

CERTIFICATE

Material Fire Test Certificate

IGNL-7055-07-02C I01 R00

DATE OF TEST 26.04.2023
 ISSUE DATE 18.08.2023
 EXPIRY DATE 17.08.2028

AS/NZS 3837:1998 Method of test for heat and smoke release rates for materials and products using an oxygen consumption calorimeter

SPONSOR

3RT Technologies Pty Ltd
 Suite 9 / 13 Corporate Drive
 Heatherton, VIC 3202

TEST BODY

Ignis Labs Pty Ltd
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 3 Cooper Place
 Queanbeyan NSW 2620
 Australia
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 Test body is the test location



Specimen Identification

3RT White Gum

Specimen Description

The sponsor described the specimens as 3RT engineered hardwood. It is composed of engineered hardwood and is light brown in colour. Its end use is as cladding and panelling.

The received specimens were hardwood panels. They had a measured nominal thickness of approximately 21.02 mm and a measured nominal density of 0.85 g/cm³.

Ignis Labs was not responsible for the sampling stage. All specimens were sampled and fabricated by the test sponsor. The test results apply to the specimens as received.

Test Method

Three (3) specimens were tested in accordance with the requirements of AS/NZS 3837. Prior to the test, the specimens were conditioned at an ambient temperature of 23 ± 2 °C and a relative humidity 50 ± 5 %.

Observations

The specimens exhibited similar behaviour, and all ignited during the test. The specimens ignited between 31 and 36 seconds into the test and ignition continued for between 46 and 53 minutes. Approximately five minutes after ignition, the flame intensity began to fade. Specimen 1 experienced steady flaming while specimens 2 and 3 underwent a secondary increase in flaming approximately 16 minutes into the test. The surface of the specimens expanded upwards after ignition.

After testing, the specimens were flaky and charred with white ash on the surface.

Input

Test Heat Flux (kW/m ²)	50.0							
Thickness (mm)		Sp 1	Sp 2	Sp 3	Sp 4	Sp 5	Sp 6	Mean
Surface Area (m ²)	A _s	21.01	21.06	20.99	-	-	-	21.02
Mass Before the Test (g)	m _i	178.72	180.30	179.53	-	-	-	179.52
Mass After the Test (g)	m _f	22.50	28.98	32.70	-	-	-	28.06
Time to Ignition (sec)	t _{ig}	36	31	34	-	-	-	33.67
Test Start Time (sec)	t _{start}	0	0	0	-	-	-	0.00

Calculation

Density (kg/m ³)	ρ	854.24	851.92	853.68	-	-	-	853.28
Irradiance (kW/m ²)		49.75	49.75	49.75	-	-	-	49.75
Exhaust System Flow Rate (m ³ /sec)		0.024	0.024	0.024	-	-	-	0.02
Mass Loss (kg/m ²)		17.67	17.12	16.61	-	-	-	17.13
Average Rate of Mass Loss (g/m ² ·s)		5.37	5.84	5.56	-	-	-	5.59
Total Mass Pyrolyzed (%)		87.41	83.93	81.79	-	-	-	84.37
Time to 50kW/m ² (sec)	t ₅₀	31.47	26.73	27.66	-	-	-	28.62
Ignitability Index (1/min)	I _{ig}	1.91	2.24	2.17	-	-	-	2.11
Test Duration (sec)		3330	2961	3024	-	-	-	3105.00

Peak Rate of Heat Release(0-60s)		205.24	196.41	200.85	-	-	-	200.83
Peak Rate of Heat Release(0-180s)		205.24	196.41	200.85	-	-	-	200.83
Peak Rate of Heat Release(0-300s)		205.24	196.41	200.85	-	-	-	200.83
Average Rate of Heat Release(0-60s)		180.01	172.71	169.53	-	-	-	174.08
Average Rate of Heat Release(0-180s)		130.82	126.02	132.25	-	-	-	129.69
Average Rate of Heat Release(0-300s)		113.44	111.02	118.13	-	-	-	114.19
Total Heat Released (MJ/m ²)		163.29	178.67	197.17	-	-	-	179.71
Average Effective Heat of Combustion (MJ/kg)	Δh _{c,eff(avg)}	9.23	10.43	13.34	-	-	-	11.00
Average specific Extinction Area (m ² /kg)	Σ _{f(avg)}	47.29	29.80	9.57	-	-	-	28.88


