



We've Got It Covered

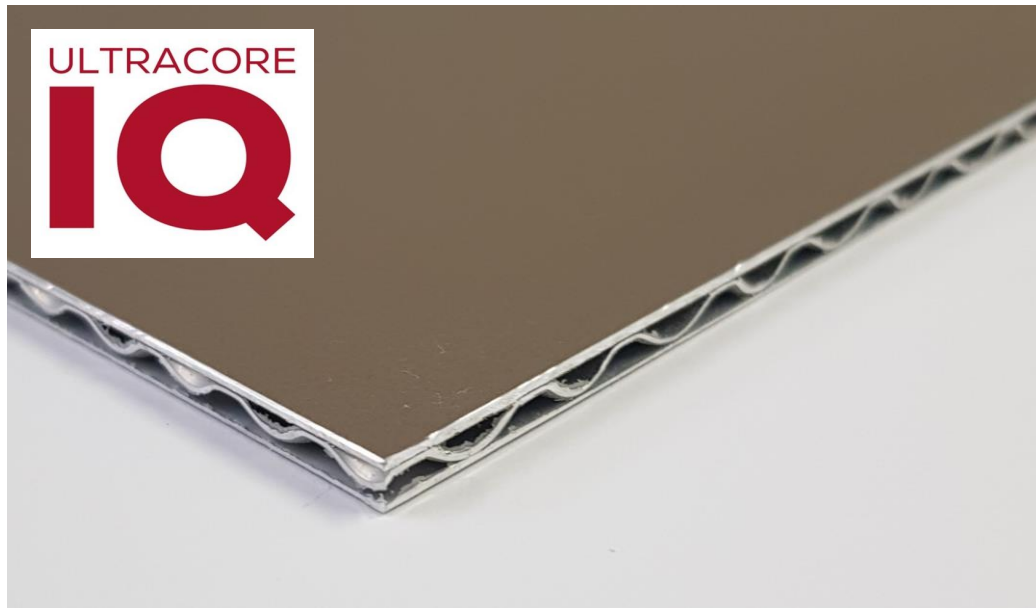
ULTRACORE  
**IQ**



## **ULTRACORE IQ vs SOLID Aluminium**

Fire Performance | Thermal Performance | Water-proofing  
An Impartial Overview based on Logic, Testing and Evidence

**ULTRACORE IQ & SOLID panels are both 'DTS' non-combustible – firstly lets take a look how.**



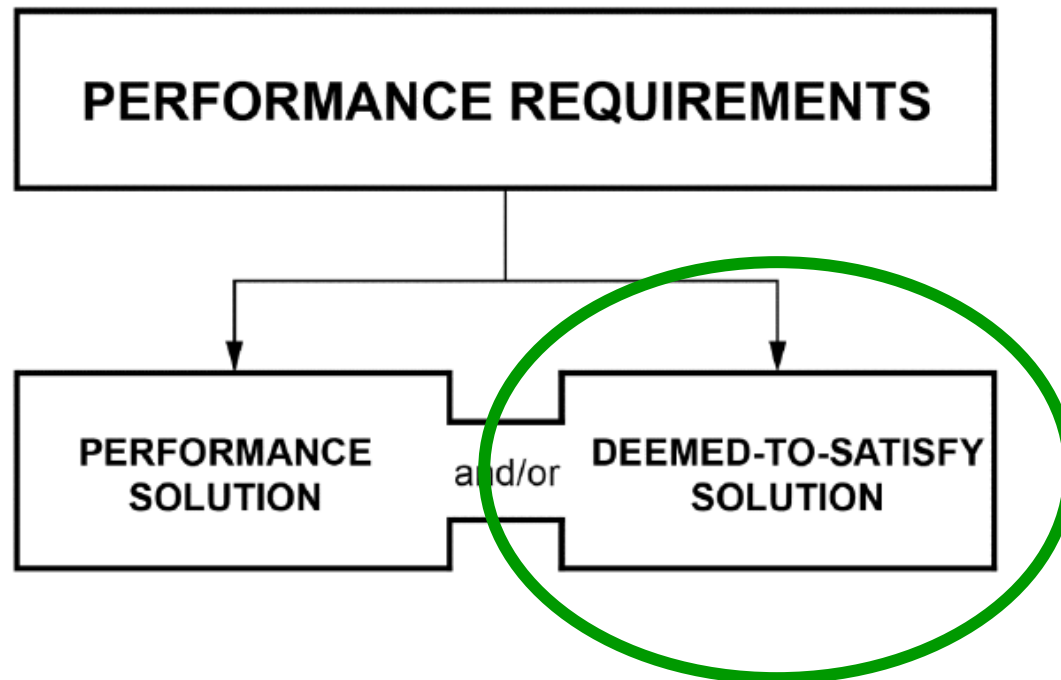
**ULTRACORE**



**Solid Aluminium Panel**

# Deemed-to-Satisfy Compliance in NCC 2019

1. **Deemed-to-Satisfy Solution (Clause C1.9)**
2. Performance Solution (CV3 Verification Method)



# Test Certificates used to Confirm C1.9 Compliance

- AS 1530.1
- AS 1530.3
- NATA Accredited
- AS 1530.2 for Sarking



### Certificate of Test

Quote No.: NK7601 REPORT No.: FNCL1679

COMBUSTIBILITY TEST FOR MATERIALS IN ACCORDANCE WITH AS 1530.1-1994

**TRADE NAME:** Ultracore G2

**SPONSOR:** Blue Chip Group  
62 Division Street  
Welshpool WA  
AUSTRALIA

**DESCRIPTION OF TEST SAMPLE:** The sponsor described the tested specimen as the corrugated profiled aluminium core of the Ultracore G2 aluminium composite sandwich panel.

Nominal thickness: 0.3-mm to 0.5-mm  
Nominal mass: 4 kg/m<sup>2</sup> (measured); 4.564 kg/m<sup>2</sup> (specified by sponsor)  
Colour: silver

**TEST PROCEDURE:** Five (5) samples were tested in accordance with Australian Standard 1530 Methods for fire tests on building materials, components and structures, Part 1- 1994: Combustibility Test for Materials. An alternative suitable insulating material was used to fill the annular space between the furnace tubes, as specified in Clause 4.2 of ISO 1182:2010.

**RESULTS:**

Mean furnace thermocouple temperature rise.....	11.0°C
Mean specimen centre thermocouple temperature rise.....	14.2°C
Mean specimen surface thermocouple temperature rise.....	5.4°C
Mean duration of sustained flaming.....	0 seconds
Mean mass loss.....	0.09 %

**DESIGNATION:** The material is NOT deemed COMBUSTIBLE according to the test criteria specified in Clause 3.4 of AS 1530.1-1994.

These test results relate only to the behaviour of the test specimens of the material under the particular conditions of the test and they are not intended to be the sole criterion for assessing the potential fire hazard of the material in use.

**DATE OF TEST:** 3 September 2015 **TEST NUMBER:** 11476  
Issued on the 4<sup>th</sup> day of April 2016 without alterations or additions.

*H. Alarde*  
Heherson Alarde  
Testing Officer

*B. Roddy*  
Brett Roddy  
Team Leader, Fire Testing and Assessments

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NATA Accredited Laboratory  
Number: 165  
Corporate Site No 3625  
Accredited for compliance with ISO/IEC 17025.

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### Certificate of Test

Quote No.: NZ7601 REPORT No.: FNE11680

AS/NZS 1530.3:1999 SIMULTANEOUS DETERMINATION OF IGNITABILITY, FLAME PROPAGATION, HEAT RELEASE AND SMOKE RELEASE

**TRADE NAME:** Ultracore G2

**SPONSOR:** Blue Chip Group  
62 Division Street  
Welshpool WA  
AUSTRALIA

**DESCRIPTION OF TEST SAMPLE:** The sponsor described the tested specimen as an aluminium composite sandwich decorative panel comprised of the following layers:  
Layer 1: 0.7-mm thick aluminium face finished with 30-µm thick surface finish;  
Layer 2: 0.1-mm thick adhesive film;  
Layer 3: 0.3-mm thick corrugated profiled aluminium core, expanded to 2.6-mm;  
Layer 4: 0.1-mm thick adhesive film;  
Layer 5: 0.5-mm thick aluminium face finished with 10-µm thick surface finish.  
The layers were adhered together using an adhesive film glue at an application rate of 96 g/m<sup>2</sup>.  
Nominal total thickness: 4 mm  
Nominal total mass: 3.7 kg/m<sup>2</sup> (measured); 4.564 kg/m<sup>2</sup> (specified by sponsor)  
Colour: silver (exposed face coating)

**TEST PROCEDURE:** Six samples were tested in accordance with Australian Standard 1530, Method for fire tests on building components and structures, Part 3: Simultaneous determination of ignitability, flame propagation, heat release and smoke release, 1999. For the test, each sample was clamped to the specimen holder in four places.

