

**IAN BENNIE AND ASSOCIATES**

**TEST REPORT NO. 2009-128-R1**

**EVERBRIGHT E610 CLEAR  
POLYCARBONATE CLADDING  
SYSTEM**

**IMPACT TESTS to AS1562.3-2006**

**for**

**Everbright Roofing Systems P/L**

**February 2010**



Accredited Laboratory No. 2371  
This document is issued in accordance with  
NATA's accreditation requirements.



**IAN BENNIE & ASSOCIATES PTY. LTD.**  
**Building Performance Testing**

ACN : 007 133 253



Registered  
Laboratory  
No. 2371

**TEST REPORT NUMBER 2009-128-R1**

**Test Client:** Everbright Roofing Systems P/L  
8 Santa Monica Parade, Iluka, Perth

**Sample I.D:** Material: Everbright E610 Clear Polycarbonate Cladding System mounted on 50x150 steel purlins.  
Four alternative span and stiffening combinations of the System were tested.  
Full details of the materials provided by the Client are given in Appendix A.

**Requirements:** The Resistance to Impact of the Everbright E610 Clear Polycarbonate Cladding System was assessed to the requirements of Clauses 5.4 and 5.5 of AS 1562.3:2006, Design and Installation of Sheet Roof and Wall Cladding, Part 3: Plastic.

**Test Methods:** All test were conducted in accordance with:  
**AS/NZS 4040.4:2006** Methods of Testing Sheet Roof and Wall Cladding – Method 4: Resistance to Impact (Sandbag) for Sheet Roof Materials. Mass of bag: 25kg. Drop height: 2.5 m, and;  
**AS/NZS 4040.5:1996** Methods of Testing Sheet Roof and Wall Cladding – Method 5: Resistance to Impact (Sandbag) for Wall Boards. Mass of bag: 25kg. Drop height: 1.0 m

**Test Location:** Everbright Roofing Systems' Production Plant  
Lansdale, Perth

**Test Date(s):** 18 January 2010.

**Results:** Details of the specific sample configurations and test results are given in the following sections of this report. The following table summarises the tests and results.

| Sample No. | Sample Configuration | Impact Test                               | Result |
|------------|----------------------|---|--------|
| S1         | LS2.5 – 4.38m Spans  | AS/NZS 4040.5:1996 - Wall Boards          | Pass   |
|            |                      | AS/NZS 4040.4:2006 – Sheet Roof Materials | Pass   |
| S2         | LS2.2 – 3.62m Spans  | AS/NZS 4040.5:1996 - Wall Boards          | Pass   |
|            |                      | AS/NZS 4040.4:2006 – Sheet Roof Materials | Pass   |
| S3         | LS2.1 – 3.18m Spans  | AS/NZS 4040.5:1996 - Wall Boards          | Pass   |
|            |                      | AS/NZS 4040.4:2006 – Sheet Roof Materials | Pass   |
| S4         | LS1 – 2.61m Spans    | AS/NZS 4040.5:1996 - Wall Boards          | Pass   |
|            |                      | AS/NZS 4040.4:2006 – Sheet Roof Materials | Pass   |

**Conclusion:** The Everbright E610 Clear Polycarbonate Cladding System passed the Resistance to Impact test requirements of AS 1562.3:2006 for Sheet Roof Materials and Wall Cladding in each of the four span and stiffening configurations tested.

