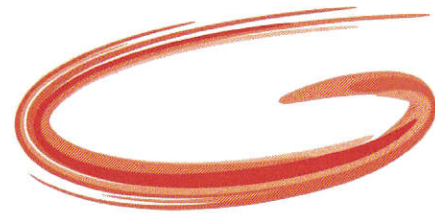


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# TEMPORARY FENCING

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A Z U M A  
Design



THE AUSTRALIAN TRELLIS DOOR CO.

DOUBLE DIAMOND MOBILE BARRIER

TESTED BY  
AZUMA DESIGN PTY LTD

# 1 Test Standards

The sample provided was tested to the methods and criteria presented

- AS 4687 - 2007 Temporary fencing and hoardings

## 2 Test Sample Description

### 2.1 General

<b>Product Name/No.</b>	Double Diamond Mobile Barrier
<b>Customer</b>	The Australian Trellis Door Co.
<b>Address</b>	Head Office: Unit 5/1 Canal Road St Peters NSW 2044
<b>Date of Test</b>	23/06/2015

### 2.2 Product Information

<b>Product Description</b>	Fence panels are connected to vertical posts with two castor wheels for each post. See attached drawing for more details.
<b>Dimensions</b>	Width - 1700 mm Height - 2015 mm
<b>Locking Method</b>	Single point locking placed at 1300 mm from finished ground level on each side connected to fixed frame
<b>Opening Shape</b>	Diamond
<b>Openings (Interior Dimensions)</b>	145 mm x 45 mm - corner to corner dimensions (see drawing for more detail)
<b>Meets Height Requirement (1500 mm Minimum)</b>	Yes 2015 mm

### 3 Testing

#### 3.1 Simulated Climbing Test

The method used in this test is taken from AS 4687 - 2007, Section 4.2.

##### 3.1.1 Procedure

1. A test apparatus with a lever arm of 400 mm is attached to the top centre of the infill panel.
2. A 65 kg weight is then attached to the end of the lever arm and left to hang freely
3. The weight is suspended for a period of 3 minutes
4. The load is removed after 3 minutes and the specimen is inspected for damage to the infill panel and structural members

##### 3.1.2 Results

Weight Used	65 ± 0.5 kg
Time Elapsed	3 minutes
Signs of Breakage/Damage or Failure	Nil
Result	Pass

##### 3.1.3 Pictures



Figure 1: Simulated Climbing Test

## 3.2 Impact Test

The method used in this test is taken from AS 4687 - 2007, Section 4.3.

### 3.2.1 Procedure

1. A torispherically shaped impactor of 150 mm diameter, 270 mm long and weighing 37 kg is suspended above the test specimen in line with the impact area.
2. The impactor is then raised to a height such that it impacts with a force of 150 J
3. The impactor is released
4. The product is observed for the following:
  - (a) signs of penetration
  - (b) signs of failure between connecting materials and support frame
  - (c) signs of cracking or fractures on panels framework
  - (d) overturn due to impact; and
  - (e) exceeding a dynamic deflection of 300 mm at the point of impact
5. The test is conducted at the top corner, top centre, centre and side centre

### 3.2.2 Equation for Impact Height

To determine the drop height required for the impactor the following equation is used:

$$h = \frac{P.E.}{mg} = \frac{150}{37 * 9.8} = 0.413 \quad (1)$$

where

- P.E. is potential energy (150 Joules)
- m is mass (37 kg)
- g is gravity (taken as 9.8 m/s); and
- h is the height to be determined in meters

### 3.2.3 Results

Penetration To Infill	Failure Between Materials	Cracking/ Fracture	Overturn	Exceed 300 mm Deflection	Pass/Fail
<b>Impact 1 - Top Left</b>					
No	No	No	No	No	Pass
<b>Notes:</b> Nil					
<b>Impact 2 - Center Left</b>					
No	No	No	No	No	Pass
<b>Notes:</b> Nil					
<b>Impact 3 - Top Center</b>					
No	No	No	No	No	Pass
<b>Notes:</b> Nil					
<b>Impact 4 - Center</b>					
No	No	No	No	No	Pass
<b>Notes:</b> Nil					

