

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 : NRG Building Systems
PO Box 2405
Burleigh MDC QLD 4220

Test Number : 18-004767
Issue Date : 13/09/2018
Print Date : 14/09/2018

Sample Description Clients Ref : "NRG Greenboard"
Polystyrene with rendered face
Nominal Composition : Expanded Polystyrene/Render
Nominal Mass per Unit Area/Density : 19kg/m³

AS/NZS 3837-1998 Method of Test for Heat and Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter

Date Tested 13/09/2018
Operator AWTA Test Operator 3
Face Tested Face

	Specimen				
	1	2	3	Mean	
Average Heat Release Rate	13.5	10.5	16.2	13.4	kW/m ²
Average Specific extinction area	64.5	97.4	104.4	88.8	m ² /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 ²
Exhaust flow rate	0.024	0.024	0.024	0.024	m ³ /s
Time to sustained flaming	112	140	122	125	sec
Test duration	1070	1138	1157	1122	sec
Peak heat release after ignition	78.5	93.4	83.8	85.2	kW/m ²
Average heat at 60 s	58.4	74.1	68.6	67.1	kW/m ²
Average heat at 180 s	44.4	42.0	42.9	43.1	kW/m ²
Average heat at 300 s	29.7	26.5	28.1	28.1	kW/m ²
Total heat released	12.9	10.4	16.7	13.4	MJ/m ²
Average effective heat of combustion	14.9	17.3	23.1	18.4	MJ/kg

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APPROVED SIGNATORY

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MANAGING DIRECTOR

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Initial thickness	38	38	38	38.0	mm
Initial mass	111.9	115.6	107.7	111.7	g
Mass at sustained flaming	110.5	113.4	105.7	109.9	g
Mass remaining	104.8	110.5	101.9	105.7	g
Mass percentage pyrolysed	6.3	4.4	5.4	5.4	%
Mass loss	0.9	0.6	0.7	0.7	kg/m ²
Average rate of mass loss	0.9	0.6	0.6	0.7	g/m ² .s
Additional Observations	Nil				
Difficulties Encountered during Testing	Nil				

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

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.

Specimen thickness was reduced to 38mm for testing purposes.

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.

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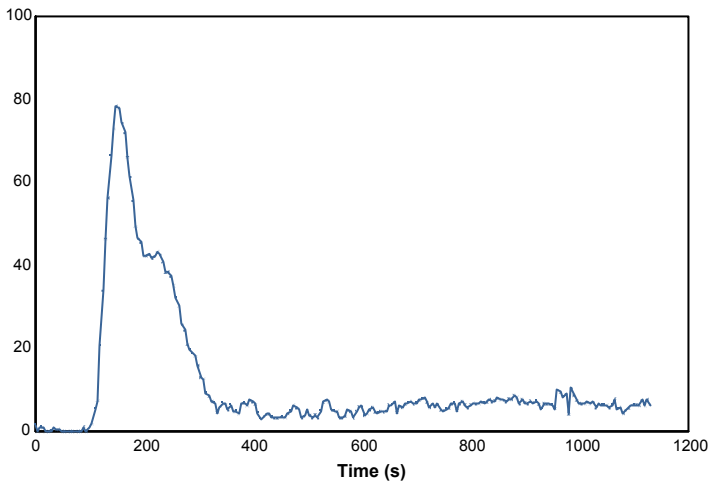
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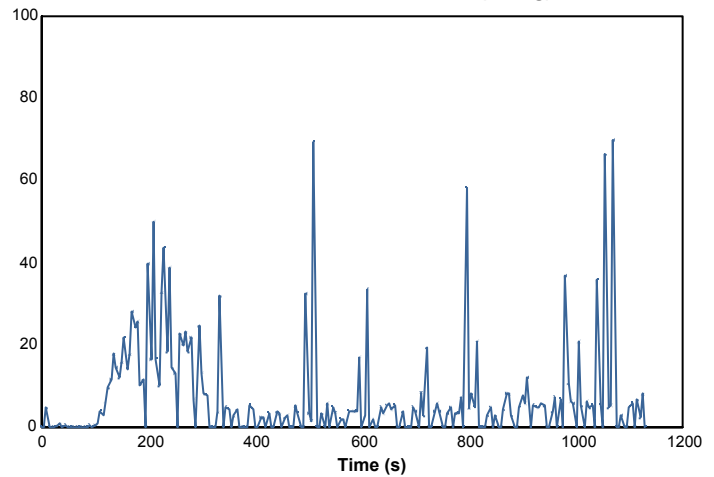
Test Number : 18-004767
Issue Date : 13/09/2018
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Specimen : 1

