



We've Got It Covered

ULTRACORE  
IQ



## ULTRACORE IQ vs 3mm Solid Aluminium

Fire Performance | Thermal Performance | Water-proofing

*An Impartial Overview based on Logic, Testing and Evidence*

# ULTRACORE IQ & 3mm Solid are both **'DTS'** non-combustible – firstly lets take a look how.



**ULTRACORE IQ**

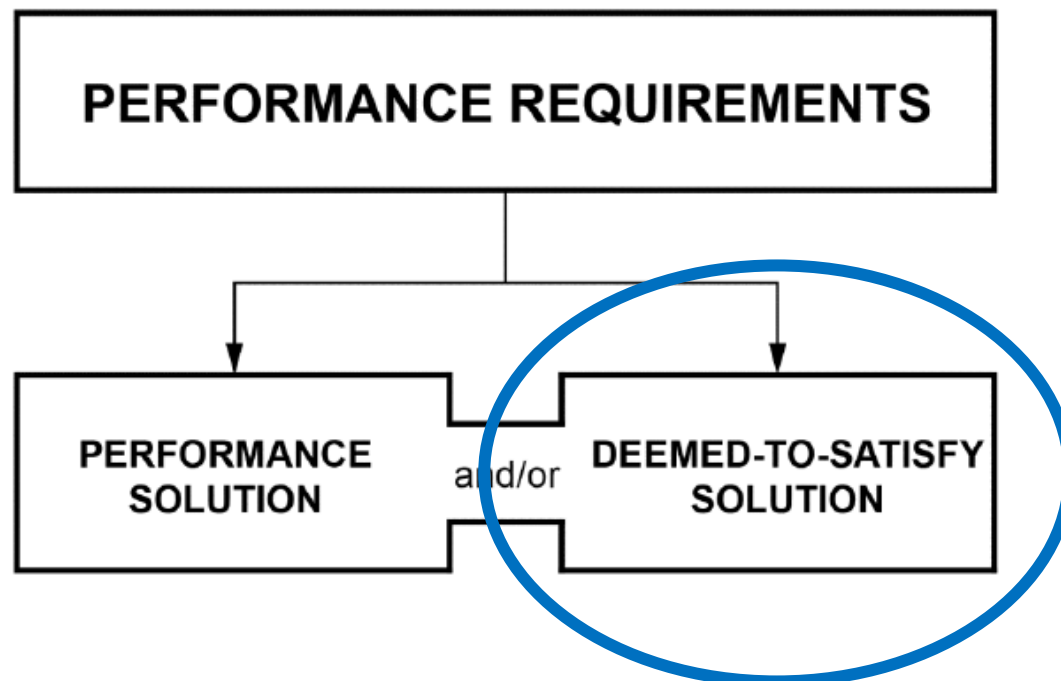


**Solid Aluminium Panel**



# Deemed-to-Satisfy Pathway via Clause *C2D10*

1. Deemed-to-Satisfy (DTS) Pathway (*Clause C2D10*)
2. Performance Solution Pathway (*C1V3 Verification Method*)



# Deemed-to-Satisfy Pathway via Clause *C2D10*

Clause C2D10(1) requires certain building elements and their components to be *non-combustible* in buildings of types **A & B construction**.

Clause C2D10(1)(a) requires *External Walls* and *Common Walls* including the façade covering, framing and insulation to be *non-combustible*.

- (1) In a building *required* to be of Type A or B construction, the following building elements and their components must be *non-combustible*:
  - (a) *External walls* and *common walls*, including all components incorporated in them including the facade covering, framing and insulation.



# Test Certificates used for C2D10 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.

*Heherson Alarde*  
Heherson Alarde  
Testing Officer

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

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NATA Accredited Laboratory  
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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.

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# ULTRACORE IQ is DTS compliant via C2D10(6)(g)

- (6) The following materials may be used wherever a *non-combustible* material is *required*:
- (a) Plasterboard.
  - (b) Perforated gypsum lath with a normal paper finish.
  - (c) Fibrous-plaster sheet.
  - (d) Fibre-reinforced cement sheeting.
  - (e) 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.
  - (f) *Sarking-type materials* that do not exceed 1 mm in thickness and have a *Flammability Index* not greater than 5.
  - (g) Bonded laminated materials where—
    - (i) each lamina, including any core, is *non-combustible*; and
    - (ii) each adhesive layer does not exceed 1 mm in thickness and the total thickness of the adhesive layers does not exceed 2 mm; and
    - (iii) 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; and
    - (iv) when located externally, are fixed in accordance with C2D15.

# AS 1530.1 Test for Material Combustibility is required for DTS compliance with *C2D10(6)(g)(i)*

- 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*  
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Testing Officer


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## ULTRACORE IQ – AS 1530.1

*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, are deemed non-combustible* as per criteria (i), the first of three criteria for it to be classified as a DTS non-combustible material as per *C2D10(6)*.





