

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 3031
P.O. Box 240, North Melbourne, Victoria 3051
Phone (03) 9371 2400 Fax (03) 9371 2499

TEST REPORT

CLIENT : ARCHITECTURAL CEILING SYSTEMS
PO BOX 93
BAYSWATER WA 6933

TEST NUMBER : 7-593030-CW
ISSUE DATE : 20/08/2013
PRINT DATE : 30/08/2013

SAMPLE DESCRIPTION Clients Ref: "Sample 3"
Architectural Ceiling Systems Pty Ltd
(ACS) base material of coated Zinalume coated steel
perforated 3.5mm hole with clear lacquered finish face and
with black non-woven acoustic scrim

ISO 5660.1-2002 Reaction to Fire Tests - Heat Release Smoke Production
and Mass Loss Rate
Part 1: Heat Release Rate (Cone Calorimeter Method)

RESULTS:-

	Specimen			Mean	
	1	2	3		
Average Heat Release Rate at 50kW/m2	0.9	0.5	0.9	0.8	kW/m2
Group Number Classification (In Accordance with New Zealand Building Code Verification Method C/VM2 Appendix A)	1	1	1		
Average Specific Extinction Area (According to ISO 5660.2-2002)	21.8	18.9	13.4	18.0	

Test orientation: Horizontal

	Specimen			Mean	
	1	2	3		
Irradiance	50	50	50	50	kW/m2
Exhaust flow rate	24	24	24	24	l/s
Time to sustained flaming	34	30	36	33	s
Test duration	1828	1830	1832	1830	s
Heat release rate curve on the report	9 attached sheets which form part of this				
Peak heat release after ignition	45.2	48.8	54.5	49.5	kW/m2
Average heat at 60s	13.9	14.7	16.3	15.0	kW/m2
Release rate at 180s	4.6	4.9	5.4	5.0	kW/m2
After ignition at 300s	2.8	2.9	3.3	3.0	kW/m2
Total heat released	1.7	0.9	1.6	1.4	MJ/m2
Average effective heat of combustion	1.0	0.6	0.9	0.8	MJ/kg

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Graydon

M. Jackson

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Initial thickness	7.0	7.0	7.0	7.0	mm
Initial mass	112.3	111.7	112.5	112.2	g
Mass remaining	97.6	97.6	97.6	97.6	g
Mass percentage pyrolysed	13.1	12.6	13.2	13.0	%
Mass loss	14.7	14.1	14.9	14.6	g
Average rate of mass loss	0.9	0.9	0.9	0.9	g/m2.s

Observations:

Note: All calculations are based on Ignition + 30 minutes

Samples were loose laid onto a substrate of 6mm thick cement sheeting prior to testing

Observations:

"These test results relate only to the behaviour of the product under the conditions of the test, they are not intended to be the sole criterion for the assessment of performance under real fire conditions"

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TEST REPORT

CLIENT : ARCHITECTURAL CEILING SYSTEMS
PO BOX 93
BAYSWATER WA 6933

TEST NUMBER : 7-593094-CW
ISSUE DATE : 23/08/2013
PRINT DATE : 30/08/2013

SAMPLE DESCRIPTION Clients Ref: "Sample 2"
Architectural Ceiling Systems Pty Ltd
(ACS) base material of coated Zinalume coated steel
perforated 3.5mm hole size, Colorbond face painted,
with black non-woven acoustic scrim on back

ISO 5660.1-2002 Reaction to fire tests - Heat Release, Smoke Production
and Mass Loss Rate -
Part 1 - Heat Release Rate (Cone Calorimeter Method)

Results Specimen	1	2	3	4	5	6	Mean
Average Heat Release Rate 50kW/m2	4.9	0.0	0.0	2.6	3.0	1.4	2.0 kW/m2

Group Number
Classification 1 1 1 1 1 1
(in accordance with New Zealand Building Code Verification Method C/VM2
Appendix A)

Average Specific Extinction Area (according to ISO 5660.2-2002)	14.3	95.6	9.9	4.4	18.9	62.4	34.2	m2/kg
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Test Orientation Horizontal

Specimen	1	2	3	4	5	6	Mean
Irradiance	50	50	50	50	50	50	50 kW/m2
Exhaust flow rate	24	24	24	24	24	24	50 l/s
Time to sustain flaming FTI	FTI	FTI	FTI	FTI	FTI	FTI	s
Test duration	1908	1908	1908	1802	1802	1802	1855 s

