ift-Nachweis

Classification Report

Number	20-002482-PR01 (NW-A01-02-en-01)
Owner	ALUMIL S.A. Industrial Area 61100 Kilkis Greece
Product	Double tilt and turn casement door with central opening meeting stile
Designation	System: S77 Aluwood Shipping name: S77 Aluwood
Details	Manufacturer ALUMIL S.A., - Kilkis; Material Aluminium system with thermal break with internal wood panelling; Type of opening Turn / tilt and turn; Opening direction Active casement DIN right (opening) to the inside, Inactive casement DIN left (opening) to the inside; Overall dimensions (W x H) 1500 mm x 2200 mm
Special features	Material compatibility must be taken into account. Material durability must be taken into account.

Result

Air permeability according to EN 12207:2016-12

Class: 4

Resistance to wind load according to EN 12210:2016-03

Class: C3/B3

Watertightness according to EN 12208:1999-11

Class: E1050

ift Rosenheim
02.07.2020

Michael Breckl-Stock
Deputy Head of Testing Department
Building Component Testing

Dimitrios Moustakidis, MSc, Dipl.-Ing.
Operating Testing Officer
Building Component Testing

Basis *)

EN 14351-1:2006+A2:2016-09
*) and corresponding national versions (e.g. DIN EN)

Test report: 20-002482-PR01 PB-A01-02-en-01

Representation

Instructions for use

The Evidence ("Nachweis") can be used for preparing the Declaration of Performance in accordance with the Construction Products Regulation 305/2011/EU. The results obtained apply to the direct field of application determined in Annex E of EN 14351-1.

Validity

There is no time limit.
When using this document the up-to-dateness of above basis and the conformity of the product have to be observed.

Notes on publication

The ift-Guidance Sheet "Conditions and Guidance for the Use of ift Test Documents" applies.

Identity-Check

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Test Report

Number	20-002482-PR01 (PB-A01-02-en-01)
Owner (Client)	ALUMIL S.A. Industrial Area 61100 Kilkis Greece
Product	**Double tilt and turn casement door with central opening meeting stile**
Designation	**System: S77 Aluwood** **Shipping name: S77 Aluwood**
Details	Manufacturer ALUMIL S.A., - Kilkis; Material Aluminium system with thermal break with internal wood panelling; Type of opening Turn / tilt and turn; Opening direction Active casement DIN right (opening) to the inside, Inactive casement DIN left (opening) to the inside; Overall dimensions (W x H) 1500 mm x 2200 mm
Special features	Material compatibility must be taken into account. Material durability must be taken into account.
Order	Testing of air permeability, resistance to wind load, water-tightness
Contents	The test report contains a total of 14 pages and annexes (17 pages).
Note	The test report shall only be published in its unabbreviated form. The “Guidance Sheet for the Use of ift Test Documents” applies.

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1 Execution

1.1 Sampling and product description

The following details have been presented to ift:

Sampler:	ALUMIL S.A., 61100 Kilkis (Greece)
Evidence:	ift Rosenheim did not receive a sampling report.
Date of delivery:	19.06.2020
Description:	For product identification the specimen tested is described/represented in the Annex. Material specifications, item numbers and other company-specific descriptions are details provided by the client and will be checked for plausibility by ift.
Test specimen no.:	20-002482-PK01 / WE: 50879-001

1.2 Basic documents *) of the procedures

EN 1026:2016 - 03
Windows and doors - Air permeability - Test method
EN 1027:2016 - 03
Windows and doors - Watertightness - Test method
EN 12211:2016 - 03
Windows and doors - Resistance to wind load - Test method

*) and the relevant national versions, e.g. DIN EN

1.3 Short description of the procedures

The tests were performed according to the following sequence:

- Air permeability
- Resistance to wind load
- Air permeability - Repeated test after wind load test
- Watertightness
- Resistance to wind load - Safety test

<u>Air permeability according to EN 1026:2016-03</u>

Leakages of the test set-up were made visible using artificially generated fog and were sealed using permanently resilient sealant.
Air permeability was tested for the respective pressure steps at negative pressure and positive pressure in accordance with the following diagram. At the beginning of each measurement the test specimen was exposed to three pressure pulses.

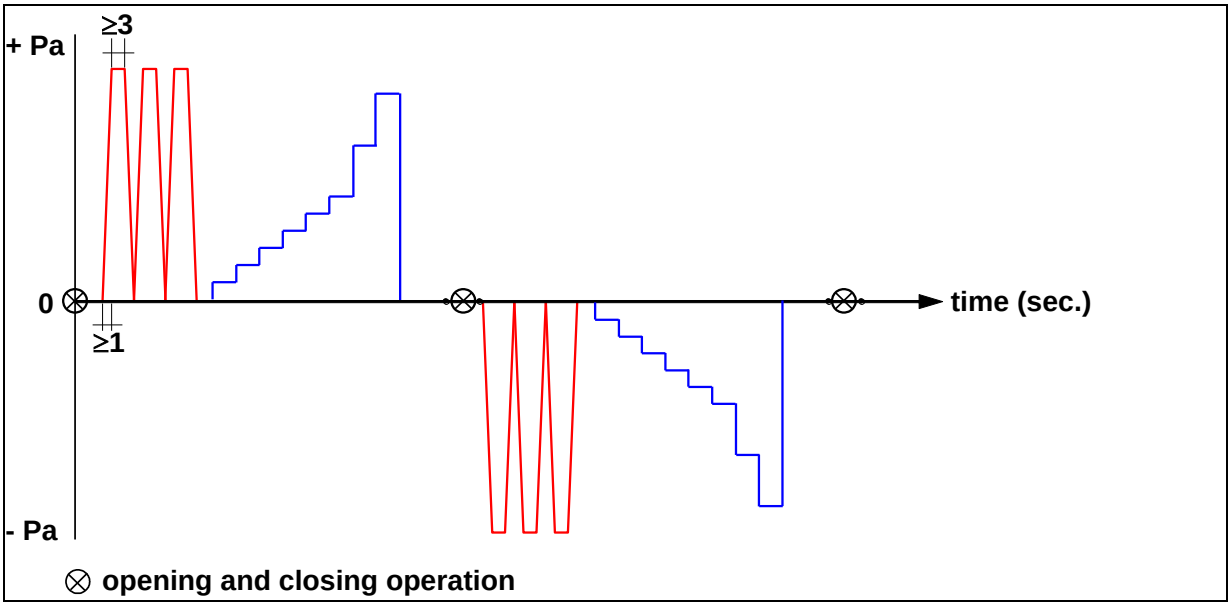


Illustration Test sequence for air permeability

Resistance to wind load according to EN 12211:2016-03

Resistance to wind load was tested in accordance with the standard and conducted in steps at positive pressure and negative pressure up to the test pressure p1. The test specimen was exposed to three pressure pulses Δp1 + 10 %. This was followed by determination of the frontal deflection of test specimen for each pressure step when exposed to positive test pressure Δp1 and negative test pressure -Δp1. Then the test specimen was subjected to 50 cycles including alternating positive and negative pressures of ± Δp2 = Δp1 - 50 %.

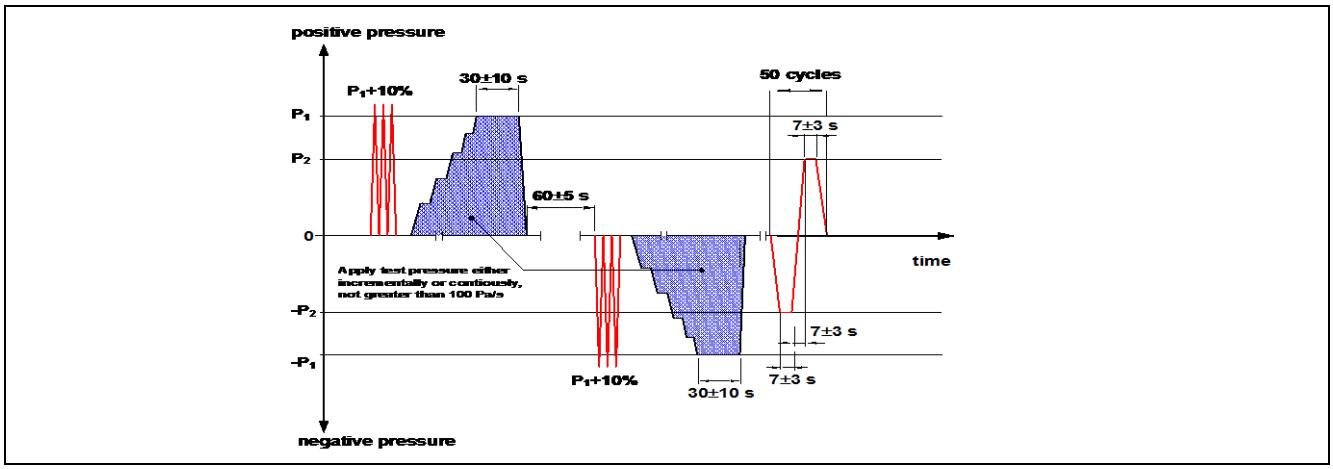


Illustration Test sequence for resistance to wind load - Deflection and alternating positive/negative pressures

Air permeability - Repetition of test after wind load according to EN 1026:2016-03

Following the static resistance to wind load test (deflection) and alternating positive/negative pressure the test for air permeability was repeated in conformity with EN 12210.

