

# 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

## Group Number Assessment

(In accordance with AS 5637.1-2015)

This is to confirm that the product as described below has been tested by AWTA Product Testing .

Testing was performed in accordance with Method of test for heat and smoke release rates for materials and products using an oxygen consumption calorimeter.

**Test Sponsor :** Materialised Pty Ltd  
19 Heath Road  
Blakehurst NSW 2221

**Test Number :** 18-006224  
**Issue Date :** 29/10/2018  
**Print Date :** 29/10/2018

**Sponsor Product** Clients Ref : "Zircon Zem"  
Woven back coated fabric  
Colour : White  
End Use : Operable Walls  
Nominal Composition : 100% Polyester with Zircon Backing  
Nominal Mass per Unit Area/Density : Approx. 440g/m2  
Nominal Thickness : Approx: 1mm

Product Group Number Classification : 1

Average Specific Extinction Area : 265.9 m<sup>2</sup>/kg



Chris Campbell  
Client Relations Manager

31630

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## TEST REPORT

**Client :** Materialised Pty Ltd  
19 Heath Road  
Blakehurst NSW 2221

**Test Number :** 18-006224  
**Issue Date :** 27/10/2018  
**Print Date :** 29/10/2018  
**Order Number :** 39375

**Sample Description** Clients Ref : "Zircon Zem"  
Woven back coated fabric  
Colour : White  
End Use : Operable Walls  
Nominal Composition : 100% Polyester with Zircon Backing  
Nominal Mass per Unit Area/Density : Approx. 440g/m2  
Nominal Thickness : Approx: 1mm

### AS/NZS 3837-1998

Method of Test for Heat and Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter

Date Tested 27/10/2018  
Operator AWTA Test Operator 3  
Face Tested FaceD

	Specimen				
	1	2	3	Mean	
Average Heat Release Rate	15.8	15.3	16.1	15.8	kW/m <sup>2</sup>
Average Specific extinction area	271.4	260.7	265.8	265.9	m <sup>2</sup> /kg

(according to Specification C1.10 of the Building Code of Australia)

Test orientation : Horizontal

	Specimen				
	1	2	3	Mean	
Irradiance	50	50	50	50	kW/m <sup>2</sup>
Exhaust flow rate	0.024	0.024	0.024	0.024	m <sup>3</sup> /s
Time to sustained flaming	36	45	42	41	sec
Test duration	554	538	540	544	sec
Peak heat release after ignition	102.4	109.3	114.4	108.7	kW/m <sup>2</sup>
Average heat at 60 s	55.0	50.9	53.9	53.2	kW/m <sup>2</sup>

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- Chemical Testing  
- Mechanical Testing  
- Performance & Approvals Testing

: Accreditation No. 983  
: Accreditation No. 985  
: Accreditation No. 1356

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**Order Number :** 39375

Average heat at 180 s	25.2	23.4	26.0	24.9	kW/m <sup>2</sup>
Average heat at 300 s	21.5	19.6	22.2	21.1	kW/m <sup>2</sup>
Total heat released	8.2	7.6	8.0	7.9	MJ/m <sup>2</sup>
Average effective heat of combustion	4.6	4.4	4.4	4.5	MJ/kg
Initial thickness	7	7	7	7.0	mm
Initial mass	85	84.8	84.7	84.8	g
Mass at sustained flaming	84.9	84.5	84.4	84.6	g
Mass remaining	70.4	70.8	70.1	70.4	g
Mass percentage pyrolysed	17.2	16.5	17.3	17.0	%
Mass loss	1.8	1.7	1.8	1.8	kg/m <sup>2</sup>
Average rate of mass loss	4.9	4.4	5.3	4.9	g/m <sup>2</sup> .s

Additional Observations n/a

Difficulties Encountered during Testing n/a

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 assessment of performance under real fire conditions.

The results of these fire tests may be used to directly assess fire hazard, but it should be recognised that a single test method will not provide a full assessment of the fire hazard under all fire conditions.

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

Tests were conducted with a wire grid placed over the sample during testing. This was done to contain intumescent sample within the sample holder.

