façadelab

PO Box 285, Kumeu, Auckland, New Zealand.
Phone: +64 9-415 2800 Mob +64 21-977 876.

TEST REPORT No. 13/04

REFERENCE: Heirloom Joinery
467 Takou Bay Road
RD2
Kerikeri

Performance tests on double glazed Timber framed large fixed light window with tilt and turn inward opening door in accordance with NZS 4211:2008 Specification for Performance of Windows

All tests reported herein have been performed in accordance with the laboratory's scope of accreditation

DATE OF TEST : 12 & 18 November 2013

SUMMARY

The double glazed timber framed large fixed light window with a tilt & turn inward opening door met the deflection requirements of the Extra High Wind Zone.

The double glazed timber framed large fixed light window with a tilt & turn inward opening door complied with the "Air-conditioned" Air infiltration requirement.

The double glazed timber framed large fixed light window with a tilt & turn inward opening door following correction of the sill seal positioning, complied with the "no water penetration" criteria of the Standard at the Extra High Wind Zone of 455 Pa.

The double glazed timber framed large fixed light window with a tilt & turn inward opening door met the Ultimate Strength requirements of the Extra High Wind Zone of ±2130 Pa.

These ratings apply to this specific sample, and may be used to claim compliance of the within the stated limitations of clause 5.2 of NZS 4211:2008.

DESCRIPTION

A double glazed Timber framed large fixed light window with tilt and turn inward opening door, with nominal overall dimensions of 2020 mm high and 2710 mm wide, was installed by the clients into the timber framed opening of the test enclosure. The tilt and turn door and large fixed window are manufactured under license from Craftsman WinDoor e V. of Dortmund, Germany, using their specified hardware, seals, gaskets and other components. Local supply of timber is machined in accordance with the Craftsman WinDoor e V design manual.

The tilt and turn door panel door was supported on a Siegenia Favorit Tilt & Turn mechanism, incorporating perimeter locking with a mid height operating handle. The door panel was glazed with 24 mm (4-16-4) Insulated Glazing units installed using an external 3 x 9 adhesive foam tape backing gasket and internal timber glazing bead bedded into a continuous bead of Dow Corning 680 silicone sealant. The large fixed light was glazed with a 24 mm (5-14-5) IGU using the same glazing details.

The door panel incorporated a Trellborg Dipro L5150 gasket inserted into a rebate around the inner edge as a closing seal. The sill below the tilt & turn door opening utilized a proprietary Gutmann Kocher SOE TXL drainage bar that incorporated an outer flexible flange that contacted the bottom rail, and provided drainage of the closing perimeter rebate. A separate attachment sill is fastened to the bottom frame across the full width of the window.

Tested by:..... Checked by.....

A copy of an A4 drawing of the joinery supplied by the clients, showing dimensional details of the timber profiles, and details of the glazing , gaskets, seals and the sill drainage system is attached.

TESTING

The double glazed timber framed large fixed light window with a tilt & turn inward opening door was tested in accordance with NZS 4211:2008, Specification for Performance of Windows. Deflection tests were carried out on the single mullion, to determine the maximum permitted Wind Zone.

During an initial water penetration test, water penetration occurred at several positions below the inward opening door seal. The client determined that the locating slot for the bottom seal had been incorrectly positioned, and removed the door panel for modifications to correct the seal alignment.

Following a subsequently successful water penetration test the client request that a water penetration test be carried out a static pressure of 1000 Pa. When this resulted in water penetration from the sill and jamb seals, the test was discontinued. The client removed the 'Acoustic' seal around the internal edge of the door panel, prior to a further water penetration test at 455 Pa.

RESULTS

Clause 6 SERVICEABILITY DEFLECTION

Centre mullion - Overall height	1950 mm
- Test Span	1910 mm
Maximum permitted deflection (span/200)	9.55 mm
Positive Pressure Test	
Deflection at 510 Pa	1.9 mm
Deflection at 680 Pa	2.8 mm
Deflection at 970 Pa	3.4 mm
Deflection at 1250 Pa	4.4 mm
Deflection at 1515 Pa	5.3 mm
Residual deflection	0.0 mm
Negative Pressure Test	
Deflection at -510 Pa	-1.7 mm
Deflection at -680 Pa	-2.3 mm
Deflection at -970 Pa	-3.3 mm
Deflection at -1250 Pa	-4.2 mm
Deflection at -1515 Pa	-5.1 mm
Residual deflection	-0.0 mm

The large fixed light window with awning sash met the deflection requirements of span/200 at ±1250 Pa for the Very High Wind Zone and the likely Extra High Wind Zone test pressure of ±1515 Pa.

Clause 7 OPERATION OF OPENING SASHES

No requirement for Tilt & Turn sash or door.

Tested by:..... Checked by.....

Clause 8 AIR INFILTRATION

Overall window area	5.47 m^2
Opening joint length	5.50 m

Maximum permitted leakages are calculated as follows:-

Air conditioned	5.38 l/s
Non-air conditioned	21.9 l/s

Positive Air Leakage Test

Net air flow (total - booth)	1.0 l/s

Negative Air Leakage Test

Net air flow (total - booth)	0.8 l/s

The double glazed Timber framed large fixed light window with tilt and turn inward opening door complied with the "Air-conditioned" rating.

Clause 9 WATER PENETRATION

Following the modifications by the client to correctly reposition the bottom rail closing seal on the door panel, the double glazed Timber framed large fixed light window with tilt and turn inward opening door complied with the

After removal of the Trellborg Dipro L2020 gasket from around the inner perimeter of the door, claimed to be for acoustic seal purposes only, the door maintained the "no water penetration" criteria of the Standard at the Extra High Wind Zone of 455 Pa.