Watertightness according to EN 1027:2016-03

Prior to the test, three positive pressure pulses were applied to the test specimen. Subsequently, the external surface of the test specimen was constantly sprayed with water through nozzles, conforming to the standard. After a 15-minute pressure-less spraying period an additional overpressure in terms of subsequent pressure steps was applied. The pressure steps were defined by the standard and were kept for 5 minutes each (see illustration). Watertightness was tested up to the maximum test pressure difference.

The water volume applied and the angle of spray depend on the intended type of installation of the component (protected / unprotected) and the height of the component (< / > 2.5 m) according to the standard. The required water volume and the angle of spray are documented in the measuring data sheet.

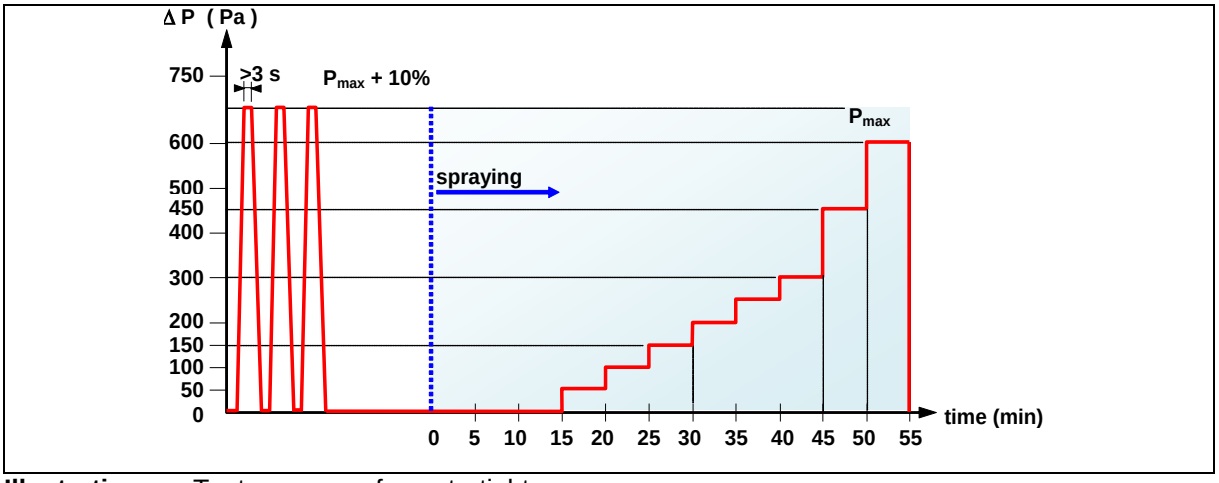


Illustration Test sequence for watertightness

Resistance to wind load - Safety test according to EN 12211:2016-03

The wind resistance test (safety test) was conducted at negative pressure and positive pressure in accordance with EN 12211 up to test pressure Δp3 = Δp1 + 50 %.

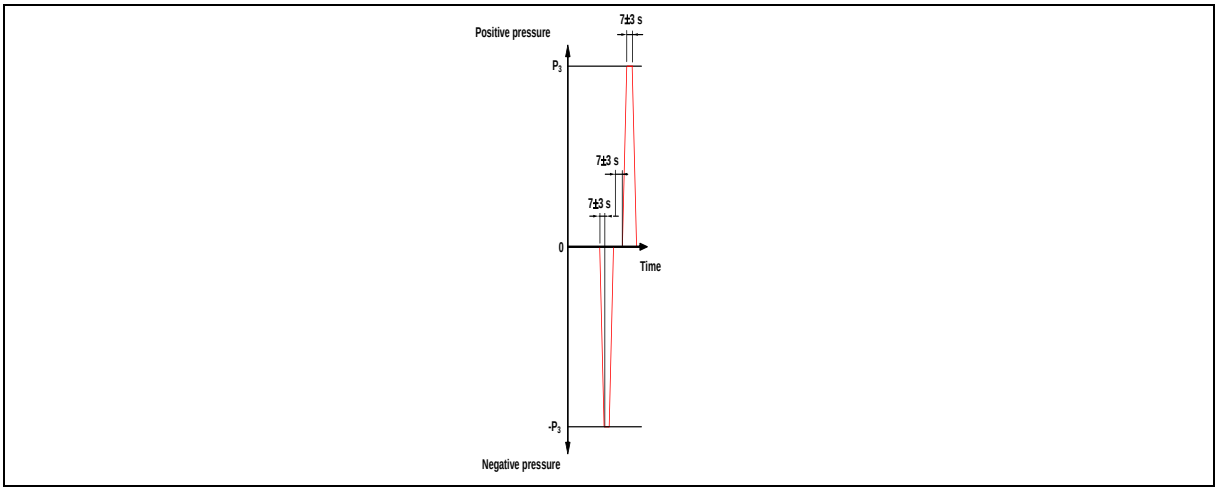


Illustration Test sequence for resistance to wind load - safety test

2 Detailed results

Air permeability according to EN 1026:2016-03

Project-No.	20-002482-PR01
Basis	EN 1026:2016-03 Windows and doors - Air permeability - Test method
Test equipment	EPst/026348 - Window and facade test rig PMEx/026487 - Multifunction device
Test specimen	Double tilt and turn casement door with opening meeting stile
Test specimen No.	50879-001
Date of test	19.06.2020
Test engineer in charge	Dimitrios Moustakidis
Test engineer	Dimitrios Moustakidis

Implementation of tests

Deviations: There have been no deviations from the test method as specified in the standard/basis.

Ambient conditions: Temperature 27 °C Air humidity 40 % Air pressure 1000 hPa

The ambient conditions are in accordance with the standard/basis requirements.

Measurement data/Results

Closing condition	closed and locked		
Size of window frame	1500 mm	x	2200 mm
Rated joint length of active casement	720 mm	x	2140 mm
Rated joint length of inactive casement	720 mm	x	2140 mm
Area of test specimen	3,30 m²		
Length of opening joints	9,30 m		

Table: Measurement of operating forces

Individ. measured result	1	2	3	Average value
in Nm	6,1	6,0	6,0	6,0

Initial load before positive wind pressure and negative wind pressure: 660 Pa

Table: Air permeability at positive wind pressure

Measured results at positive wind pressure	**Pressure differential Pa**	**50**	**100**	**150**	**200**	**250**	**300**	**450**	**600**
	Flow rate (volume) m³/h	0,4	0,6	0,8	1,0	1,1	1,2	1,6	2,0
	Joint lenght-related m³/hm	*)	0,07	0,09	0,10	0,12	0,13	0,17	0,21
	Overall area-related m³/hm²	*)	0,19	0,25	0,29	0,33	0,37	0,49	0,59

*) The measured values are below the leak flow volume of the flow rate meter of 0,5 m³/h.

Table: Air permeability at negative wind pressure

Measured results at negative wind pressure	**Pressure differential Pa**	**50**	**100**	**150**	**200**	**250**	**300**	**450**	**600**
	Flow rate (volume) m³/h	0,4	0,7	0,9	1,0	1,2	1,3	1,6	1,9
	Joint lenght-related m³/hm	*)	0,07	0,09	0,11	0,13	0,15	0,17	0,20
	Overall area-related m³/hm²	*)	0,20	0,26	0,31	0,36	0,41	0,49	0,57

*) The measured values are below the leak flow volume of the flow rate meter of 0,5 m³/h.

Table: Air permeability from average values from positive and negative wind pressures

Average value from positive and negative wind pressures	**Pressure differential Pa**	**50**	**100**	**150**	**200**	**250**	**300**	**450**	**600**
	Flow rate (volume) m³/h	*)	0,7	0,8	1,0	1,1	1,3	1,6	1,9
	Joint lenght-related m³/hm	*)	0,1	0,1	0,1	0,1	0,1	0,2	0,2
	Overall area-related m³/hm²	*)	0,2	0,3	0,3	0,3	0,4	0,5	0,6

*) The measured values are below the leak flow volume of the flow rate meter of 0,5 m³/h.

