



Certificate of Conformity

Certification Body:



SAI Global Certification Services Pty Limited
 (ACN 108 716 669) Trading as "SAI Global"
 JAS-ANZ Accreditation No. Z1440295AS
 Address: 680 George St, Sydney, NSW 2000
 Website: www.saiglobal.com

Certificate Holder:



Danpal Australia
 11/4-6 Junction street
 Auburn, NSW, 2144
 T. +61 8 8337 6599
 http://www.danpal.com.au

Certificate number: CM20115

THIS TO CERTIFY THAT

DANPALON POLYCARBONATE ROOF AND WALL SHEETING SYSTEMS

Type and/or use of product:

A polycarbonate panel system used for internal and external wall, roof and façade glazing system. Refer to A1 below for systems and their intended use covered by this certification.

Description of product:

Danpalon is a glazing system comprising polycarbonate panels (compact, multicell, or honeycomb) and proprietary accessories, including panels, connectors, aluminium framing extrusions and brackets or concealed fasteners. Refer to A2 below for components of the glazing system.

COMPLIES WITH THE FOLLOWING BCA PROVISIONS AND STATE OR TERRITORY VARIATION(S)

BCA 2019

	Volume One	Volume Two
Performance Requirement(s)	BP1.1(a)(i)(ii), limited to (b)(i)(ii)(iii)	P2.1.1(a)(i)(ii), limited to (b)(i)(ii)(iii), (c)
	BP1.2	P2.2.2
	FP1.4	
Deemed-to-Satisfy Provision(s):	Spec C1.1 Clause 5	
	Spec C1.10 Clause 4	
State or territory variation(s):	N/A	N/A

SAI Global Certification Services

Heather Mahon
 Global Head of Technical Services
 SAI Global Assurance

Quintin Kleyn
 Unrestricted Building Certifier

Date of issue: 13/12/2019

Date of expiry: 13/12/2022



SUBJECT TO THE FOLLOWING LIMITATIONS AND CONDITIONS AND THE PRODUCT TECHNICAL DATA IN APPENDIX A AND EVALUATION STATEMENTS IN APPENDIX B

Limitations and conditions:

1. The Danpalon polycarbonate roof and wall sheeting systems shall be installed in accordance with the installation details as per the 'A5 Installation requirements' on page 7 and 8 of this document.
2. The Danpalon polycarbonate roof and wall sheeting systems is suitable for use in **Type C construction** and where a fire rating is not required
3. The Danpalon polycarbonate roof and wall sheeting systems can be used only where there are no requirements for an FRL.
4. The 10mm honeycomb panel has been tested to AS ISO 9705:2003 (R2016), AS 5637.1:2015 and achieved a Group 1 rating and can be used internally in applications as outlined in NCC 2019 Specification C1.10, Clause 4. Other panel types and thicknesses are not certified for fire hazard properties or group number.
5. Testing for water penetration did not include flashing component and was conducted on 16mm Multicell panel.
6. Compliance with Volume One FP1.4 and Volume Two P2.2.2 for weather proofing is limited to water penetration pressure up to 360 kPa
7. The Danpalon polycarbonate roof and wall sheeting systems must be used for their intended purpose.
8. This certification does not cover 3DLITE, KINETIC, Danpatherm and EverBright panels and systems.
9. 4mm panel is not suitable for façade systems.

Building classification/s:

Volume 1 – Class 2 to Class 9 buildings
Volume 2 – Class 1 and Class 10a buildings

Scope of certification: The CodeMark Scheme is a building product certification scheme. The rules of the Scheme are available at the ABCB website www.abcb.gov.au. This Certificate of Conformity is to confirm that the relevant requirements of the Building Code of Australia (BCA) as claimed against have been met. The responsibility for the product performance and its fitness for the intended use remain with the certificate holder. The certification is not transferrable to a manufacturer not listed on Appendix A of this certificate.