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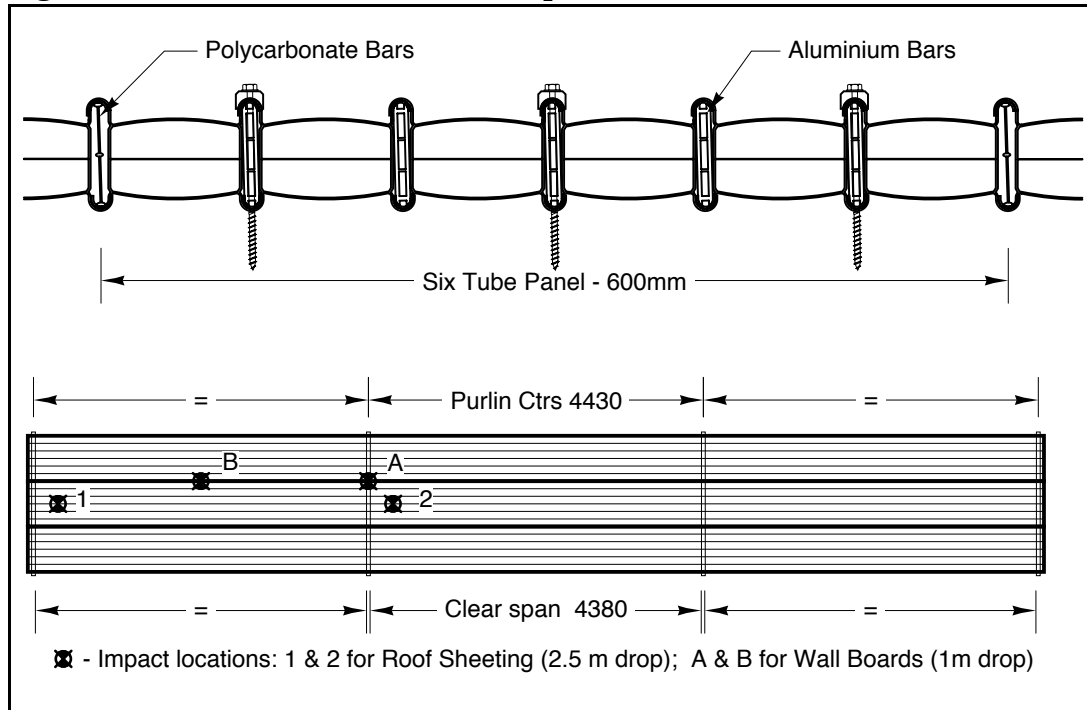


Derek Dubout, 26 February 2010  
 Authorised NATA Signatory

## Sample S1, LS2.5 – 4.38m Spans

Stiffening configuration: 5 Aluminium Locking Bars per six tube panel.

**Figure 1. Details of tests for LS2.5 sample**



### **Observations**

#### ***Test for Wall Boards***

Location A: no sign of failure or damage was observed.

Location B: no sign of failure or damage was observed.

#### ***Test for Sheet Roof Materials***

Location 1: Some minor permanent bending was observed in the Aluminium Locking Bar at the point of impact.

Location 2: Some minor permanent bending was observed in the Aluminium Locking Bar at the point of impact.

