

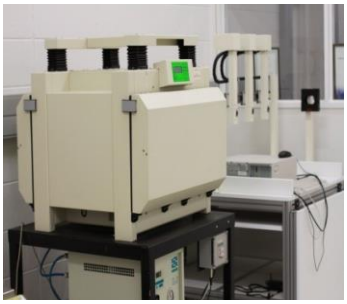

TEST REPORT

DI14458-001-01

THERMAL TESTING OF AN INSULATION SAMPLE

CLIENT
Delta Panels Pty Ltd
731 Boundary Road
Richlands
Qld 4077
Australia

All tests and procedures reported herein, unless indicated, have been performed in accordance with the laboratory's scope of accreditation

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NATA

IANZ

TO WHOM IT MAY CONCERN

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(i) recognises within its scope of recognition of this Arrangement the accreditation of an organisation by other signatories as being equivalent to an accreditation by its own organisation,

(ii) accepts, for its own purposes, endorsed* certificates or reports issued by organisations accredited by other signatories on the same basis as it accepts endorsed* certificates or reports issued by its own accredited organisations,

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* *The word "endorsed" means a certificate or report bearing an Arrangement signatory's accreditation symbol (or mark) preferably combined with the ILAC-MRA Mark.*

Signed:

Jennifer Evans
NATA CEO

Date: 24 March 2014

Dr Llewellyn Richards
IANZ CEO

Date: 24th March 2014

LIMITATION

The results reported here relate only to the item/s tested.

TERMS AND CONDITIONS

This report is issued in accordance with the Terms and Conditions as detailed and agreed in the BRANZ Services Agreement for this work.

SIGNATORIES

Author

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IANZ Approved Signatory

Reviewer

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DOCUMENT REVISION STATUS

ISSUE NO.	DATE ISSUED	DESCRIPTION
01	9/09/2021	Initial Issue

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1. TEST SPONSOR

Delta Panels Pty Ltd
731 Boundary Road, Richlands, Qld 4077, Australia

2. TEST SAMPLES

The specimens were supplied by the client and consisted of 3 pieces of foam insulation segment described by the client as “Thermosetting Phenolic Composite (TPC) core material”. The dimensions of the samples were approximately 600 x 600 mm.

3. TEST EQUIPMENT

All tests reported have been undertaken at BRANZ Ltd laboratories located at Judgeford, unless stated otherwise. The ASTM C518 compliant test equipment used was a LaserComp FOX801 heat flow meter and Wintherm software. The specimen for testing is placed horizontally in the apparatus, with upwards heat flow. The hot and cold plates each have a 250 mm x 250 mm heat flux transducer embedded in their surface. The edges of the specimen are insulated from the room ambient temperature.

Table 1: Test condition set-points

Nominal Upper Plate Temperature	10.0	°C
Nominal Lower Plate Temperature	36.0	°C
Nominal Difference in Temperature	26.0	K
Nominal Mean Temperature	23.0	°C

4. PROCEDURE

The specimens were tested at the actual measured thickness, to the requirements of ASTM C518.

5. CONDITIONING

The sample segments were conditioned for at least 24 hours at 23 ± 3 °C, prior to the thermal performance measurements.

6. UNCERTAINTY

The estimated overall uncertainty of measurement is 2.0%.

7. RESULTS

Table 2: Measured test temperature

Temperature Difference	26.0 ± 0.1		K
Mean Test Temperature	23.0 ± 0.1		°C

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Table 3: Measured results for the test specimens

Calibration check	06/09/21 SR07	
BRANZ reference		D6486C
Sample weight	gram	1036
'grams per sq. metre'	g/m^2	2877.8
Test date		08/09/21
Measured (test) thickness	mm	100.3
Density	kg/m^3	28.7
Heat-flux	W/m^2	10.01
Thermal resistance	m^2K/W	2.60
Thermal conductivity	W/mK	0.0386
Difference between heat flux transducers	%	0.0

* Thermal conductance can be calculated by dividing the thermal conductivity by the thickness of the specimen
* Average temperature gradient in the specimen during test can be calculated by dividing the temperature difference by the thickness of the specimen
* The minimum duration of the measurement portion of the test once steady state (0.2% / 12 mins) is achieved is 6 minutes

Some foam insulation materials such as phenolic, polyurethane, polyisocyanate and extruded polystyrene can exhibit the characteristic of aging of the material, the thermal conductivity increasing with time. Since the previous history of the test material is unknown and no accelerated aging has been performed, these results should without further information be considered as representative of the performance of new material only and actual longer term in-service thermal conductivity may be higher.

8. REFERENCES

ASTM C518 *Standard Test Method for Steady-State Heat Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus*. American Society for Testing and Materials, Philadelphia, PA, 2017.

This is the end of the report

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