

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
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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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 Everbright Roofing Systems P/L...PDF

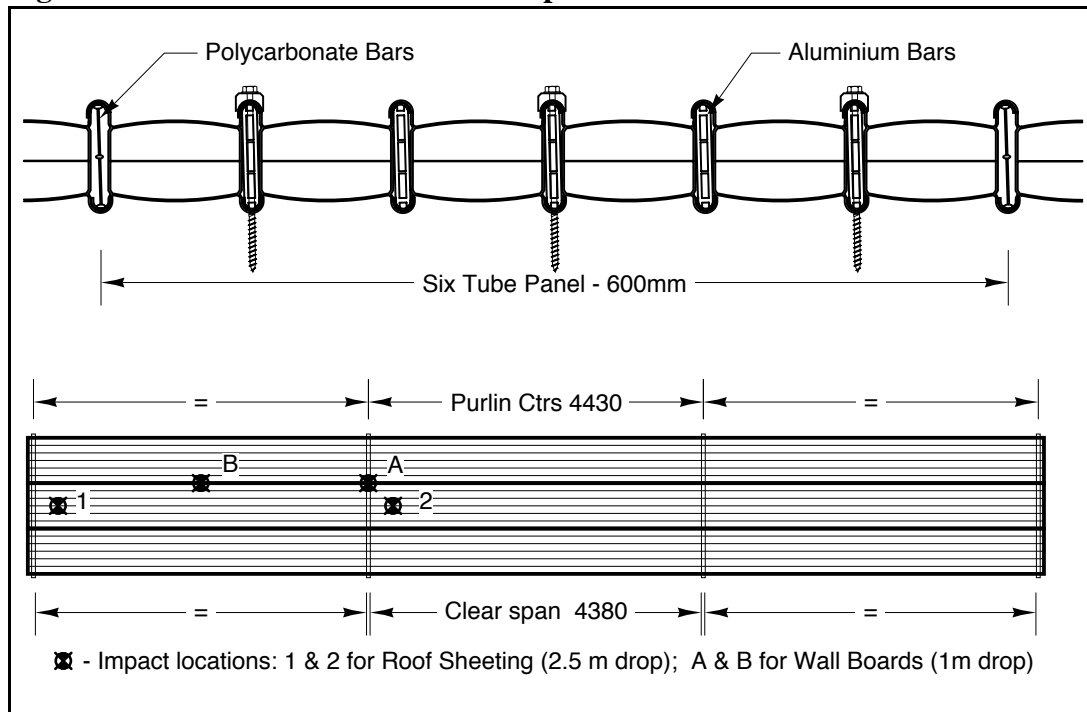


Derek Dubout, 26 February 2010
 Authorised NATA Signatory

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.