Disclaimer: The Scheme Owner, Scheme Administrator and Scheme Accreditation Body do not make any representations, warranties or guarantees, and accept no legal liability whatsoever arising from or connected to, the accuracy, reliability, currency or completeness of any material contained within this certificate; and the Scheme Owner, Scheme Administrator and Scheme Accreditation Body disclaim to the extent permitted by law, all liability (including negligence) for claims of losses, expenses, damages and costs arising as a result of the use of the product(s) referred to in this certificate.

APPENDIX A – PRODUCT TECHNICAL DATA

A1 Type and intended use of product

Refer to Page 1 of this certificate and the below panels and systems and their intended use:

Panels:























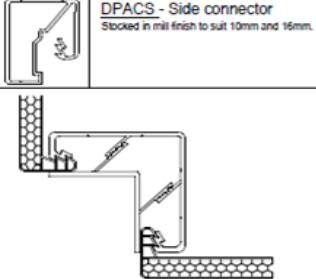
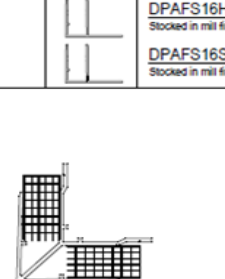
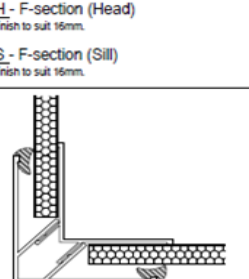

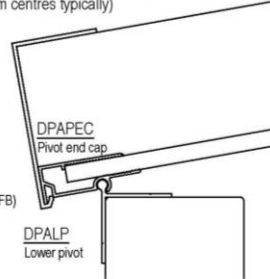




- 1- 4mm compact (DP4) – not suitable for façade systems
- 2- 8mm honeycomb (DP8)
- 3- 10mm honeycomb (DP10)
- 4- 12mm multicell (DP12)
- 5- 16mm multicell (DP16)
- 6- 22mm multicell
- 7- 35mm multicell (DP35)

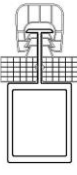
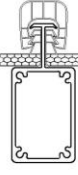
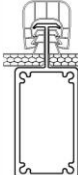
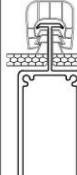
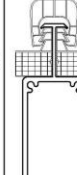
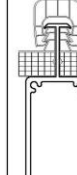










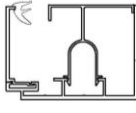
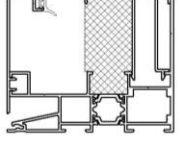


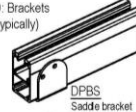

Systems:

- 1- Traditional roofing and façade systems
Roofing and façade systems installed over subframe
- 2- Solarspace roofing
Self-supporting roofing systems
- 3- Freespan roofing
Self-supporting roofing systems
- 4- Framed façade
Partially self-supporting façade system
- 5- Seamless façade
Self-supporting façade systems

A2 Description of product

Refer to Page 1 of this certificate and the following system components including panels, connectors and spacers, fasteners panel caps, frame accessories, rafters and brackets:


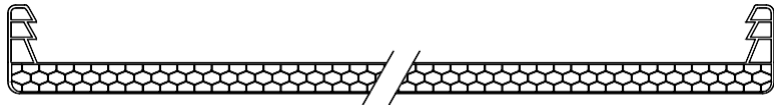
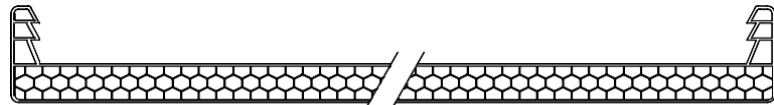