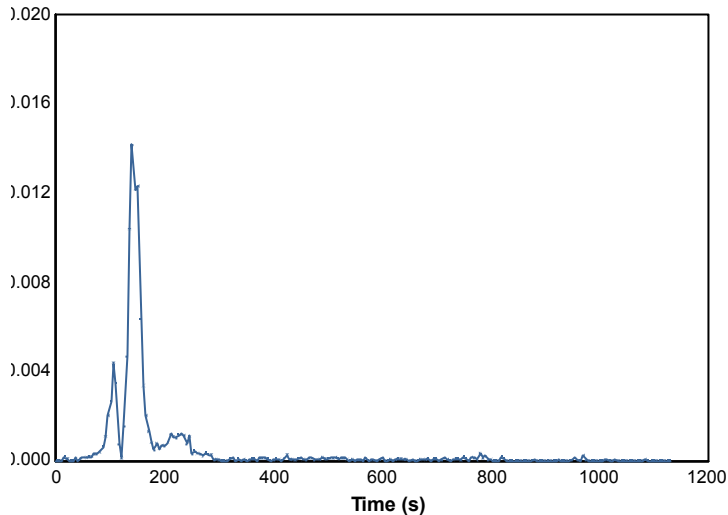
Heat release rate (kW/m²)



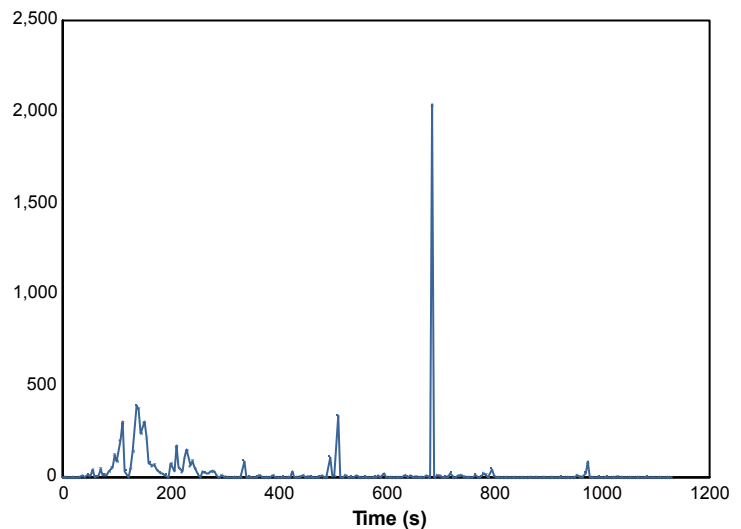
Effective heat of combustion (MJ/kg)



Smoke production rate ([m²/s])



Specific extinction area (m²/kg)