# NATA Assessment to Confirm Adhesive Thickness as per C2D10(6)(g)(ii) is Recommended

- NATA Assessment
- Confirming 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*  
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 Testing Officer

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 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 at only 10% (1/10<sup>th</sup>) of the NCC allowance.

### Certificate of Test

Quote No.: NZ7601 REPORT No.: FNE11680

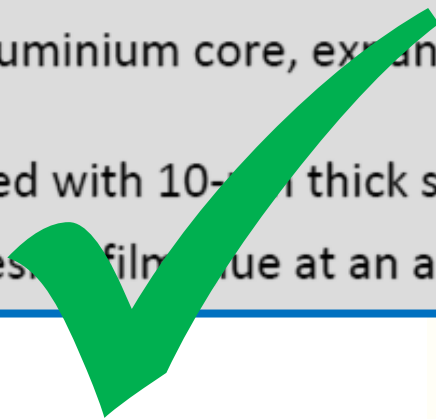
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TRADE NAME:	Ultracore G2
SPONSOR:	Blue Chip Group 62 Division Street Welshpool WA AUSTRALIA
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The sponsor described the tested specimen as an aluminium composite sandwich decorative panel comprised 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>.



# AS 1530.3 Test for Fire Hazard Properties is Required for Compliance with C2D10(6)(g)(iii)

- 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;  
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 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.

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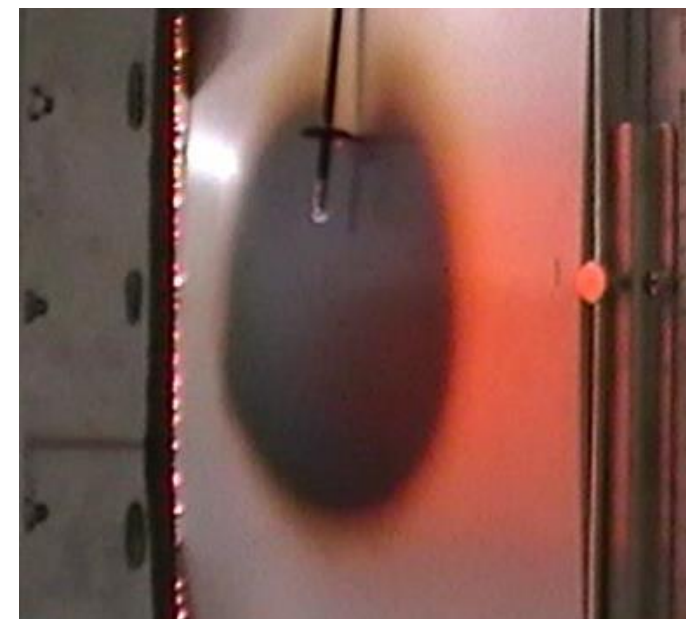
# ULTRACORE IQ - AS 1530.3

As per the requirements of NCC 2022, 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 as per C2D10(6)(g)

## 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 to CSIRO AS 1530.1 Testing Certificate #: FNC11679

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

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



# Cassette Fixing Requirement in *C2D10(6)(g)(iv)*

*After extensive lobbying by industry leaders*, the ABCB has added an additional requirement in NCC 2022 to make tape or adhesive fixing non-compliant in external cladding applications – **update highlighted.**

## Clause C2D10(6)(g) for Bonded Laminated Materials in NCC 2022

- (g) Bonded laminated materials where—
  - (i) each lamina, including any core, is *non-combustible*; and
  - (ii) each adhesive layer does not exceed 1 mm in thickness and the total thickness of the adhesive layers does not exceed 2 mm; and
  - (iii) 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; and
  - (iv) when located externally, are fixed in accordance with C2D15.



# Cassette Fixing Compliance with C2D15

The most commonly recommended installation method is the widely used and globally proven cassette fixing which is specifically listed as compliant in C2D15 as **highlighted** below. **ULTRACORE IQ** can also be installed in a channel-type fixing method (ie curtain-wall) or face-fixed if required.

## C2D15 Fixing of bonded laminated cladding panels

- (1) In a building *required* to be of Type A or B construction, externally located bonded laminated cladding panels must have all layers of cladding mechanically supported or restrained to the supporting frame.