TRADITIONAL PROFILES				SOLARSPACE PROFILES			
 <p>DPC Polycarbonate connector. Stocked in all colours.</p>	 <p>DPAC30 Stocked in mill or anodized finish.</p>	 <p>DPAC54 Stocked in mill or anodized finish. Die Number: 2405 Mass: 0.753kg/m Area: 278mm² Perimeter (Ano): 349mm Perimeter (Paint): 150mm Ioc: 104 258 Iyy: 47 713 Alloy: 6351 T5</p>	 <p>DPACEC54 Connector end cap</p>	 <p>DPAC30 Stocked in mill or anodized finish. Die Number: 2406 Mass: 0.518kg/m Area: 191mm² Perimeter (Ano): 253mm Perimeter (Paint): 115mm Ioc: 22 522 Iyy: 28 218 Alloy: 6351 T5</p>	 <p>DPACSL (Streamline) Stocked in mill finish. Die Number: 2407 Mass: 1.005kg/m Area: 371mm² Perimeter (Ano): 296mm Perimeter (Paint): 160mm Ioc: 116 567 Iyy: 50 729 Minimum radius: 3000mm Alloy: 6351 T5</p>	 <p>DPACFB (Fin-and-ball) Stocked in mill finish. Die Number: 2408 Mass: 1.444kg/m Area: 523mm² Perimeter (Ano): 346mm Perimeter (Paint): 220mm Ioc: 314 370 Iyy: 61 666 Minimum radius: 3000mm Alloy: 6351 T5</p>	 <p>DPACEC30 Connector end cap</p>
 <p>DPECC Connector end cap Stocked in clear</p>	 <p>DPCW Wide polycarbonate connector Stocked in reflective grey Wide connector end cap available</p>	 <p>DPAS10 / DPAS16 Aluminium spacers for 10mm or 16mm. Available to order.</p>	 <p>Fasteners</p>	 <p>DPAC60 Stocked in mill finish. Die Number: 2394 Mass: 1.721kg/m Area: 635mm² Perimeter (Ano): 393mm Perimeter (Paint): 190mm Ioc: 287 436 Iyy: 142 068 Alloy: 6351 T5</p>	 <p>DPAC80 Stocked in mill finish. Die Number: 2396 Mass: 1.938kg/m Area: 715mm² Perimeter (Ano): 433mm Perimeter (Paint): 206mm Ioc: 569 518 Iyy: 170 975 Alloy: 6351 T5</p>	 <p>DPAC100 Stocked in mill finish. Die Number: 2397 Mass: 2.293kg/m Area: 849mm² Perimeter (Ano): 473mm Perimeter (Paint): 240mm Ioc: 1 015 551 Iyy: 215 803 Alloy: 6351 T5</p>	
 <p>DPAFS - F section Stocked in mill or anodized finish.</p>	 <p>DPAFSDH - Heavy-duty F section Stocked in mill finish for 16mm only.</p>		 <p>DPAPEC - Pivot end cap (with lower pivot) Stocked in anodized finish.</p>	 <p>DPALPR - Lower pivot. Stocked in mill finish.</p>	 <p>DPAFS16H - F-section (Head) Stocked in mill finish to suit 16mm.</p>	 <p>DPAFS16S - F-section (Sill) Stocked in mill finish to suit 16mm.</p>	
 <p>DPAEC - End cap Stocked in anodized finish.</p>	 <p>DPAECRI + DPAECRE External corner (recessed) for all thicknesses</p>		 <p>DPAECOP External corner one-piece for 16mm</p>		 <p>DPAECI + DPAECE External corner for 10mm and 16mm</p>		
<p>ATTACHMENT METHOD: "SolarSpace" extrusions as per diagrams below (12g x 16mm screws at 300mm centres typically)</p>							
 <p>DPACECSL Connector end cap (suits DPACSL / DPACFB)</p>	 <p>DPAPEC Pivot end cap</p>	 <p>DPAFWM Fascia Wall Mount</p>	 <p>DPAUPHD Upper pivot</p>	 <p>DPAEC Connector end cap (suits DPAC30)</p>	 <p>DPALP Lower pivot</p>		

