

MASONRY WALL TIES TESTING
(Sheriff Light Duty Steel Frame Veneer Ties)

PROJECT NO. A / 721_1

by

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CLIENT: Abey Australia
57-81 Abey Road
Cobblebank VIC 3338

September, 2019

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TEST DATE: September 2019

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57-81 Abey Roadt
Cobblebank VIC 3338

TIE DESCRIPTION: Sheriff light duty steel frame veneer tie
(by manufacturer) Z600 galvanised, R2

TEST SPECIMENS: Test specimens were constructed in a way that closely simulates actual building technique. The one end of the tie was firstly fixed to a 450 mm long steel structural member using a screw supplied, in accordance with the manufacturer's recommendations, and the other end was mounted between brick couplet. The typical specimen is shown in Figure 1.

Number of Specimens: 12 (6 for testing in compression and 6 for testing in tension)

Cavity: 50 mm

Bricks: Extruded

Mortar: 1 : 2 : 9 (cement : lime : sand by volume)

Structural member: 450 mm long metal stud with 1.2 mm thickness (supplied by the client) fixed using screws supplied by the client.

TEST DESCRIPTION: The specimens were tested in accordance with AS/NZS 2699.1: 2000, Built-in components for masonry construction, Part 1: Wall Ties, Appendix B.

TEST EQUIPMENT: The test was performed using an Instron Universal Testing Machine (calibrated in accordance with AS 2193, grade A testing machine) and the rig specially built for this test, as shown in Figure 2. The testing machine was operated under the displacement control

LOCATION OF TESTING FACILITY: Structural Laboratory, Discipline of Civil, Surveying and Environmental Engineering, The University of Newcastle.

TESTS

CARRIED OUT BY:

Goran Simundic BE, ME, MIE Aust, CPEng, Structural Testing Manager

TEST RESULTS:

The forces required to induce 1.5 mm deflection or failure in tension and compression are presented in Table 1.

The ties are classified as **type A, Light Duty** steel frame veneer ties for a cavity width of 50 mm and for steel frame of minimal thickness of 1.2 mm.

Table 1. Test Results

Specimen Number	Force required to induce 1.5 mm deflection or failure (kN)	
	Tension	Compression
1	0.39	0.49
2	0.33	0.52
3	0.40	0.68
4	0.33	0.58
5	0.46	0.51
6	0.41	0.54
<i>Average:</i>	0.39	0.55
<i>Standard Deviation:</i>	0.05	0.07
<i>Coefficient of Variation:</i>	0.20	0.20
<i>Char. Value Factor K:</i>	0.74	0.74
<i>Characteristic Value:</i>	0.24	0.36

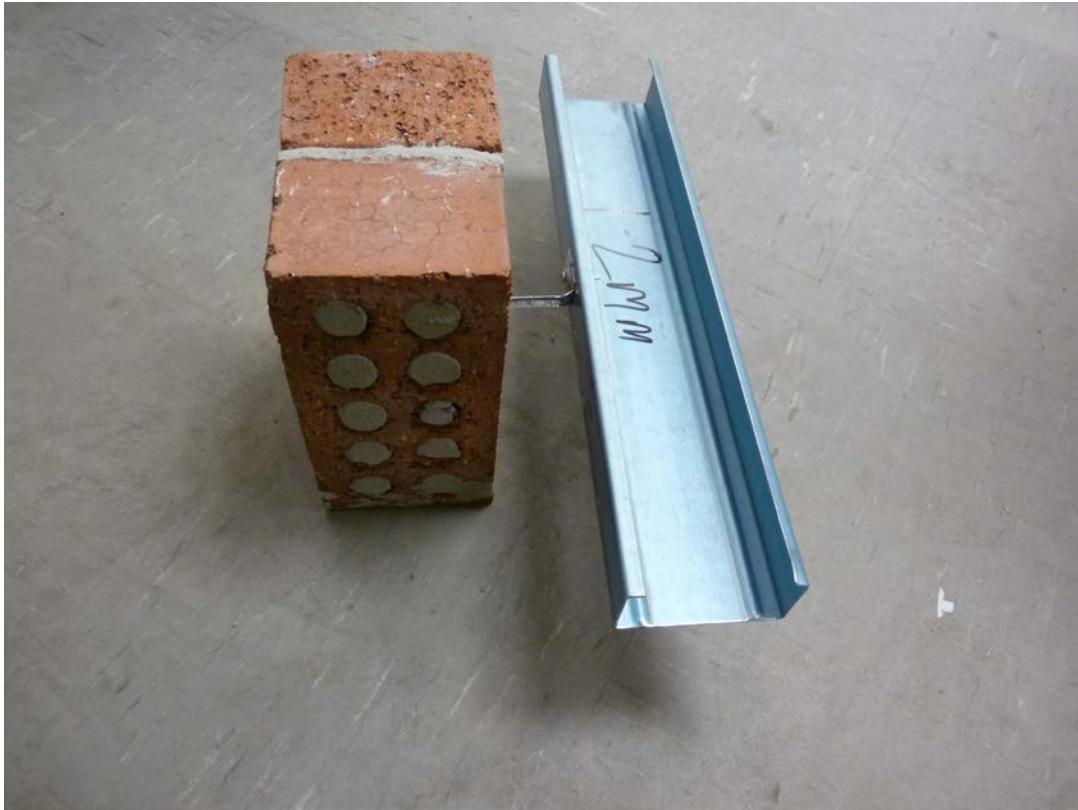


FIGURE 1. Test Specimen



FIGURE 2. Testing Arrangement