Clause 10 ULTIMATE STRENGTH

Wind Zone:	Extra High
Maximum Test Pressure	2130 Pa

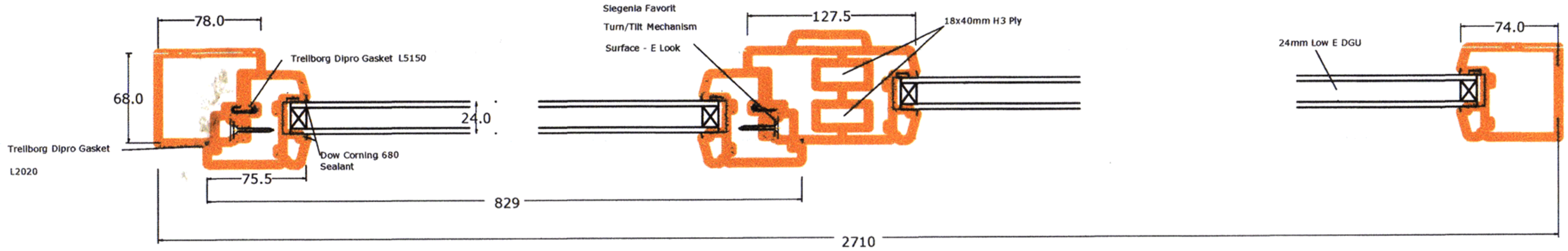
The double glazed Timber framed large fixed light window with tilt and turn inward opening door met the Ultimate Strength requirements of the Extra High Wind Zone of ±2130 Pa, with no structural damage observed.

.....John Yolland
Authorised Signatory

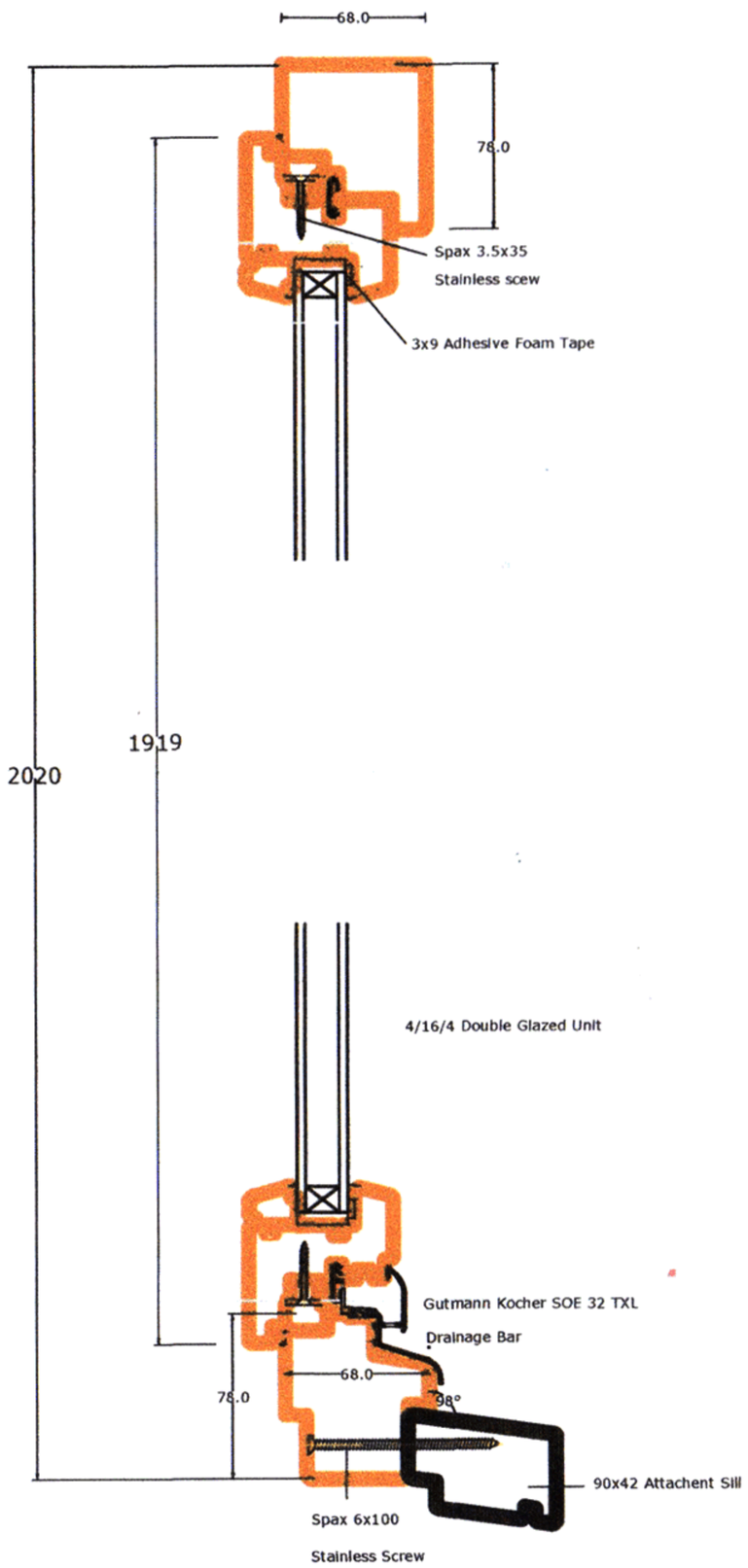
28 November 2013

Tested by:..... Checked by:.....

Horizontal Section



Vertical Section - Active Sash



Vertical Section - Fixed Sash