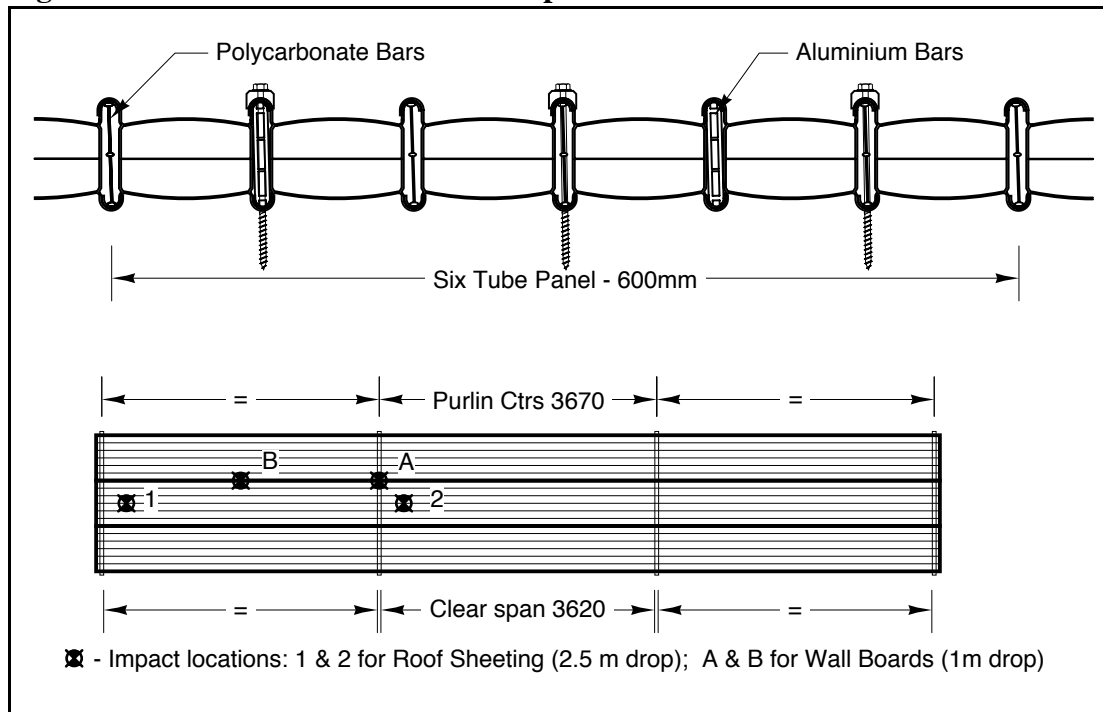
### **Result**

The sample passed the Impact Test requirements of AS 1562.3:2006 for both Wall Boards and Sheet Roof Materials.

## Sample S2, LS2.2 – 3.62m Spans

Stiffening configuration: 2 Aluminium Locking Bars per six tube panel.

**Figure 2. Details of tests for LS2.2 sample**



### **Observations**

#### ***Test for Wall Boards***

Location A: no sign of failure or damage was observed.

Location B: no sign of failure or damage was observed.

#### ***Test for Sheet Roof Materials***

Location 1: Some minor permanent bending was observed in the Aluminium Locking Bar at the point of impact.

Location 2: Some minor permanent bending was observed in the Aluminium Locking Bar at the point of impact.

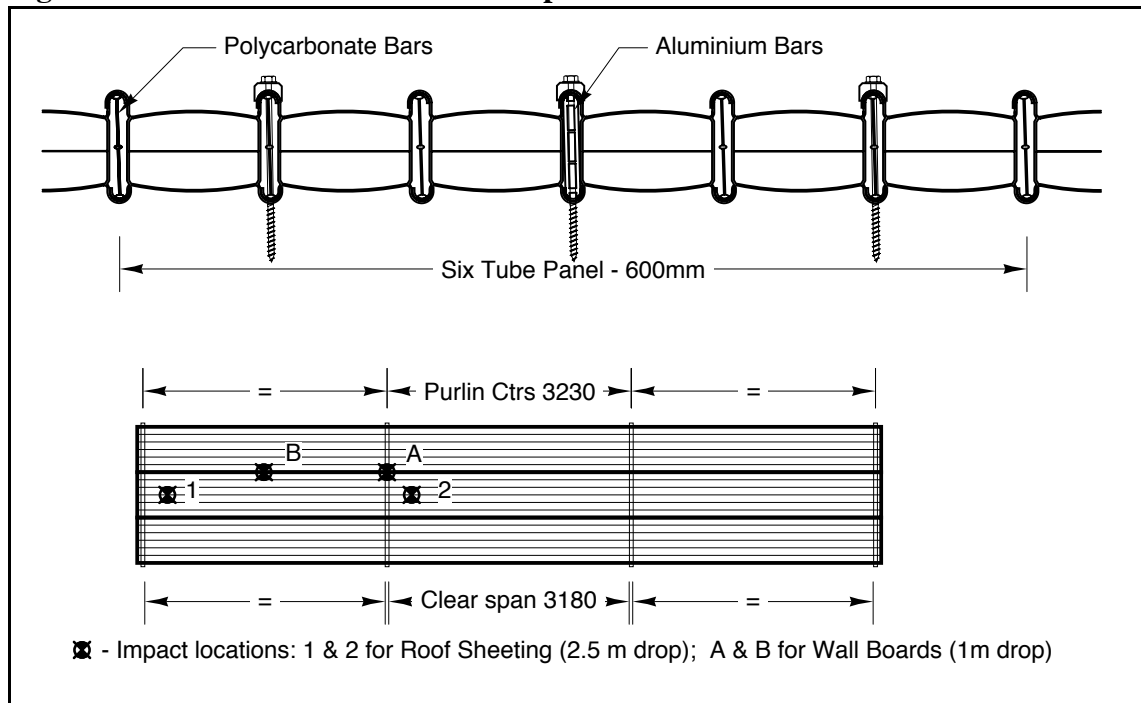
### **Result**

The sample passed the Impact Test requirements of AS 1562.3:2006 for both Wall Boards and Sheet Roof Materials.