Test Supervisor
 Darren Laker

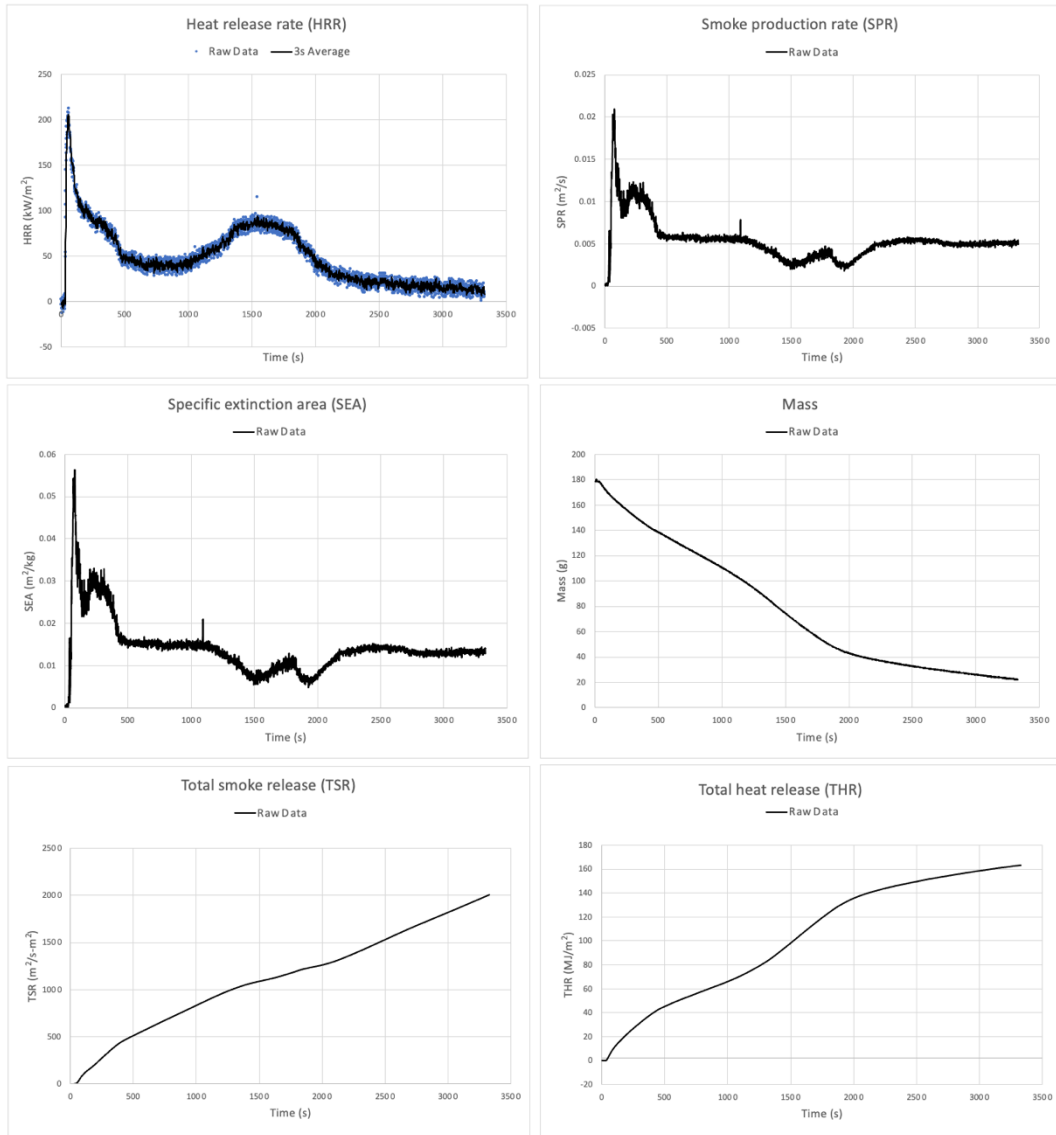

Technical Lead
 Jessica Ying

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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. The results of these fire tests 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. The information contained in this document is provided for the sole use of the recipient and no reliance should be placed on the information by any other person. In the event that the information is disclosed or furnished to any other person, the Ignis Labs Pty Ltd accepts no liability for any loss or damage incurred by that person whatsoever as a result of using the information.