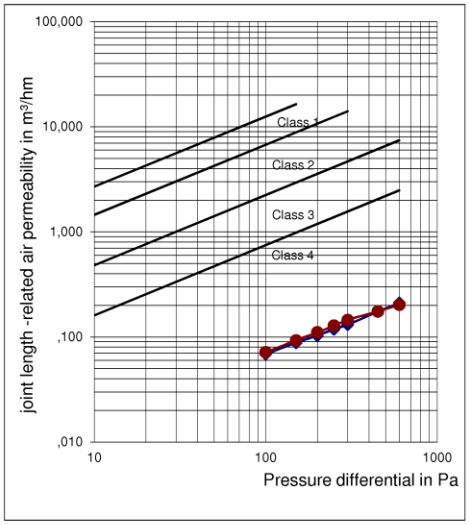


Diagram: Joint length-related air permeability (positive and negative wind pressures)

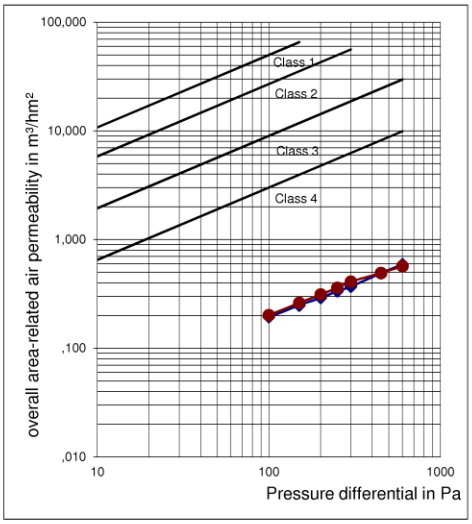


Diagram: Overall area-related air permeability (positive and negative wind pressures)

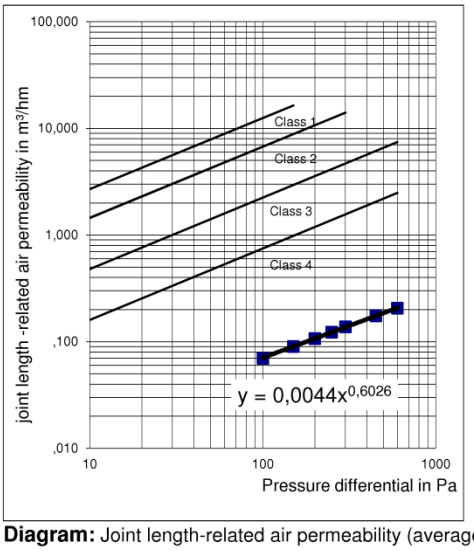


Diagram: Joint length-related air permeability (average value from positive and negative wind pressures)

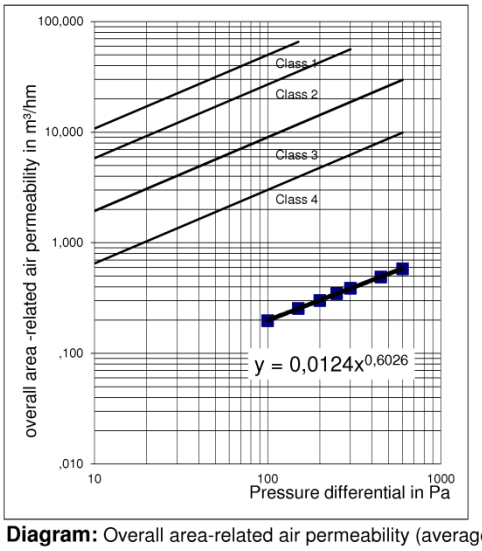


Diagram: Overall area-related air permeability (average value from positive and negative wind pressures)

Table: Measured results

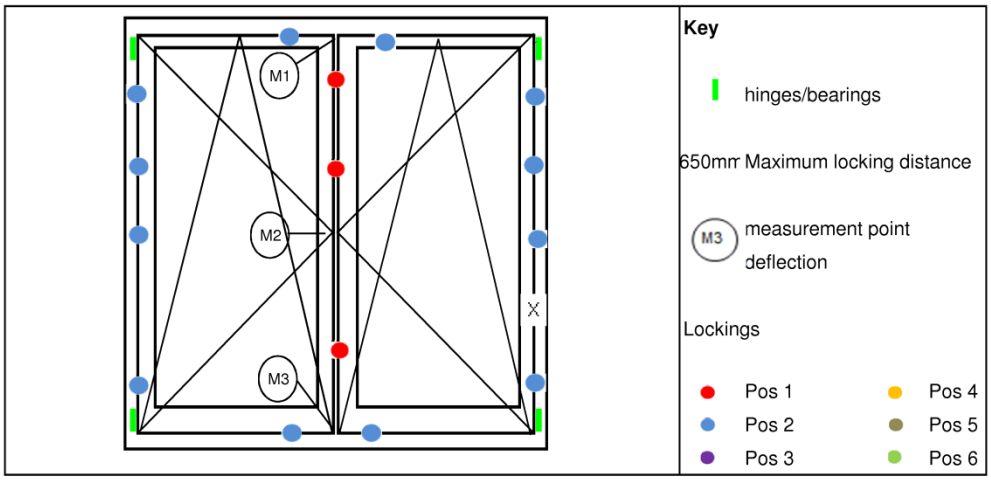
Reference air permeability related to joint length	Q100 < 0,10 m³/hm
Reference air permeability related to overall area	Q100 = 0,20 m³/hm²

Resistance to wind load according to EN 12211:2016-03

Project-No.	20-002482-PR01
Basis	EN 12211:2016-03 Windows and doors - Resistance to wind load - Test method
Test equipment	EPst/026348 - Window and facade test rig
Test specimen	Double tilt and turn casement door with opening meeting stile
Test specimen No.	50879-001
Date of test	19.06.2020
Test engineer in charge	Dimitrios Moustakidis
Test engineer	Dimitrios Moustakidis
Implementation of tests Deviations	There have been no deviations from the test method as specified in the standard/basis.
Ambient conditions	Temperature 28 °C Air humidity 36 % Air pressure 1001 hPa The ambient conditions are in accordance with the standard/basis requirements.

Measurement data/Results

Closing condition closed and locked



Maximum test pressure: ± 1200 Pa 3 pressure pulses of 1320 Pa

Table: Maximum deflection for classification at effective span l = 2140 mm

Class		maximum permissible relative deflection in mm
A	**(l/150)**	14.3
B	**(l/200)**	10.7
C	**(l/300)**	7.1

Table: Measured results of frontal deflection in mm at negative / positive wind pressures

		Positive wind pressure					Negative wind pressure				
	p_1 in Pa	400	800	1200	1600	2000	-400	-800	-1200	-1600	-2000
Measured results of frontal deflection in mm	**M1 in mm**			2.6					3.1		
	M2 in mm			4.6					5.0		
	M3 in mm			2.4					2.5		
	f_{rel} in mm			2.1					2.2		
	l/f_{rel}			1007					960		

Table: Permanent deformation measured at 0 Pa after 60 seconds

		Positive pressure	Negative pressure
Permanent deflection	**M1 in mm**	0.0	0.0
	M2 in mm	0.1	0.1
	M3 in mm	0.0	0.0
	f_{rel} in mm	0.0	0.0

Key

p_1, p_2	Test pressure
M1, M2, M3	Frontal dislodgement at measurement points M1, M2, M3
f_{rel}	Frontal deflection
l	Effective span

Dynamic wind loads (negative / positive pressures)

Table: pressure pulses

p_2 in Pa	200	400	600	800	1000
passed			✓		

50 cycles at p_2 ± 600 Pa

Malfunctions at test specimen

At the test specimen were no malfunctions detected.

Air permeability - Repetition of test after wind load according to EN 1026:2016-03

Project-No.	20-002482-PR01
Basis	EN 1026:2016-03 Windows and doors - Air permeability - Test method
Test equipment	EPst/026348 - Window and facade test rig
Test specimen	Double tilt and turn casement door with opening meeting stile
Test specimen No.	50879-001
Date of test	19.06.2020
Test engineer in charge	Dimitrios Moustakidis
Test engineer	Dimitrios Moustakidis

Implementation of tests
Deviations: There have been no deviations from the test method as specified in the standard/basis.

Ambient conditions: Temperature 36 °C; Air humidity 28 %; Atmospheric pressure 1001 hPa

The ambient conditions are in accordance with the standard/basis requirements.

Measurement data/Results

Closing condition	closed and locked		
Size of window frame	1500 mm	x	2200 mm
Rated joint length of active casement	720 mm	x	2140 mm
Rated joint length of inactive casement	720 mm	x	2140 mm
Area of test specimen	3,30 m²		
Length of opening joints	9,30 m		

Subsequent to the test of resistance to wind load by application of test pressures p_1 and p_2 , the upper limit of the achieved air permeability class must not be exeeded by more than 20% as set out by EN 12207.

The requirements were fulfilled.

Watertightness according to EN 1027:2016-03

Project-No.	20-002482-PR01
Basis	EN 1027:2016-03 Windows and doors - Watertightness - Test method
Test equipment	EPst/026348 - Window and facade test rig
Test specimen	Double tilt and turn casement door with opening meeting stile
Test specimen No.	50879-001
Date of test	19.06.2020
Test engineer in charge	Dimitrios Moustakidis
Test engineer	Dimitrios Moustakidis
Implementation of tests Deviations	There have been no deviations from the test method as specified in the standard/basis.
Ambient conditions	Temperature 28.0 °C Air humidity 34 % Air pressure 1000 hPa The ambient conditions are in accordance with the standard/basis requirements.

Measurement data/Results

Closing condition	closed and locked
Size of window frame	1500 mm x 2200 mm
Spray method	A (Spray angle 24°)
Number of spray nozzles	4
Water amount	480 l/h 0.48 m³/h

Initial load was applied before testing.