## Sample S3, LS2.1 – 3.18m Spans

Stiffening configuration: 1 Aluminium Locking Bars per six tube panel.

**Figure 3. Details of tests for LS2.1 sample**



### **Observations**

#### ***Test for Wall Boards***

Location A: no sign of failure or damage was observed.

Location B: no sign of failure or damage was observed.

#### ***Test for Sheet Roof Materials***

Location 1: Some minor permanent bending was observed in the Aluminium Locking Bar at the point of impact.

Location 2: Some minor permanent bending was observed in the Aluminium Locking Bar at the point of impact.

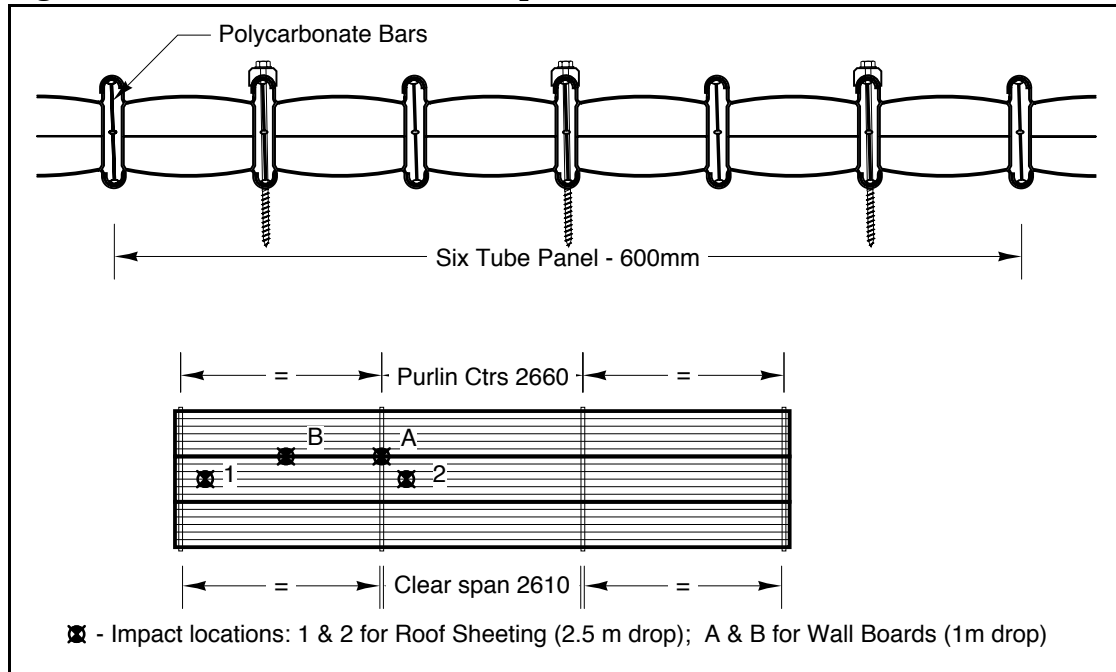
### **Result**

The sample passed the Impact Test requirements of AS 1562.3:2006 for both Wall Boards and Sheet Roof Materials.

## Sample S4, LS1 – 2.61m Spans

Stiffening configuration: All Polycarbonate Locking Bars per six tube panel.

**Figure 4. Details of tests for LS1 sample**



### **Observations**

#### ***Test for Wall Boards***

Location A: no sign of failure or damage was observed.

Location B: no sign of failure or damage was observed.