**RESULTS:** The following means and standard errors were obtained:

Parameter	Mean	Standard Error
Ignition Time (min)	N/A	N/A
Flame Spread Time (s)	N/A	N/A
Heat Release Integral (kJ/m <sup>2</sup> )	N/A	N/A
Smoke Release (log <sub>10</sub> D)	-2.075	0.147

For regulatory purposes these figures correspond to the following indices:

Ignitability Index (0-20)	Spread of Flame Index (0-10)	Heat Evolved Index (0-10)	Smoke Developed Index (0-10)
0	0	0	1

The results of this fire test may be used to directly assess fire hazard, but it should be recognised that a single test method will not provide a full assessment of fire hazard under all fire conditions.

**DATE OF TEST:** 12 August 2015 **TEST NUMBER:** 11459  
Issued on the 4<sup>th</sup> day of April 2016 without alterations or additions.

*H. Alarde*  
Heherson Alarde  
Testing Officer

*B. Roddy*  
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Team Leader, Fire Testing and Assessments

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# ULTRACORE IQ is DTS compliant via C1.9(e)(vii)

- (e) The following materials may be used wherever a *non-combustible* material is *required*:
- (i) Plasterboard.
  - (ii) Perforated gypsum lath with a normal paper finish.
  - (iii) Fibrous-plaster sheet.
  - (iv) Fibre-reinforced cement sheeting.
  - (v) Pre-finished metal sheeting having a *combustible* surface finish not exceeding 1 mm thickness and where the *Spread-of-Flame Index* of the product is not greater than 0.
  - (vi) *Sarking-type materials* that do not exceed 1 mm in thickness and have a *Flammability Index* not greater than 5.
  - (vii) Bonded laminated materials where—
    - (A) each lamina, including any core, is *non-combustible*; and
    - (B) each adhesive layer does not exceed 1 mm in thickness and the total thickness of the adhesive layers does not exceed 2 mm; and
    - (C) the *Spread-of-Flame Index* and the *Smoke-Developed Index* of the bonded laminated material as a whole do not exceed 0 and 3 respectively.

# AS 1530.1 Test for Material Combustibility is Required for DTS Compliance with C1.9(e)(vii)(A)

- AS 1530.1
- Combustibility test
- Each lamina must PASS
- Including the core



Certificate of Test	
Quote No.: NK7601	REPORT No.: FHC11679
COMBUSTIBILITY TEST FOR MATERIALS IN ACCORDANCE WITH AS 1530.1-1994	
TRADE NAME:	Ultracore G2
SPONSOR:	Blue Chip Group 62 Division Street Welshpool WA AUSTRALIA
DESCRIPTION OF TEST SAMPLE:	The sponsor described the tested specimen as the corrugated profiled aluminium core of the Ultracore G2 aluminium composite sandwich panel. Nominal thickness: 0.3-mm to 0.5-mm Nominal mass: 4 kg/m <sup>2</sup> (measured); 4.564 kg/m <sup>2</sup> (specified by sponsor) Colour: silver
TEST PROCEDURE:	Five (5) samples were tested in accordance with Australian Standard 1530 Methods for fire tests on building materials, components and structures, Part 1- 1994: Combustibility Test for Materials. An alternative suitable insulating material was used to fill the annular space between the furnace tubes, as specified in Clause 4.2 of ISO 1182:2010.
RESULTS:	Mean furnace thermocouple temperature rise..... 11.0°C Mean specimen centre thermocouple temperature rise..... 14.2°C Mean specimen surface thermocouple temperature rise..... 5.4°C Mean duration of sustained flaming..... 0 seconds Mean mass loss..... 0.09 %
DESIGNATION:	The material is NOT deemed COMBUSTIBLE according to the test criteria specified in Clause 3.4 of AS 1530.1-1994.
These test results relate only to the behaviour of the test specimens of the material under the particular conditions of the test and they are not intended to be the sole criterion for assessing the potential fire hazard of the material in use.	
DATE OF TEST: 3 September 2015	TEST NUMBER: 11476
Issued on the 4 <sup>th</sup> day of April 2016 without alterations or additions.	
 Heherson Alarde Testing Officer	 Brett Roddy Team Leader, Fire Testing and Assessments
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 NATA Accredited Laboratory Number: 185 Corporate Site No 3625 Accredited for compliance with ISO/IEC 17025.	
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14 Julius Avenue, Riverside Corporate Park, North Ryde NSW 2113 AUSTRALIA Telephone: 61 2 9490 5444 Facsimile: 61 2 9490 5555 www.csiro.au	



# Aluminium Core Panel

**ULTRACORE IQ Aluminium Core Panel** has been tested to AS 1530.1 by NATA accredited CSIRO and the laminas did not flame or increase the temperature by more than 50°C = PASS.

Accordingly, the ULTRACORE IQ laminas, including the core, were not deemed **COMBUSTIBLE** as per criteria (A), for a bonded laminated material to be DTS non-combustible as per C1.9(e)(vii).



# NATA Assessment to Confirm Adhesive Thickness as per C1.9(e)(vii)(B) is Recommended

- NATA Assessment
- To confirm glue thickness
- Max. 1mm per layer
- Max. 2mm total



**Certificate of Test**

Quote No.: NZ7601      REPORT No.: FNE11680

AS/NZS 1530.3:1999 SIMULTANEOUS DETERMINATION OF IGNITABILITY, FLAME PROPAGATION, HEAT RELEASE AND SMOKE RELEASE

TRADE NAME: Ultracore G2  
SPONSOR: Blue Chip Group  
62 Division Street  
Welshpool WA  
AUSTRALIA

DESCRIPTION OF SAMPLE: The sponsor described the tested specimen as an aluminium composite sandwich decorative panel comprised of the following layer:  
Layer 1: 0.7-mm thick aluminium face finished with 30-µm thick surface finish;  
Layer 2: 0.1-mm thick adhesive film;  
Layer 3: 0.3-mm thick corrugated profiled aluminium core, expanded to 2.6-mm;  
Layer 4: 0.3-mm thick adhesive film;  
Layer 5: 0.5-mm thick aluminium face finished with 10-µm thick surface finish.  
The layers were adhered together using an adhesive film glue at an application rate of 96 g/m<sup>2</sup>.  
Nominal total thickness: 4 mm  
Nominal total mass: 3.7 kg/m<sup>2</sup> (measured); 4.564 kg/m<sup>2</sup> (specified by sponsor)  
Colour: silver (exposed face coating)

TEST PROCEDURE: Six samples were tested in accordance with Australian Standard 1530, Method for fire tests on building components and structures, Part 3: Simultaneous determination of ignitability, flame propagation, heat release and smoke release, 1999. For the test, each sample was clamped to the specimen holder in four places.

RESULTS: The following means and standard errors were obtained:

Parameter	Mean	Standard Error
Ignition Time (min)	N/A	N/A
Flame Spread Time (s)	N/A	N/A
Heat Release Integral (kJ/m <sup>2</sup> )	N/A	N/A
Smoke Release (log <sub>10</sub> D)	-2.075	0.147

For regulatory purposes these figures correspond to the following indices:

Ignitability Index (0-20)	Spread of Flame Index (0-10)	Heat Evolved Index (0-10)	Smoke Developed Index (0-10)
0	0	0	1

The results of this fire test may be used to directly assess fire hazard, but it should be recognised that a single test method will not provide a full assessment of fire hazard under all fire conditions.

DATE OF TEST: 12 August 2015      TEST NUMBER: 11459  
Issued on the 4<sup>th</sup> day of April 2016 without alterations or additions.