### 3.2.4 Pictures

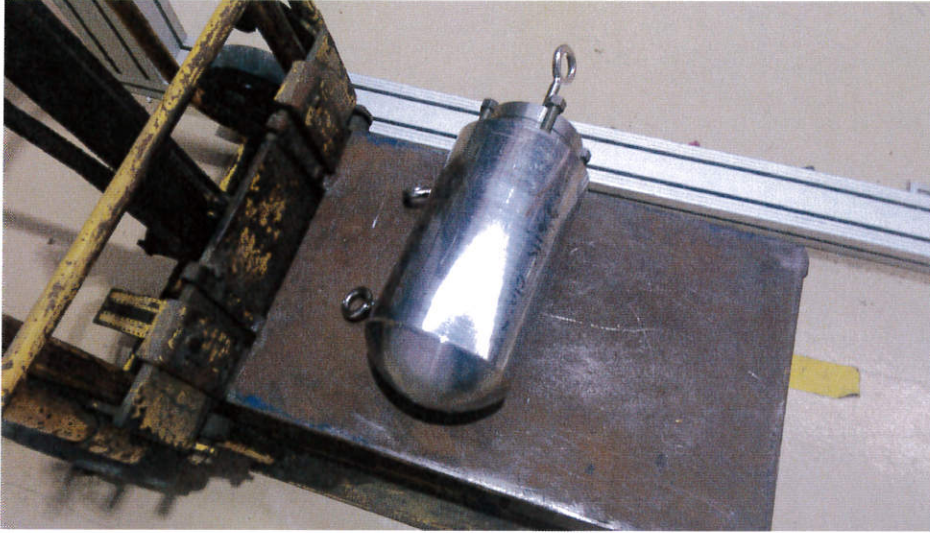


Figure 2: Impactor for Impact Test

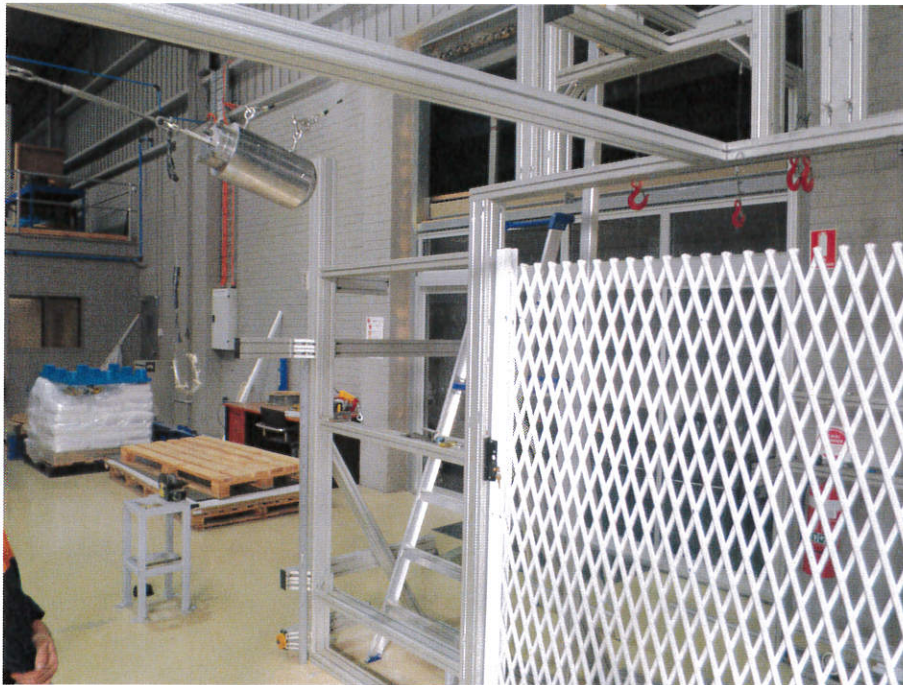


Figure 3: Impactor set up to hit top left corner with 150 J

### 3.3 Foothold Aperture Test

The method used in this test is taken from AS 4687 - 2007, Section 4.4.

#### 3.3.1 Procedure

This test is broken up into two parts

1. Infill Aperture Width Test

- (a) A 76 mm x 76 mm cubed shaped probe is used to assess the size of the apertures
- (b) It is recorded whether the probe passes through or not

2. Infill Downward Load Test

- (a) The test rig is attached to the specimen to simulate an attempted foothold
- (b) A datum is set at the point where the load is being applied
- (c) The load of 1000 N is applied to the specimen and is held for a period of 60 seconds
- (d) After 55 seconds have elapsed a measurement is taken from the datum to where the load has moved the specimen

#### 3.3.2 Results

Infill Aperture Width	
Probe Able To Pass Through	No
Result	Pass
Infill Downward Load	
Load Applied	1000 N
Datum Measurement Taken	Yes
Total Downward Deflection at 55 seconds (Maximum 35 mm)	7.5 mm
Result	Pass

### 3.3.3 Pictures



Figure 4: Infill downward load test apparatus



## 3.4 Wind Force Overturning Test

The method used in this test is taken from AS 4687 - 2007, Section 4.5.

### 3.4.1 Procedure

1. The specimen is set up in the test chamber
2. A horizontal wind speed is gradually applied to the specimen until the test value is reached
3. The force is held for 30 seconds at the maximum value
4. The specimen is observed for overturning and physical damage

### 3.4.2 Results

Wind speeds could not be achieved due to the physical nature of the product. The fan used in the test rig reached its maximum output of 50 Hz.