#### ***Test for Sheet Roof Materials***

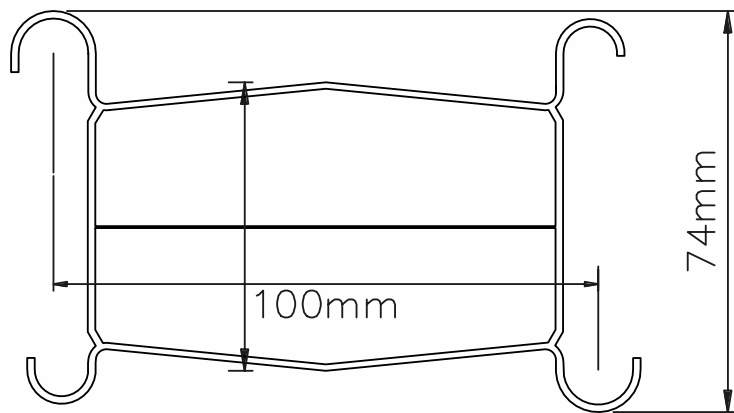
Location 1: no sign of failure or damage was observed.

Location 2: no sign of failure or damage was observed.


### **Result**

The sample passed the Impact Test requirements of AS 1562.3:2006 for both Wall Boards and Sheet Roof Materials.

# STANDARD DETAILS

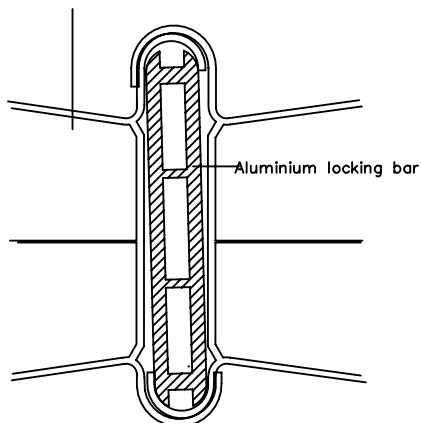


Everbright E610 profile

|  |   |                        |                |              |
|--|---|------------------------|----------------|--------------|
|  <b>EVERBRIGHT</b><br>ROOFING SYSTEMS | Santa Monica Parade<br>Iluka,<br>Perth,<br>WA 6028. | Date: 07/04/09         | E610           | Page:        |
|  |   | Scale: 1:1             |                | 1            |
| Email: info@everbrightroofing.com.au Tel: (08) 9304 2132<br>Web: www.everbrightroofing.com.au Fax: (08) 9304 0035        |   | Issue No: 1/MJM        |                |              |
| CAD Ref:   |   | Title: E610 Profile    |                |              |
| COPYRIGHT: All rights reserved by Everbright Roofing Systems   |   | Project: To be advised |                |              |
| Sales:   | Technical:  | Production:            | Date approved: | Comments:    |
| S.Trower   | M.J.Meegan  | S.Bedford              | 07/04/09       | Do not scale |