*Meberson Alarde*  
Meberson Alarde  
Testing Officer

*Brett Roddy*  
Brett Roddy  
Team Leader, Fire Testing and Assessments

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**ULTRACORE IQ Aluminium Core Panel glue** is applied as **0.1mm dry-film** layers so there is no way it can be thicker than stated. It is **10% (1/10<sup>th</sup>)** of the NCC 2019 allowance.

### Certificate of Test

Quote No.: NZ7601 REPORT No.: FNE11680

AS/NZS 1530.3:1999 SIMULTANEOUS DETERMINATION OF IGNITABILITY, FLAME PROPAGATION, HEAT RELEASE AND SMOKE RELEASE

TRADE NAME: Ultracore G2  
SPONSOR: Blue Chip Group  
62 Division Street  
Welshpool WA  
AUSTRALIA

DESCRIPTION OF SAMPLE:

The sponsor described the tested specimen as an aluminium composite sandwich decorative panel comprised of the following layers:

Layer 1: 0.7-mm thick aluminium face finished with 30-µm thick surface finish;  
Layer 2: 0.1-mm thick adhesive film;  
Layer 3: 0.3-mm thick corrugated profiled aluminium core, expanded to 2.6-mm;  
Layer 4: 0.1-mm thick adhesive film;  
Layer 5: 0.5-mm thick aluminium face finished with 10-µm thick surface finish.

The layers were adhered together using an adhesive film glue at an application rate of 96 g/m<sup>2</sup>.

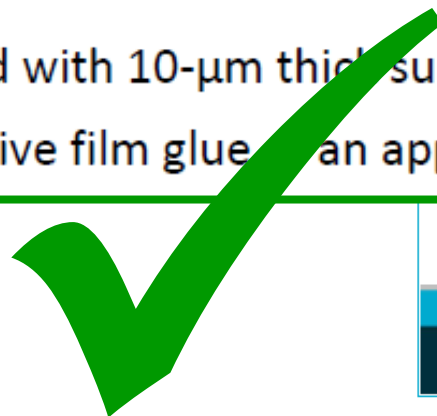
Nominal total thickness: 4 mm  
Nominal total mass: 3.7 kg/m<sup>2</sup> (measured); 4.564 kg/m<sup>2</sup> (specified by sponsor)  
Colour: silver (exposed face coating)


The sponsor described the tested specimen as an aluminium composite sandwich decorative panel comprised of the following layers:

- Layer 1: 0.7-mm thick aluminium face finished with 30-µm thick surface finish;
- Layer 2: **0.1-mm** thick adhesive film;
- Layer 3: 0.3-mm thick corrugated profiled aluminium core, expanded to 2.6-mm;
- Layer 4: **0.1-mm** thick adhesive film;
- Layer 5: 0.5-mm thick aluminium face finished with 10-µm thick surface finish.




The layers were adhered together using an adhesive film glue at an application rate of 96 g/m<sup>2</sup>.



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# AS 1530.3 Test for Fire Hazard Properties is Required for DTS Compliance with C1.9(e)(vii)(C)

- AS 1530.3
- Fire Hazard Properties
- 0 for Spread-of-Flame
- 3 for Smoke-Developed



**Certificate of Test**

Quote No.: NZ7601 REPORT No.: FNE11680

AS/NZS 1530.3:1999 SIMULTANEOUS DETERMINATION OF IGNITABILITY, FLAME PROPAGATION, HEAT RELEASE AND SMOKE RELEASE

**TRADE NAME:** Ultracore G2  
**SPONSOR:** Blue Chip Group  
 62 Division Street  
 Welshpool WA  
 AUSTRALIA

**DESCRIPTION OF SAMPLE:**  
 The sponsor described the tested specimen as an aluminium composite sandwich decorative panel comprised of the following layers:  
 Layer 1: 0.7-mm thick aluminium face finished with 30-µm thick surface finish;  
 Layer 2: 0.1-mm thick adhesive film;  
 Layer 3: 0.3-mm thick corrugated profiled aluminium core, expanded to 2.6-mm;  
 Layer 4: 0.3-mm thick adhesive film;  
 Layer 5: 0.5-mm thick aluminium face finished with 10-µm thick surface finish.  
 The layers were adhered together using an adhesive film glue at an application rate of 96 g/m<sup>2</sup>.  
 Nominal total thickness: 4 mm  
 Nominal total mass: 3.7 kg/m<sup>2</sup> (measured); 4.564 kg/m<sup>2</sup> (specified by sponsor)  
 Colour: silver (exposed face coating)

**TEST PROCEDURE:**  
 Six samples were tested in accordance with Australian Standard 1530, Method for fire tests on building components and structures, Part 3: Simultaneous determination of ignitability, flame propagation, heat release and smoke release, 1999. For the test, each sample was clamped to the specimen holder in four places.

**RESULTS:**  
 The following means and standard errors were obtained:

Parameter	Mean	Standard Error
Ignition Time (min)	N/A	N/A
Flame Spread Time (s)	N/A	N/A
Heat Release Integral (kJ/m <sup>2</sup> )	N/A	N/A
Smoke Release (log <sub>10</sub> D)	-2.075	0.147

For regulatory purposes these figures correspond to the following indices:

Ignitability Index (0-20)	Spread of Flame Index (0-10)	Heat Evolved Index (0-10)	Smoke Developed Index (0-10)
0	0	0	1

The results of this fire test may be used to directly assess fire hazard, but it should be recognised that a single test method will not provide a full assessment of fire hazard under all fire conditions.

DATE OF TEST: 12 August 2015 TEST NUMBER: 11459  
 Issued on the 4<sup>th</sup> day of April 2016 without alterations or additions.

*Heherson Alarde*  
 Heherson Alarde  
 Testing Officer

*Brett Roddy*  
 Brett Roddy  
 Team Leader, Fire Testing and Assessments

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NATA Accredited Laboratory  
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 Corporate Site No 3625  
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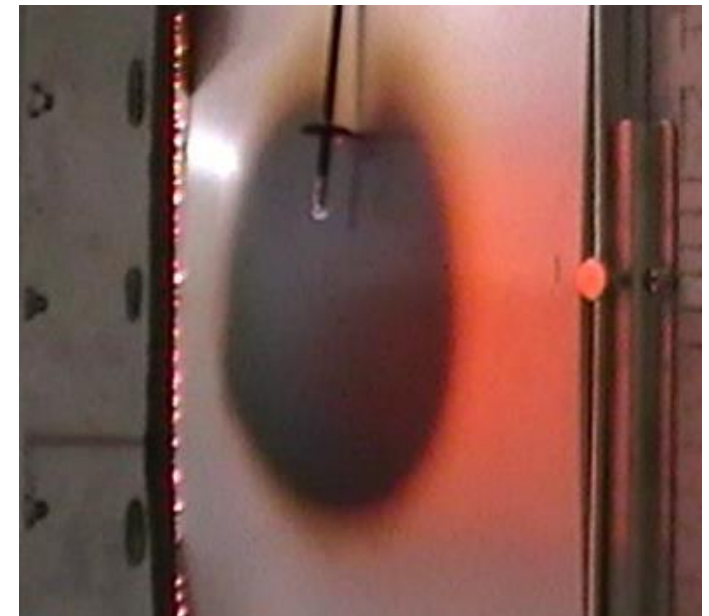
# ULTRACORE IQ - AS 1530.3 Test

As per the requirements of NCC 2019, this test involves the bonded laminate material as a whole being tested to AS 1530.3. Finished samples are mounted vertically in front of a radiant heat source to simultaneously determine;

- Ignitability Index = 0
- Spread-of-Flame Index = 0
- Heat Evolved Index = 0
- Smoke-Developed Index = 1



Ignitability Index (0-20)	Spread of Flame Index (0-10)	Heat Evolved Index (0-10)	Smoke Developed Index (0-10)
0	0	0	1



# ULTRACORE IQ Results Table via C1.9(e)(vii)

## ULTRACORE IQ Intelligent Non-combustible Aluminium Core Panel

TEST	RESULT	
AS 1530.1*	Not deemed COMBUSTIBLE	
NATA Assessment**	Adhesive per Layer	0.1mm
	Total Adhesive	0.2mm
AS 1530.3***	Spread-of-Flame	0
	Smoke-Developed	1



\*Refer CSIRO AS 1530.1 Certificate #: FNC11679

\*\*Refer CSIRO Assessment Number #: FCO-3188

\*\*\*Refer CSIRO AS 1530.3 Certificate #: FNE11680



# 3MM SOLID is DTS compliant via C1.9(e)(v)

- (e) The following materials may be used wherever a *non-combustible* material is *required*:
- (i) Plasterboard.
  - (ii) Perforated gypsum lath with a normal paper finish.
  - (iii) Fibrous-plaster sheet.
  - (iv) Fibre-reinforced cement sheeting.
  - (v) Pre-finished metal sheeting having a *combustible* surface finish not exceeding 1 mm thickness and where the *Spread-of-Flame Index* of the product is not greater than 0.
  - (vi) *Sarking-type materials* that do not exceed 1 mm in thickness and have a *Flammability Index* not greater than 5.
  - (vii) Bonded laminated materials where—
    - (A) each lamina, including any core, is *non-combustible*; and
    - (B) each adhesive layer does not exceed 1 mm in thickness and the total thickness of the adhesive layers does not exceed 2 mm; and
    - (C) the *Spread-of-Flame Index* and the *Smoke-Developed Index* of the bonded laminated material as a whole do not exceed 0 and 3 respectively.