View of test specimen - watertightness

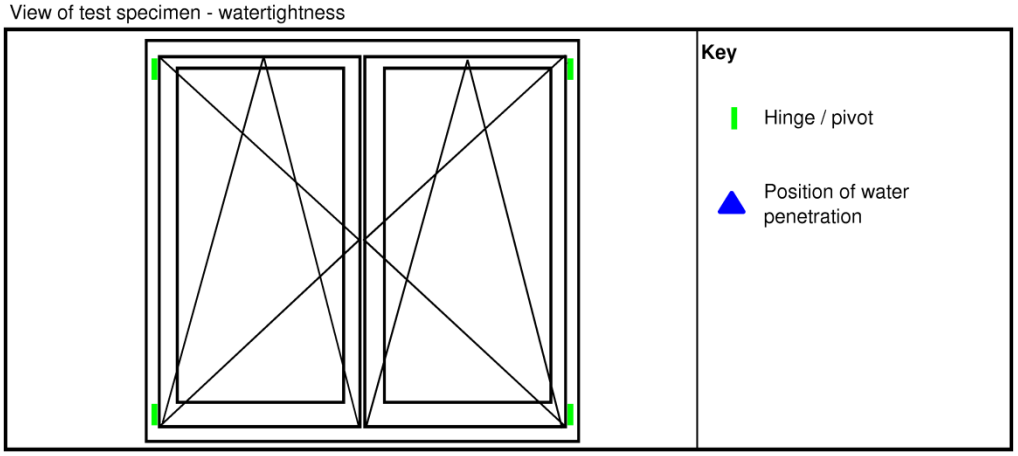


Table: Test

Pressure/Pa	Notice
0	No water penetration
50	No water penetration
100	No water penetration
150	No water penetration
200	No water penetration
250	No water penetration
300	No water penetration
450	No water penetration
600	No water penetration
750	No water penetration
900	No water penetration
1050	No water penetration

No water penetration at up to 1050 Pa detected.

Resistance to wind load - Safety test according to EN 12211:2016-03

Project-No.	20-002482-PR01
Basis	EN 12211:2016-03 Windows and doors - Resistance to wind load - Test method
Test equipment	EPst/026348 - Window and facade test rig
Test specimen	Double tilt and turn casement door with opening meeting stile
Test specimen No.	50879-001
Date of test	19.06.2020
Test engineer in charge	Dimitrios Moustakidis
Test engineer	Dimitrios Moustakidis

Implementation of tests
Deviations: There have been no deviations from the test method as specified in the standard/basis.

Ambient conditions: Temperature 28 °C | Air humidity 34 % | Atmospheric pressure 1000 hPa

The ambient conditions are in accordance with the standard/basis requirements.

Measurement data/Results

Safety test

Table: Pressure steps

		Positive wind pressure						Negative wind pressure					
p_3	Pa	600	1200	1800	2400	3000	xxxx	-600	-1200	-1800	-2400	-3000	xxxx
passed				✓						✓			

Safety test passed at up to p3 ± 1800 Pa.

Malfunctions at test specimen

At the test specimen were no malfunctions detected.

3 Summary

3.1 Result

The test results are shown in the measuring data sheet, see item "Detailed results".

3.2 Instructions for use

This test/evaluation does not allow any statement to be made on further characteristics of the present structure regarding performance and quality, in particular the effects of weathering and ageing.

The test was performed according to standard and the details for identification of the test specimen are complete; on the basis of this Test Report an "ift-Nachweis" (Evidence) can be issued.

ift Rosenheim
02.07.2020

Michael Breckl-Stock
Deputy Head of Testing Department
Building Component Testing

Dimitrios Moustakidis, MSc, Dipl.-Ing.
Operating Testing Officer
Building Component Testing

Die Beschreibung des geprüften Probekörpers dient der normkonformen Identifizierung des Produkttyps, für den die festgestellten Werte gelten. Alternativ zur vorgegebenen tabellarischen Datenerfassung kann die Beschreibung auch in Form von technischen Zeichnungen, Verarbeitungsrichtlinien, Stücklisten etc. erfolgen. Zusätzliche Produktdetails bitte ergänzen.
Die *Mindest-Angaben sind Voraussetzung für die Erstellung eines ift-Nachweises. Nur bei Angabe aller in diesem Dokument angeforderten Daten ist ggf. eine nachträgliche Gutachtliche Stellungnahme möglich. Alle *Mindest-Angaben des Auftraggebers werden vom ift auf Plausibilität geprüft; ggf. festgestellte Abweichungen und/oder ergänzende Feststellungen werden dokumentiert.

The description of the specimen to be tested serves to identify, in conformity with the standards, the product type, for which the values determined will apply. Alternatively to the specified tabulated data collection, the description may also be made by technical drawings, processing instructions, parts lists, etc. Please supplement additional product details.
The *minimum details are the precondition for issuing the “ift-Nachweis”. Only upon provision of all requested data subsequently requested Expert Statements may be issued. All *minimum details provided by the client will be checked for plausibility by ift, any deviations observed and/or additional findings will be documented.

* Mindestangaben
* minimum details

Alle Maßangaben in mm
All dimensions in mm

Nicht Zutreffendes bitte löschen.
Please delete non-appropriate.

Wareneingang-Nr.: 50879-001
ID of goods received :

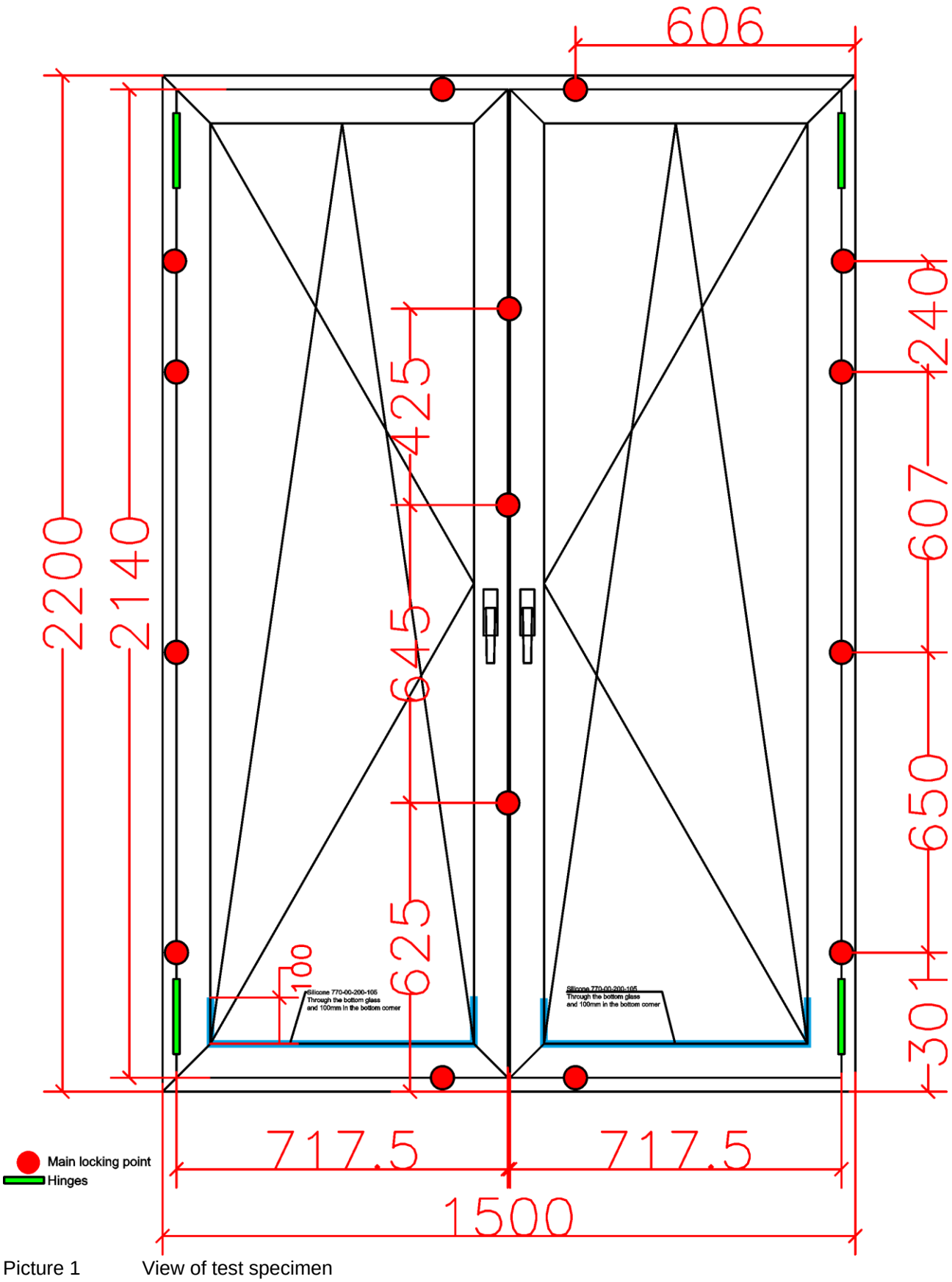
ift Mitarbeiter: Moustakidis
ift staff member :

Eigenschaft Characteristic		**Angaben des Auftraggebers** Information provided by client
Produkt **Product**	*	Double tilt and turn window with central opening meeting stile
Hersteller Manufacturer	*	Alumil S.A.
Bezeichnung Designation	*	S77 Aluwood
Profilsystem Profile system	*	S77 Aluwood
Öffnungsart, Öffnungsrichtung Type of opening, opening direction	*	Active casement: tilt and turn, DIN right inward opening Inactive casement: turn-only, DIN left, inward opening
Rahmenmaterial Frame material	*	Aluminium system with thermal break with internal wood panelling
Blendrahmenaußenmaß (B x H) Overall frame dimensions (W x H)	*	1,500 mm x 2,200 mm
Flügelaußenmaß (B x H) Overall casement dimensions (W x H)	*	681 mm x 2,104 mm
Blendrahmen **Frame member**		
Bezeichnung / Typ / Art.-Nr. Designation / type / item no.	*	S77832, further details are given in drawings W77832 Wooden Profile
Rahmenverbindung Frame joint	*	S77832: Mitred, bonded, compressed and sealed using elastic sealant W77832: Mitred and clamped using wood connector 160-23-000-00 and screw 798-32-239-19
Flügelrahmen **Casement member**		
Bezeichnung / Typ / Art.-Nr. Designation / type / item no.	*	S77836, further details are given in drawings W77836 Wooden Profile

