IAN BENNIE AND ASSOCIATES

TEST REPORT NO. 6026S2

ZENDOW UPVC FRENCH INWARD CASEMENT WITH TILT-TURN WINDOW PROTOTYPE TEST to AS2047-1999

for

DECEUNINCK EGE PROFIL TIC. VE SAN A.S.

December 2006

NATA

Registered Laboratory No. 2371

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Building Performance Testing
ACN : 007 133 253

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Test Client: **DECEUNINCK EGE PROFIL TIC. VE SAN A.S.**

Sample Identification: A Zendow UPVC French Inward Casement with Tilt-Turn Window, measuring, 1500 mm in height x 1500 mm in width. The sample is detailed in the DECEUNINCK EGE PROFIL TIC. VE SAN A.S. drawings given in Appendix C.

NOTE: The air leakage and water leakage tests were conducted with a keeper added at the bottom LH corner of the LH sash

Test Method: Structural Deflection, Air Infiltration, Water Penetration Resistance and Ultimate Strength test performance requirements to Clause 2.3 of Australian Standard AS2047-1999, and test procedures to Australian Standard AS4420-1996 as detailed in Appendix A.

Test Location: IBA Test Centre
Dandenong, Melbourne.

Test Date(s): 5 and 18 April 2006.

Pre-loading: The sample was preloaded and operated five (5) times prior to testing.

TEST RESULTS

Deflection Test

Deflections recorded:

	Housing (span/150)		Residential (span/180)		Commercial (span/250)	
Pressure (Pa)	+2310	-2310	+2310	-2310	+2310	-2220
Mullion						
Deflection	span/256	span/245	span/256	span/245	span/256	span/254
Sash Rail						
Deflection	span/1487	span/6936	span/1487	span/6936	span/1487	span/9396

All test readings and calculated deflections are given in Table 1 and measurement locations are indicated on Figure 1.

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Air Infiltration Test

Air Leakage Recorded ($L/s.m^2$)	Pressure Applied (Pa)			
Condition	**+78**	**+151**	**-75**	**-153**
Chamber & Sample (A):	0.27	0.44	-0.20	-0.30
Chamber (sample taped) (B):	NR	NR	NR	NR
Sample (A-B):	**0.27**	**0.44**	**-0.20**	**-0.30**

NR: measurement not required

Water Penetration Test, 250 Pa

No water was observed during the test.

Water Penetration Test, 300 Pa

Water was observed in one (1) location during the test.

1/ Water penetrated past the sill airseal of the RH sash during the test, which constitutes a failure.

Ultimate Strength Test: +2310 Pa & -2310 Pa

No sign of collapse was observed at either test pressure.

CONCLUSION

The Zendow UPVC French Inward Casement with Tilt-Turn Window sample achieved the following ratings per AS2047-1999 and Building Importance Level 2 when tested for Structural Deflection, Air Infiltration, Water Penetration Resistance and Ultimate Strength. Referenced Standards, building classifications, housing limitations and Region data are summarised in Appendix B.

NOTES:

1. Ratings have been calculated using the 2002 issue of AS/NZS 1170.2. The client can re-calculate the ratings using the 1989 issues of AS 1170.2 from the test results if required.
2. Ratings have only been calculated for BCA Building Importance Level 2. The client can re-calculate the ratings for other levels of importance from the test results if required.

Housing ratings:

Regions A & B.....N4
Region C.....+830 ‡ ..... and .....-980 # Pa
Region D .....+780 # ..... and .....-780 # Pa

Residential and Commercial building ratings:

Region A .....+830 ‡ ... and ....-1560 Pa
Region B .....+830 ‡ ..... and ....-1030 # Pa
Region C .....+830 ‡ ..... and .....-980 # Pa
Region D .....+780 # ..... and .....-780 # Pa

‡ - rating is limited by the maximum water test pressure applied without failure.
# - rating is limited by the maximum ultimate test pressures applied without failure.

Air Infiltration: Airconditioned and non-airconditioned Buildings

Maximum Water Penetration Resistance Pressure: 250 Pa

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Ian Bennie 13 December 2006
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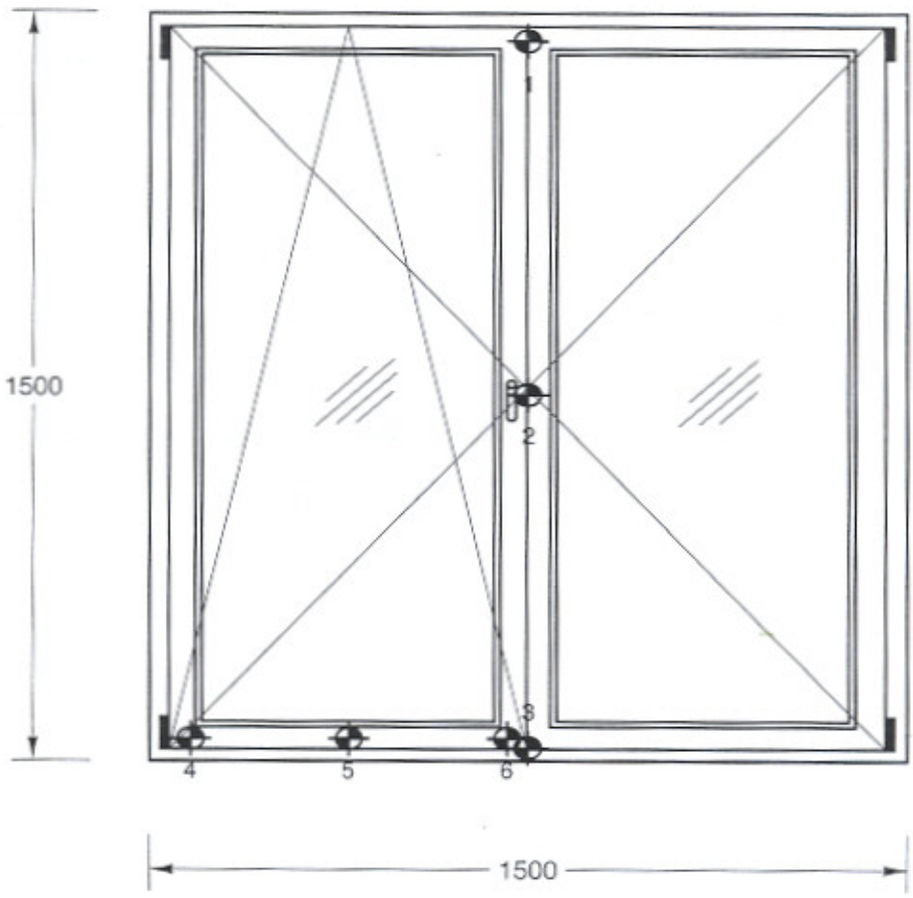

INDOOR VIEW

Displacement measurement locations:

1. Mullion - top
2. Mullion - centre
3. Mullion - bottom
4. Door Rail - left
5. Door Rail - centre
6. Door Rail - right

Figure 1. Indoor view of the test sample showing the displacement measurement locations.