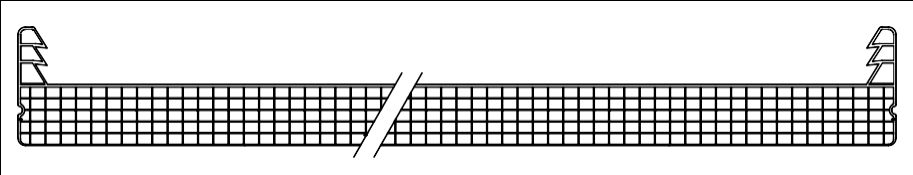
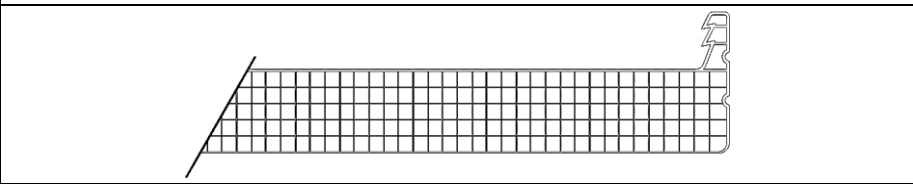
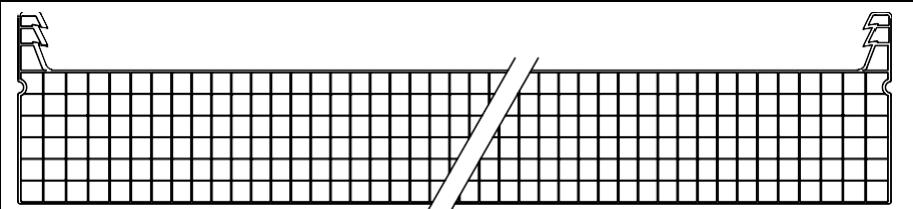
FREESPAN PROFILES						FRAMED FACADE PROFILES		SEAMLESS PROFILES						
 <p>DPAB60 Suits 16mm Stocked in mill finish</p> <p>Die Number: 2642 Mass: 1.8kg/m Area: 668mm² Perimeter (Ano): 274mm Perimeter (Paint): 140mm Ioc: 396 977 Iyy: 129 711 Alloy: 6351 T5</p>	 <p>DPAB60 Suits 4, 6mm or 10mm Stocked in mill finish</p> <p>Die Number: 2400 Mass: 1.8kg/m Area: 645mm² Perimeter (Ano): 278mm Perimeter (Paint): 180mm Ioc: 457 948 Iyy: 141 311 Alloy: 6351 T5</p>	 <p>DPAB70 Suits 4, 6mm or 10mm Stocked in mill finish</p> <p>Die Number: 2401 Mass: 2.0kg/m Area: 767mm² Perimeter (Ano): 298mm Perimeter (Paint): 180mm Ioc: 663 239 Iyy: 174 972 Alloy: 6351 T5</p>	 <p>DPAB80 Suits 10mm or 12mm Stocked in mill finish</p> <p>Die Number: 2402 Mass: 2.3kg/m Area: 832mm² Perimeter (Ano): 322mm Perimeter (Paint): 190mm Ioc: 805 535 Iyy: 195 553 Alloy: 6351 T5</p>	 <p>DPAB100 Suits 16mm Stocked in mill finish</p> <p>Die Number: 2403 Mass: 2.6kg/m Area: 960mm² Perimeter (Ano): 370mm Perimeter (Paint): 240mm Ioc: 1539907 Iyy: 238 716 Alloy: 6351 T5</p>	 <p>DPAB150 Suits 16mm Stocked in mill finish</p> <p>Die Number: 2404 Mass: 3.414kg Area: 1200mm² Perimeter (Ano): 470mm Perimeter (Paint): 340mm Ioc: 3867 867 Iyy: 339 616 Alloy: 6351 T5</p>	 <p>DPAEC50 Stocked in mill finish.</p> <p>Die Number: 2856 Mass: 1.363kg/m Area: 503mm² Perimeter (Ano): 423mm Perimeter (Paint): 150mm Ioc: 192 673 Iyy: 127 504 Alloy: 6351 T5</p> <p>DPANMECP Polycarbonate expansion connector Stocked in clear.</p>	 <p>DPAC54 Stocked in mill or anodized finish.</p> <p>Die Number: 2405 Mass: 0.753kg/m Area: 278mm² Perimeter (Ano): 346mm Perimeter (Paint): 150mm Ioc: 104 258 Iyy: 47 713 Alloy: 6351 T5</p>	 <p>DPAC40 Stocked in mill finish.</p> <p>Die Number: 2392 Mass: 1.243kg/m Area: 458mm² Perimeter (Ano): 340mm Perimeter (Paint): 120mm Ioc: 103 952 Iyy: 100 661 Alloy: 6351 T5</p>	 <p>DPAC50 Stocked in mill finish.</p> <p>Die Number: 2393 Mass: 1.609kg/m Area: 594mm² Perimeter (Ano): 373mm Perimeter (Paint): 140mm Ioc: 193 570 Iyy: 127 088 Alloy: 6351 T5</p>	 <p>DPAC60 Stocked in mill finish.</p> <p>Die Number: 2394 Mass: 1.721kg/m Area: 635mm² Perimeter (Ano): 393mm Perimeter (Paint): 160mm Ioc: 287 438 Iyy: 142 068 Alloy: 6351 T5</p>	 <p>DPAC70 Stocked in mill finish.</p> <p>Die Number: 2395 Mass: 1.830kg/m Area: 675mm² Perimeter (Ano): 413mm Perimeter (Paint): 180mm Ioc: 411 958 Iyy: 156 522 Alloy: 6351 T5</p>	 <p>DPAC80 Stocked in mill finish.</p> <p>Die Number: 2396 Mass: 1.938kg/m Area: 715mm² Perimeter (Ano): 433mm Perimeter (Paint): 200mm Ioc: 569 518 Iyy: 170 975 Alloy: 6351 T5</p>	 <p>DPAC100 Stocked in mill finish.</p> <p>Die Number: 2397 Mass: 2.293kg/m Area: 846mm² Perimeter (Ano): 473mm Perimeter (Paint): 240mm Ioc: 1 015 551 Iyy: 215 803 Alloy: 6351 T5</p>	 <p>DPAC150 Stocked in mill finish.</p> <p>Die Number: 2398 Mass: 2.978kg/m Area: 1076mm² Perimeter (Ano): 865mm Perimeter (Paint): 340mm Ioc: 2 888 483 Iyy: 303 824 Alloy: 6351 T5</p>
<p>ATTACHMENT METHOD: Brackets (12g x 16mm tek screws typically)</p>  <p>DPBS Saddle bracket</p>						 <p>NM SYSTEM (For 16mm and 16mm panels) Stocked in anodized finish.</p>		 <p>AIR PT SYSTEM (For 16mm and 22mm panels) Available to order.</p>				 <p>DPAPEC Pivot and cap Stocked in anodized finish.</p>	<p>ATTACHMENT METHOD: Brackets (12g x 16mm tek screws typically)</p>    <p>DPBG Girt bracket</p> <p>DPBS Saddle bracket</p> <p>DPBA angle bracket</p>	