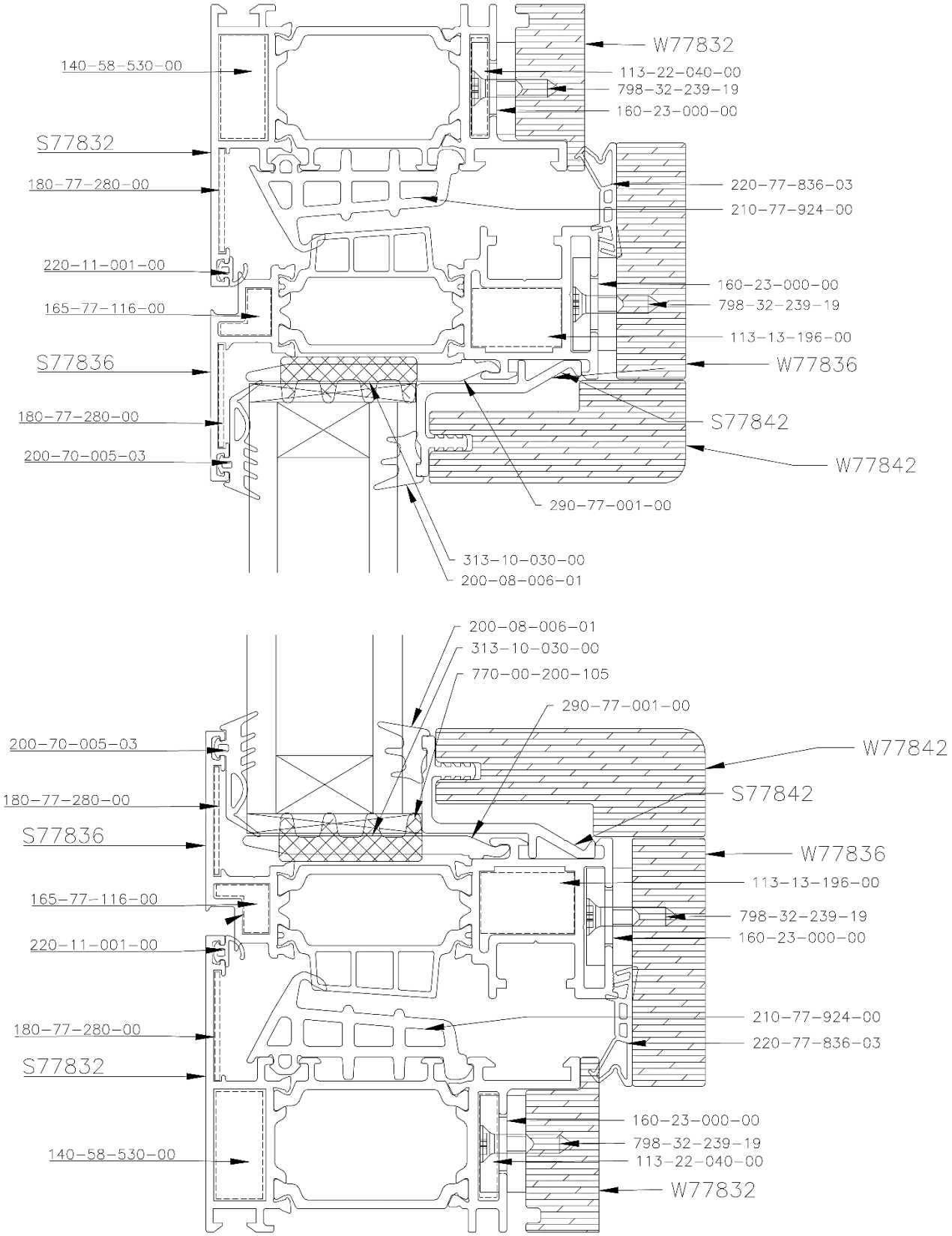
Eigenschaft Characteristic	**Angaben des Auftraggebers** Information provided by client
Flügelgewicht (in kg) Casement weight (in kg)	*45
Rahmenverbindung Frame joint	*S77836: Mitred, bonded, compressed and sealed using elastic sealant W77836: Mitred and clamped using wood connector 160-23-000-00 and screw 798-32-239-19
Zusatzprofile (falls vorhanden) **Supplementary profiles (if appropriate)**	
Bezeichnung Designation	*Dummy mullion profile S77879 Wood profile W77842, clamped using wood connector 160-23-000-00 and screw 798-32-239-19 Wood profile 250-65-016-01, bonded on S77879
Rahmenverbindung Frame joint	*Clipped, sealed with elastic sealant
Falzdichtung außen **External rebate seal**	
Hersteller / Lieferant Manufacturer / supplier	Alumil S.A.
Artikelnummer Item no.	*220-11-001-00
Material Material	*EPDM
Eckausbildung Corner design	*Butt-jointed and sealed using elastic sealant
Falzdichtung Mitte **Centre rebate seal**	
Hersteller / Lieferant Manufacturer / supplier	Alumil S.A.
Artikelnummer Item no.	*210-77-924-00
Material Material	*EPDM
Eckausbildung Corner design	*Mitred, jointed, bonded and sealed using elastic sealant
Falzdichtung innen **Internal rebate seal**	
Hersteller / Lieferant Manufacturer / supplier	Alumil S.A.
Artikelnummer Item no.	*220-77-836-03
Material Material	*EPDM
Eckausbildung Corner design	*Butt-jointed and sealed using elastic sealant
Füllung **Infill panel**	IGU
Glasaufbau Glass configuration	*5 mm float / 20 mm cavity / 5 mm float
Gesamtdicke Total thickness	*30 mm

Eigenschaft Characteristic		**Angaben des Auftraggebers** Information provided by client
Verglasungsdichtung außen **External glazing gasket**		
Hersteller / Lieferant Manufacturer / supplier		Alumil S.A.
Artikelnummer Item no.	*	200-70-005-03
Material Material	*	EPDM
Eckausbildung Corner design	*	Mitred, bonded and sealed using elastic sealant
Verglasungsdichtung innen **Internal glazing gasket**		
Hersteller / Lieferant Manufacturer / supplier		Alumil S.A.
Artikelnummer Item no.	*	200-08-006-01
Material Material	*	EPDM
Eckausbildung Corner design	*	Butt-jointed and sealed using elastic sealant
Glasklebung (falls vorhanden) **Glass bonding (if appropriate)**		
Hersteller Klebstoff Adhesive manufacturer	*	Dow Corning
Typ, Position Type, position	*	Bonding on internal overlap at bottom
Material Material	*	1C adhesive sealant
Glashalteleiste **Glazing bead**		
Typ Type	*	S77842 W77842 Wooden Profile
Eckausbildung Corner design	*	Butt-jointed and sealed using elastic sealant
Befestigung Fixing method/fasteners	*	Clamped
Dampfdruckausgleich Vapour pressure equalisation	*	Each casement at bottom: 2 slots 5 mm x 20 mm
Beschlag **Hardware**	*	Tilt and turn hardware
Typ Type	*	Unijet
Hersteller Manufacturer	*	Alumil S.A.
Lager Bearings	*	Tilt mechanism pivot Corner pivot

