

CERTIFICATE

Material Fire Test Certificate

IGNL-4157-01C I01 R01

DATE OF TEST 01.12.2020
 ISSUE DATE 04.12.2020
 EXPIRY DATE 03.12.2025

AS 1530.1:1994
 Combustibility test for materials

SPONSOR

Network Architectural
 71 Marigold Street
 Revesby NSW 2212

TEST BODY

Ignis Labs Pty Ltd
 ABN 36 620 256 617
 3 Cooper Place
 Queanbeyan NSW 2620
 Australia
 www.ignislabs.com.au
 (02) 6111 2909
 Test body is the test location



Specimen Identification

Aluminium Skin of Mitsubishi Alpolic

Specimen Description

The sponsor described the tested specimen as:

Aluminium skin of composite panel. The nominal thickness of the specimen is 0.5mm and the end use being cladding. Individual pieces are stacked together to the required specimen height for each test.

The test specimens are cylindrical, and each has:

(a) Nominal diameter (mm):	44.68
(b) Nominal height (mm):	51.64
(c) Nominal volume (cm ³):	80.93
(d) Nominal Mass (g):	204.62
(e) Colour:	Silver

Test Method

Five (5) specimens were tested in accordance with Australian Standard 1530 Methods for fire tests on building materials, components and structures, Part 1 – 1994: Combustible test for Materials. The test apparatus is constructed in accordance with the requirements of ISO 1182:2010, which has been verified to be equivalent to the apparatus requirements of AS 1530.1:1994, with the exception that a suitable alternative insulating material was used to fill the annular space between the furnace tubes as specified in Clause 4.2 of ISO 1182:2010.

Observations

All five specimens exhibited equivalent performance. No ignition was observed. The tests were stopped after 30 min due to the phase change of the specimen (melting). The specimens, being aluminium, have a melting temperature of approximately 600°C and, therefore, evaluated in accordance with Clause A4 of AS 1530.1-1994 as applicable to thermally unstable materials. The tests were undertaken at 750±5°C, at which temperature stabilisation was evaluated.

Results

The specimen achieved the following results:

	Symbol	Arithmetic
Mean furnace thermocouple temperature rise:	ΔTf	2.10 °C
Mean specimen centre thermocouple temperature rise:	ΔTc	4.80 °C
Mean specimen surface thermocouple temperature rise:	ΔTs	8.42 °C
Mean duration of sustained flaming:		0 s
Mean mass loss:		0.30%

Combustibility

The specimens are NOT deemed COMBUSTIBLE according to the test criteria specified in Clause 3.4 of AS 1530.1-1994.



NATA Accredited Laboratory
 Number: 20534 Site number: 24604
 Accredited for compliance with
 ISO/IEC 17025 - Testing



Test Supervisor
 Darren Laker



Technical Lead
 Ram Prakash

Version: IGNL-QF-031-Issue 03 Revision 01

Disclaimer 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. The information contained in this document is provided for the sole use of the recipient and no reliance should be placed on the information by any other person. In the event that the information is disclosed or furnished to any other person, Ignis Labs Pty Ltd accepts no liability for any loss or damage incurred by that person whatsoever as a result of using the information.

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SUMMARY OF MEASUREMENTS AND OBSERVATIONS OF SPECIMENS UNDER TEST

Parameter	Symbol or expression	Unit Symbol	Specimen Results				
			1	2	3	4	5
Atmospheric temperature	-	°C	20.20	20.80	22.90	24.00	24.60
Humidity	-	%RH	63.30	68.00	52.20	49.60	48.40
Height	h	mm	51.36	51.61	50.79	51.58	52.87
Diameter	d	mm	44.77	44.47	44.67	44.59	44.90
Initial specimen volume	v	cm ³	80.81	80.12	79.56	80.51	83.67
Initial specimen mass	msi	g	205.00	202.91	203.06	202.95	209.19
Density	r	kg/m ³	2536.79	2532.59	2552.38	2520.94	2500.17
Sample holder weight	w	g	0.63	0.64	0.64	0.63	0.63
Final specimen mass	msf	g	204.38	202.32	202.44	202.36	208.58
Mass loss	$\Delta m = (msi - msf) / msi * 100$	%	0.30	0.29	0.31	0.29	0.29
Total duration of sustained flaming	Cumulative total of duration of flaming	s	0.00	0.00	0.00	0.00	0.00
Initial furnace thermocouple temperature	Tfi	°C	749.70	746.10	747.80	743.60	748.10
Maximum furnace thermocouple temperature	Tfm	°C	718.50	730.80	730.70	724.60	718.30
Final furnace thermocouple temperature	Tff	°C	714.97	729.71	728.25	722.92	716.57
Furnace thermocouple temperature rise	$\Delta T_f = T_{fm} - T_{ff}$	°C	3.53	1.09	2.45	1.68	1.73
Maximum specimen centre thermocouple temperature	Tcm	°C	659.30	711.20	726.80	725.10	722.20
Final specimen centre thermocouple temperature	Tcf	°C	658.75	708.67	720.16	716.51	716.51
Specimen centre thermocouple temperature rise	$\Delta T_c = T_{cm} - T_{cf}$	°C	0.55	2.53	6.64	8.59	5.69
Maximum specimen surface thermocouple temperature	Tsm	°C	693.80	681.40	677.10	682.20	694.70
Final specimen surface thermocouple temperature	Tsf	°C	690.55	670.00	660.22	676.45	689.89
Specimen surface thermocouple temperature rise	$\Delta T_s = T_{sm} - T_{sf}$	°C	3.25	11.40	16.88	5.75	4.81
Test duration	t	min	30.23	30.00	30.08	30.07	30.07

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END OF TEST CERTIFICATE