# 3MM SOLID Aluminium Results via C1.9(e)(v)

## Non-combustible Solid Aluminium Panel

TEST	RESULT	
NCC 2019 C1.9(e)(v)	Deemed-to-Satisfy Non-combustible	
AS 1530.1*	Not deemed COMBUSTIBLE	
Paint Thickness	Less than 1mm	<0.05mm
AS 1530.3**	Spread-of-Flame	0
	Smoke-Developed	1

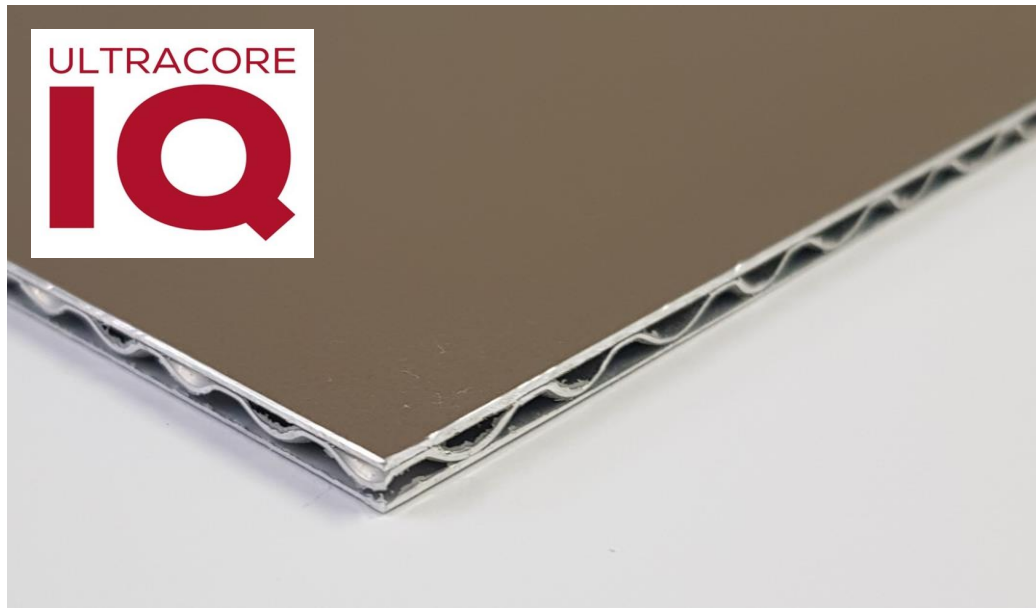


\*Refer CSIRO AS 1530.1 Certificate #: FNC12287

\*\*Refer AWTA AS 1530.3 Certificate #: 18-004772



Now we know that both products are **'DTS'** non-combustible, how else do they compare?



ULTRACORE



Solid Aluminium Panel

# Both offer the same general benefits.....

- Both products are DTS non-combustible and compliant for all buildings
- Proven installation methods with no practical alternatives in some applications
- Versatile colours, shapes and sizes
- 30+ years life expectancy with low maintenance (PVDF Coil Coating)
- 100% recyclable with no waste going to landfill
- Concealed / colour-matched fixing systems
- Excellent corrosion resistance
- Excellent structural strength and crack resistance
- High rigidity to weight ratio with excellent flatness
- Established skilled installer network
- Same day cut-to-size panels for tight schedules





# Both use the same excellent paint technology.....

## PVDF Fluoropolymer

The higher density of fluorine atoms in PVDF provides excellent resistance to degradation by UV radiation, chemical and airborne pollution, severe weather, and environmental conditions such as salt spray or sand.

Lifespan is typically 30+ years.

## FEVE Fluoropolymer

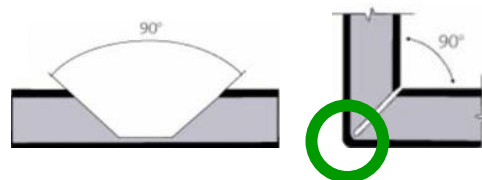
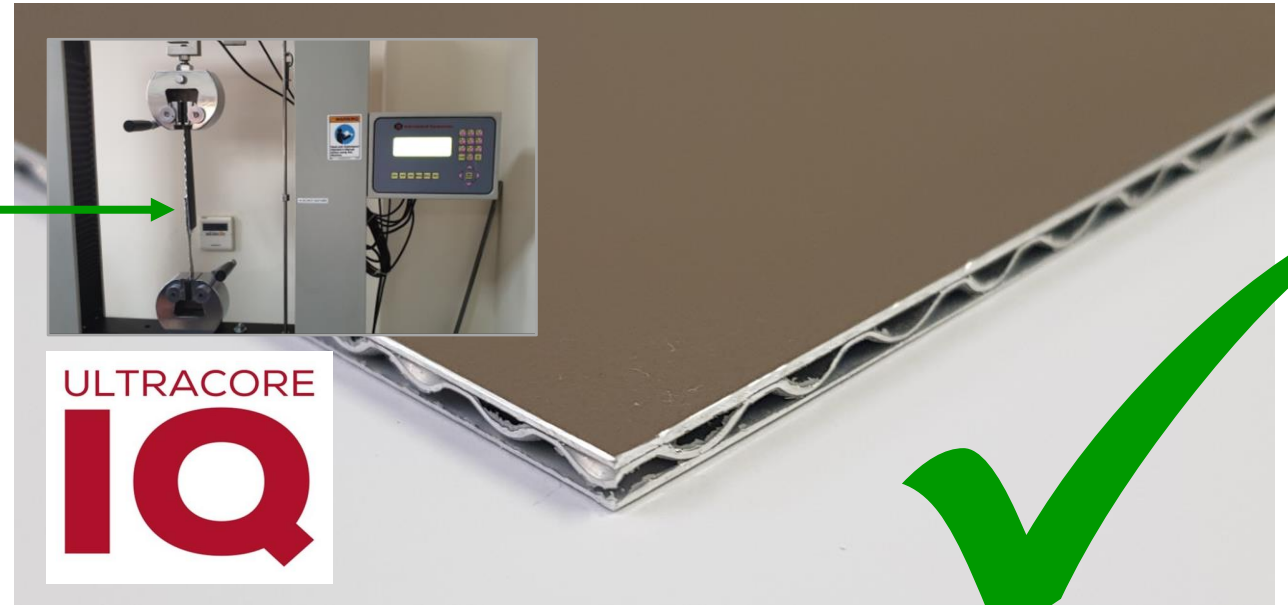
Due to lower density of fluorine atoms and vinyl in FEVE resins, these coatings are more susceptible to UV degradation, however they can provide **higher gloss values** than PVDF.

Lifespan is typically 25+ years.