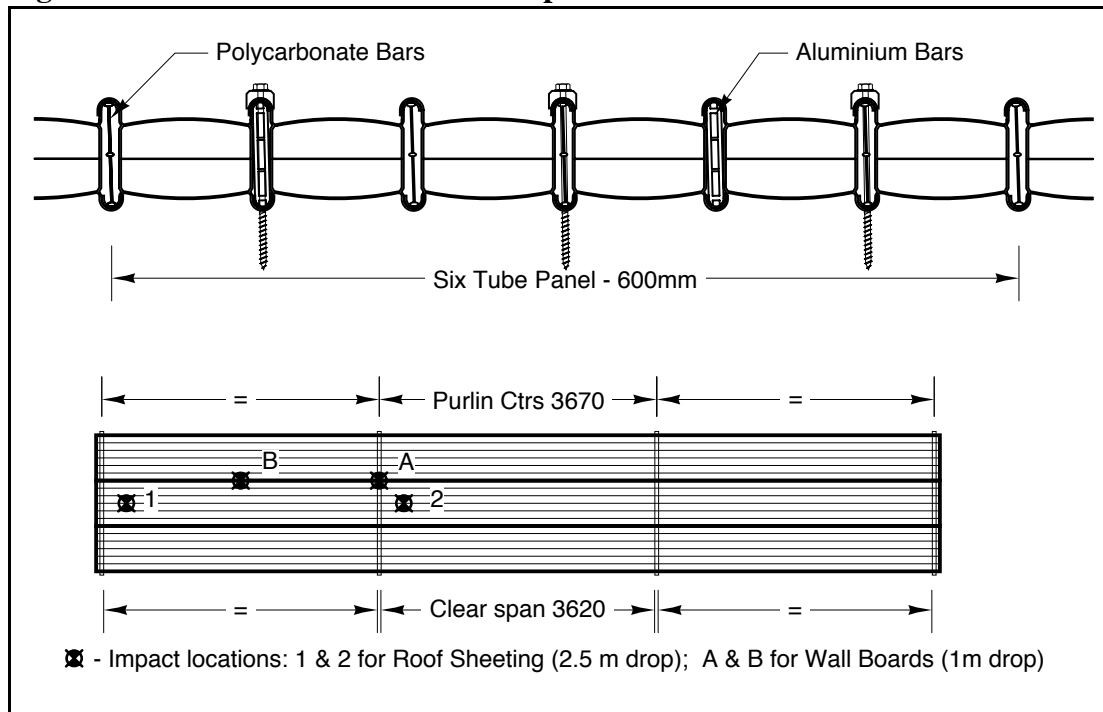
Result

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.

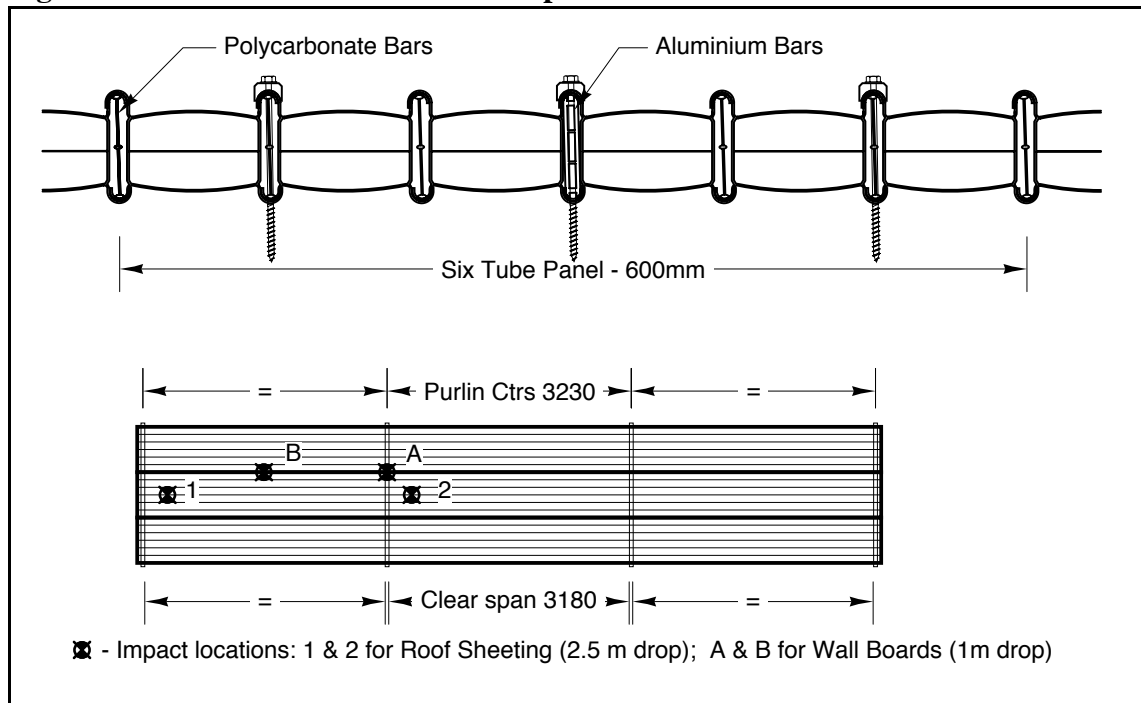
Result

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.