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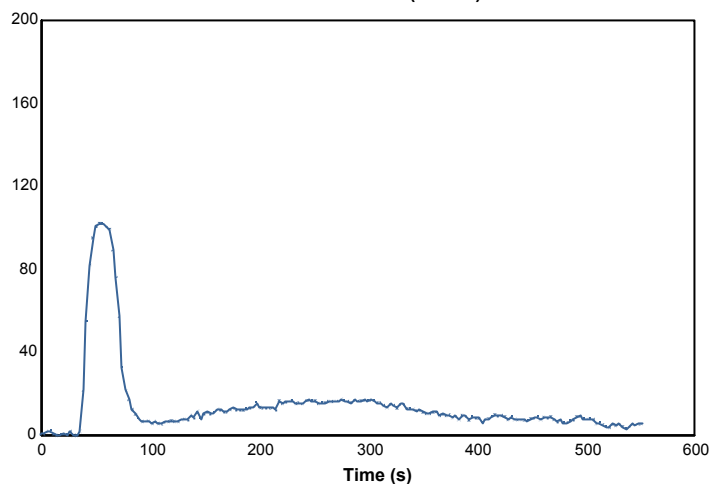
## TEST REPORT

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19 Heath Road  
Blakehurst NSW 2221

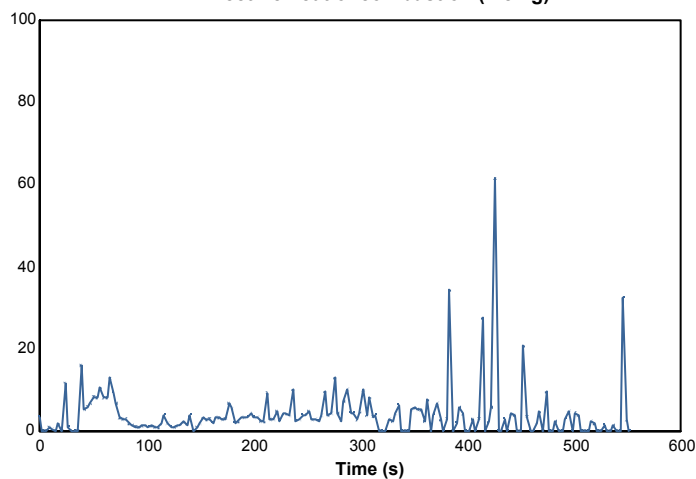
**Test Number :** 18-006224  
**Issue Date :** 27/10/2018  
**Print Date :** 29/10/2018  
**Order Number :** 39375

**Specimen :** 1

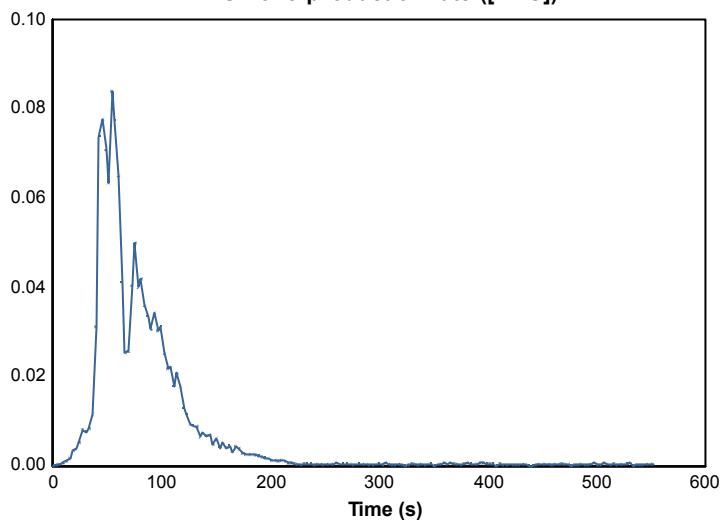
Heat release rate (kW/m<sup>2</sup>)



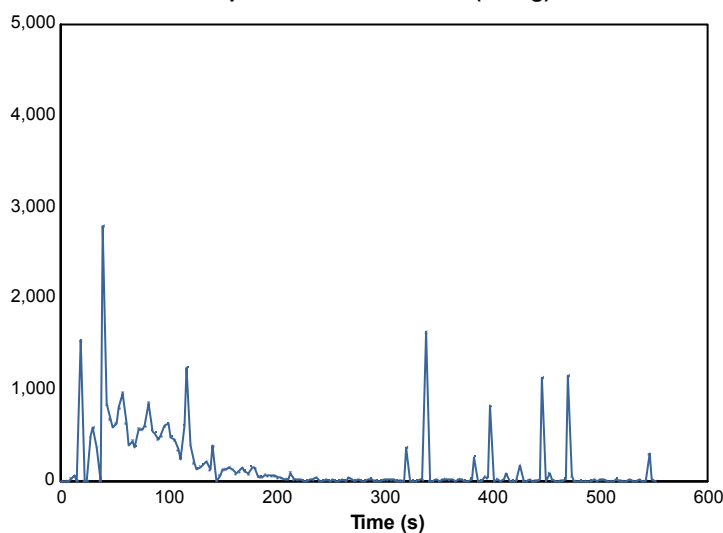
Effective heat of combustion (MJ/kg)