# Intelligent Non-combustible Core Panel

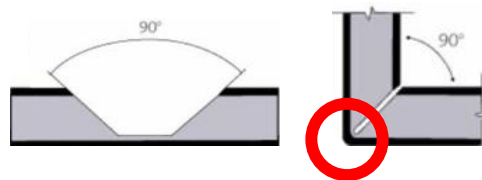
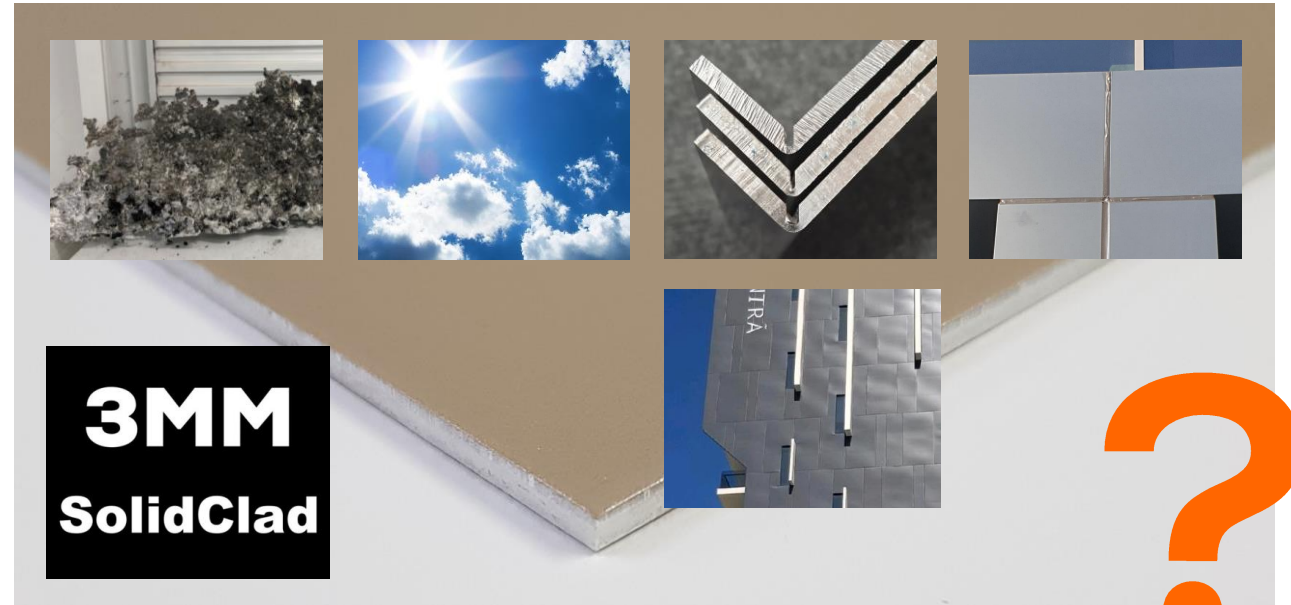
- DTS compliant for types A, B & C construction
- Category D insurance rating (lowest risk)
- All waste and cladding materials is 100% recyclable (NO landfill)
- 4kg/m<sup>2</sup> total panel weight
- Low thermal conductivity
- Low debris quantity
- High lamination strength
- No risk of score-fractures when v-grooved




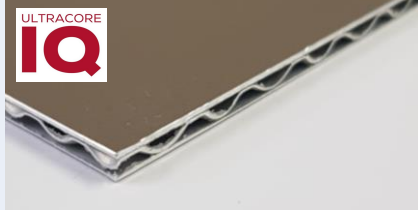


# Non-combustible Solid Aluminium Panel

**3MM  
SolidClad**

- DTS compliant for types A, B & C construction
- Category D insurance rating (lowest risk)
- All waste and cladding materials is 100% recyclable
- 8kg/m<sup>2</sup> total panel weight
- High thermal conductivity
- High debris quantity
- Inherent oil-canning issues
- High risk of score-fractures when v-grooved



# Comparison of Full-scale Testing Performance

AS 5113 TEST CRITERIA	ULTRACORE IQ	SOLID ALUMINIUM	COMPARISON
			
5.4.5(a) Tw5m	483°C (Pass)	Exceeds 600°C (Fail)	<b>SOLID Fails</b>
5.4.5(b) Tcavity5m	152°C (Pass)	Exceeds 250°C (Fail)	<b>SOLID Fails</b>
5.4.5(b) Tinsulation5m	47°C (Pass)	Exceeds 250°C (Fail)	<b>SOLID Fails</b>
5.4.5(c) Tunexposedside0.9m	No Failure (Pass)	Exceeds 180°C (Fail)	<b>SOLID Fails</b>
5.4.5(d) Flaming	No Flaming (Pass)	No Flaming (Pass)	Equivalent (both pass)
5.4.5(d) Openings	No Openings (Pass)	No Openings (Pass)	Equivalent (both pass)
5.4.5(e) Spread	No Spread (Pass)	No Spread (Pass)	Equivalent (both pass)
5.4.5(f) Debris Flaming	Flaming Debris (Fail)	Flaming Debris (Fail)	Any Test with Sealant Fails This
5.4.5(g) Debris Mass	15.5kg (Fail)	46.4kg (Fail)	<b>SOLID has 3 x more Debris</b>

*“While neither product requires this for compliance, Aluminium Core panel demonstrates superior fire safety in full-scale testing”*

# Comparison of Thermal Conductivity (W/mK)

**AWTA PRODUCT TESTING**  
 Australian Wool Testing Authority Ltd - trading as AWTA Product Testing  
 A.B.N 43 006 014 100  
 1st Floor, 151 Racecourse Road, Flemington, Victoria 3051  
 P.O. Box 240, North Melbourne, Victoria 3051  
 Phone (03) 9371 2400 Fax (03) 9371 2459

**TEST REPORT**

Client : Blue Chip Group Pty Ltd  
 62 Division Street  
 Welshpool WA 6108

Test Number : 19-002245  
 Issue Date : 31/05/2019  
 Print Date : 17/06/2019  
 Order Number : Metal- RV

Sample Description Clients Ref : "Ultracore #UC1005"  
 Aluminium Core Panel  
 Colour : Snow White

ASTM C518-2017 **Steady-State Thermal Transmission Properties by Means of the Heat Flow Apparatus**

Date of Testing  
 Test Date  
 Test Apparatus  
 Sample Orientation  
 Heat Flow Direction  
 Mean Test Temperature  
 Temperature Differential  
 Average Thermal Gradient  
 Estimated uncertainty in results

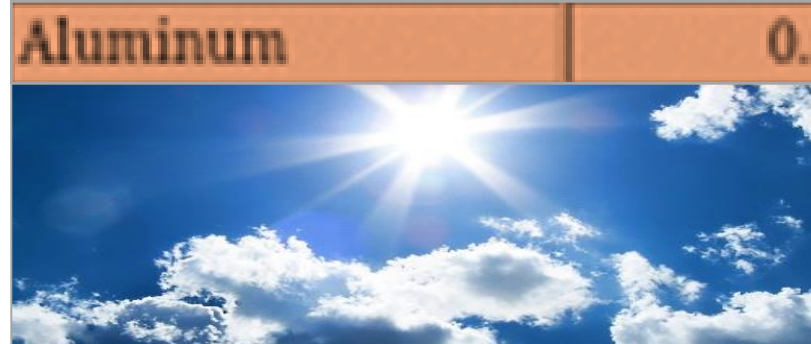
Specimen  
 Specimen Thickness (as received)  
 Specimen Thickness (as tested)

**ULTRACORE IQ**



205

Thermal Conductivity		
Material	Thermal conductivity (cal/sec)/(cm <sup>2</sup> C/cm)	Thermal conductivity (W/m K)*
Aluminum	0.50	205.0
Copper	0.99	385.0
Gold	...	314
Brass	...	109.0
Aluminum	0.50	205.0



Measured Thermal Conductivity 2.0064 3.0648 W/m.K

Thermal Resistance 0.00 0.00 m<sup>2</sup>°C/W

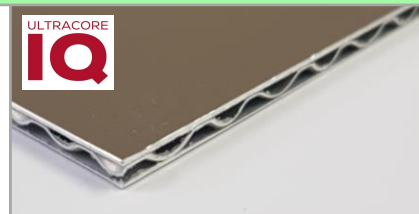
190376 35662 Page 1 of 2

Accredited for compliance with ISO/IEC 17025 - Testing

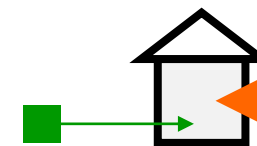
Chemical Testing Accreditation No. 993  
 Mechanical Testing Accreditation No. 999  
 Performance & Approval Testing Accreditation No. 1356