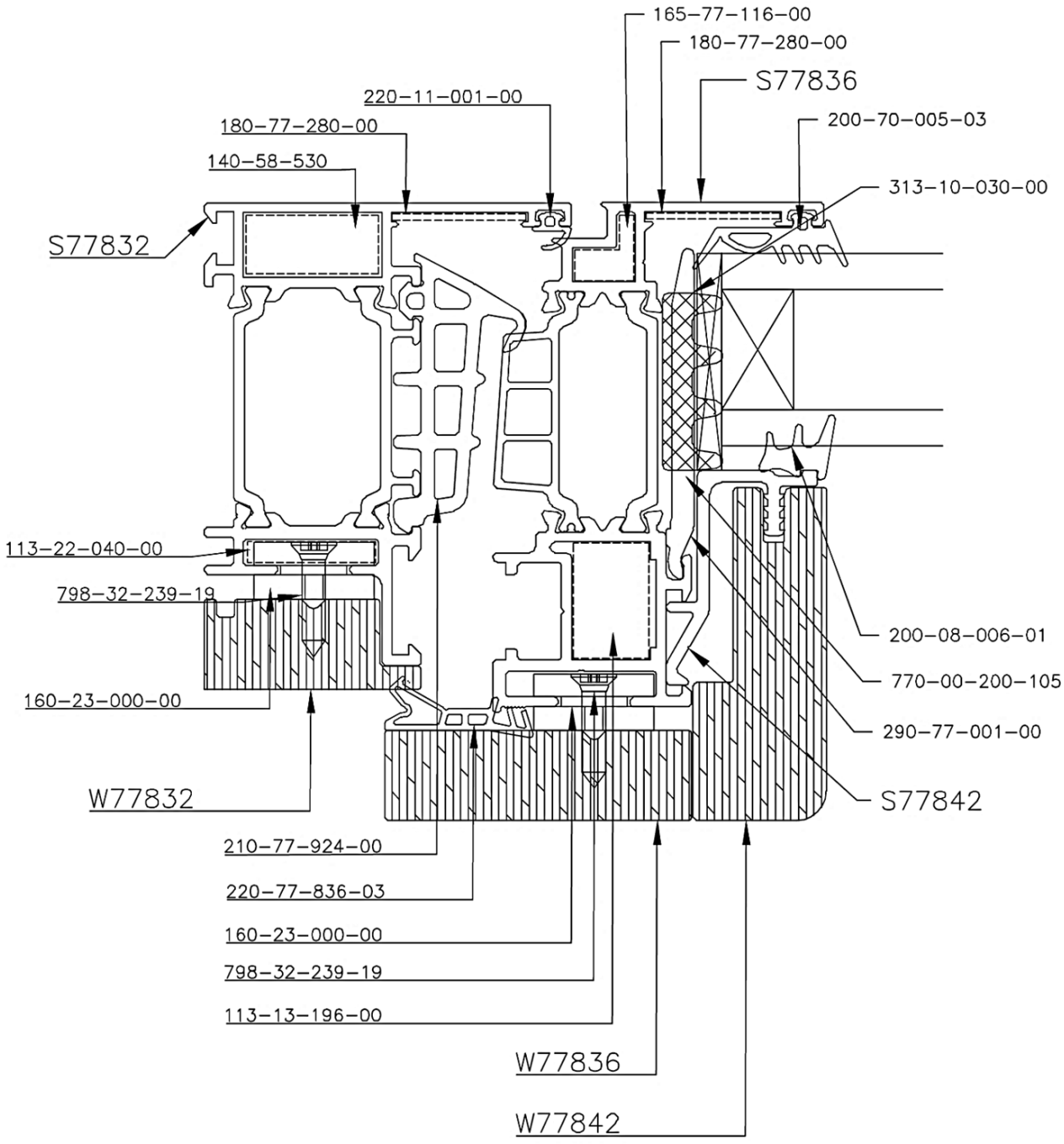
Eigenschaft Characteristic		**Angaben des Auftraggebers** Information provided by client
Anzahl Verriegelungen (wo vorhanden): Number of locking devices (where appropriate):		
Unten At bottom	*	2
Oben At top	*	2
Bandseitig On hinge side	*	8
Schließseitig On lock side	*	3
Max. Verriegelungs-abstand Max. locking distance	*	650 mm
Stellung der Verriegelung Position of locking device	*	Neutral
Befestigung des Probekörpers am Montagerahmen / an die Tragkonstruktion **Fixing of test specimen to sub-frame / supporting construction**		
Material Montagerahmen Material of subframe	*	Steel frame with welded corners
Befestigungsmittel Fasteners	*	
Schraubentyp Screw type	*	CSK
Schraubenanzahl Number of screws	*	14
Schraubendimension Screw dimensions	*	5.5 mm x 70 mm
Befestigungsmittel-abstände Fasteners spaced	*	
Aus der Ecke From corner	*	250 mm
Dazwischen In-between	*	400 mm
Ausführung Design	*	Spacer blocks towards steel frame at fixing areas
Füllung der Anschlussfuge Infill of installation gap	*	Existent, continuous and open from frame profile to steel surround frame