A3 Product specification

The product specifications are contained within the following manual;

1. Danpal Digital Catalogue rev 4 dated 5th June 2018.
This document contains details of the system components, installation overviews general information, cleaning and maintenance information, test result details, and warranty information and shall be used for the systems which are covered in this certification only (as per 'A1 Type and intended use of product' on page 3)
2. Listed below are the panel types:

PANELS	
	<p>DP4 - 4mm compact (592mm width - 600mm module) Weight: 4800gsm.</p>
	<p>DP8 - 8mm honeycomb (600mm width) Weight: 1900gsm.</p>
	<p>DP10 - 10mm honeycomb (600mm width) Weight: 2666gsm.</p>
	<p>DP12 - 12mm multicell (600mm or 900mm width) Weight: 2840gsm.</p>

	<p>DP16 - 16mm multicell (600mm or 1040mm width). Weight: 3666gsm.</p>
	<p>22mm multicell (600mm or 900mm width) Weight: 4100gsm.</p>
	<p>DP35 - 35mm multicell (900mm width) Weight: 4500gsm.</p>

A4 Manufacturer and manufacturing plant(s)

Danpal Australia 11/4-6 Junction Street, Auburn, NSW 2144, Australia and at KIBBUTZ, DAN, Israel

A5 Installation requirements

Refer to Page 3 of this certificate and the following;

The Danpal polycarbonate roof and wall sheeting systems are to be installed in accordance with the Danpal Typical Installation Details using the following manuals:

1. Traditional roof system components (date 24-Sept-18, ver. 5)
This document contains the information on the most common installation details to be used for traditional roof system.
2. Traditional compact system (date 2-Sep-19, ver. 2)
This document contains the information on the most common installation details to be used for traditional compact system.
3. Traditional façade system (date 2-Sep-19, ver. 2)
This document contains the information on the most common installation details to be used for traditional multicell façade.