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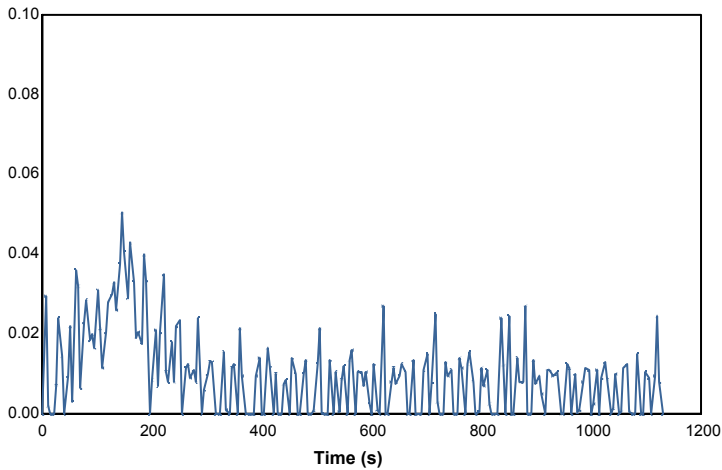
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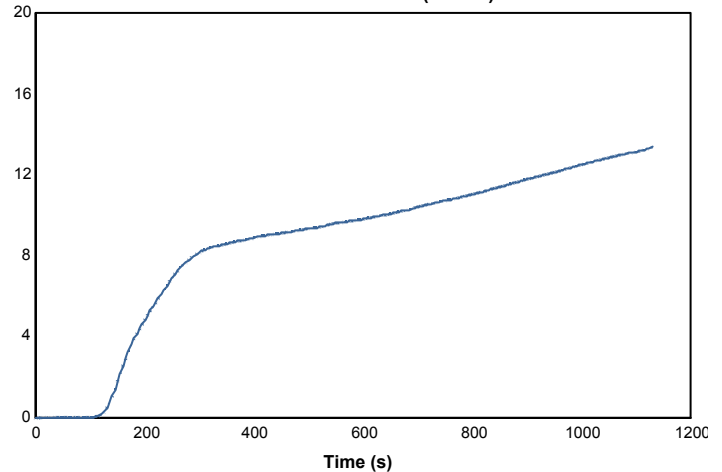
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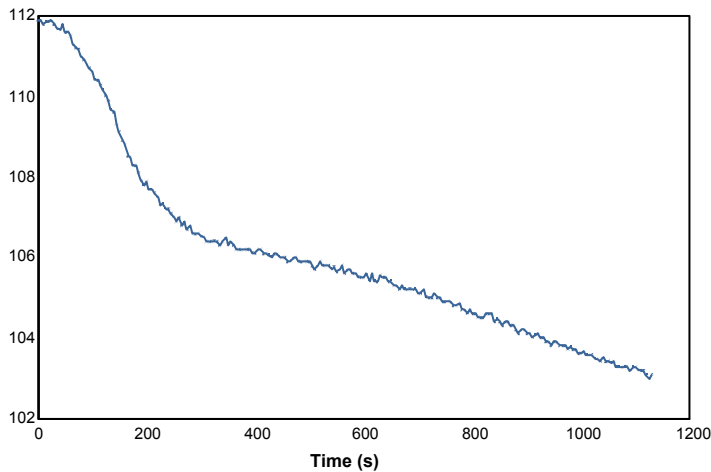
Mass loss rate (g/s)



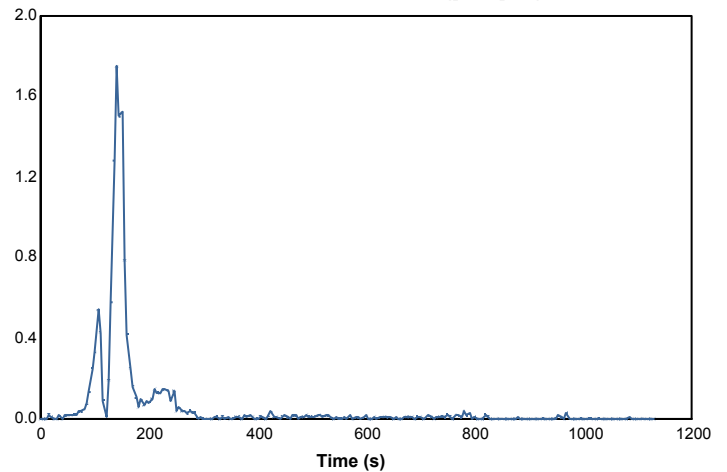
Total heat released (MJ/m²)