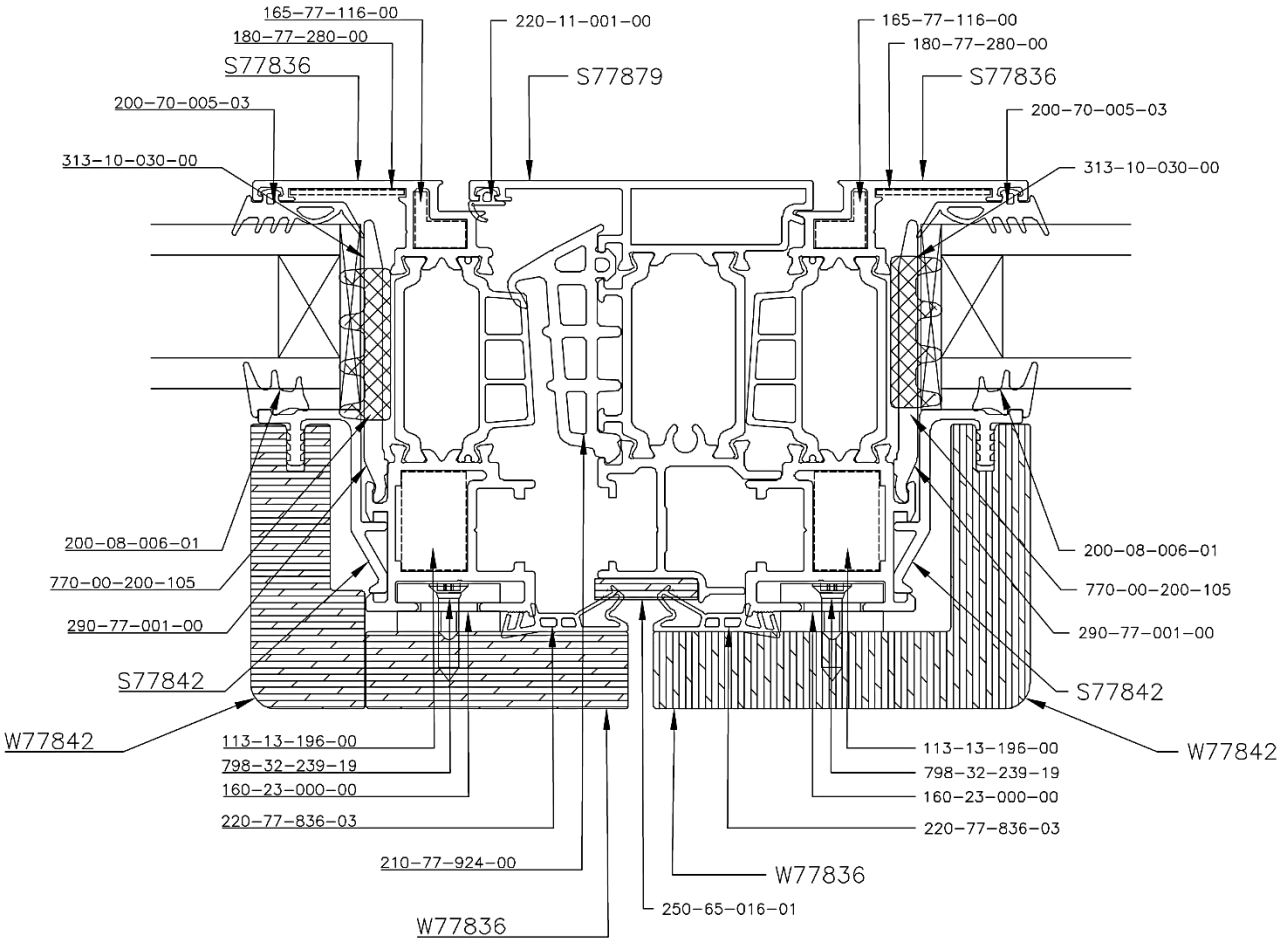
Picture 1 View of test specimen



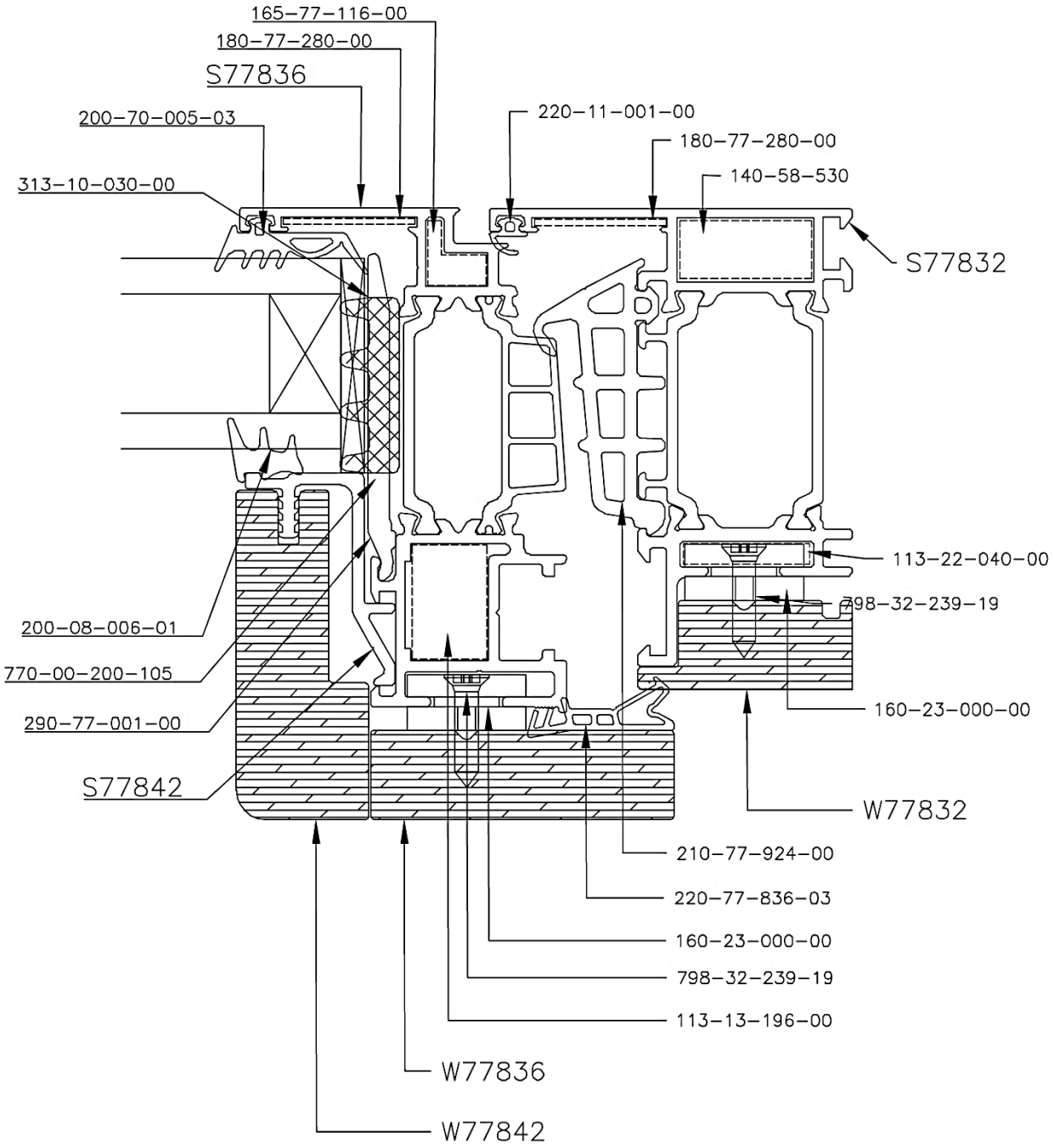
Picture 2 Vertical section



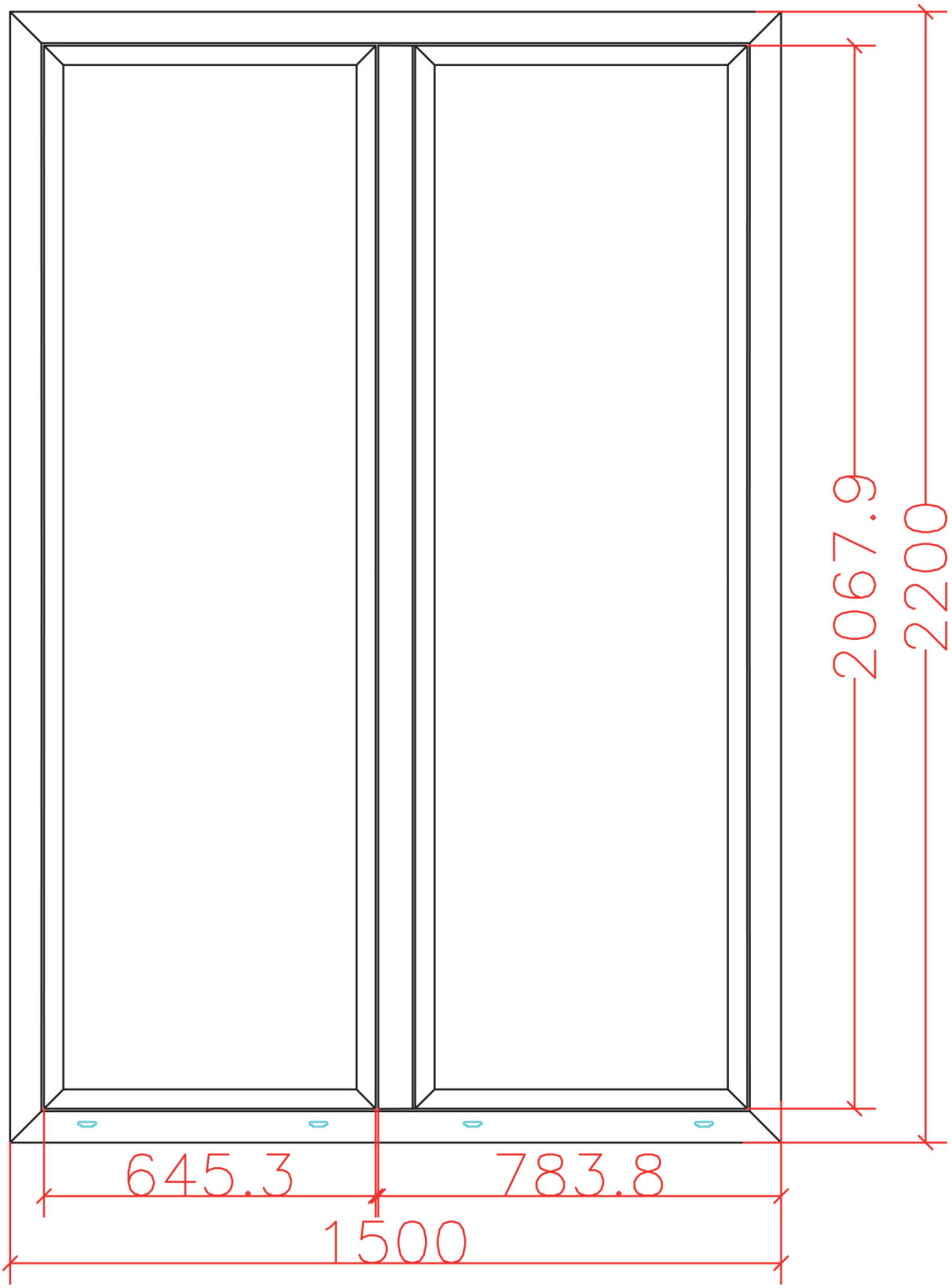
Picture 3 Horizontal section, frame – inactive casement



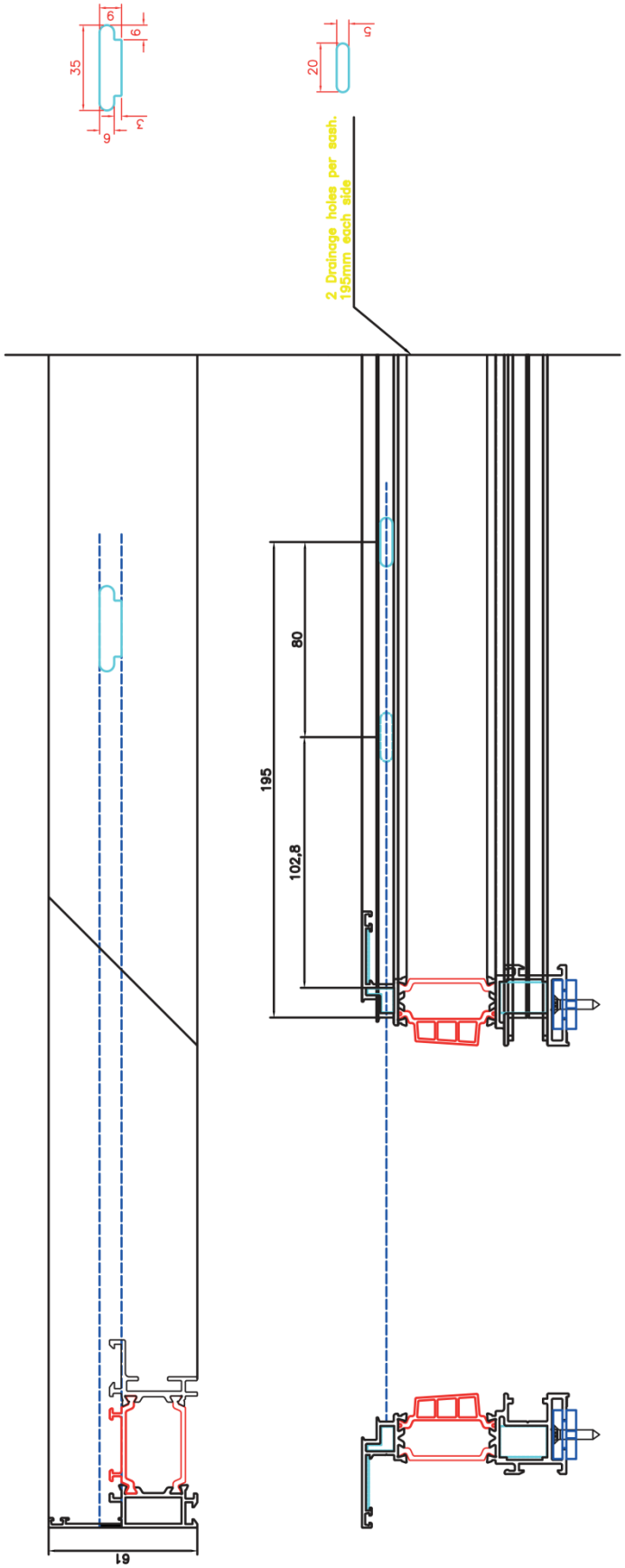
Picture 4 Horizontal section, dummy mullion