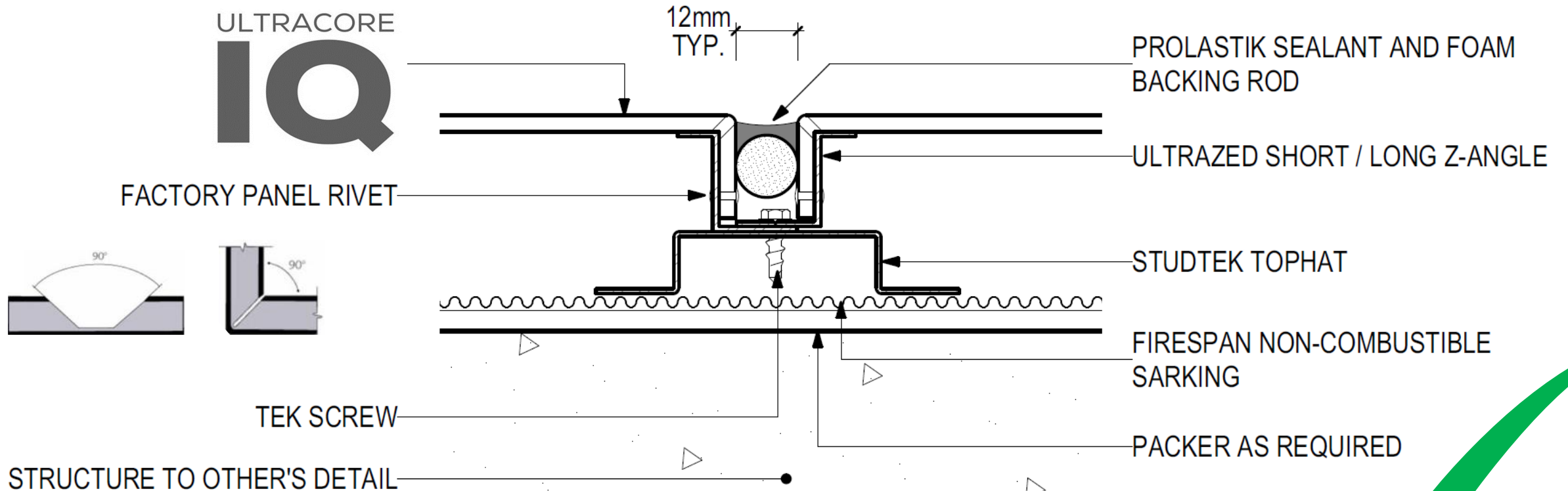
### Notes

For (1), mechanical support or restraint means fixing that does not solely rely on chemical adhesive and includes concealed fixing systems such as **cassette fixing**, channel-type fixing and face fixing.



# ULTRACORE IQ – *Cassette Fixing Installation*

(V-groove and folding is only recommended for bonded laminated panels)





# 3mm Solid is DTS compliant via C2D10(6)(e)

- (6) The following materials may be used wherever a *non-combustible* material is *required*:
- (a) Plasterboard.
  - (b) Perforated gypsum lath with a normal paper finish.
  - (c) Fibrous-plaster sheet.
  - (d) Fibre-reinforced cement sheeting.
  - (e) 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.
  - (f) *Sarking-type materials* that do not exceed 1 mm in thickness and have a *Flammability Index* not greater than 5.
  - (g) Bonded laminated materials where—
    - (i) each lamina, including any core, is *non-combustible*; and
    - (ii) each adhesive layer does not exceed 1 mm in thickness and the total thickness of the adhesive layers does not exceed 2 mm; and
    - (iii) 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; and
    - (iv) when located externally, are fixed in accordance with C2D15.

# 3mm Solid Aluminium Results via *C2D10(6)(e)*

Non-combustible 3mm Solid Aluminium Panel

TEST	RESULT	
NCC 2022 C2D10(6)(e)	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