Smoke production rate ([m<sup>2</sup>/s])



Specific extinction area (m<sup>2</sup>/kg)



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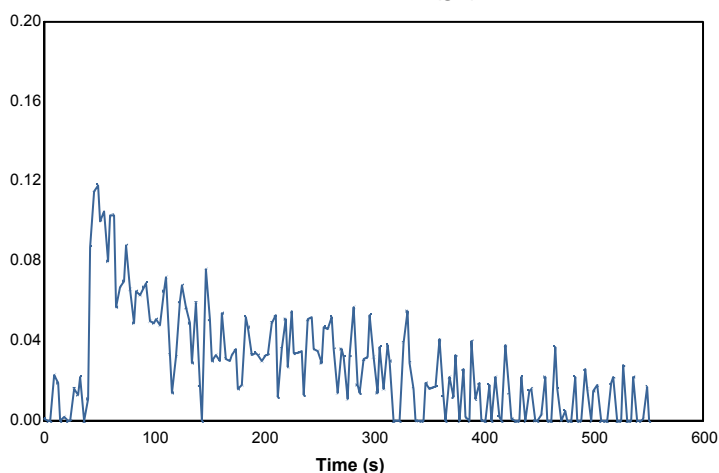
Phone (03) 9371 2400 Fax (03) 9371 2499

## TEST REPORT

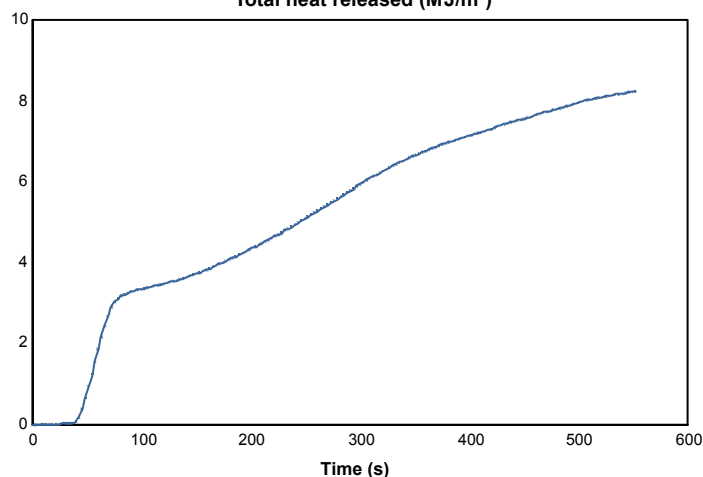
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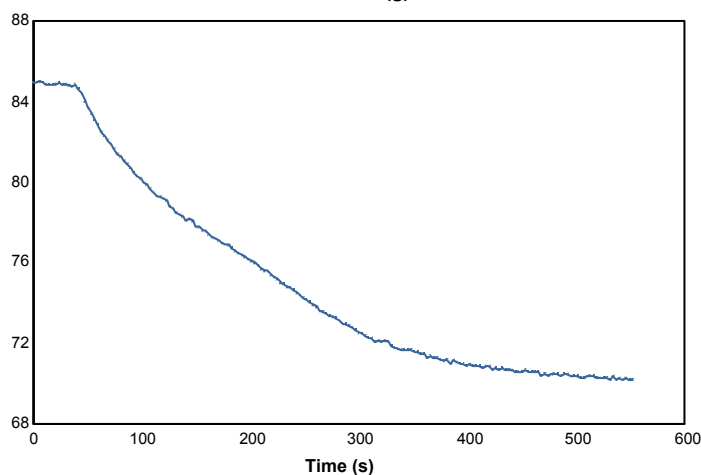
Mass loss rate (g/s)



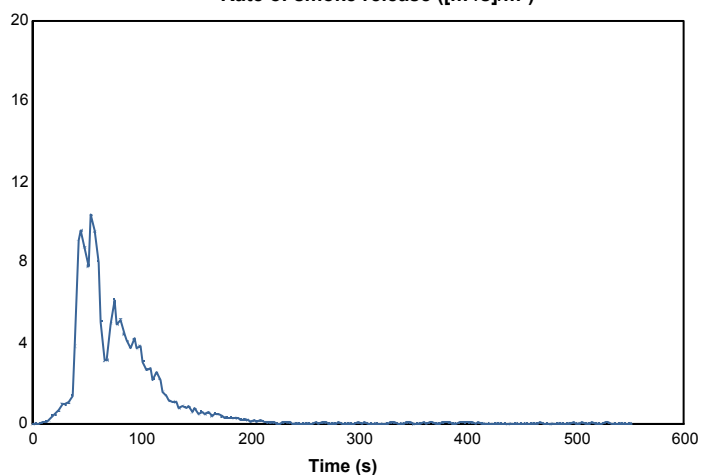
Total heat released (MJ/m²)