Picture 5 Horizontal section, frame-active casement



Picture 6 Drainage



Picture 7 Drainage

Κοπές προφίλ – Profile cuttings

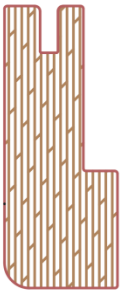
Πλάτος Κάσας S77832 **Frame width**	1500	2 τεμ.–pieces
Υψος κάσας S77832 **Frame height**	1500	2 τεμ.–pieces
Πλάτος ξύλινης κάσας **Wood Frame width**	2200	2 τεμ.–pieces
Υψος ξύλινης κάσας **Wood Frame height**	2200	2 τεμ.–pieces
Πλάτος φύλλου S77836 **Sash width**	681.5	4 τεμ.–pieces
Ύψος φύλλου S77836 **Sash height**	2104	4 τεμ.–pieces
Πλάτος ξυλινου φύλλου **Wood Sash width**	715.5	4 τεμ.–pieces
Υψος ξυλινου φύλλου **Wood Sash high**	2140	4 τεμ.–pieces
Ύψος μπινί S77879 **Sash height**	2064	1 τεμ.–piece
Ύψος πηχάκι S77842 Glazing bead height	1996	4 τεμ.–pieces
Πλάτος πηχάκι S77842 Glazing bead height	615.5	4 τεμ.–pieces
Ύψος τζαμιού Glazing height	$Gh=Sh_{(alum)}-76$	4 τεμ.–pieces
Πλάτος τζαμιού Glazing width	$Gw=Sw_{(alum)}-76$	4 τεμ.–pieces

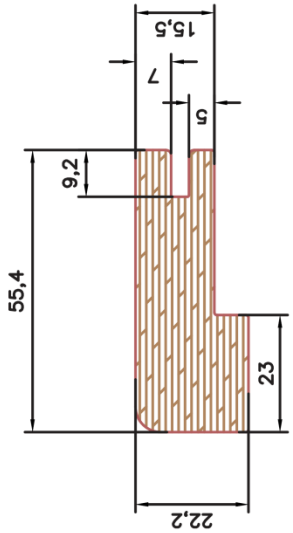
Κοπές εξαρτημάτων–Accessory cuttings

Κωδικός–Code	Εξάρτημα Accessory		
210-77-924-00		Λάστιχο κεντρικό Central gasket	TEM.
220-11-001-01		Ελαστικό κάσας Frame Gasket	4Fw+2Fh
200-70-005-03		Λάστιχο τζαμιού Glass Gasket	4Sw+3Sh
200-08-006-01		Ελαστικό Σφήνα Gasket	2Sw+2Sh
220-77-836-03		Ελαστικό Φτερού Αλουμινίου-Ξύλου Seal Gasket Alu-Wood	4Sw+4Sh
313-10-030-00		Nomatec 30X10	2Sw+2Sh
160-23-000-00		Σύνδεσμος Αλουμίνιο - Ξύλο 20x9,6 Connection part for aluminium-wood	min 1τμχ/300mm
250–65–016–01		Adhesive Sponge/ Wood Slice	Ap
140-58-530-00		Γωνία σύνδεσης χυτή Die cast corner cleat	4τεμ.
113-22-040-00		Γωνία σύνδεσης αλουμινίου Aluminum corner cleat	4τεμ.
165-77-116-00		Γωνία σύνδεσης κουμπτωτή χυτή Cast spring cleat	8τεμ.
113-13-196-00		Γωνία σύνδεσης πρεσαριστή καρφωτή Crimp nail cleat	8τεμ.
180-77-280-00		Γωνία επιπεδότητας Alignment corner	12τεμ.
300-77-879-00		Τάπα μπινί S77879 Inversion profile end cap	1 set
290-00-005-00		Τακάκι τζαμιού 5mm 5mm setting block	min 12τεμ.
290-77-001-00		Γέφυρα τακαρίσματος Glazing Bridge	min4τεμ.
255-77-924-00		Βουλκανισμένη Γωνία Vulcanised Corner	4 τεμ.
310-09-317-XX		Τάπα νεροσταλάκτη S61317 End cover for S61317 waterproofing profile	4 τεμ.

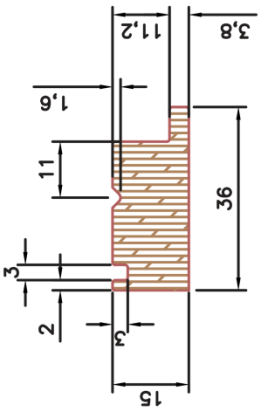
Κωδικός Προφίλ		Απαιτούμενο μήκος σε mm
S77832		6000
S77836		11142
S77879		2064
S77842		10446
S61317		1356
Wood Frame		6000
Wood Sash		11422
Wood Glazing Bead		10446

Glazing Bead for Sash for 32mm Glass

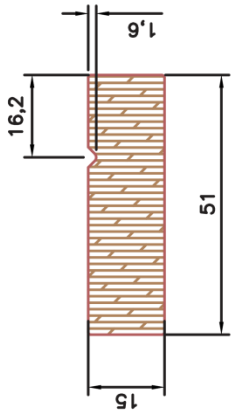




For Frame



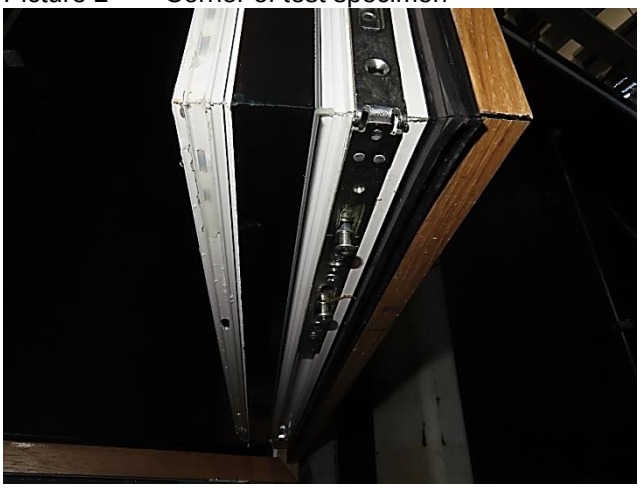
For Sash



Picture 1 View

Picture 2 Corner of test specimen

Picture 3 Glazing bead



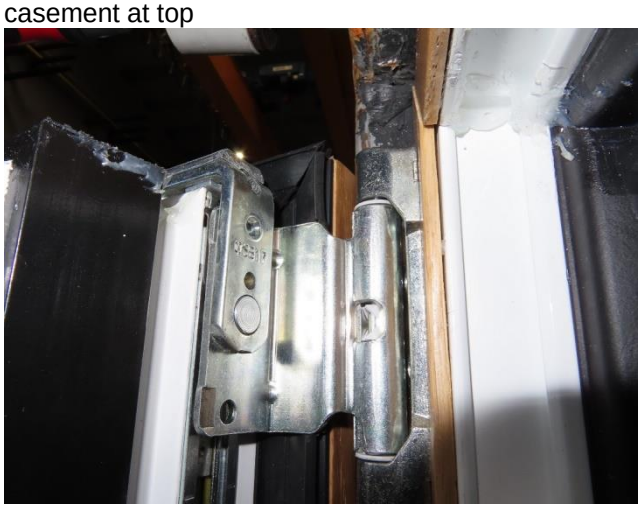
Picture 4 Casement seen from rebate

Picture 5 Hinge seen from opening side, inactive casement at top

Picture 6 Hinge seen from opening side, inactive casement at bottom

Picture 7 Hinge seen from opening side, active casement at top

Picture 8 Hinge seen from opening side, active casement at bottom



Picture 9 Hinge seen from rebate, inactive casement at top

Picture 10 Hinge seen from rebate, inactive casement at bottom

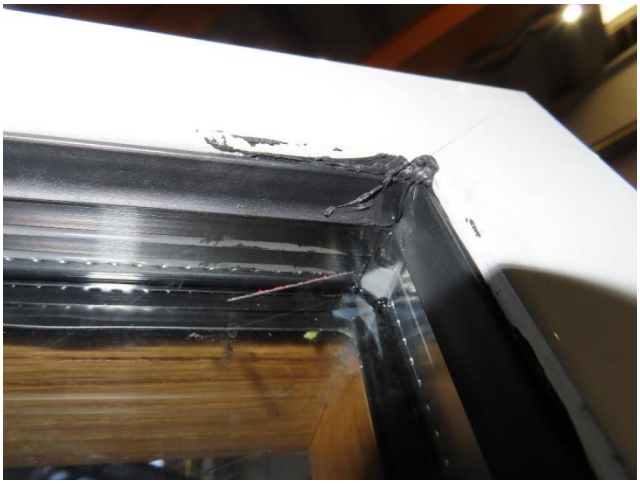
Picture 11 Hinge seen from rebate, active casement at top

Picture 12 Hinge seen from rebate, active casement at bottom

Picture 13 Dummy mullion at bottom

Picture 14 Casement seal at bottom

Picture 15 Internal glazing gasket



Picture 16 External glazing gasket

Picture 17 Frame at bottom with rebate drainage slot

Picture 18 Drainage slot, seen from outside

Picture 19 Locking situation 1, frame

Picture 20 Locking situation 2, casement

Picture 21 Locking situation 2, frame

Picture 22 Locking situation 1, casement

Picture 23 Handle, casement