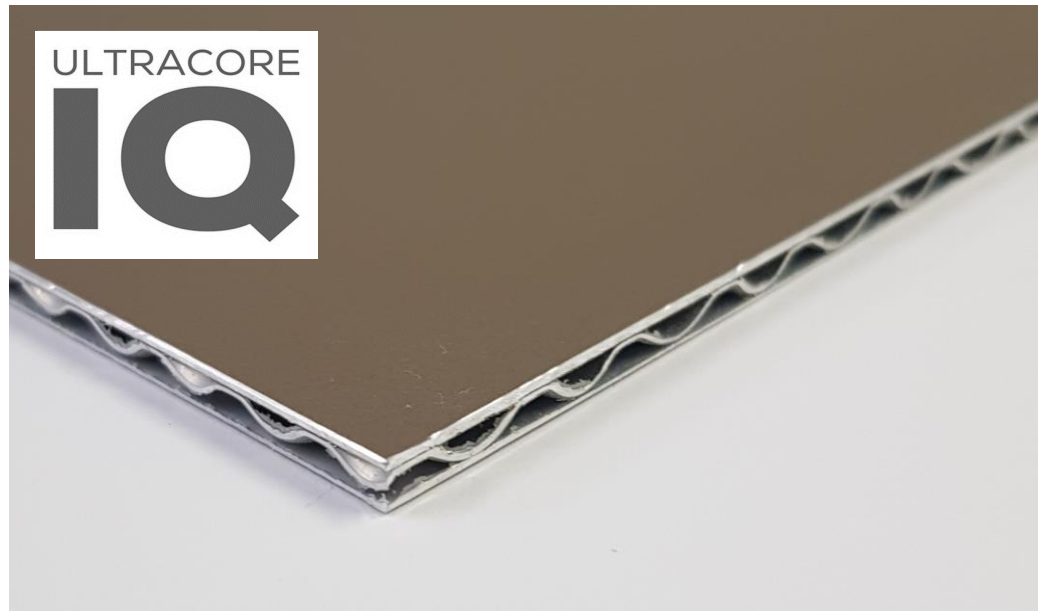


\*Refer CSIRO AS 1530.1 Testing Certificate #: FNC12287

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



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



**ULTRACORE IQ**



**Solid Aluminium Panel**



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

- *Goes to the heart of why they became so popular worldwide in the first place...*
- Both are DTS non-combustible for all buildings and applications
- Both offer 30+ years life expectancy with low maintenance PVDF Coil Coating
- Both offer versatile colours, shapes and panel sizes
- Both offer excellent corrosion resistance
- Excellent system for waterproofing\*
- Wrap around corners, parapets and facias\*
- Globally proven concealed cassette fixing system\*
- Excellent strength and crack resistance\*
- High rigidity to weight ratio, excellent flatness\*

*\*These benefits apply to Bonded Laminated Panels only.  
They **do not** apply to 3mm Solid Aluminium*



# 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

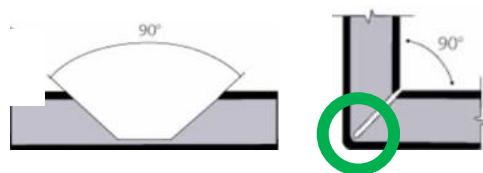
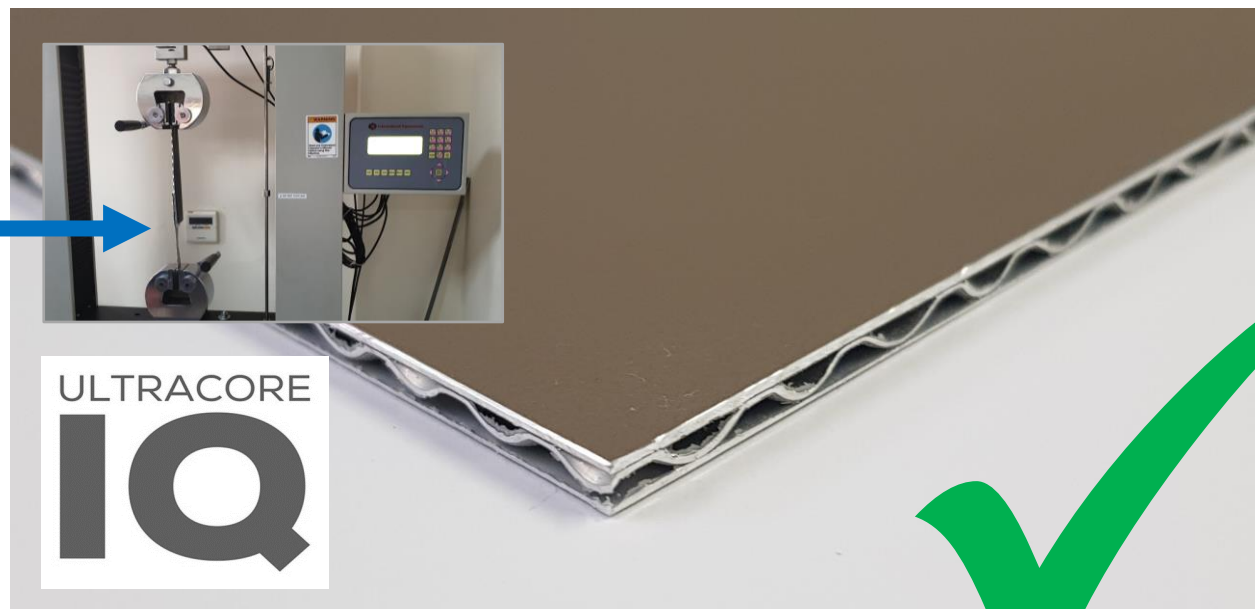
Due to lower density of fluorine atoms and vinyl in FEVE resins, these coatings are more susceptible to UV degradation, however they can provide higher gloss values than PVDF.