Mass (g)



Rate of smoke release ([m²/s]/m²)



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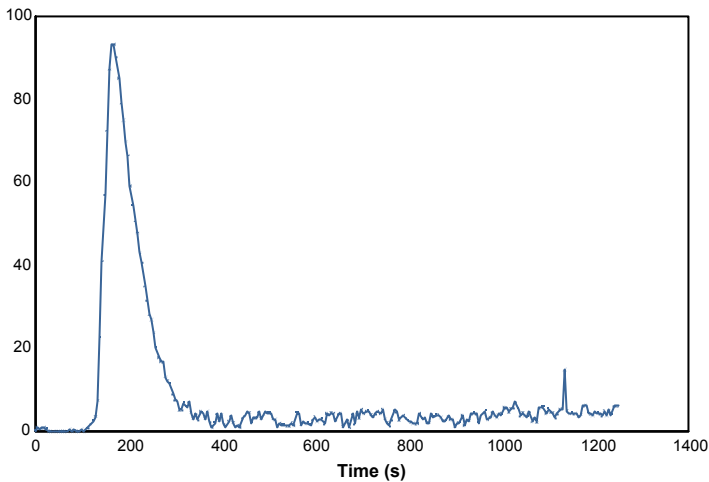
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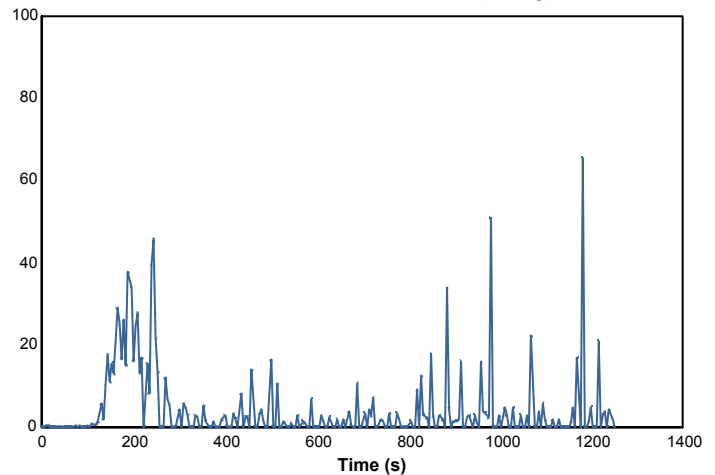
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Specimen : 2

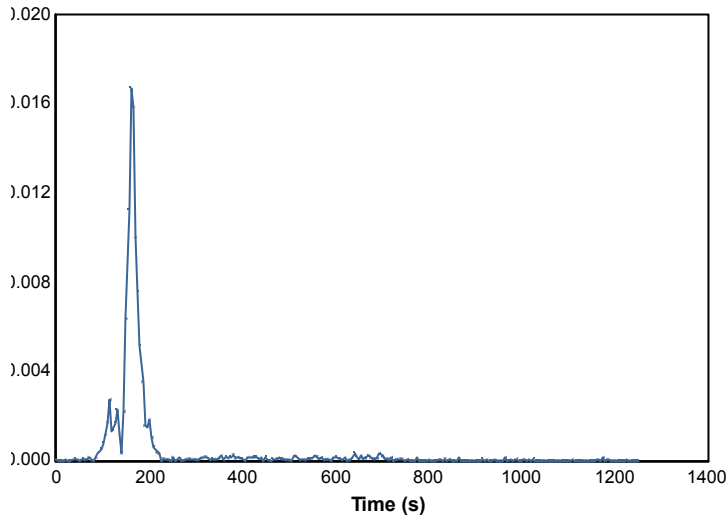
Heat release rate (kW/m²)