Mass (g)



Rate of smoke release ([m²/s]/m²)



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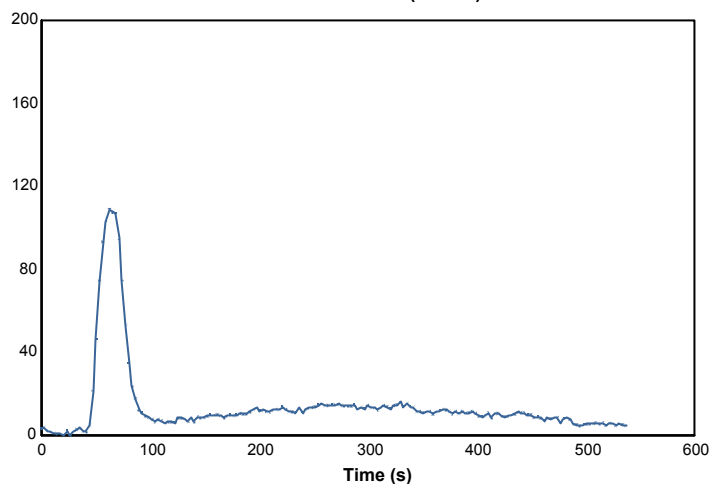
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19 Heath Road  
Blakehurst NSW 2221

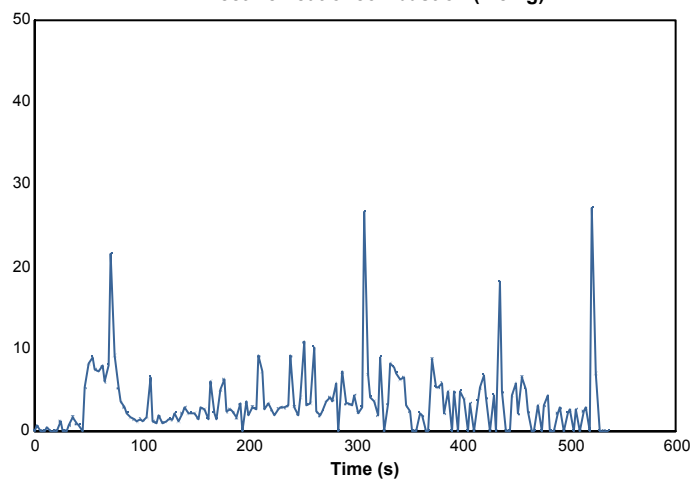
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**Issue Date :** 27/10/2018  
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**Order Number :** 39375

**Specimen :** 2

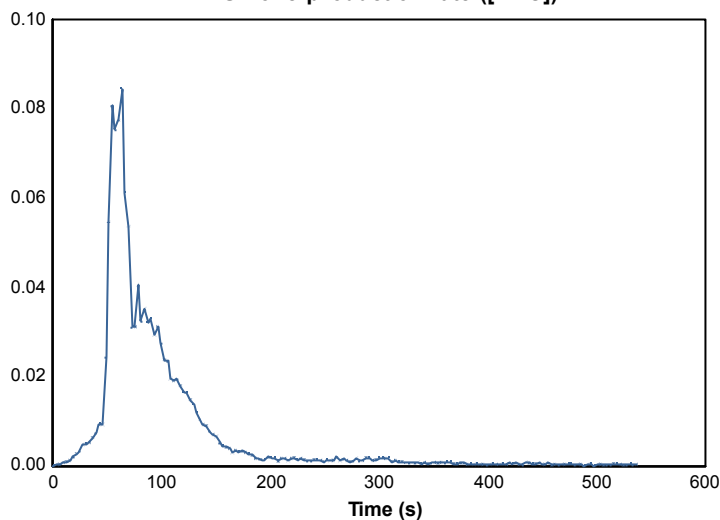
Heat release rate (kW/m<sup>2</sup>)