*Lifespan is typically 25+ years.*



# Intelligent Aluminium Core Panel

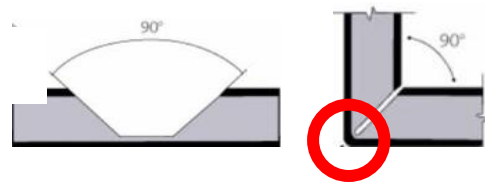
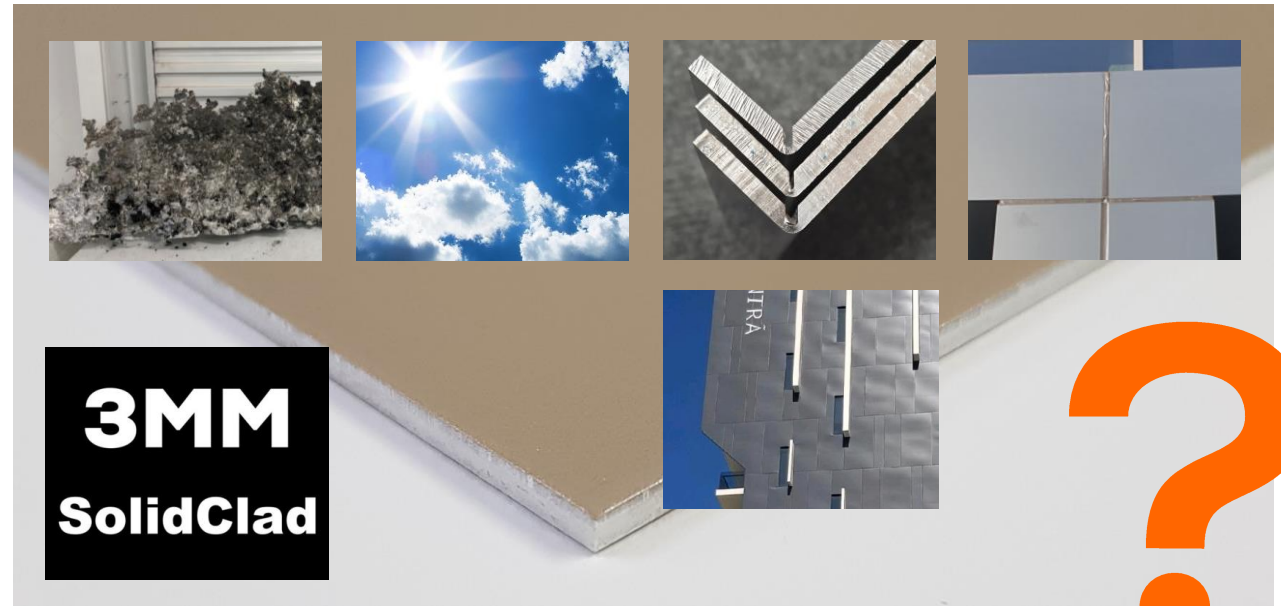
- DTS compliant for types A, B & C construction
- Category D insurance rating from the ICA (lowest risk)
- **50% less carbon footprint and 100% recyclable (no landfill)**
- *4kg/m<sup>2</sup> total panel weight*
- *Low thermal conductivity*
- *Low debris quantity*
- *High lamination strength*
- *No risk of score-fractures when v-grooved*




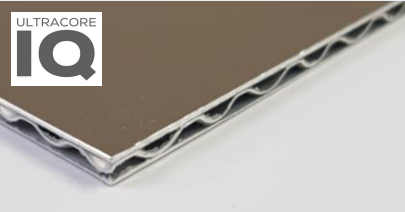
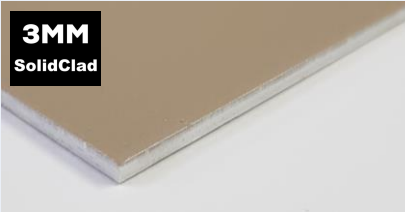

# 3mm Solid Aluminium Panel

**3MM  
SolidClad**

- DTS compliant for types A, B & C construction
- Category D insurance rating from the ICA (lowest risk)
- 2 x the carbon footprint however 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 Fire Testing Outcomes

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 vastly 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.43 006 014 106  
 1st Floor, 191 Racecourse Road, Flemington, Victoria 3051  
 P.O. Box 246, North Melbourne, Victoria 3051  
 Phone (03) 9371 2400 Fax (03) 9371 2499

**TEST REPORT**

Client : Blue Chip Group Pty Ltd  
 62 Division Street  
 Welshpool WA 6106

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

Sample Description  
 Clients Ref : "Ultracore #JC1006"  
 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**

**Measured Thermal Conductivity**  
 2.0064 3.0648 W/m.K

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

169376 35662 Page 1 of 2

Accredited for compliance with ISO/IEC 17025 - Testing  
 - Chemical Testing  
 - Mechanical Testing  
 - Performance & Approval Testing