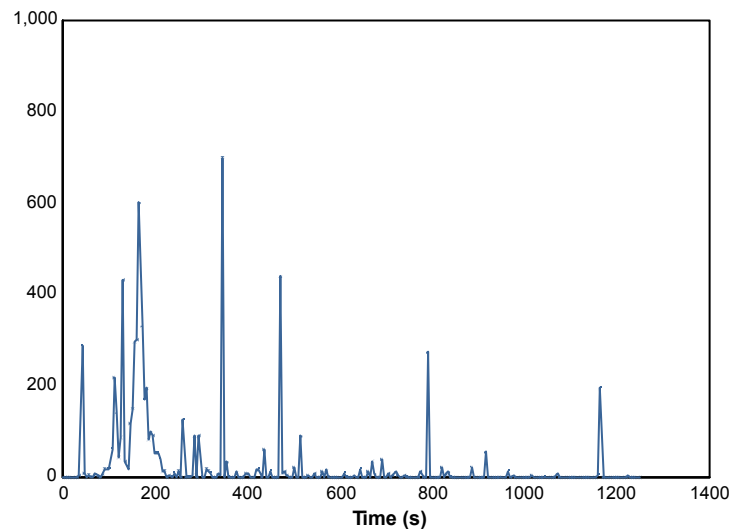
Effective heat of combustion (MJ/kg)



Smoke production rate ([m²/s])



Specific extinction area (m²/kg)



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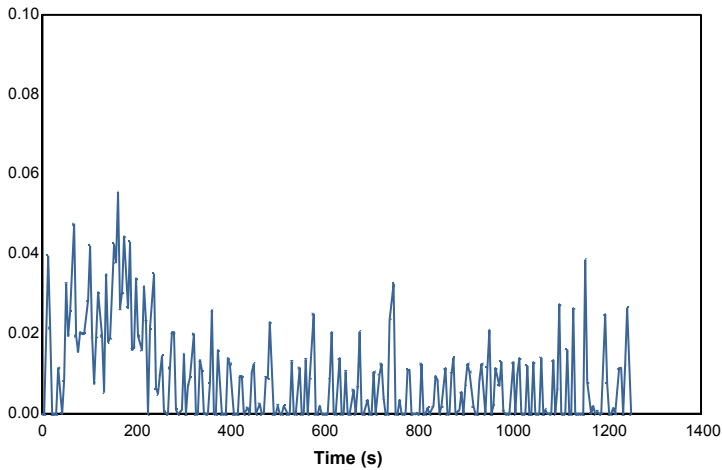
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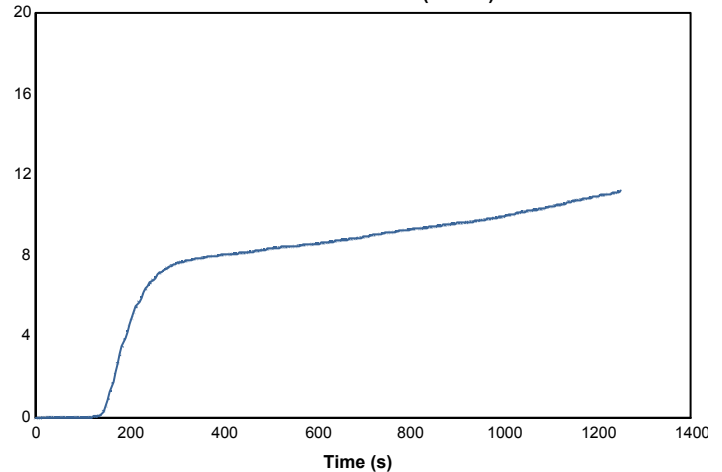
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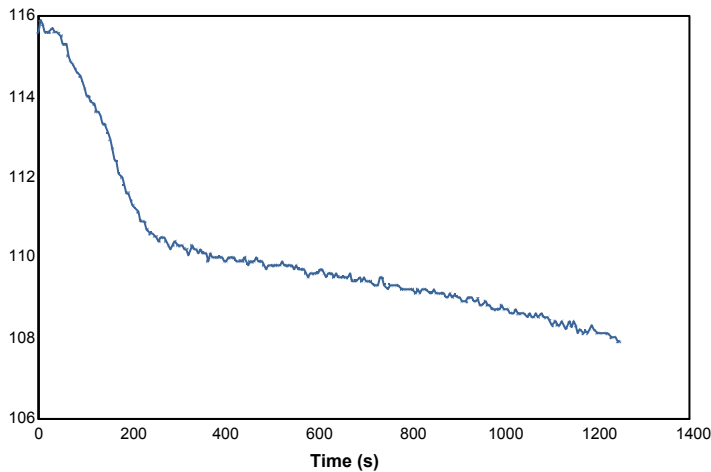
Mass loss rate (g/s)