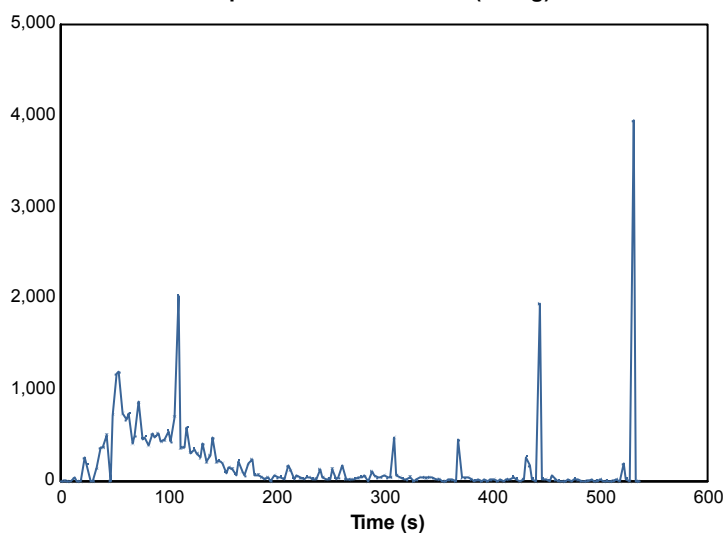
Effective heat of combustion (MJ/kg)



Smoke production rate (l/m²/s)



Specific extinction area (m²/kg)



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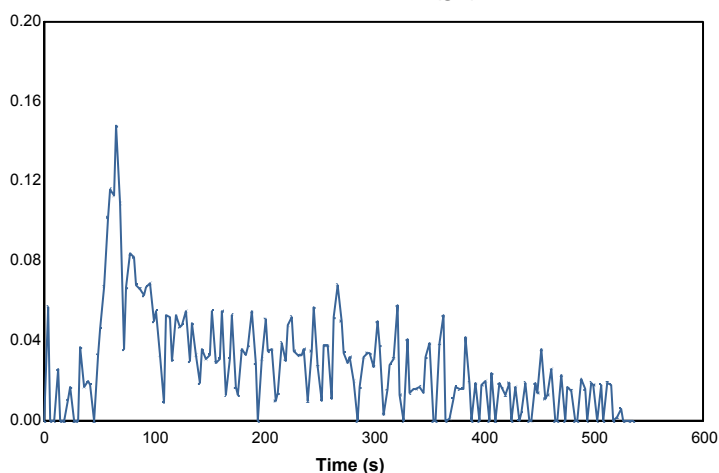
Phone (03) 9371 2400 Fax (03) 9371 2499

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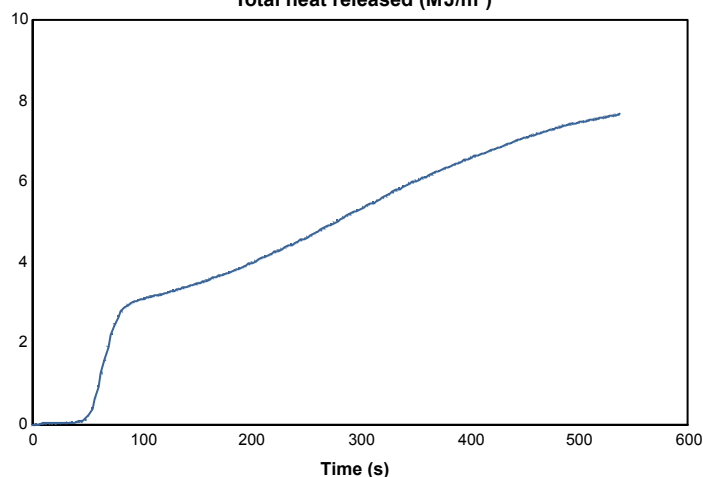
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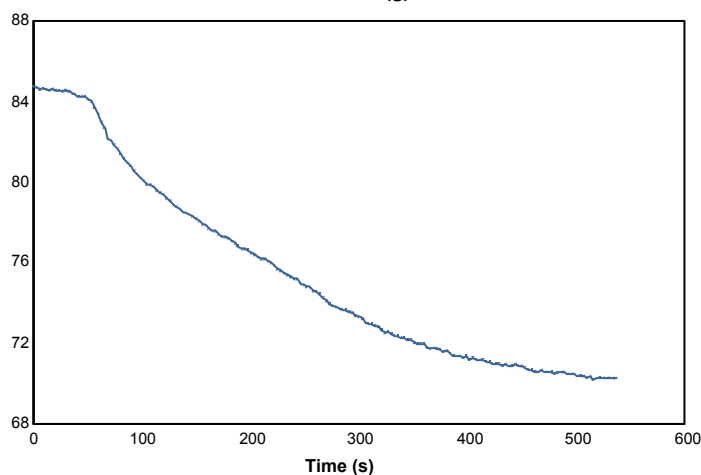
Mass loss rate (g/s)