AWTA LIMITED

APPROVED SIGNATORY






2.54

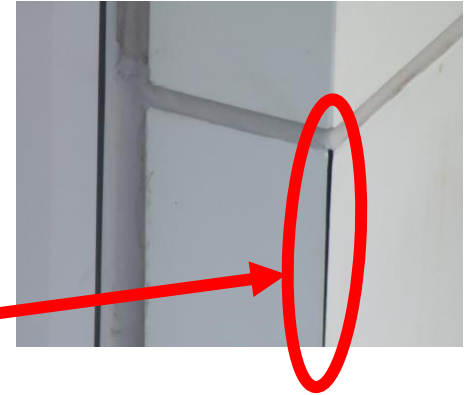
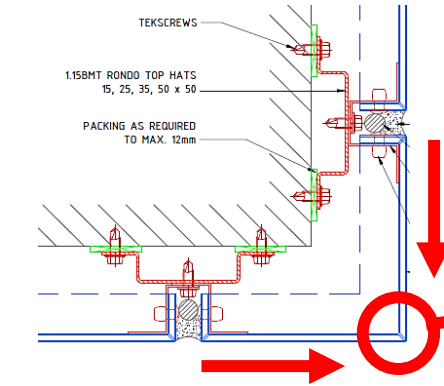
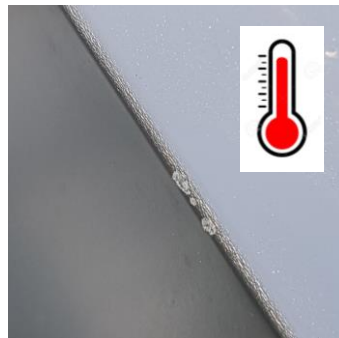


80 x more for Solid Aluminium

*"Aluminium Core panel has 80 x lower rate of heat transfer into a building for superior energy efficiency and section J compliance"*

# Comparison of V-grooved Corner Durability

<b>90° V-GROOVED FOLD TEST</b> - 0.8mm (+/-0.1mm) left at base - Result is no. of folds to failure - Averaged over 150 samples - Includes all common alloys	<b>ULTRACORE IQ</b> 	<b>SOLID ALUMINIUM</b> 	<b>COMPARISON</b> 
<b>90° with 2.5mm Flat</b>	<b>9.85 Folds</b>	<b>5.90 Folds</b>	<b>ULTRACORE is 67% more durable</b>
<b>90° with 2.5mm Radius (Don't Use)</b>	<b>5.80 Folds</b>	<b>3.81 Folds</b>	<b>ULTRACORE is 52% more durable</b>
<b>90° with 3.5mm Flat</b>	<b>9.25 Folds</b>	<b>7.08 Folds</b>	<b>ULTRACORE is 31% more durable</b>



**“SOLID aluminium in the v-groove system is likely to crack on the corners due to score fractures and high thermal movement”**

# Video of Solid Aluminium V-groove Failure



***"Insurance Exposure Risk: Not every building catches fire, but it rains on EVERY building, EVERY year!!"***

# Oil Canning & Bowing

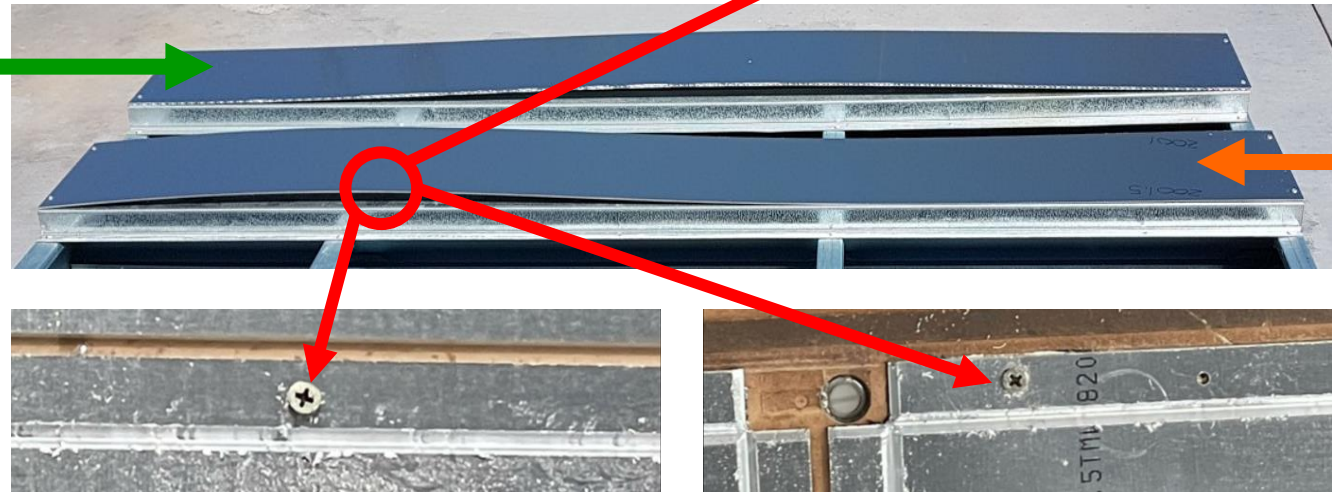
There is a reason why we moved away from solid aluminium to bonded laminates 40 years ago!!



**Bob Edman** • 2nd  
Managing Director at Aristoclad Pty Limited  
1d • Edited • 📍

This is what you need to do to keep 3mm solid in 4000x1575 sheets in position on the vacuum plane  
Absolute pain in the arse  
Seriously over this crap

The mechanical properties of Aluminium Core panel evenly distribute tension across the panels to greatly reduce oil canning and stiff bowing



Oil canning is the visible waviness caused by uneven distribution of tension in a solid sheet material.



*"Bonded laminated materials evenly distribute tension through the panel to prevent oil canning / bowing on the facade **and on the CNC machine**"*



# Comparison of Sealant Durability

## Aluminium Core Panels – Proven System

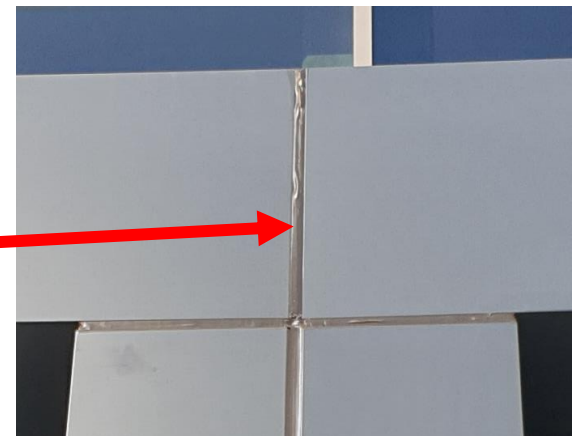
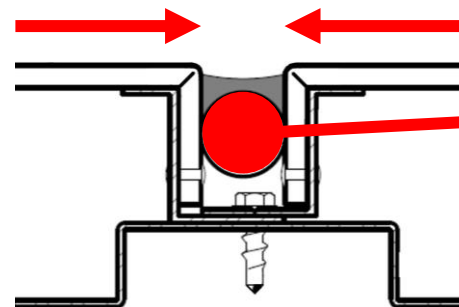
This is because they have low thermal conductivity, similar to ACP's with millions of M2 installed globally over 40 years.

## Solid Aluminium – Not so Proven

There is concern that the high expansion & contraction will result in future waterproofing issues due to sealant failure.