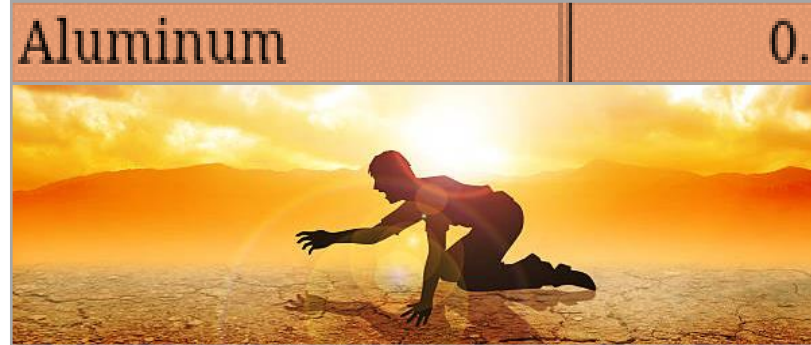
Accreditation No. 953  
 Accreditation No. 955  
 Accreditation No. 1286

Approved Signatory  
 MICHAEL A. JACKSON B.Sc.(Hons)  
 MANAGING DIRECTOR

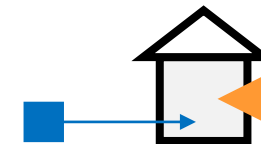


**205**

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



**2.54**

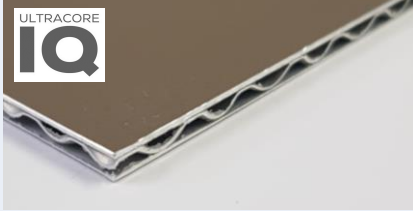




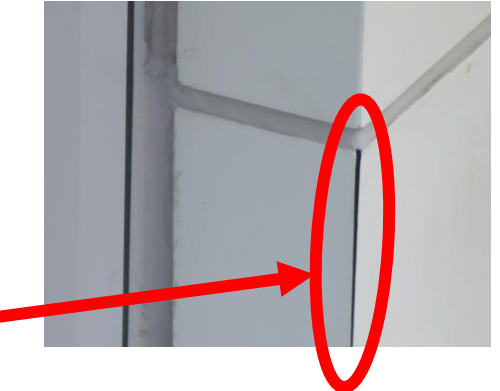
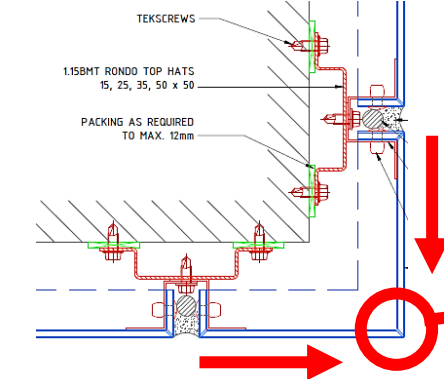
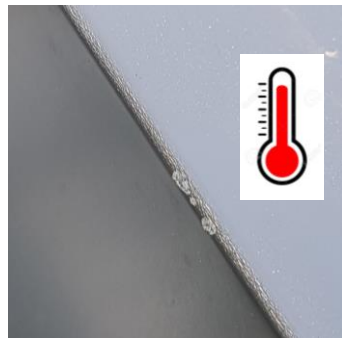
**80 x more for Solid Aluminium**

*"Aluminium Core panel has 80 x lower rate of heat transfer for superior climate outcomes, energy efficiency & 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>



*“Using **3mm SOLID** aluminium in the v-groove system will likely crack on the corners due to score fracturing and high thermal movement”*



# The **RISK** of Solid Aluminium V-groove Failure



***“Water Ingress Risk:** Not every building catches fire, but it rains on every building, every year. **V-grooving Solid is not worth the RISK!**”.*



# Oil Canning & Bowing

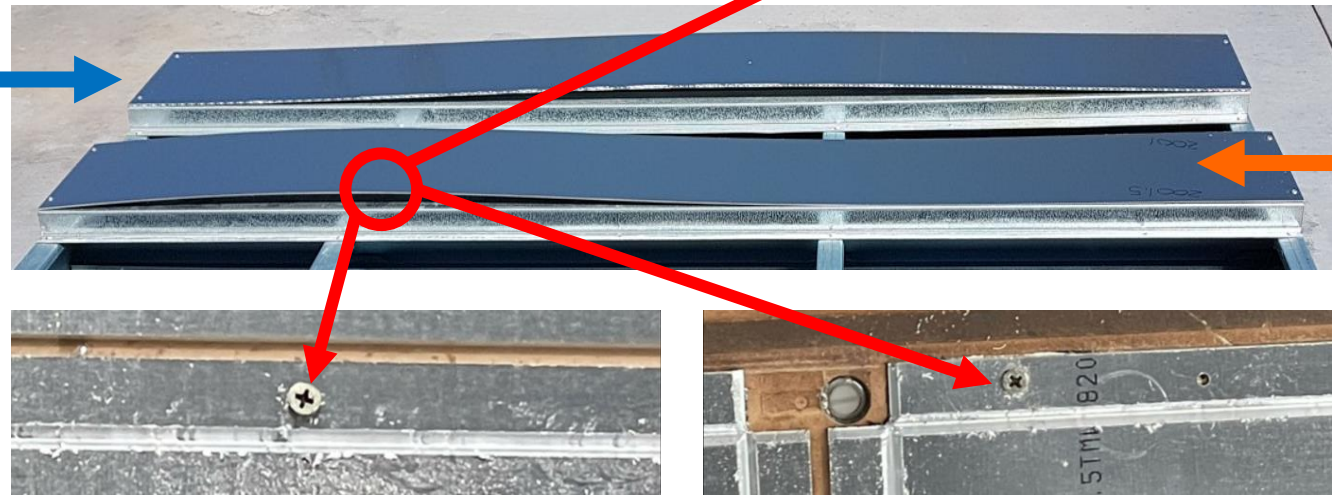
There is a reason why we moved away from solid aluminium to bonded laminates 40 years ago!!



