

PRÜFINSTITUT

für Bauelemente GmbH

Zweibrücker Str. 217 ■ D-66954 Pirmasens

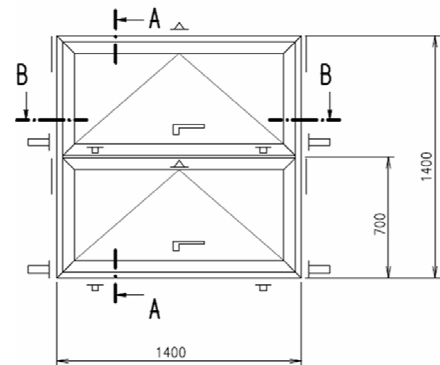
Test Report F 2006 / 10

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Annex 1**

Client: Profine GmbH
Zweibrücker Straße 200
D-66954 Pirmasens

Specification: Windows – Methods of test
Australian Standard AS 4420

Item Tested: Awning – 2 Sash outward opening
System Kömmerling Gold 58



Test Date: 04.08.2006

Test Results:	Deflection / span ratio	1: 360 at 1500 Pa
	Operation force	Passed
	Air infiltration	Passed
	Water Resistance	450 Pa
	Ultimate strength	2300 Pa

Windows – Methods of Test Australian Standard AS 4420.0 - AS 4420.6		Test Report F 2006/ 10 page 2 / 5
Client	Profine GmbH Zweibrücker Straße 200, D-66954 Pirmasens	

1. General Information

Profine GmbH, Germany commissioned the PIB GmbH (Test institute for building elements) in Pirmasens, Germany on June 6th 2006 to perform a testing of a window according to the Australian Standard for windows testing AS 4420 in accordance to the requirements of AS 2047

The item tested is a 2 Sash outward opening window. The element size is 1.4 x 1.4 [m]. Date of delivery of the test specimen June 6th 2006.

The client supplied the PIB with drawings, description of the test samples including profile references and a manual. These documents represent accurately the test sample in all respects.

2. Description of the sample

Sample type:	Awning		Manufacturer:	profine GmbH D-66954 Pirmasens	
System:	Kömmerling Gold 58		Profiles		
Material:	PVC-U		Profiles reference	Frame	1474
Element size:	1400 x 1400 (w x h)	[mm]		Sash	1467
	1.96	[m ²]		Mullion	1475
Sash size:	651 x 1323	[mm]		Glazing bead	1355.1
Opening joint:	7.9	[m]			
Construction:	Mitred, welded and grooved joints	[mm]	Reinforcement reference	Frame	9191
Glass:	Doubled glazed, 4-12-4, sealed unit	[mm]		Sash	9190
Fittings:	Roto 4 point locking system operated by a single handle			Mullion	9176
Drainage:	<u>Frame:</u> 3 slots 5x15 mm per field from the rebate into the pre chamber and 6 slots 5x16 mm from the pre-chamber to outside <u>Sash:</u> 3 slots 5x16 mm top and bottom per sash		Gaskets	Frame:	9040
				Sash:	9040
				Glazing	Inner: coex Outer: 9044.1

3. Performance

The test rig is a model from K+S Schulten, Germany. On the rig elements up to 3.7 m wide and 2.5 m high can be tested. The centrifugal fan reaches 250m³/h and a maximum pressure difference of +/- 3000 Pa.

The test sequences are programmed and the test performance is operated by the computer. All data are electronically measured and saved on a data base.

The test elements were mounted in a metal subframe to fix on the test rig.

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4. Examination and Test

Date of Test:	4th August 2006	Temperature °C:	21	Air pressure [hPa]	1006
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4.1 Deflection Test according to AS 4420.2

The test procedure follows AS 4420.2. The span (A-B) was 1225 mm
Maximum deflection at l/150 -> 8.2 mm, at l/180 -> 6.8 mm and at l/250 -> 4.9 mm

Pressure [Pa]	Duration [min]	Displacement [mm]			Mid span deflection [mm]	Deflection ratio
		1 (A,top)	2 (C,mid)	3 (B,bottom)		
0	1	0,0	0,0	0,0	0,0	-
250	1	0,1	0,6	0,1	0,5	1:2450
500	1	0,3	1,3	0,3	1,0	1:1225
750	1	0,5	2,0	0,5	1,5	1:817
1000	1	0,7	2,6	0,6	2,0	1:613
1250	1	0,9	3,3	0,8	2,5	1:490
1500	1	1,1	4,0	1,0	3,0	1:408
0	2	0,1	0,3	0,0	0,2	-

Pressure [Pa]	Duration [min]	Displacement [mm]			Mid span deflection [mm]	Deflection ratio
		1 (A,top)	2 (C,mid)	3 (B,bottom)		
0	1	0	0	0	0	-
- 250	1	-0,2	-0,7	-0,2	-0,5	1:2450
- 500	1	-0,4	-1,4	-0,3	-1,1	1:1114
- 750	1	-0,6	-2,1	-0,5	-1,6	1:766
- 1000	1	-0,8	-2,9	-0,7	-2,2	1:557
- 1250	1	-1,0	-3,7	-0,9	-2,8	1:438
- 1500	1	-1,2	-4,6	-1,1	-3,4	1:360
0	2	-0,2	-0,5	-0,2	-0,3	-

Result:

Building type	Max deflection ratio	Serviceability design wind pressure
housing	1 :150	1 500 Pa
residential	1 :180	1 500 Pa
commercial	1 :250	1 500 Pa

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4.2 Operation force test according to AS 4420.3

The test procedure follows AS 4420.3

Force	Tilt and Turn
to open handle	7.0 Nm

4.3 Air Infiltration Test according to AS 4420.4

The test procedure follows AS 4420.4

Pressure [Pa]	Duration [sec]	Total [m³/h]	Total [L/s] *0.278	Air infiltration L/sm² Area = 6.6 m²
0	15	0	0	0
75	15	2,2	0,6	0,09
150	15	2,7	0,75	0,11
0	15	0	0	0
-75	15	2,6	0,72	0,11
-150	15	3,7	1,0	0,15

The maximum air infiltration according to AS 2047 should be less than 1 l/sm² at 75 Pa and less than 1.6 l/sm² at 150 Pa for air-conditioned building types. The measured air infiltration fulfils this requirement.