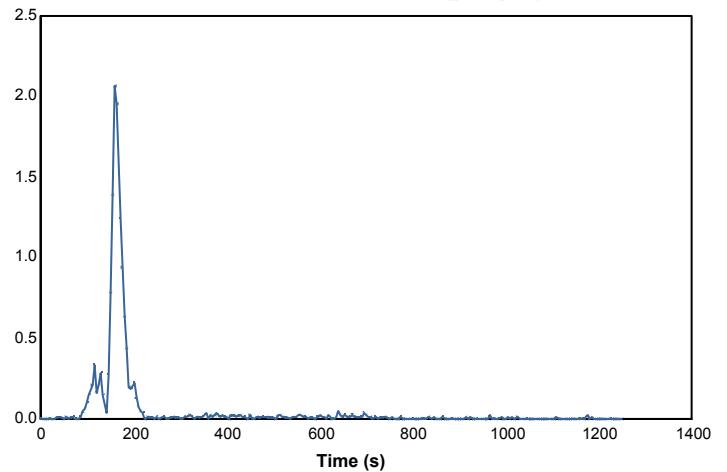
Total heat released (MJ/m²)



Mass (g)



Rate of smoke release ([m²/s)/m²)



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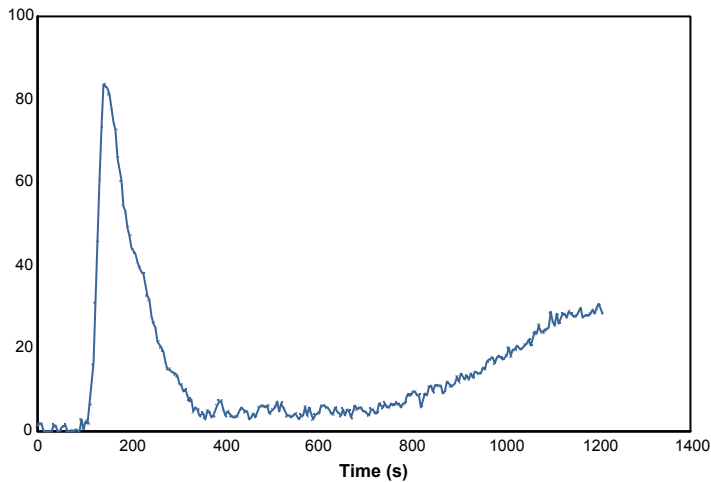
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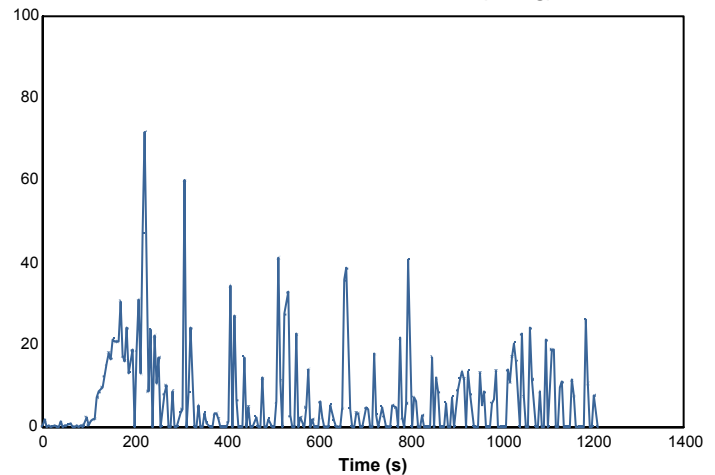
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Specimen : 3