4. Danpal digital catalogue (date 5-Jun-18, Rev. 4)
This document contains the information on the most common installation details to be used for all the systems and shall be used for the systems which are covered in this certification only (as per 'A1 Type and intended use of product' on page 3)
5. Solarspace roof system components (date 15-May-17, ver. 2)
This document contains the information on the most common installation details to be used for solarspace roof system.
6. Freespan Multicell Roof system (date 19-July-2019, ver. 2)
This document contains the information on the most common installation details to be used for freespan multicell system.
7. Freespan Compact Roof system (date 29-July-2019, ver. 2)
This document contains the information on the most common installation details to be used for freespan compact system.
8. NM façade system (date 2-Sep-19, ver. 2)
This document contains the information on the most common installation details to be used for the Framed façade system.
9. Seamless façade system (date 12-May-17, ver. 2)
This document contains the information on the most common installation details to be used for the seamless façade system.

A6 Other relevant technical data

- Danpal System Profiles (date 25-Sep-19, ver. 4)
This document contains the profiles and details of the panels and system components.
- Danpal Safety Data Sheet (date 1-Jun-12)
This document is the Material Safety Data Sheet for the polycarbonate panels.
- Danpal Façade Brochure (Reference No. 88-999414):
This document contains general information and properties on the single glazed translucent façade system.
- Danpal Glazing Material Brochure (Reference No. 88-999419):
This document contains general information and properties on the translucent and opaque microcell panels.
- Danpal Roofing Systems Brochure (Reference No. 88-999415):
This document contains general information and properties on the modular glazing solutions for roofs.
- Danpal Compact Brochure (Reference No. 88-999416):
This document contains general information and properties on the Danpal compact panels for use in roofing systems.

APPENDIX B – EVALUATION STATEMENTS

B1 Evaluation methods

The system has been assessed as complying with the identified Performance Requirements of the BCA 2019. This involved a review of product specifications, test reports, installation manuals, and associated documentation.

1. Structural assessment:
Volume 1 and 2; A2.2(2)(a)/A5.2(1)(d) – A report issued by an accredited testing laboratory – Ian Bennie & Associates (NATA accreditation no. 2371) and Windows Engineering Consultants (IANZ accreditation no. 265)
Volume 1 and 2; A2.2(2)(a)/A5.2(1)(e) – A report from a professional engineer or appropriately qualified person – Engtest and Magryn
2. Type of construction assessment – Volume 1; A2.3(1) – complies with deemed to satisfy provision
3. Fire hazard assessment – Volume 1; A2.3(2)(a)/A5.2(1)(d) – A report issued by an accredited testing laboratory – Warringtonfire (NATA accreditation no. 3277)
4. Weatherproofing assessment – Volume 1 and 2; A2.2(2)(a)/A5.2(1)(d) – A report issued by an accredited testing laboratory – Window Engineering Consultants (IANZ accreditation no. 265)