## 4 Conclusion and Signatories


### 4.1 Conclusion

From the results achieved, it is evident that the sample satisfied the tested requirements as per AS4687-2007 Temporary fencing and hoarding.

### 4.2 Signatories

Tested By: Ashley Horne

Signatory Name: ROB IRWIN

Signatory Signature: 

Date: 14/7/15

Double Diamond  
Mobile Barrier.

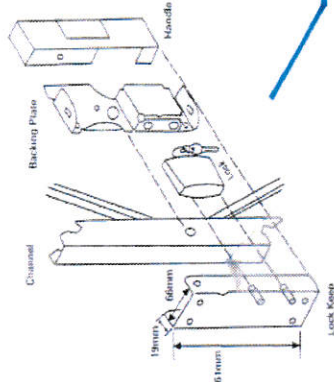
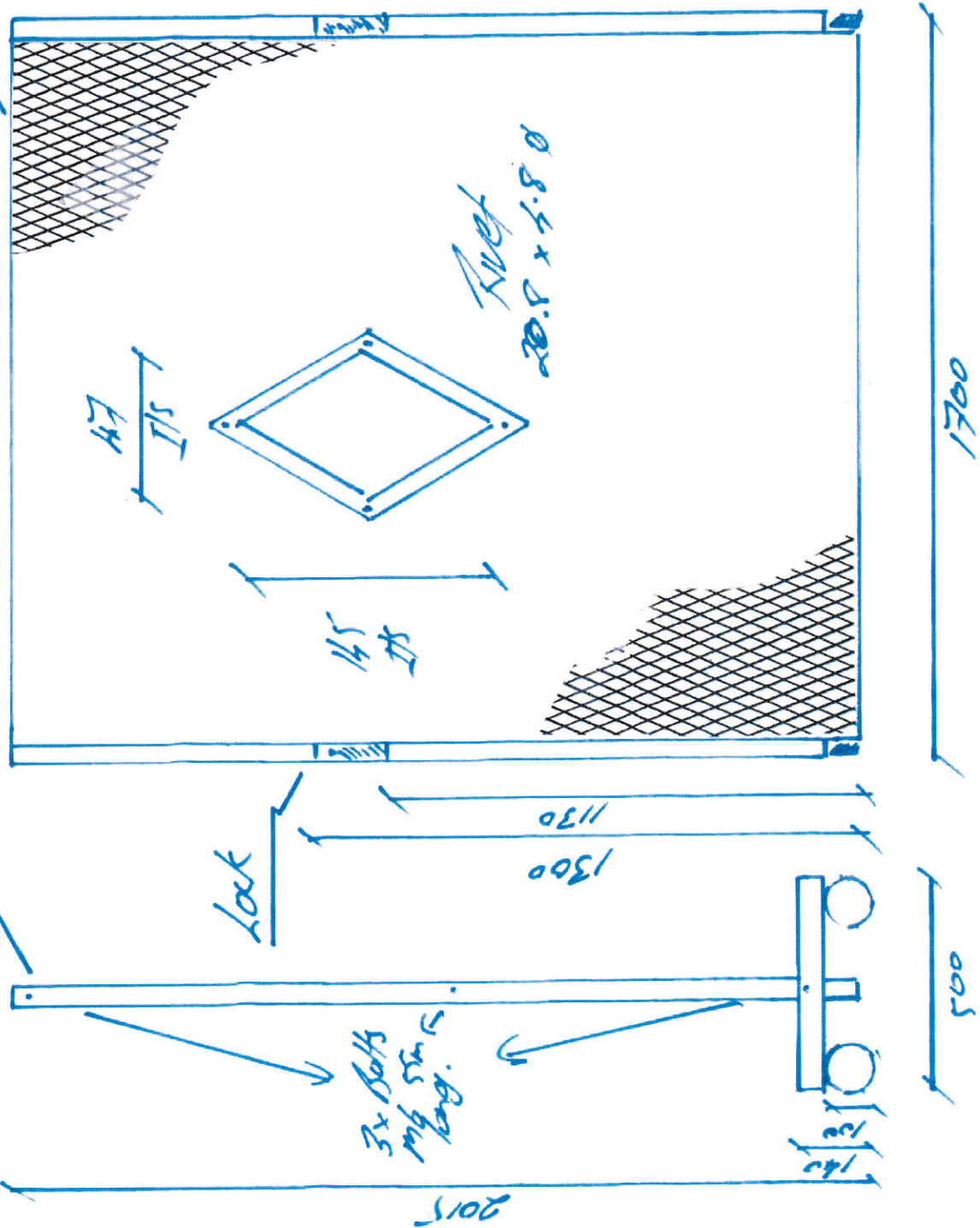
R-7 RHS

NATA Accredited Laboratory  
Number: 15147



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Lock

75mm Castor  
Wheel