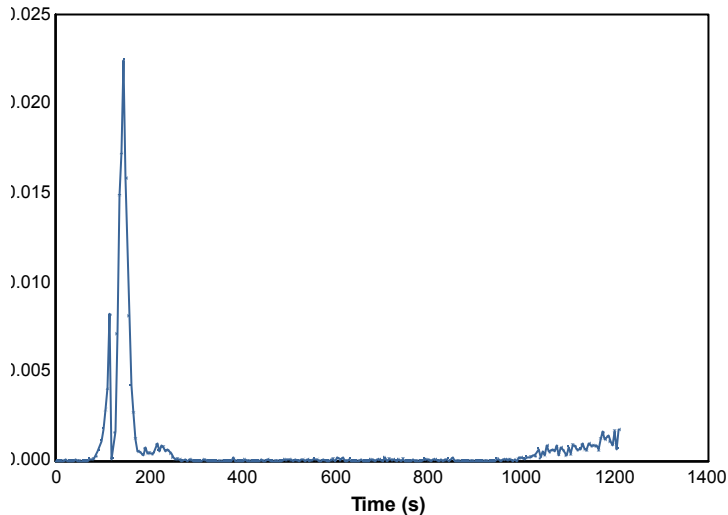
Heat release rate (kW/m²)



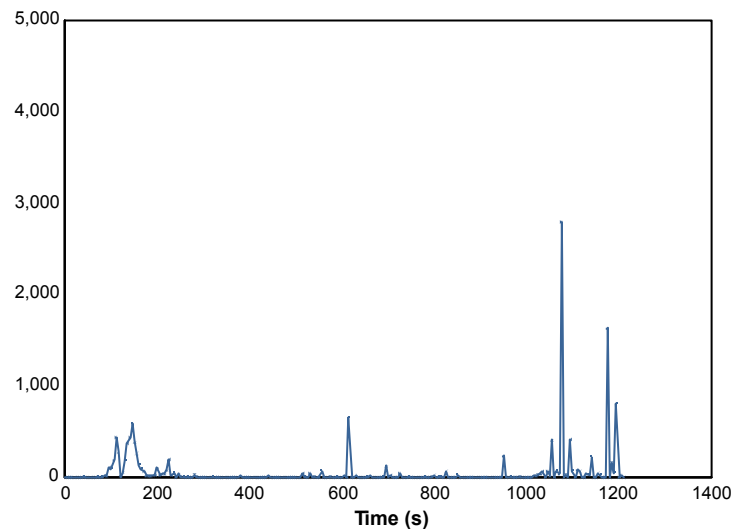
Effective heat of combustion (MJ/kg)



Smoke production rate ([m²/s])



Specific extinction area (m²/kg)