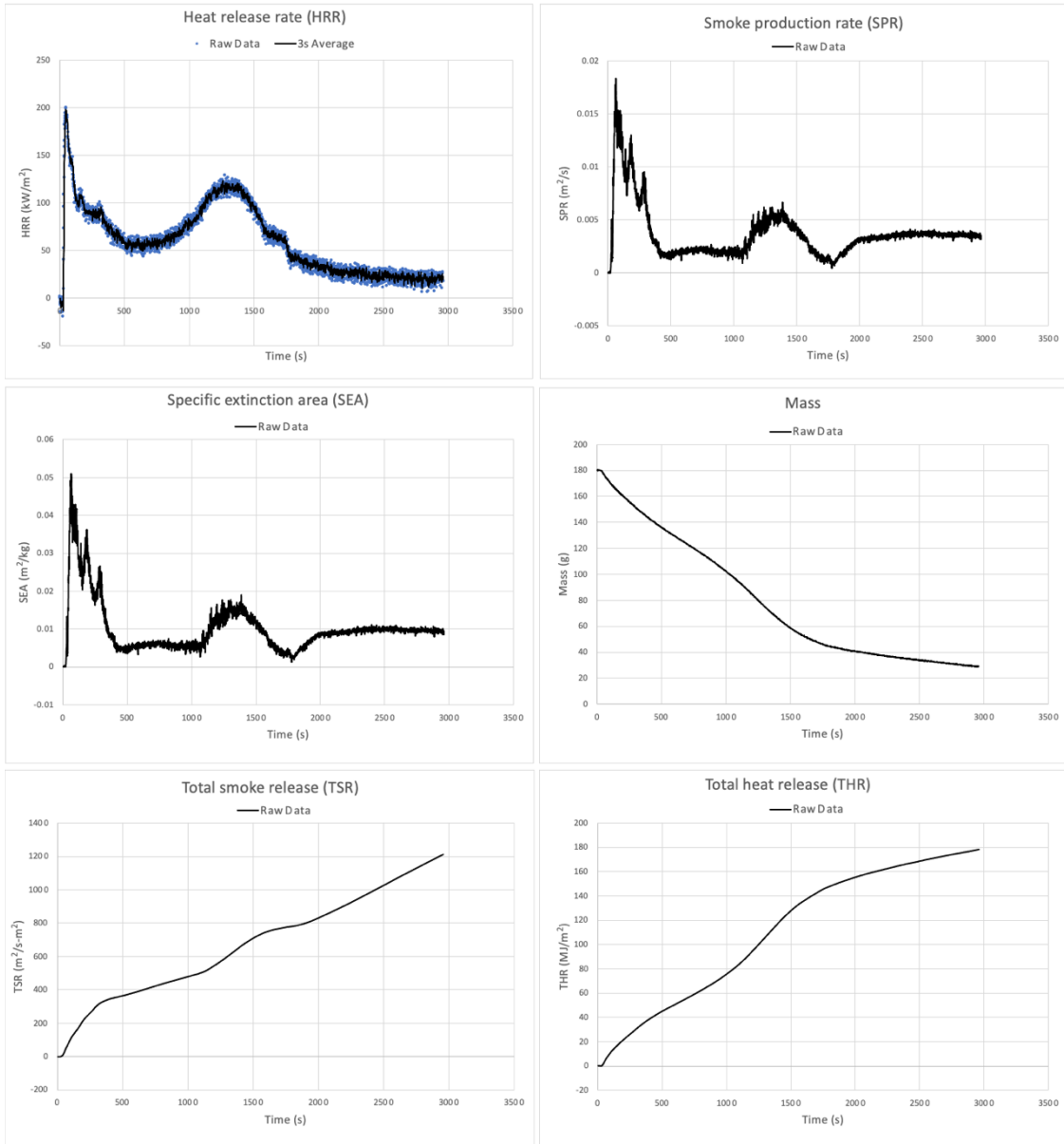
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SPECIMEN 1 GRAPHS