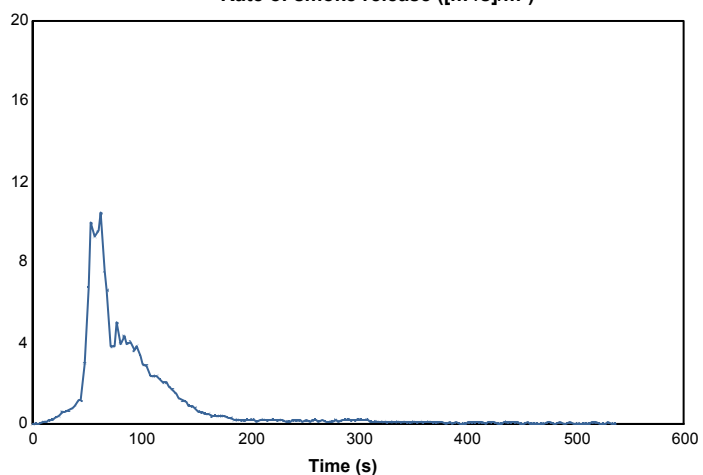
Total heat released (MJ/m²)



Mass (g)



Rate of smoke release ([m²/s]/m²)



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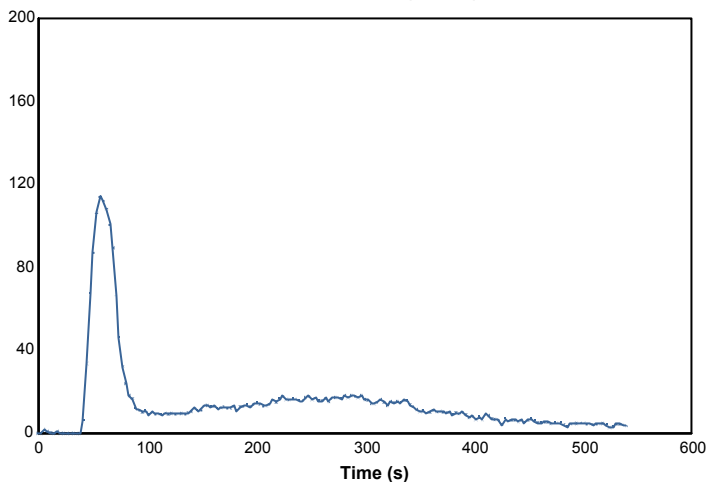
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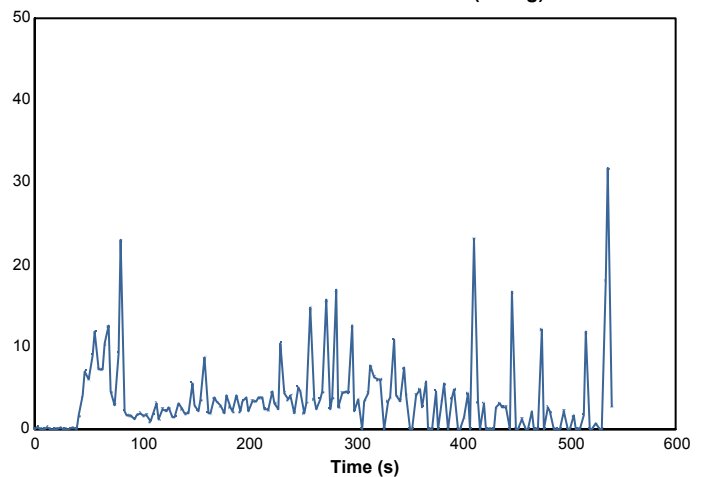
**Test Number :** 18-006224  
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**Specimen :** 3

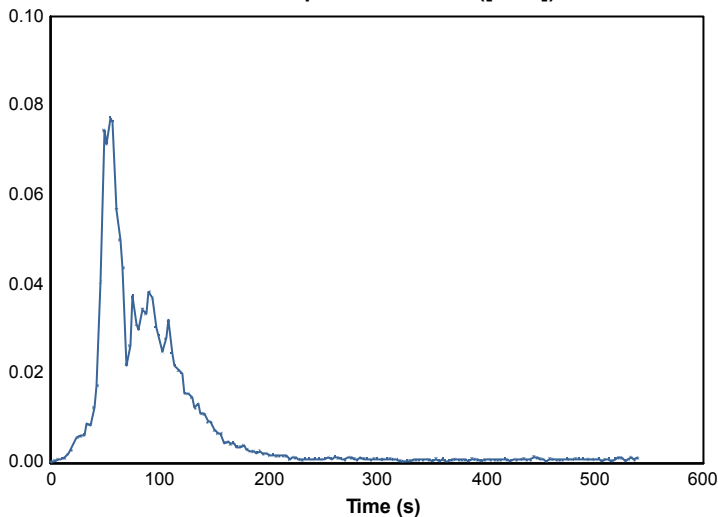
Heat release rate (kW/m<sup>2</sup>)