B2 Reports

1. EngTest (The University of Adelaide, The School of Civil Environmental and Mining Engineering) Report, Impact Testing of 16mm Danpalon Panel Ice 1040mm wide (DP16I) with 600mm connector (DPAC60). Test number C140408 (date 23-Apr/May-14):
The report contains the results of testing for fixing strength for Danpalon 16mm Panel Ice sheeting to the requirements of AS 4040.4-2006 and concludes the product meets the requirements of Cl. 5.3 in AS1562.3-2006
2. EngTest (The University of Adelaide, The School of Civil Environmental and Mining Engineering) Report, Danpalon Impact test 4, 8 and 10mm. Test number C971001 (date Nov-97):
The report contains the results of testing to AS 1562.3:1996 and concludes that DP4 and DP8 (solid polycarbonate, 4mm and 8mm thick) meet the requirements for the test thus eliminating the need for safety mesh.
3. EngTest (The University of Adelaide, The School of Civil Environmental and Mining Engineering) Report, sandbag impact testing of DP10 panel with DPACS side connector. Test number C180605-RP-03 (date 31-Jul-18):
The report contains the results of impact tests to AS 4040.4 on 10mm Danpalon sheeting (DP10). The report concludes the test results showed the panel satisfied the criteria described in clause 5.3 of AS 1562.3.
4. EngTest (The University of Adelaide, The School of Civil Environmental and Mining Engineering), Report on the Impact Testing of 12mm Multi-Cell Panel 900mm Wide (DP12) with Polycarbonate Connector (DPC) and DPKF12HD fasteners. Test number C120707 (date 4-Sep-12):
The report contains the results of impact tests to AS 4040.4 on 12mm multicell panel sheeting (DP12). The report concludes the test results showed the panel satisfied the criteria described in clause 5.3 of AS 1562.3.

5. Ian Bennie and Associates, 16mm Danpalon DP16 Polycarbonate Sheeting on Steel Rafters Impact Test to AS/NZS 4040.4-2006. Test report no. 2010-107-S1 (date Mar-10):
The report contains the results of impact tests to AS/NZS 4040.4:2006 on 16mm Danpalon DP16 polycarbonate sheeting on steel rafters. The report concludes that sample passed the test requirement of AS 1562.3 Clause 5.4.
6. EngTest (The University of Adelaide, The School of Civil Environmental and Mining Engineering), Report on the Low High Low Cyclonic Testing of Plastic Roof Sheeting. Report no. C090410 (date 25-May-09, rev. B):
The report contains the results of cycle testing to AS 4040.3 on 10mm and 16mm multicell panel sheeting used as roof cladding. The report concludes the test results showed the roof cladding and its fasteners remained in position notwithstanding any permanent distortion, fracture or damage leading to its detachment from the test setup and hence satisfied the requirements of the BCA.
7. Window Engineering Consultants, Testing report of Danpalon panel façade for Maritime Museum of New Zealand in accordance with AS/NZS 4284:2008. Test report no. 1406, (date 16-Jun-08):
The report contains the results tests to AS/NZS 4284:2008 on the 16mm Danpalon panel façade system. The following results were recorded:
 - *Structural Test at Serviceability Limit State Wind Pressure: Panel joint deflections in the lower 1500mm span of approx. span/375, with centre of panel deflections of approx. 42mm at the 1200 Pa positive Serviceability pressure and 37mm in the -1200 Pa negative pressure. Complies with the requirements of the NCC 2019.*
 - *Air Infiltration Test: Vertical joints provided net infiltration rate of 0.22 l/s.m in positive pressure direction and 0.15 l/s.m in negative pressure direction. Complies with the requirements of the NCC 2019.*
 - *Static Water Penetration Test: No water penetration at test pressure of 360 kPa.*
 - *Cyclic Pressure Water Penetration Test: No water penetration at test pressure of 360 kPa.*
8. Magryn & Associates Pty Ltd, Cyclonic Wind Testing (Low High Low) of 10mm and 16mm thick Danpalon Sheeting, (date 2-Aug-10):
This report validates the tests conducted by Engtest and concludes that the arrangements tested passed the requirements of the NCC.
9. Magryn, Reconfirmation Notice, Cyclonic Wind Testing (Low High Low) of 10mm and 16mm thick Danpalon Sheeting, (date 4-Oct-19):
This letter reconfirms the findings of the original report issued 2nd August 2010 and confirms that the product meets the structural wind load requirements of the current Australian Standards and NCC 2019.
10. Warringtonfire, Test in accordance with AS ISO 9705:2003 (R2016) and AS 5637.1:2015. Report no. RTF180271 (date 21-Nov-18, R1.0):
*This report contains the results of testing the Danpalon **10mm** multicell polycarbonate panels to AS ISO 9705:2003 (R2016) and AS 5637.1:2015 and indicated that the product achieves a group 1 rating and a SMOGRARC of $7.4m^2/s^2 \times 1000$*