**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 limit bowing



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



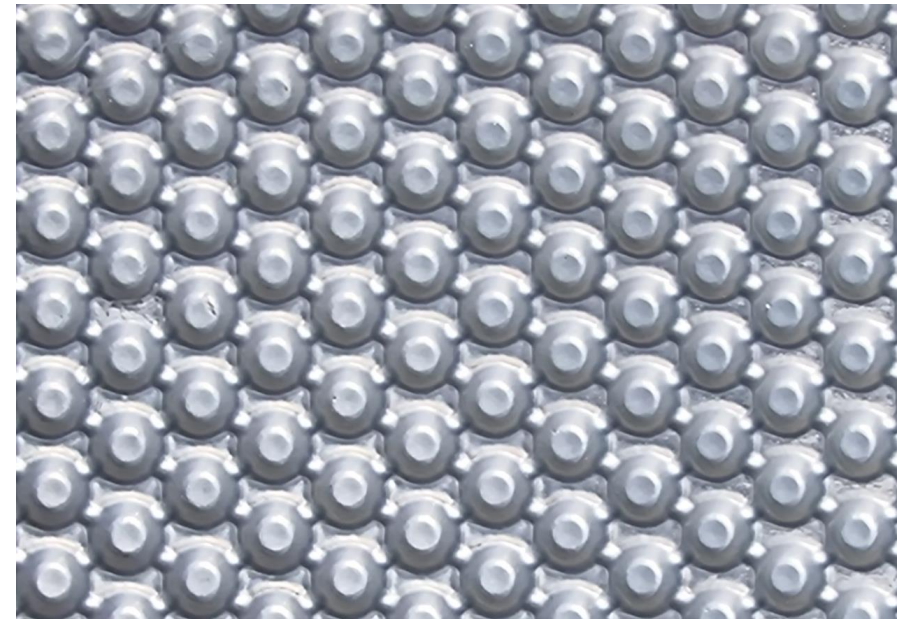
*“Bonded laminated materials evenly distribute tension through the panel to **prevent oil canning and reduce bowing on the facade and CNC machine**”*



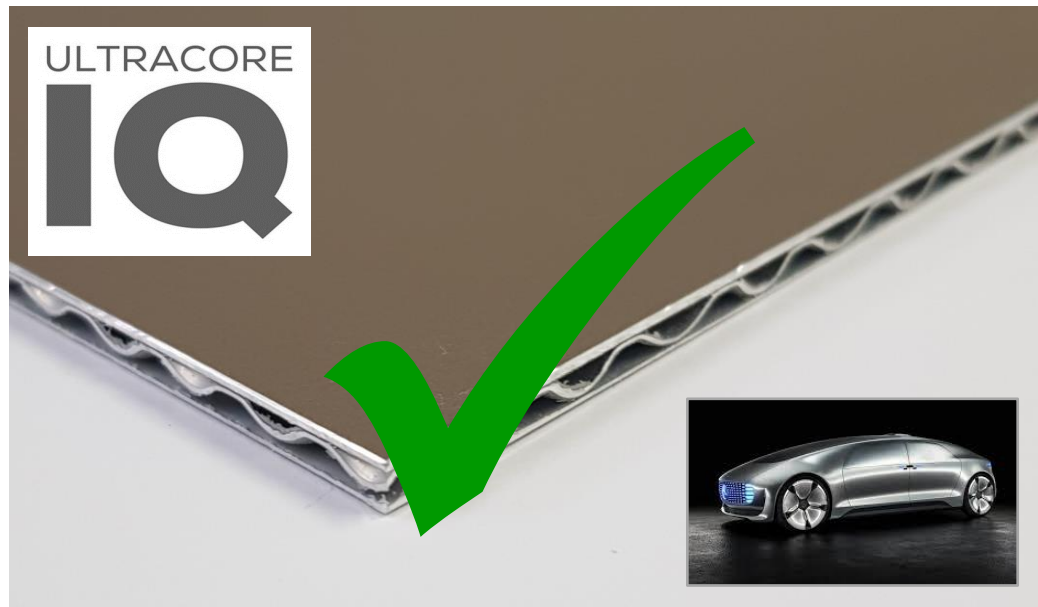
# Benefits Summary of Aluminium Core

- 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\**

*\*In comparison to 3mm Solid Aluminium Panels*



**CONCLUSION:** While we can supply both options; the test results, logic & real-world evidence all prove that **Intelligent Aluminium Core Panel** provides the best outcomes across all key performance criteria.