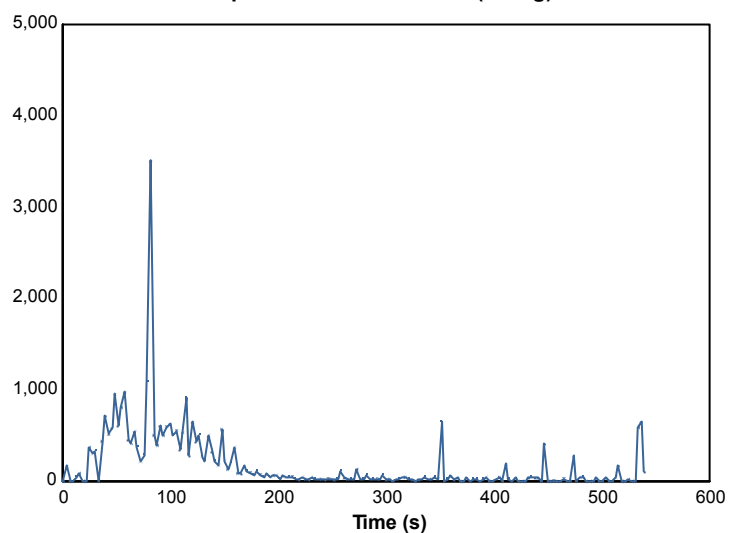
Effective heat of combustion (MJ/kg)



Smoke production rate ([m<sup>2</sup>/s])



Specific extinction area (m<sup>2</sup>/kg)



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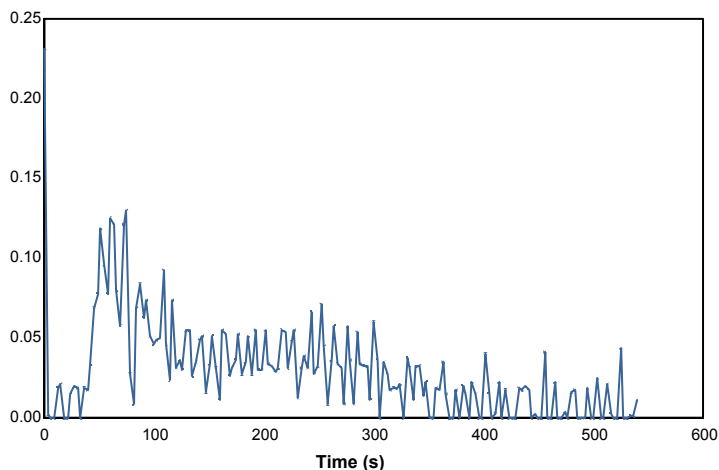
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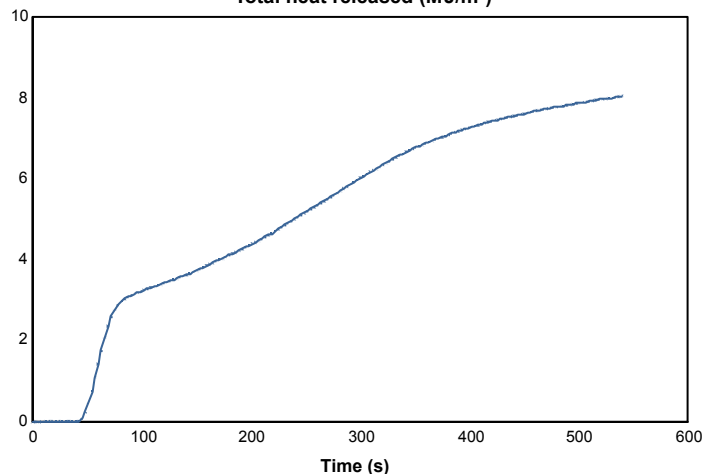
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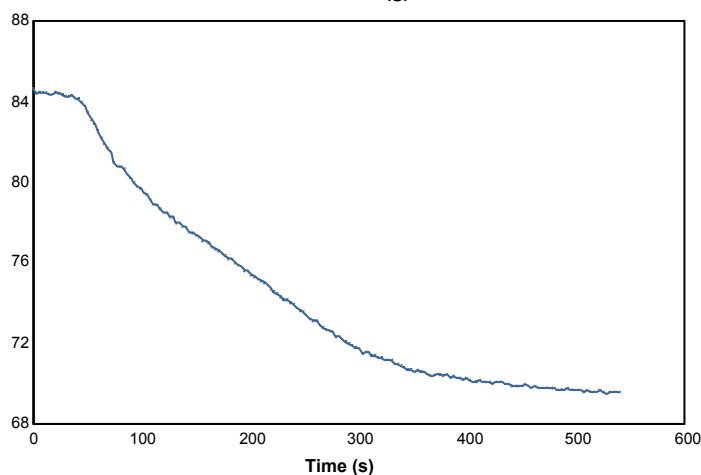
Mass loss rate (g/s)