Heat release rate curve on attached sheets which forms part of this report

Peak heat release after ignition	14.8	2.4	10.4	51.4	10.6	7.4	16.2	kW/m2
Average heat 60s	1.6	0.7	0.0	17.7	1.7	0.5	3.7	kW/m2
Release rate 180s	1.9	0.2	0.0	7.5	1.5	0.5	1.9	kW/m2
After ignition 300s	1.9	0.1	0.2	5.1	1.8	0.8	1.7	kW/m2
Total heat released	9.3	0.0	0.1	4.6	5.4	2.6	3.7	MJ/m2

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BAYSWATER WA 6933

TEST NUMBER : 7-593094-CW
ISSUE DATE : 23/08/2013
PRINT DATE : 30/08/2013

Average effective heat of combustion	5.5	0.0	0.0	2.7	3.1	1.5	2.1	MJ/kg
Initial thickness	7.0	7.0	7.0	7.0	7.0	7.0	7.0	mm
Initial mass	115.5	116.6	116.9	119.5	116.5	114.6	116.6	g
Mass remaining	100.5	101.3	102.1	104.2	101.1	99.1	101.4	g
Mass percentage pyralysed	13.0	13.1	12.7	12.8	13.2	13.5	13.1	%
Mass loss	15.0	15.3	14.8	15.3	15.4	15.5	15.2	g
Average rate of mass loss	0.9	0.9	0.9	1.0	1.0	1.0	0.9	g/m2.s

FTI - Failed to ignite

Observations: specimens failed to ignite within 30 minutes
Samples were loose laid onto a substrate of 6mm thick cement sheeting prior to testing

Observations:

"These test results relate only to the behaviour of the product under the conditions of the test, they are not intended to be the sole criterion for the assessment of performance under real fire conditions"

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Michael A. Jackson
MICHAEL A. JACKSON B.Sc. (Hons)

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TEST REPORT

CLIENT : ARCHITECTURAL CEILING SYSTEMS
PO BOX 93
BAYSWATER WA 6933

TEST NUMBER : 7-593029-CW
ISSUE DATE : 20/08/2013
PRINT DATE : 30/08/2013

SAMPLE DESCRIPTION Clients Ref: "Sample One"
Architectural Ceiling Systems Pty Ltd
(ACS) base material of coated Zinalume coated steel
perforated 2mm hole size, Colorbond face painted,
with black non-woven acoustic scrim on back

ISO 5660.1-2002 Reaction to Fire Tests - Heat Release Smoke Production
and Mass Loss Rate
Part 1: Heat Release Rate (Cone Calorimeter Method)

RESULTS:-

	Specimen 1	Specimen 2	Specimen 3	Mean	
Average Heat Release Rate at 50kW/m2	3.0	1.9	0.7	1.9	kW/m2

Group Number Classification (In Accordance with New Zealand Building Code Verification Method C/VM2 Appendix A)

Specimen 1	Specimen 2	Specimen 3
1	1	1

Average Specific Extinction Area (According to ISO 5660.2-2002)

Specimen 1	Specimen 2	Specimen 3	Mean
64.3	18.3	26.9	36.5

Test orientation: Horizontal

	Specimen 1	Specimen 2	Specimen 3	Mean	
Irradiance	50	50	50	50	kW/m2
Exhaust flow rate	24	24	24	24	l/s
Time to sustained flaming FTI	FTI	FTI	FTI	FTI	s
Test duration	1800	1800	1800	1800	s

Heat release rate curve on the 9 attached sheets which form part of this report

	Specimen 1	Specimen 2	Specimen 3	Mean	
Peak heat release after ignition	20.5	9.1	6.8	12.1	kW/m2
Average heat at 60s	0.0	0.0	0.3	0.1	kW/m2
Release rate at 180s	0.0	0.3	0.1	0.1	kW/m2
After ignition at 300s	0.2	0.7	0.1	0.3	kW/m2
Total heat released	5.4	3.5	1.3	3.4	MJ/m2
Average effective heat of combustion	3.1	2.3	0.8	2.0	MJ/kg

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TEST NUMBER : 7-593029-CW
ISSUE DATE : 20/08/2013
PRINT DATE : 30/08/2013

Initial thickness	7.0	7.0	7.0	7.0	mm
Initial mass	100.7	96.4	99.3	98.8	g
Mass remaining	85.1	82.8	84.4	84.1	g
Mass percentage pyrolysed	15.5	14.1	15.0	14.9	%
Mass loss	15.6	13.6	14.9	14.7	g
Average rate of mass loss	1.0	0.9	0.9	0.9	g/m2.s

Observations: Note: FTI - Failed to Ignite
Specimens tested failed to ignite within 30 minutes

Note: All calculations are based on Ignition + 30 minutes

Samples were loose laid onto a substrate of 6mm thick cement
sheeting prior to testing

Observations:

"These test results relate only to the behaviour of the product under the
conditions of the test, they are not intended to be the sole criterion for
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