8,66	3,21	4	0,205	1,397	4	0,089
	450	18,9	7,00	4	0,730	3,049	4	0,318
	600	36,31	13,45	4	1,008	5,858	4	0,439
Class 3								

Note: Air permeability exceeds more than 20% over claimed class.

Table 11 – Safety test

Sample No.	Pressure P3 = - 1 200 Pa / 1 200 Pa	
10032	Damage of sample	sample closed, no part broken
	Faults	no

General classification after resistance to wind load:

Class C1

- Annexes:**
1. Elevation and sections of window sample Enderpen
 2. Sample sketch

Date of issue: 22.03.2010

Prepared by: Ing. Marek Varga

Authorized by:


Ing. Milan Kršiak
Head of Laboratory Branch

Notes:

Tests carried out by laboratory operating procedure no. PP-026 according to listed test methods.

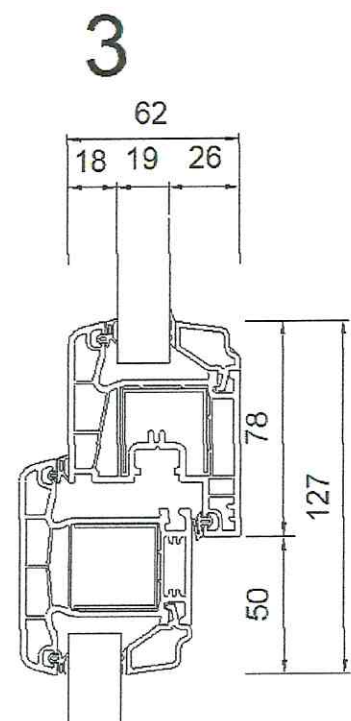
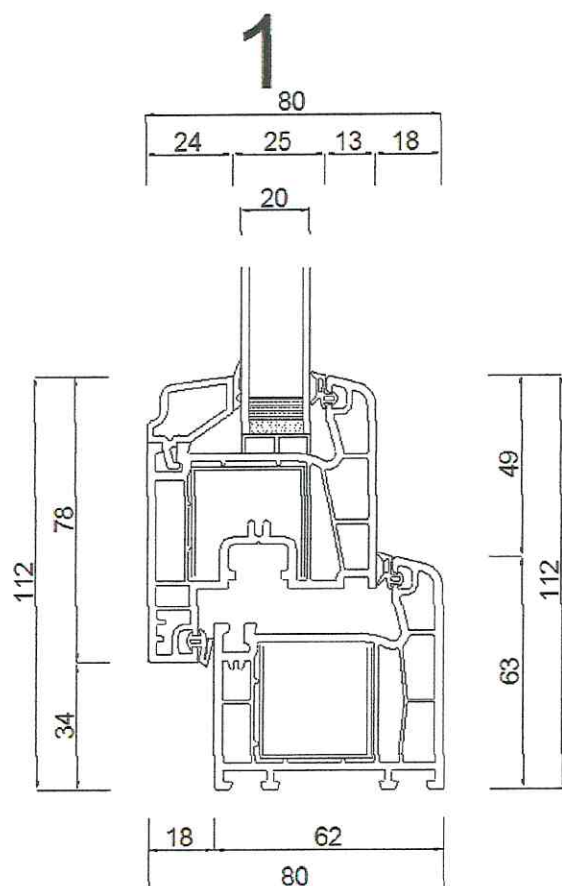
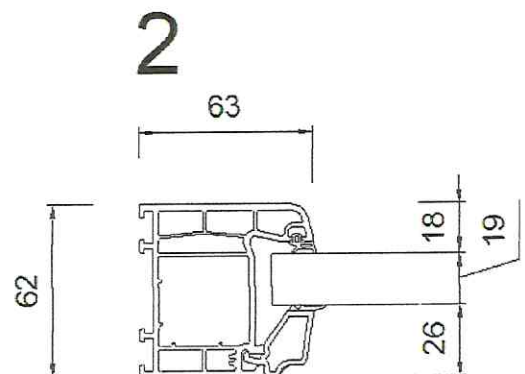
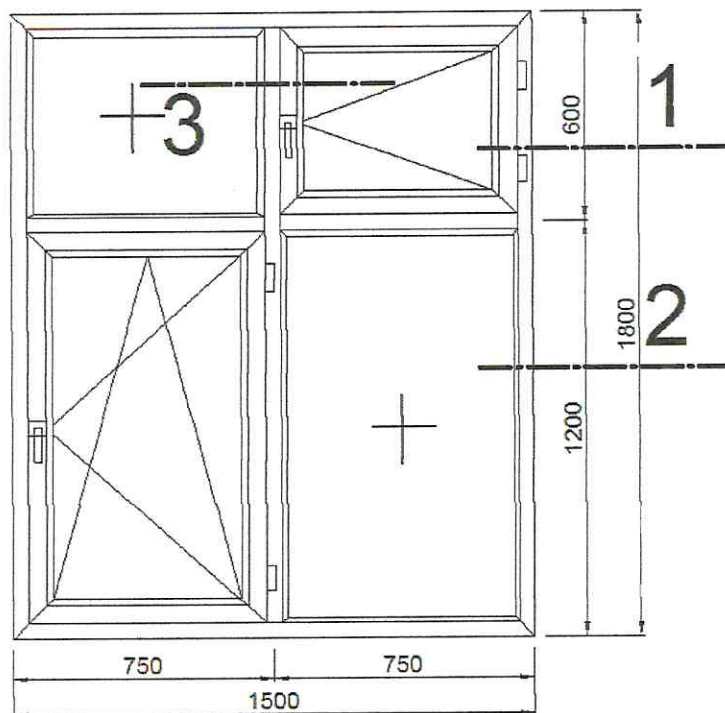
Type of test: A – accredited, N – not accredited