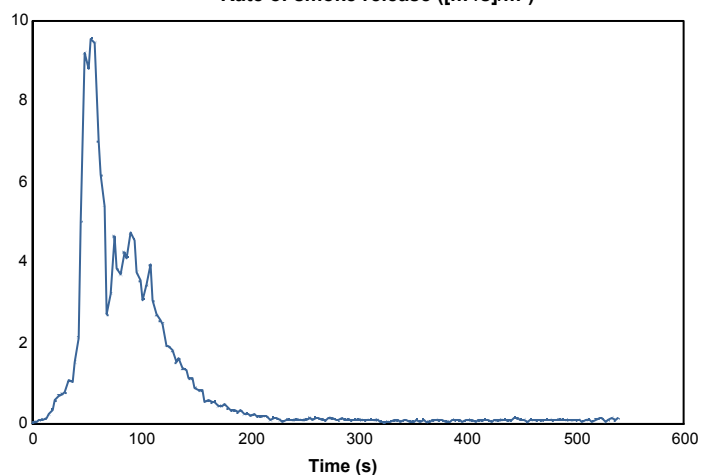
Total heat released (MJ/m²)



Mass (g)



Rate of smoke release ([m²/s]/m²)



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RECEIVED  
10 JUN 2008

## TEST REPORT

BY: .....

CLIENT : MATERIALISED PTY LTD  
19 HEATH ROAD  
BLAKEHURST NSW 2221

TEST NUMBER : 7-559968-BN  
DATE : 04/06/2008  
ORDER NUMBER : NT1611

SAMPLE DESCRIPTION Clients Ref: "Zircon Zem"  
Woven fabric  
Colour: white  
Approx. mass: 440g/m2  
Approx. thickness: 1mm  
Enduse: upholstery

THESE RESULTS MUST BE CONSIDERED IN CONJUNCTION  
WITH THE COMMENTS ON THE FOLLOWING PAGE(S)

Material Specification provided by client:  
Nominal composition: polyester

AS/NZS  
1530.3 - 1999

Simultaneous determination of Ignitability, Flame  
Propagation, Heat Release and Smoke Release

### RESULTS:

Face tested: Face

Date tested: 03/06/2008

	Mean		Standard Error
Ignition time	9.48	min	0.17
Flame propagation time	Nil	s	Nil
Heat release integral	26.9	kJ/m2	2.1
Smoke release, log d	-0.4728		0.0502
Optical density, d	0.3476	/m	

Number of specimens ignited: 6

Number of specimens tested: 6

REGULATORY INDICES:		
Ignitability Index	11	Range 0-20
Spread of Flame Index	0	Range 0-10
Heat Evolved Index	1	Range 0-10
Smoke Developed Index	6	Range 0-10

### Comments:

These results only apply to the specimen mounted, as described in this report.

The results of this fire test may be used to directly assess fire hazard,  
but it should be recognized that a single test method will not provide a full  
assessment of fire hazard under all fire conditions.

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(CONTINUED NEXT PAGE)

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- Heat & Temperature Measurement : Accreditation No. 1356

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RECEIVED  
10 JUN 2008

BY: \_\_\_\_\_

## TEST REPORT

CLIENT : MATERIALISED PTY LTD  
19 HEATH ROAD  
BLAKEHURST NSW 2221

TEST NUMBER : 7-559968-BN  
DATE : 04/06/2008  
ORDER NUMBER : NT1611

The reaction of thin unsupported flexible materials to flame impingement can be assessed in accordance with AS 1530.2. Where materials of thickness less than 2mm that are sufficiently flexible to be bent by hand around a mandrel of 2mm diameter or less are subjected to the test described herein, they should also be subjected to the test in AS 1530.2.

Each test specimen had an unattached backing of 4.5mm thick fibre reinforced cement board.

Each test specimen was restrained on the exposed face by a layer of galvanised welded square mesh made from wire of nominal diameter 0.8mm and nominal spacing 12mm in both directions and securely fixed to a backing board at four points each 100mm from the centre of the sample and the assembly clamped in four places.

The specimens melted and flowed away from the area of maximum heat during the test. Due to this phenomena, it should be recognised that this test result may not be a true indication of the product's fire hazard properties.

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