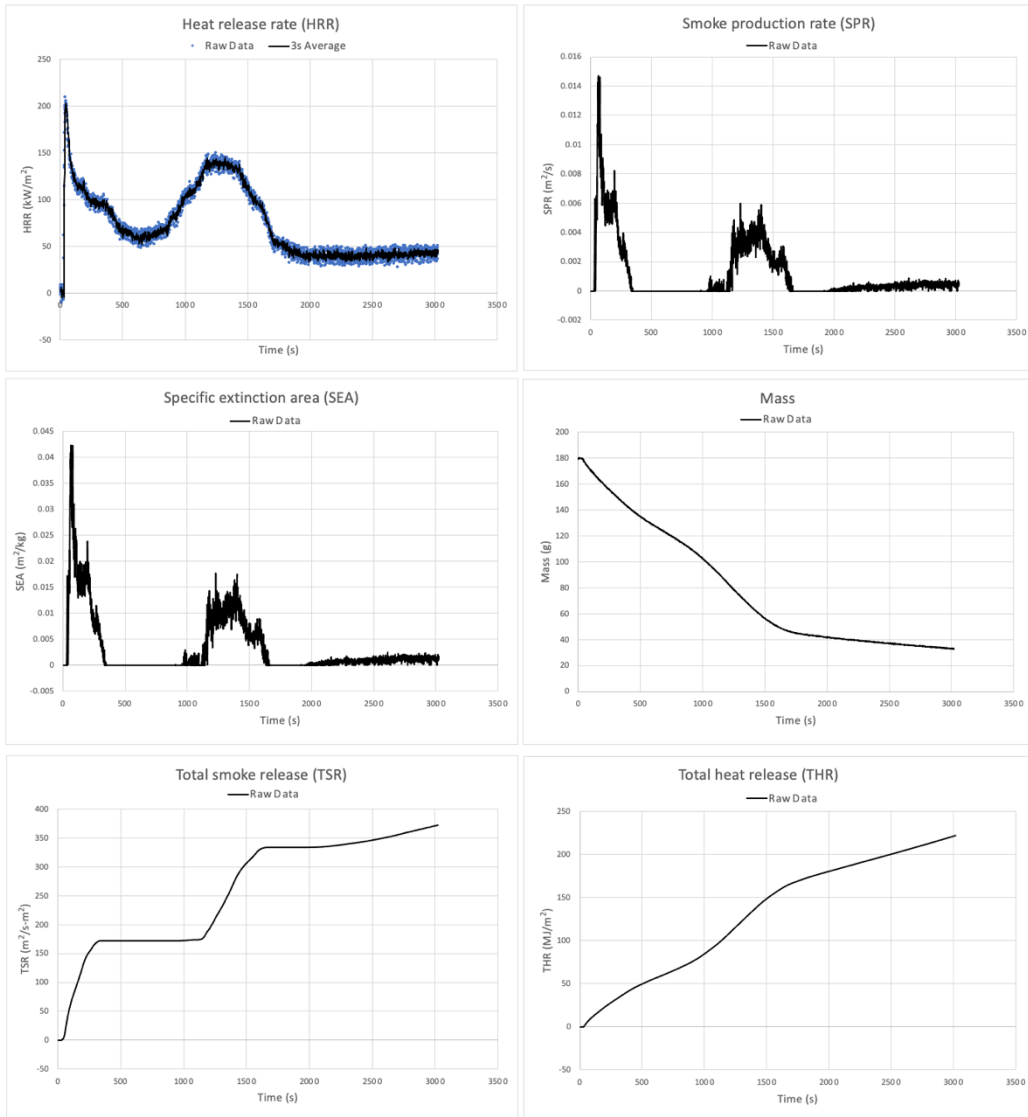
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SPECIMEN 2 GRAPHS



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SPECIMEN 3 GRAPHS



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END OF TEST CERTIFICATE