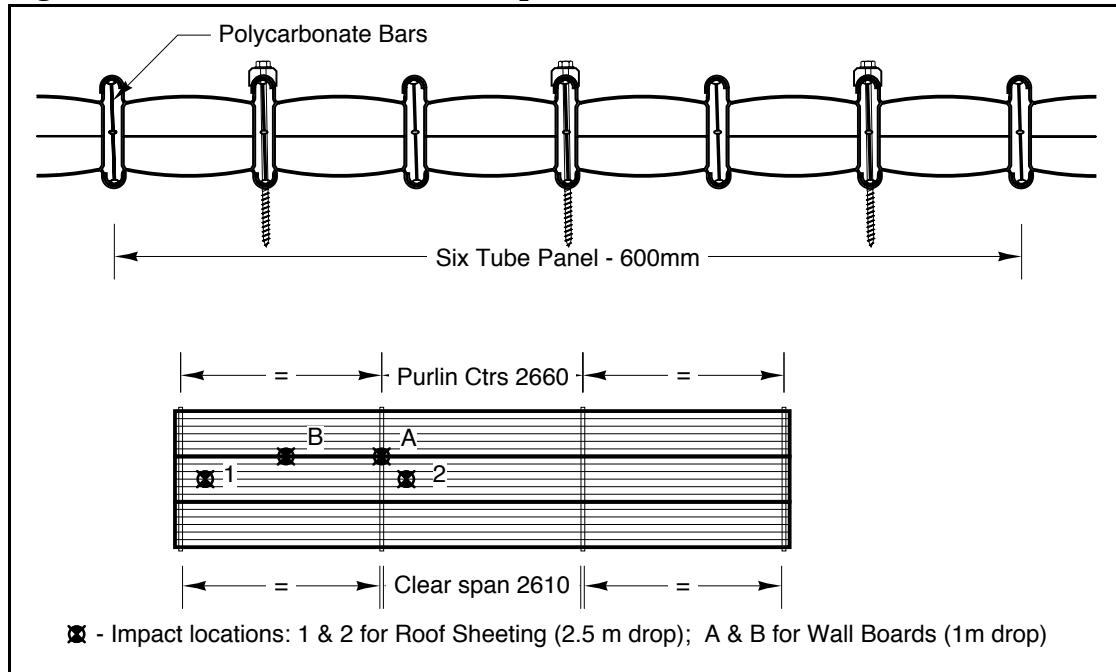
Result

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

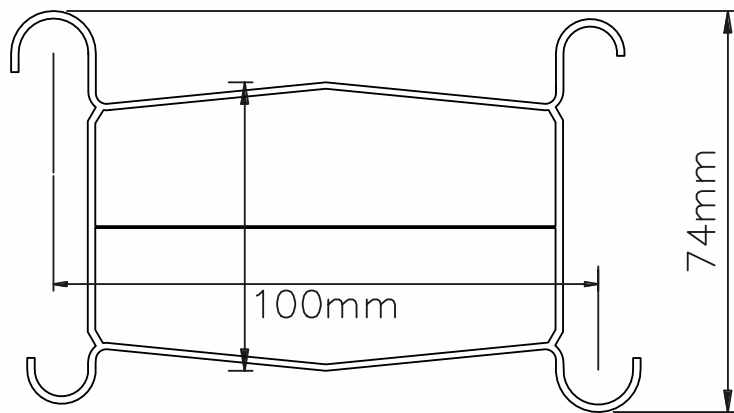
Location 1: no sign of failure or damage was observed.