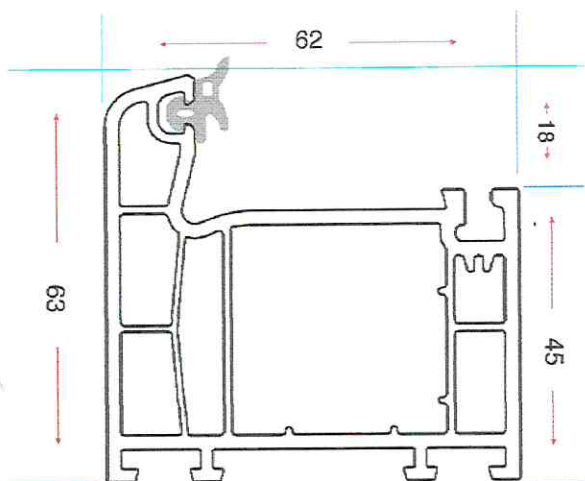
Determined results relate to product sample only.

Test report is allowed to be reproduced without agreement of laboratory only in whole.

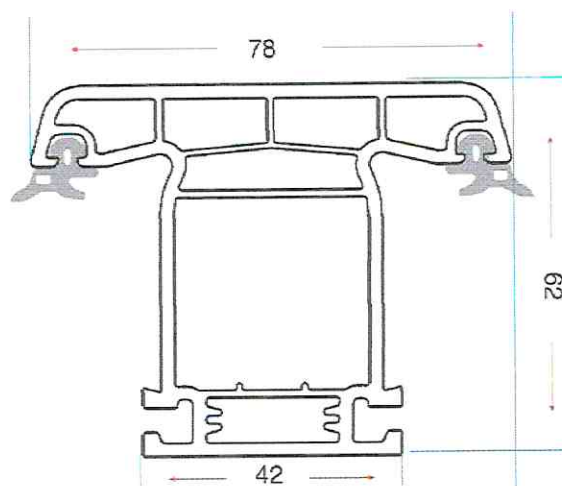
End of the test report



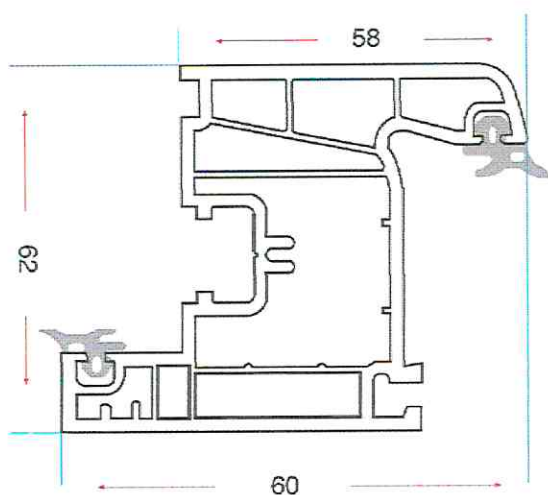




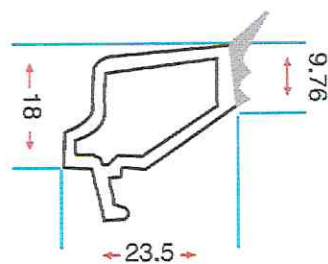
Maxiline Kasa Prf.