**ULTRACORE IQ**

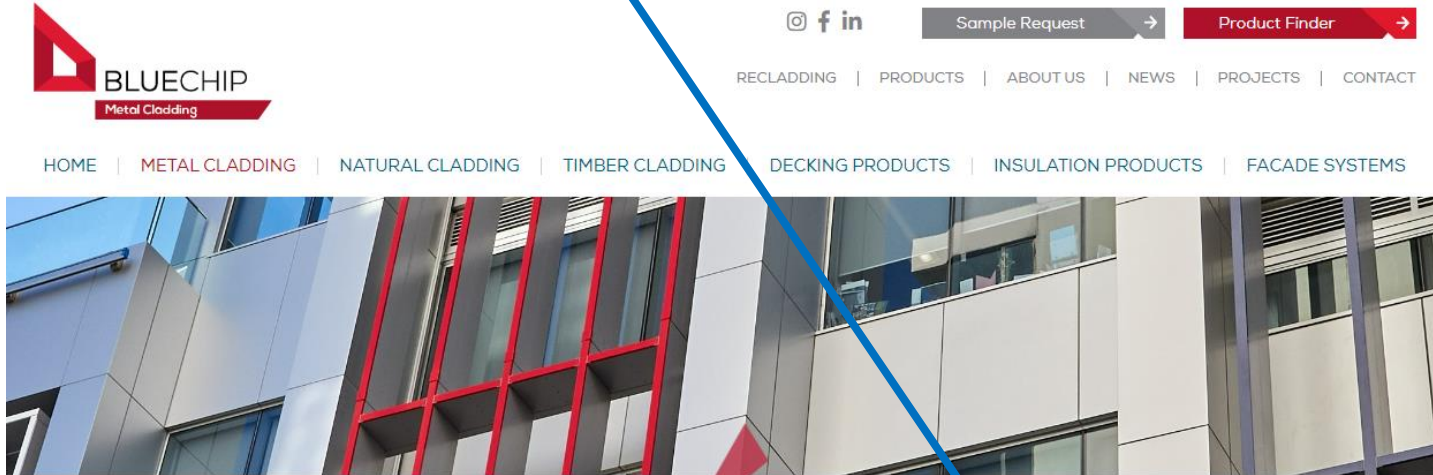


**Solid Aluminium Panel**

*"Going back 50 years to using SOLID aluminium panels is like going back to 'horse-and-cart' to solve an issue with car safety!"*



# Go to 'Downloads' for the latest Product Data...



METAL CLADDING

- ULTRACORE IQ
- ULTRABOND FR
- ULTRASURE
- ULTRANAMEL
- ULTRALIGN

HOME | METAL CLADDING | ULTRACORE IQ

## ULTRACORE IQ

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	DWG/CAD Install Details	Testing & Certification

**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 comprising of a 4mm thick aluminium core panel aluminium sandwiching a non-combustible 2.6mm ULTRACORE, 4mm, with minimum 3003.

**Colour Selection:** Refer to exterior finishes schedule. (Select colour codes from the Finishes tab at the <http://www.bluechipgroup.net.au/facade-cladding>)

**Fire Properties:** Manufactured by Blue Chip Group Pty Ltd. ULTRACORE IQ is compliant with NCC 2019 clause C1.9(e)(vii) w/

ULTRACORE Aluminium	
NCC C1.9(e)(vii)	PASS (Deemed Non-combustible)
AS1530.1	PASS (Deemed Non-combustible)
AS1530.3	PASS (Deemed Non-combustible)
	PASS (Sp)
	PASS (He)
	PASS (Sp)
	PASS (St)

**Applied Finish:** The external panel surface shall be factory pre-finished with a PVDF or FEVE or combination of both. The coated surface shall meet or exceed the requirements of the Australian Standard AS/NZS 4380:2017 (Performance Requirements for Organic Coatings on Aluminium Extruded Metals – Test Methods) Application of the Fluoropolymer coating before or after forming and shaping of the panel.

**Protective Peel Off Foil:** The finished surface shall be factory protected with a protective foil during fabrication, delivery and until panels have been installed.

**INSTALLATION DETAILS**  
ULTRACORE IQ Intelligent Non-combustible Core Panel (V0922)

**SYSTEM COMPONENTS**

- BICEP FACADE SYSTEM [1]
- ROCK INSULATION [2]
- FIRESPAN BARRING [3]
- STUDTEK TOPHAT [4]
- ULTRAZED Z-ANGLES [5]
- PROLASTIK SEALANT [6]

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