



CERTIFICATE

Material Fire Test Certificate

IGNL-4081-01-01C101R00
Date of Test 27/05/2020
ISSUED 12/06/2020
EXPIRY 11/06/2025

Specimen Identification
Aluminium Alloy 6063

Specimen Description

The sponsor described the tested specimen as:

Anodised AA15 aluminium alloy with a nominal mass per unit area of 8.1kg/m² and a nominal thickness of 3mm. The colour of the specimen is silver and the end use being multiple purpose in building façade.

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: Combustibility 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. Appendix A4 of AS 1530.1:1994 permits the use of only the furnace thermocouple for evaluating combustibility of thermally unstable materials and this is considered in this test.

Observations

None of the tested specimens ignited during the test. The tests was ended without the furnace thermocouple reaching equilibrium due to phase change of the specimen as it melted. This presented a risk of dislodging from the specimen holder.

Specimen

The test specimens are cylindrical and each has -

(a). Nominal diameter (mm):	44.12
(b). Nominal height (mm):	52.85
(c). Nominal volume (cm ³):	80.75
(d). Nominal mass (g):	212.93
(e). Colour:	Silver

Results

	Symbol	Arithmetic
Mean furnace thermocouple temperature rise:	ΔT _f	4.93 °C
Mean specimen centre thermocouple temperature rise:	ΔT _c	6.25 °C
Mean specimen surface thermocouple temperature rise:	ΔT _s	4.15 °C
Mean duration of sustained flaming:	0 s	
Mean mass loss:		0.14 %

Combustibility

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



Test Supervisor
Darren Laker

Technical Lead
Ram Prakash

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.

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Test Calculations

AS 1530.1-1994: COMBUSTIBILITY
TEST FOR MATERIALS

SPONSOR

Yuanda Australia Pty Ltd
Unit 503, 447 Kent Street
Sydney NSW 2000

TEST BODY

Ignis Labs Pty Ltd
ABN 36 620 256 617
3 Cooper Place
Queanbeyan NSW 2602
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(02) 6111 2909
Test body is the test location

Parameter	Symbol or expression	Unit symbol	Results					Arithmetic (Mean)	Standard Deviation	Uncertainty
			1	2	3	4	5			
Atmospheric temperature	-	°C	17.10	18.10	19.20	20.10	20.30	0.00	0.00	
Humidity	-	%RH	60.00	48.40	47.90	46.60	45.20	0.00	0.00	
Height	h	mm	53.00	52.84	52.58	52.97	52.88	52.85	0.17	
Diameter	d	mm	43.90	44.06	44.51	43.86	44.25	44.12	0.27	
Initial specimen volume	V	cm³	80.18	80.52	81.77	79.99	81.28	80.75	0.75	
Initial specimen mass	msi	g	213.17	213.22	211.65	213.34	213.33	212.94	0.73	
Density	r	kg/m³	2658.59	2647.93	2588.29	2667.08	2624.61	2637.30	31.69	
Sample holder weight	w	g	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Final specimen mass	msf	g	212.87	212.95	211.37	213.02	213.04	212.65	0.72	
Mass loss	$\Delta m = (msi - msf) / msi \times 100$	%	0.14	0.13	0.13	0.15	0.14	0.14	0.01	
Total duration of sustained flaming	Cumulative total of duration of flaming	s	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Initial furnace thermocouple temperature	Tfi	°C	650.20	674.40	683.40	688.60	688.10	676.94	16.00	
Maximum furnace thermocouple temperature	Tfm	°C	685.30	684.10	689.40	694.30	692.60	689.14	4.44	
Final furnace thermocouple temperature	Tff	°C	682.25	673.15	682.09	693.15	690.39	684.21	7.88	
Furnace thermocouple temperature rise	$\Delta T_f = T_{fm} - T_{ff}$	°C	3.05	10.95	7.31	1.15	2.21	4.93	4.10	
Maximum specimen centre thermocouple temperature	Tcm	°C	679.80	682.10	682.40	686.10	684.00	682.88	2.34	
Final specimen centre thermocouple temperature	Tcf	°C	673.77	680.99	676.60	677.70	674.10	676.63	2.95	
Specimen centre thermocouple temperature rise	$\Delta T_c = T_{cm} - T_{cf}$	°C	6.03	1.11	5.80	8.40	9.90	6.25	3.34	
Maximum specimen surface thermocouple temperature	Tsm	°C	670.40	722.30	712.50	727.00	705.50	707.54	22.39	
Final specimen surface thermocouple temperature	Tsf	°C	668.85	721.89	705.04	726.53	694.64	703.39	23.18	
Specimen surface thermocouple temperature rise	$\Delta T_s = T_{sm} - T_{sf}$	°C	1.55	0.41	7.46	0.47	10.86	4.15	4.75	
Test duration	t	min	29.80	25.50	26.93	34.80	31.38	29.68	3.68	

