

EWFA Test Report No.	55828000.3	Page 1 of 3
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Report Sponsor Aodeli Australia 3/55 Christensen Road, Stapylton QLD 4207	Issue Date 26 th November, 2018
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Test in accordance with AS/NZS 1530.1 - 1994

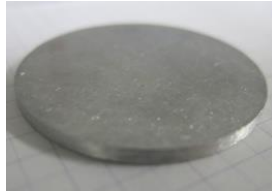
Objective To determine the performance of the material samples as described in this report when subjected to the test conditions stated in the test standard referenced below.


Revised Report This is the third version of the test report. The second version. EWFA No. 55828000.2, was issued on 21/06/2018. The amendment to the second version was an amendment to the product description and test results.

Product	Grade 5052 Aluminium Discs
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Test Reference 55828000	Reference Date 18 th June, 2018
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Test Method AS 1530.1:1994 Part 1: Combustibility test for materials	Supplementary Standards ISO 1182:2010
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Product Description	
The sponsor described the material as "Grade 5052 Aluminium" (with no surface coating) to be used in powder coated aluminium cladding. The aluminium was supplied as 3mm discs and stacked 16 high for testing (total height 49mm). The material had a measured density of 2696 kg m ⁻³ . EWFA personnel were not involved with the selection and preparation of these test specimens. Before conducting these tests, the test specimens were conditioned in a ventilated oven maintained at a temperature of 60±5°C for at least 20 and no more than 24 hours. Prior to conducting these tests, the samples were cooled to room temperature in a desiccator.	

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Test Results

Parameter	Symbol or expression		Results					Arithmetic mean = Σ results/5
			1	2	3	4	5	
Initial specimen mass	m_{si}	g	208.4	208.0	208.8	207.6	208.3	
Final specimen mass	m_{sf}	g	206.3	207.6	204.4	206.5	208.2	
Mass loss	$Dm = (m_{si} - m_{sf})/m_{si}$	%	1.0%	0.2%	2.1%	0.5%	0.0%	0.8%
Total duration of sustained flaming	Cumulative total of duration of flaming (>5s)	s	0	0	0	0	0	0
Initial furnace thermocouple temperature	T_{fi}	°C	752.5	751.4	745.1	750.2	752.3	
Maximum furnace couple temperature	T_{fm}	°C	755.5	755.9	770.4	761.4	754.4	
Final thermocouple temperature	T_{ff}	°C	727.9	728.2	766.7	756.0	725.9	
Furnace thermocouple temperature rise	$DT_f = T_{fm} - T_{ff}$	°C	27.6	27.7	3.7	5.4	28.5	18.6
Maximum specimen centre thermocouple temperature	T_{cm}	°C	658.4	658.4	693.1	686.8	658.6	
Final specimen centre thermocouple temperature	T_{cf}	°C	658.4	658.3	682.9	676.2	658.6	
Specimen centre thermocouple temperature rise	$DT_c = T_{cm} - T_{cf}$	°C	0.0	0.1	10.2	10.6	0.0	4.2
Maximum specimen surface thermocouple temperature	T_{sm}	°C	674.4	697.1	774.7	777.3	699.8	
Final specimen thermocouple temperature	T_{sf}	°C	668.4	672.1	765.2	775.7	666.7	
Specimen surface thermocouple temperature rise	$DT_s = T_{sm} - T_{sf}$	°C	6.0	25.0	9.5	1.6	33.1	15.0
Test Duration		s	1800	1800	3600	3600	2400	2640

Mean furnace temperature rise 18.6°C
Mean specimen centre thermocouple temperature rise 4.2°C
Mean specimen surface thermocouple temperature rise 15.0°C
Mean duration of sustained flaming 0 seconds
Mean mass loss 0.8%

Criteria of Combustibility

Clause 3.4 of AS1530.1:1994 defines a combustible material as one for which; the duration of sustained flaming, as determined by summing the individual durations of flaming of 5 seconds or longer for all of the samples and dividing by five, is greater than zero, or the arithmetic mean of the temperature rise of the furnace thermocouple exceeds 50°C or the arithmetic mean of the specimen surface thermocouple temperature rise exceeds 50°C.

Observations

During the tests the aluminium had melted. No flaming was observed.

Comments

The material is NOT DEEMED COMBUSTIBLE according to the test criteria specified in Clause 3.4 of AS1530.1:1994.

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.

The aluminium was tested as 3mm in groups of 16, held together with two Nickel-Chromium thermocouple wires as outlined by Clause 2.2.3 of AS1530.1:1994.

Conditions/Validity

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The tests were performed at Exova Warringtonfire Aus Pty Ltd. These tests have been conducted in accordance with the test standard referenced above and this report should be read in conjunction with that standard.

This test report does not provide an endorsement by Exova Warringtonfire Aus Pty Ltd of the performance of the actual products supplied. These test results relate only to the behaviour 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.