Air infiltration test for air conditioned building type passed

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4.4 Water penetration test according to AS 4420.5

The test procedure follows AS 4420.5 Spraying Method (unprotected mounting) with a jet line and an amount of 3l/(min·m²). Tilt of the axis 24° to horizontal line.

Result:

pressure difference [Pa]		duration [s]		water [l/m ²]	
Nominal	actual	Nominal	actual	nominal	actual
0	0	300	300	6	6,1
450	450	900	900	6	6,0

No occurrence of leakage at 450 Pa.

Rating: This window is classified for water penetration resistance in N 6

4.5 Ultimate Strength test according to AS 4420.6

The test procedure follows AS 4420.6.

Within 1min. the differential pressure has been increased to the determined test pressure of 2300 Pa maintained for 10 sec. No collapse of the element, described in AS 2047 had been observed.

Rating: This window is classified for ultimate strength in N 4

Pirmasens, August 14th 2006

Certified by



i.V. Dr. Claus Doernfeld
Head of Laboratory



tested by



i. A. Walter Kau
Test Engineer

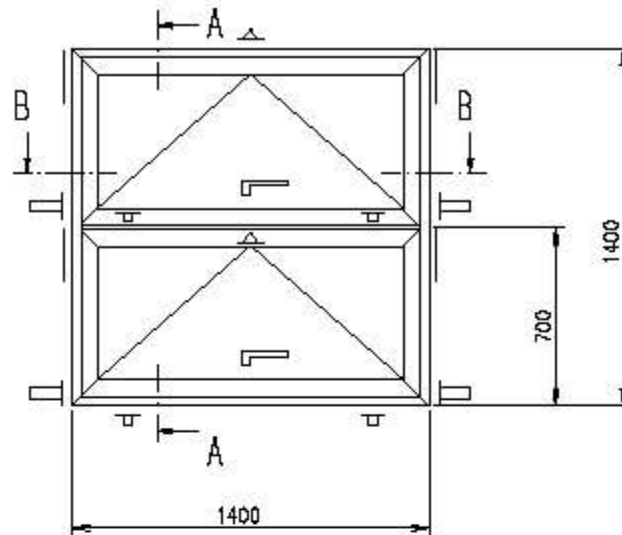
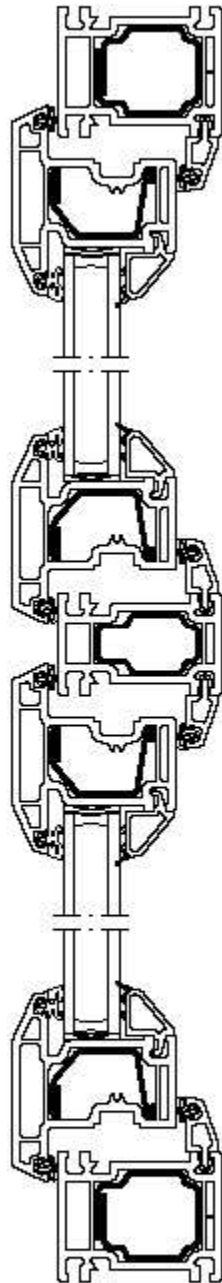
Client

Profine GmbH

Zweibrücker Straße 200, D-66954 Pirmasens

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A-A

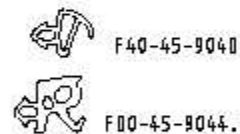


-  Friction stay
-  Locking wedge
-  Shoot bolt
-  Roller cam
-  handle

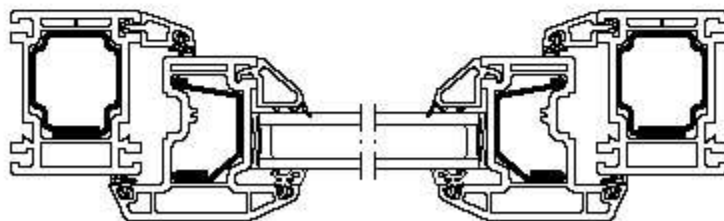
Universal frame profile: F75-86-1474
F75-86-1475
F75-36-1490
Reinforcement: F75-40-9191
F75-40-9176

Sash Profile: F75-06-1467
Reinforcement: F75-40-9190

Glazing bead: F00-38-1355.1



B-B



out of scale

Für diese technische Darstellung übernehmen wir insbesondere hinsichtlich technischer, insbesondere für Bauteile aus dem Bereich der Bauelemente, die wir nicht selbst herstellen, keine Haftung für die Richtigkeit der Darstellung. Die Richtigkeit der Darstellung wird durch die Angabe der Bauelemente und die Angabe der Bauelemente hergestellt. Die Bauelemente sind in der Darstellung dargestellt. Die Bauelemente sind in der Darstellung dargestellt. Die Bauelemente sind in der Darstellung dargestellt.



profine GmbH
D-66929 Pirmasens

Bezeichnung:

Testing AS 2047
Awing
Gold 58mm Universal



D1.12.05

S. Harbig

Produkt-Nr.:

06_Gold_58U_Awing