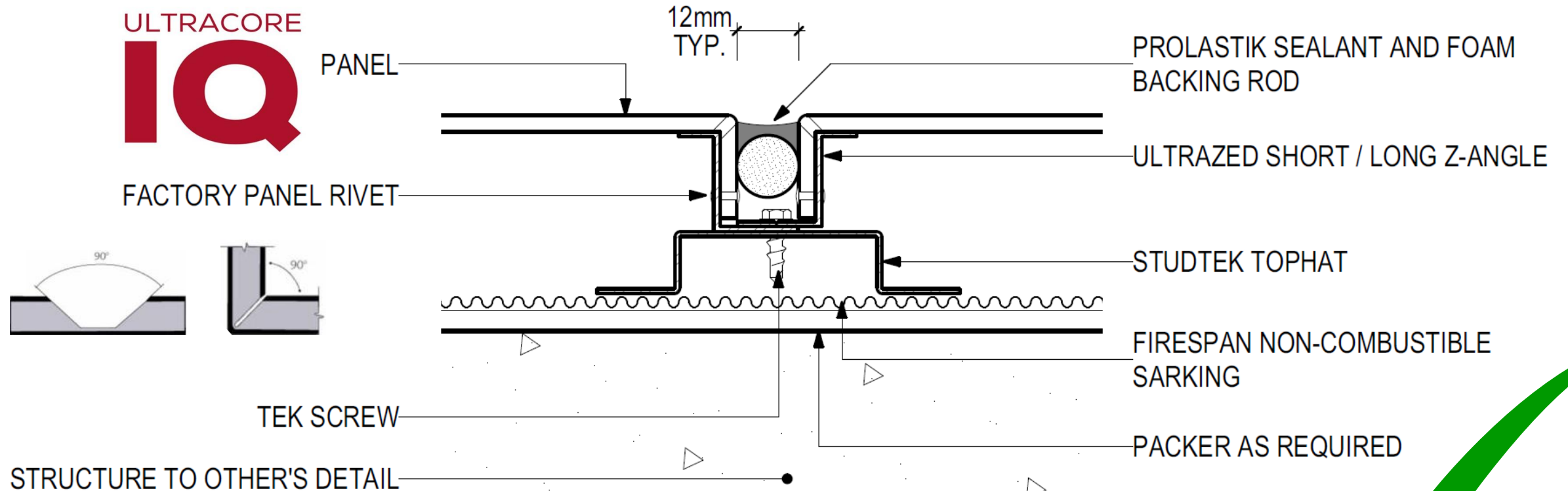
**Solution:** Reduce maximum panel sizes for Solid Aluminium.

*“Decades of use prove that Aluminium Core panels work with the cassette-fix system”*



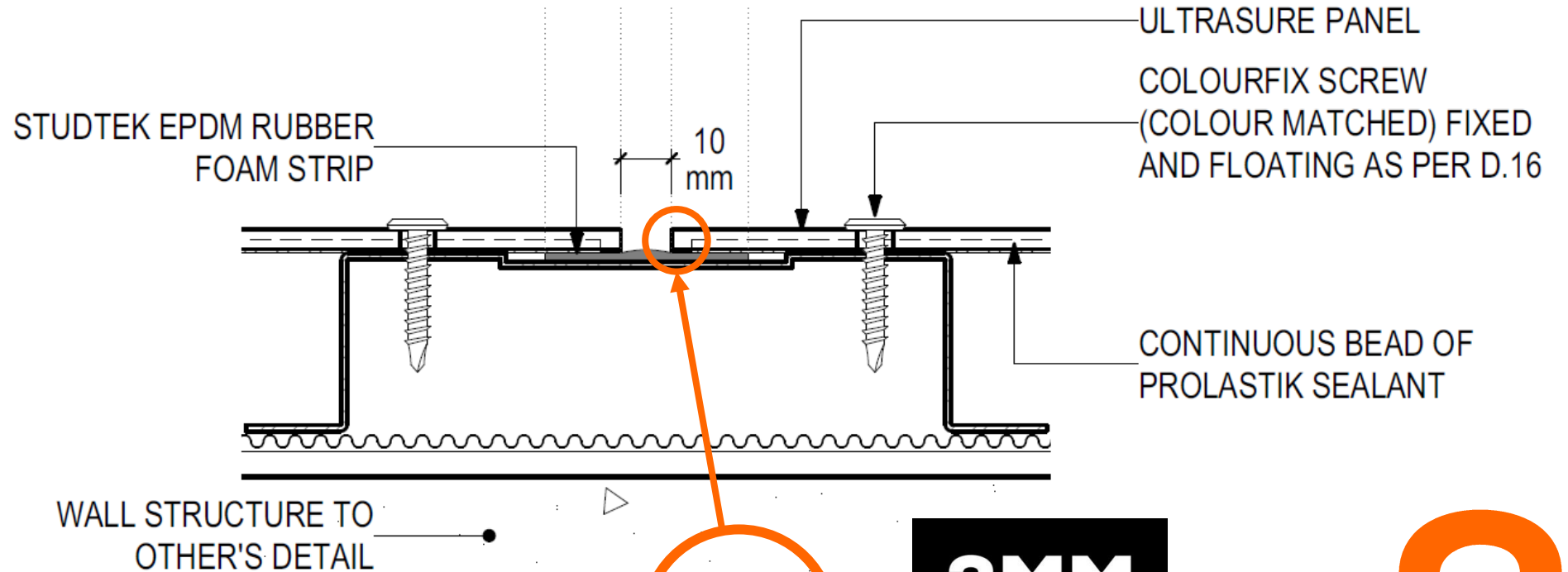
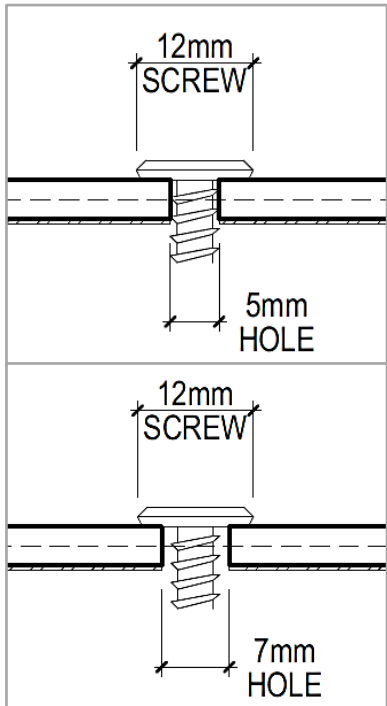
# Concealed Fix – Only suitable for ULTRACORE IQ

## Mechanical Cassette Fix System (V-groove Route & Return)



# Face Fix – The only suitable method for SOLID

(V-grooving and folding SOLID aluminium panels is **NOT** recommended)



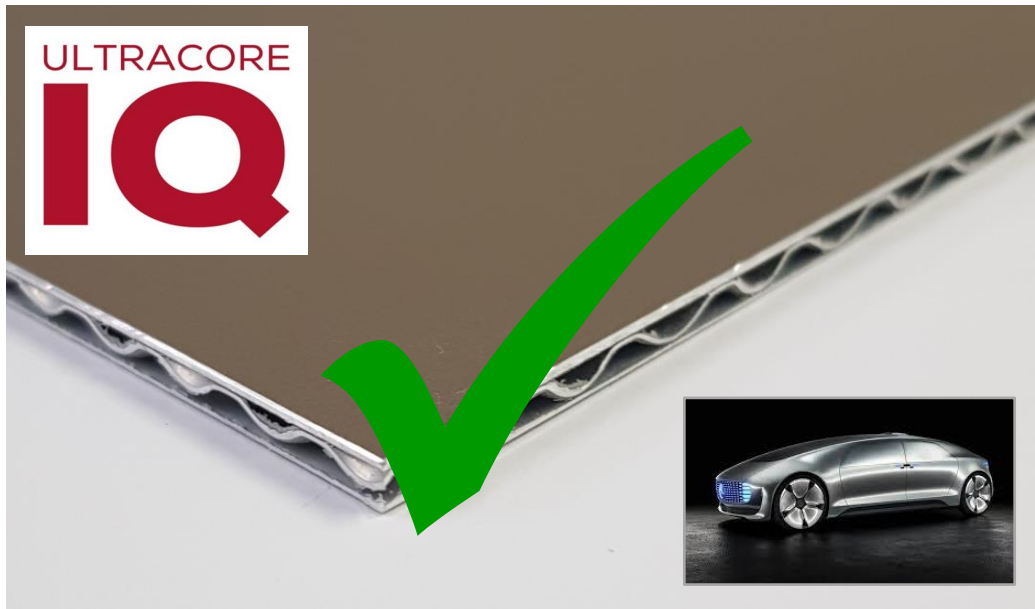
# ULTRACORE IQ Key Benefits

- All the general aluminium panel benefits including curved panels
- AS 5113 testing to prove superior 'real-world' fire safety and NO fire spread
- 80 x lower thermal conductivity for greater fire safety and section J compliance\*
- 1/3 the amount of debris in a fire scenario\*
- Proven durability in the cassette-fix system\*
- Concealed fixings with seamless corners/parapets\*
- Much greater resistance to oil canning\*
- Much faster to fabricate = \$\$\$ cost savings\*
- 50% less weight for structural & labour savings\*
- 50% less carbon footprint\*
- **Much lower MOQ for unlimited custom colours\***



*\*Compared to Solid Aluminium panels*

**CONCLUSION:** While we can supply all options including both DTS aluminium panels and a steel-skin panel for AS 5113 compliance, all the available testing & real-world evidence clearly shows that Aluminium Core panel offers the best outcomes across almost all key considerations.