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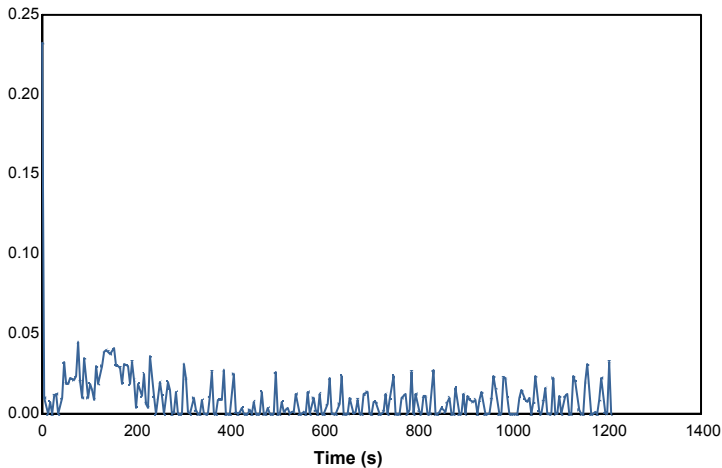
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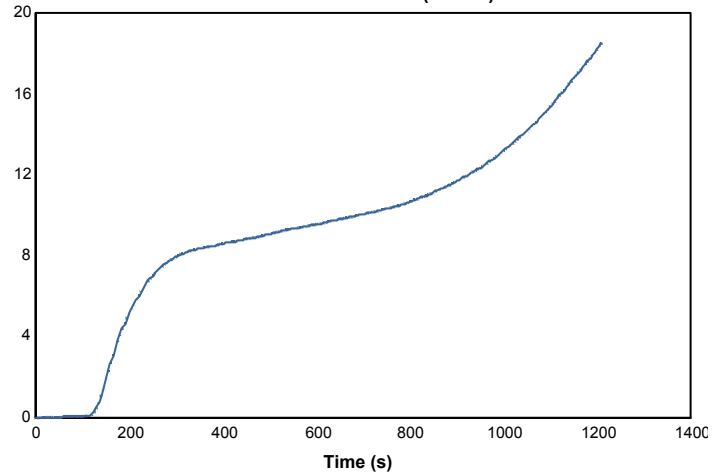
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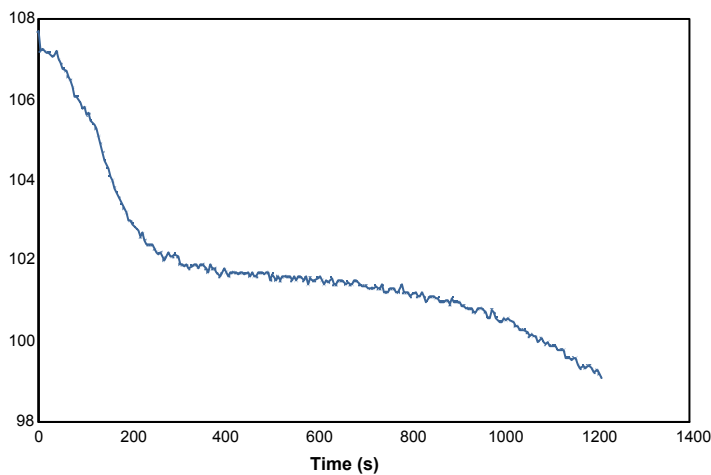
Mass loss rate (g/s)



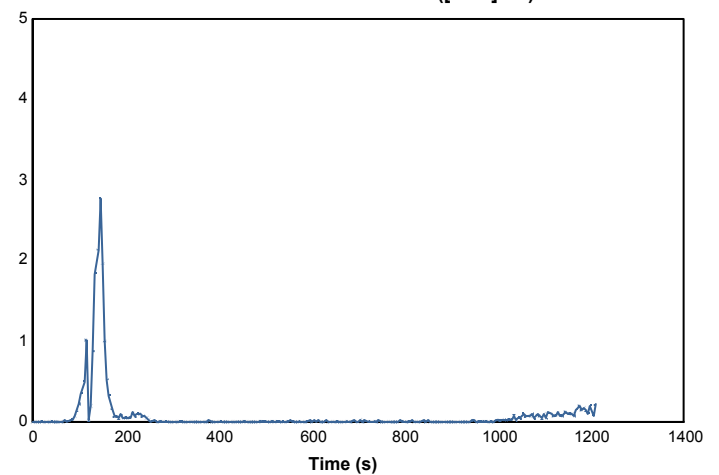
Total heat released (MJ/m²)



Mass (g)



Rate of smoke release ([m²/s]/m²)



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