Maxiline Orta Kayıt Prf.

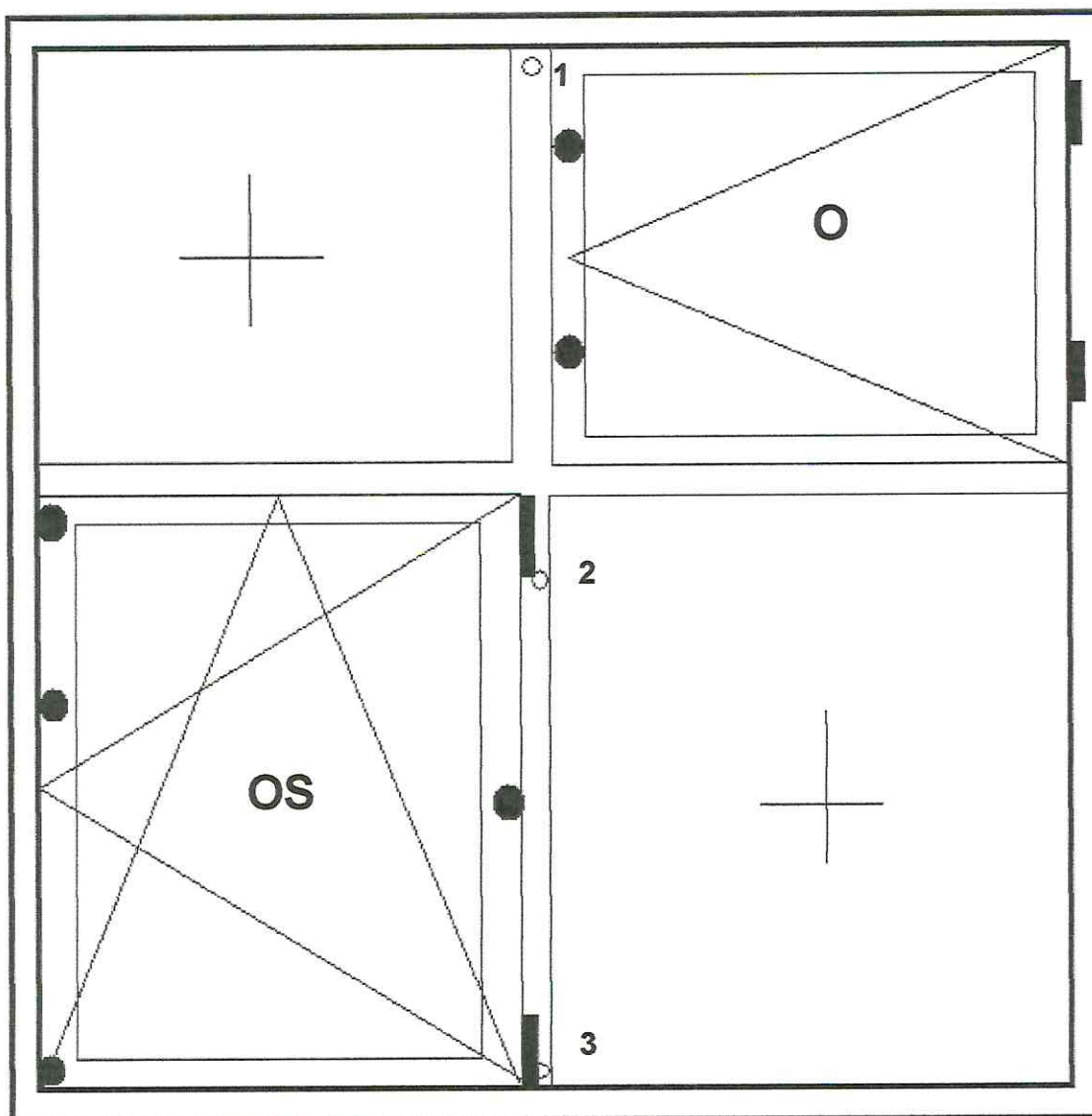


Maxiline Kanat Prf.



Çift Cam Çıtası





Dimensions (B x H): 1,500 m x 1,800 m

Joint length: 6,198 m

Window area: 2,700 m²

Vent area: 1,189 m²

1,2,3 - deflection measurement points

	flowing
	deflection measurement
	hinges
	locking points