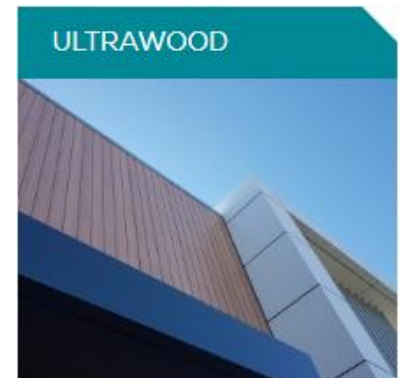
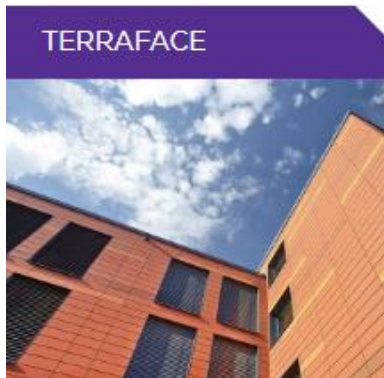


Aluminium Core Panel



Solid Aluminium Panel

# Which BLUECHIP Products are DTS Compliant?



# How do I Specify Fully Compliant DTS Systems?

**BLUECHIP**  
Metal Cladding

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## ULTRACORE

Overview | Availability | Colour Chart | Gallery | Downloads | Support

- Product Brochure
- Technical Manual
- Draft Specification
- NCC/BCA Fire Compliance
- PVDF Coating Standard
- Cleaning & Maintenance
- PDF Install Details
- CAD Install Details
- Testing & Certification
- Firespan Sarking
- Studtek Framing
- Ultraszed Z-angles

**BLUECHIP**  
Metal Cladding

**SPECIFICATION TEMPLATE**  
ULTRACORE Non-combustible Aluminium Core Panel

**1. SCOPE OF WORK**

The scope of work includes the design, supply, fabrication and installation of ULTRACORE non-combustible aluminium core panel, complete with all necessary sub-structures, anchors, hardware and fittings to provide a total installation and cladding system from the structure out.

**2. MATERIAL AND FINISHES**

**Cladding Material:**  
Aluminium cladding material shall be supplied by Blue Chip Group Pty Ltd (Ph: 08 9451 2344) comprising of a 4mm thick aluminium core panel with 0.7mm face skin and 0.5mm rear skins of aluminium sandwiching a non-combustible 2.6mm aluminium core;

- ULTRACORE, 4mm, with minimum 3003 H24 aluminium alloy skins.

**\*\*NO ALTERNATIVE MATERIALS WILL BE ACCEPTED FOR THIS PROJECT\*\***

**Colour Selection:**  
Refer to exterior finishes schedule.  
(Select colour code/s from the Finishes tab at the below link)  
<http://www.bluechipgroup.net.au/facade-cladding-perth/non-combustible-cladding-perth>

**Fire Properties:**  
Manufactured by Blue Chip Group Pty Ltd; ULTRACORE is a DTS Non-Combustible product in accordance with NCC 2019 clause C1.9(e)(vii) when tested to AS1530.1 and AS1530.3.

ULTRACORE Aluminium Core Panel		
TEST STANDARD	RESULT	
NCC C1.9(e)(vii)	PASS (Deemed Non-combustible)	
AS1530.1	PASS (Deemed Non-combustible)	
AS1530.3	PASS	Ignitability Index 0
	PASS	Heat Evolved 0
PASS	Spread of Flame 0	
PASS	Smoke Developed 0-1	

**Applied Finish:**  
The external panel surface shall be factory prefinished by the manufacturer with a Fluoropolymer coating of either PVDF or FEVE or combination of both applied through a continuous coil coating process. The coated surface shall meet or exceed the minimum requirements of: AAMA 2605 -11 "Voluntary Specifications, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminium Extrusions and Panels" or EN13523 "Coil Coated Metals - Test Methods" Application of the Fluoropolymer coating system by means of spray coating before or after forming and shaping of the cladding elements shall not be permitted.

**Protective Peel Off Foil:**  
The finished surface shall be factory protected with a self-adhesive UV stabilised peel-off foil to protect the applied finish during fabrication, delivery and installation processes and shall not be removed until panels have been installed.

ULTRACORE Non-combustible Aluminium Core Panel – Draft Specification (V0919)  
Page 1 of 3

Call **1300 945 123** to arrange a presentation...



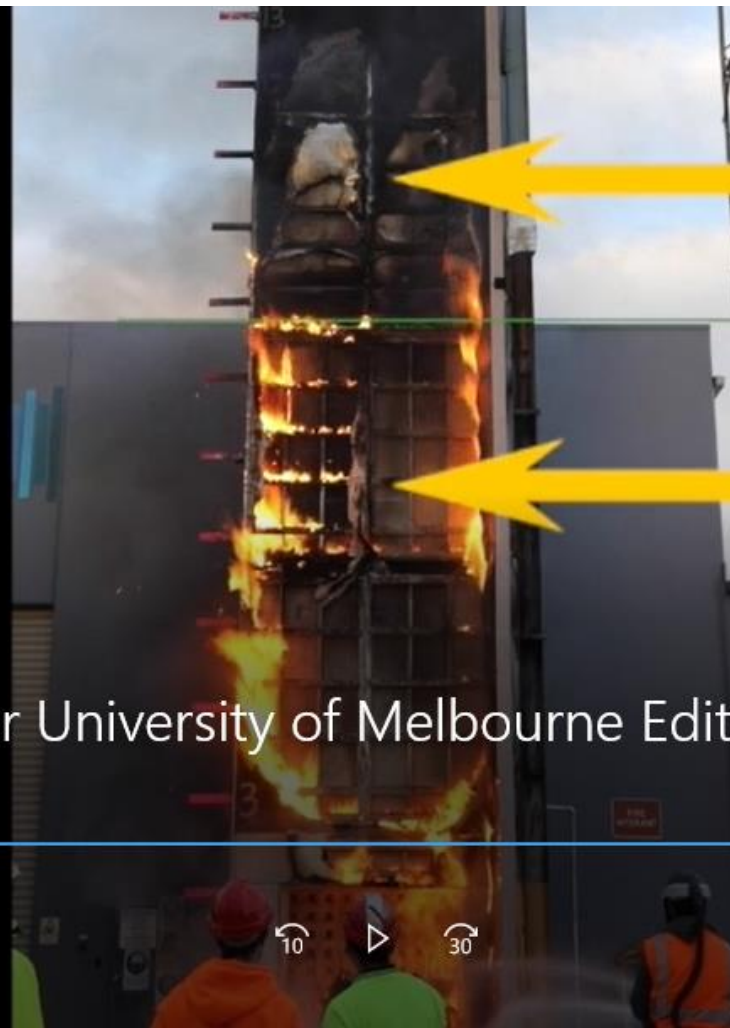
New National HQ &  
Distribution Centre

To claim 1 formal CPD point please hand in your CPD attendance & assessment form or email it to; [sales@bluechipgroup.net.au](mailto:sales@bluechipgroup.net.au)



# Call 1300 945 123 to view this amazing video...

This incredible 18m high test based on AS 5113 had 2 levels of highly flammable PE core panels below 3 levels of ULTRACORE IQ panels. After the 30min test and a raging PE fire, all the PE panels were completely gone and the ULTRACORE IQ panels passed with flying colours, successfully stopped the vertical spread and proving beyond any doubt that it does not contribute to the Spread-of-Fire.



Cladding

PE Panelling

ULTRACORE Fire-break Test for University of Melbourne Edited

0:05:12



X1 SPEED

0:00:21