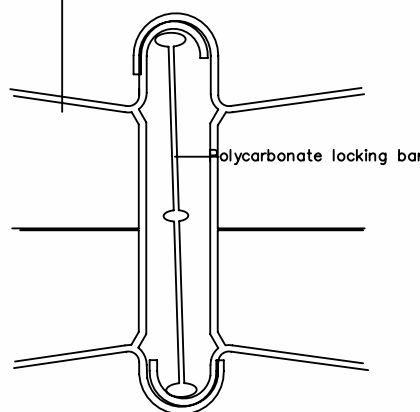
# STANDARD DETAILS

Everbright polycarbonate section



OPTION A


Everbright polycarbonate section



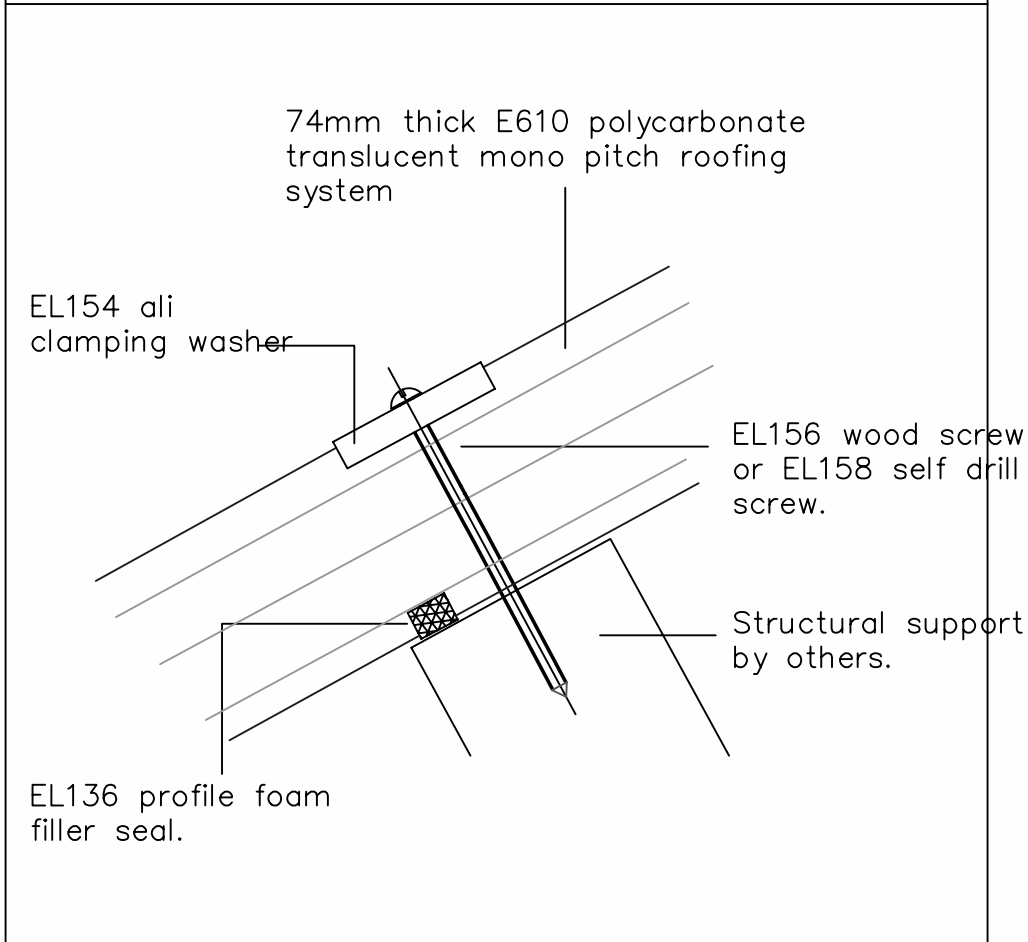
OPTION B

## Locking bar configuration

This is based upon 6 number 100mm wide Everbright polycarbonate sections linked together with either of option A or option B locking bars to attain different structural strength capabilities.

|   |   |                            |          |
|---|---|----------------------------|----------|
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|   |   | Scale: 1:1                 | E610 1   |
| Email: info@everbrightroofing.com.au Tel: (08) 9304 2132<br>Web: www.everbrightroofing.com.au Fax: (08) 9304 0035         |   | Issue No: 1/MJM            | CAD Ref: |
| COPYRIGHT: All rights reserved by Everbright Roofing Systems  |   | Title: Interlocking joints |          |
| Sales: S.Trower Technical: M.J.Meegan Production: S.Bedford Date approved: 08/04/09                                       |   | Project: To be advised     |          |
|   |   | Comments: Do not scale     |          |

# STANDARD DETAILS



Intermediate mono pitch application

|   |   |                       |  |
|---|---|-----------------------|--|
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|   |   | Scale: 1:1            |  |
| Email: info@everbrightroofing.com.au Tel: (08) 9304 2132<br>Web: www.everbrightroofing.com.au Fax: (08) 9304 0033     |   | CAD Ref:              | Title: Intermediate support detail<br>Project: To be advised<br>Comments: Do not scale |
| COPYRIGHT: All rights reserved by Everbright Roofing Systems Pty Ltd  |   |                       |  |
| Sales: S.Trower   | Technical: M.J.Meegan                               | Production: S.Bedford | Date approved: 07/04/09  |