

29 June 2006

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Job No. 1-L0060.54  
Lab Ref: 010-011/06  
Page 1 of 1

## MASONS WALL TIES

### Testing to AS/NZS 2699.1:2000 using Monier, Midland and Austral Clay bricks

#### 1. Client

Masons Brickies and Plastering Gear Ltd  
12c Te Kea Place  
Po Box 300771 Albany  
Auckland

#### 2. Objective

To determine the strength of Masons Wall Ties to comply with AS/NZS 2699.1:2000 "Built in components for Masonry Construction" type B ties, using both dry bed and wet bed laying.

#### 3. Products used

Masons wall ties were supplied in 85mm and 115mm. The ties were fixed to the framing with 35mm x 12g type 17 hex head screw. The bricks used were supplied by Monier Brickmakers, Midland Bricks, and Austral Bricks.

#### 4. Date and location of testing

The tests were carried out in May 2006 at the Opus Materials Testing Laboratory in Albany, Auckland NZ.

#### 5. Construction

The specimens constructed were built as per (figure A1 in AS/NZS 2699.1:2000) to simulate normal building construction. The ties were tested 28 – 35 days after construction.

#### 6. Results and findings

As per attached data sheets.

#### 7. Conclusions

The ties tested concluded that Masons Wall ties comply to AS/NZS 2699.1:2000.  
The ties are rated **Heavy Duty** and pass all the minimum requirements for both **characteristic strength and stiffness of a type B tie.**

**DATA SHEET**  
**MASONS WALL TIES**  
**85mm Ties - With Monier, Midland & Astral Bricks**

**Client:**

Masons Brickies and Plastering Gear Ltd  
 Attention: Trent Mason

**Test Method:**

Testing was carried out following the method as described in AS/NZS 2699.1:2000 Appendix A. "Method for determining the stiffness and strength of type B veneer ties".

**Samples:**

Samples were prepared and left to cure for 28 - 35 days.  
 Test 1 Dry Bed. Test 2 Wet Bed

**Findings:** Test Reference 1-L0060.54 Test 010/06

a) Stiffness

<b>Characteristic stiffness</b>	Wet Bed	0.209 kN/mm
<b>Characteristic stiffness</b>	Dry Bed	0.218 kN/mm

b) Strength

<b>Characteristic strength</b>	Wet Bed	1.62 kN/mm
<b>Characteristic strength</b>	Dry Bed	1.84 kN/mm

**Specification:**

Minimum Characteristic strength and Minimum Characteristic stiffness under axial loading (from AS/NZS 2699.1:2000)

Classification for seismic veneer tie	Minimum Characteristic axial stiffness (kN/mm)	Minimum Characteristic axial strength (at the end of the 4 <sup>th</sup> 10mm tension cycle) (kN)	Minimum Characteristic residual strength (at the end of the 15 mm cycle) (kN)
Light Duty (EL)	0.150	0.500	0.350
Medium Duty (EM)	0.175	0.750	0.550
Heavy Duty (EH)	0.200	1.500	1.100

**Conclusion:**

The ties tested concluded that Masons Wall ties comply to AS/NZS 2699.1:2000. The ties are rated **Heavy Duty** and pass all the minimum requirements for both characteristic strength and stiffness of a type B tie.

Tested: D Hotham  
 Checked: A Griffiths  
 Date: 29/06/06




**DATA SHEET**  
**MASONS WALL TIES**  
**115mm Ties - With Monier, Midland & Astral Bricks**

**Client:**

Masons Brickies and Plastering Gear Ltd  
 Attention: Trent Mason

**Test Method:**

Testing was carried out following the method as described in AS/NZS 2699.1:2000 Appendix A. "Method for determining the stiffness and strength of type B veneer ties".

**Samples:**

Samples were prepared and left to cure for 28 - 35 days.  
 Test 1 Dry Bed. Test 2 Wet Bed

**Findings:** Test Reference 1-L0060.54 Test 011 /06

c) Stiffness

<b>Characteristic stiffness</b>	Wet Bed	0.206 kN/mm
<b>Characteristic stiffness</b>	Dry Bed	0.216 kN/mm

d) Strength

<b>Characteristic strength</b>	Wet Bed	1.52 kN/mm
<b>Characteristic strength</b>	Dry Bed	1.79 kN/mm

**Specification:**

Minimum Characteristic strength and Minimum Characteristic stiffness under axial loading (from AS/NZS 2699.1:2000)

Classification for seismic veneer tie	Minimum Characteristic axial stiffness (kN/mm)	Minimum Characteristic axial strength (at the end of the 4 <sup>th</sup> 10mm tension cycle) (kN)	Minimum Characteristic residual strength (at the end of the 15 mm cycle) (kN)
Light Duty (EL)	0.150	0.500	0.350
Medium Duty (EM)	0.175	0.750	0.550
Heavy Duty (EH)	0.200	1.500	1.100

**Conclusion:**

The ties tested concluded that Masons Wall ties comply to AS/NZS 2699.1:2000. The ties are rated **Heavy Duty** and pass all the minimum requirements for both **characteristic strength and stiffness of a type B tie.**

Tested: D Hotham  
 Checked: A Griffiths  
 Date: 29/06/06