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

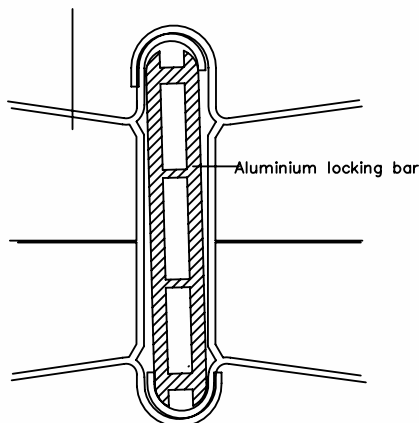


Everbright E610 profile

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

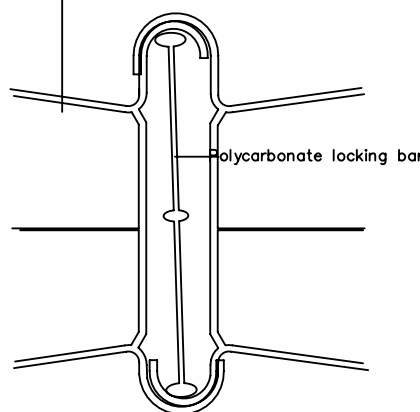
STANDARD DETAILS

Everbright polycarbonate section



OPTION A


Everbright polycarbonate section



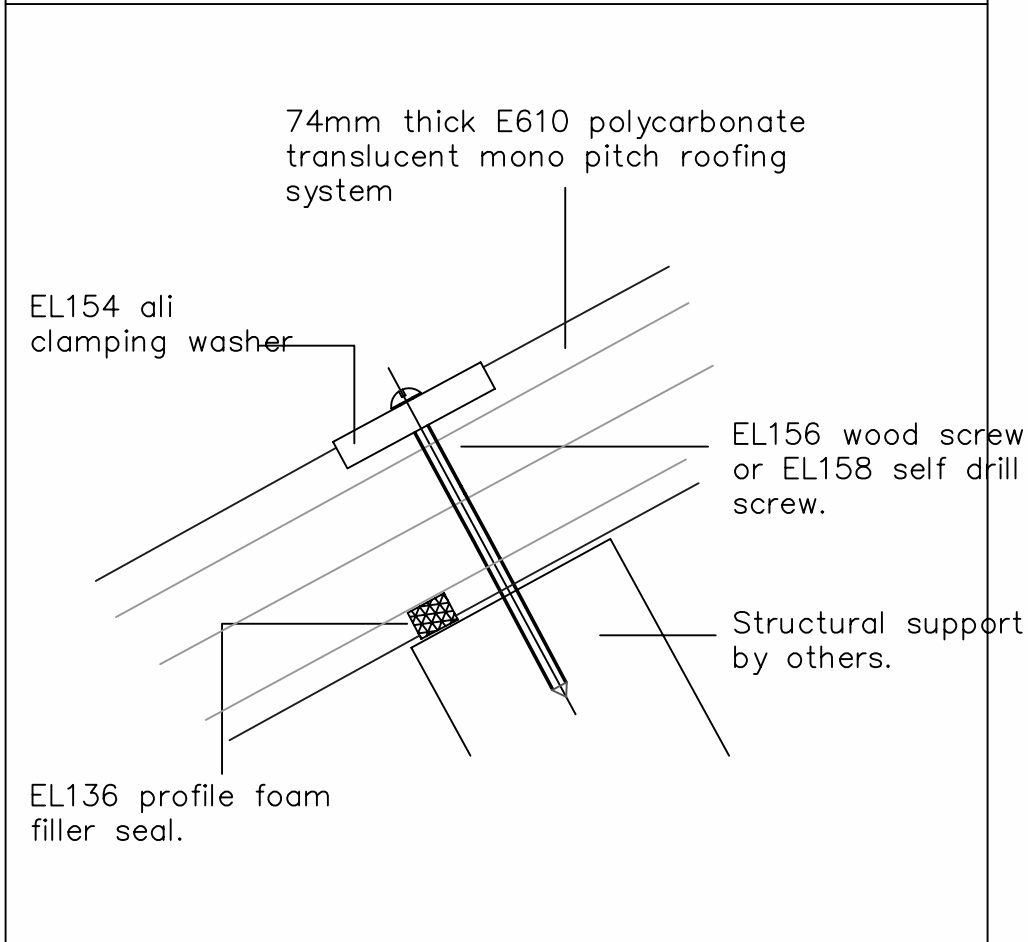
OPTION B

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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Email: info@everbrightroofing.com.au Tel: (08) 9304 2132 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 Project: To be advised	
Sales: S.Trower	Technical: M.J.Meegan	Production: S.Bedford	Date approved: 08/04/09
Comments: Do not scale			

STANDARD DETAILS



Intermediate mono pitch application

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Email: info@everbrightroofing.com.au Tel: (08) 9304 2132 Web: www.everbrightroofing.com.au Fax: (08) 9304 0035		CAD Ref:	Title: Intermediate support detail
COPYRIGHT: All rights reserved by Everbright Roofing Systems		Project: To be advised	
Sales:	Technical:	Production:	Date approved:
S.Trower	M.J.Meegan	S.Bedford	0704/09
Comments: Do not scale			