

# AS 1530.1 -1994: Methods for fire tests on building materials, components and structures

## Part 1: Combustibility test for materials



Report No:

**IGNL-1006-01-04**

Report Sponsor:

**ResCom Building Products Pty Ltd**

**8 Piper Street**

**Caboolture QLD 4510**

Product Name

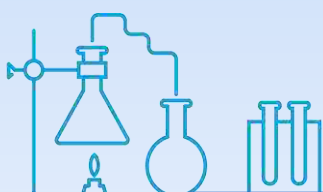
**HMR ResCom**

Test Date:

**15 June 2018**

Report Date:

**07 March 2019**



## DOCUMENT REVISION HISTORY

Issue	Revision	Date	Purpose of Issue	Prepared by	Reviewed by
01	00	07-Mar-2019	Issued to client	RP	BHB

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# 1. TEST SUMMARY

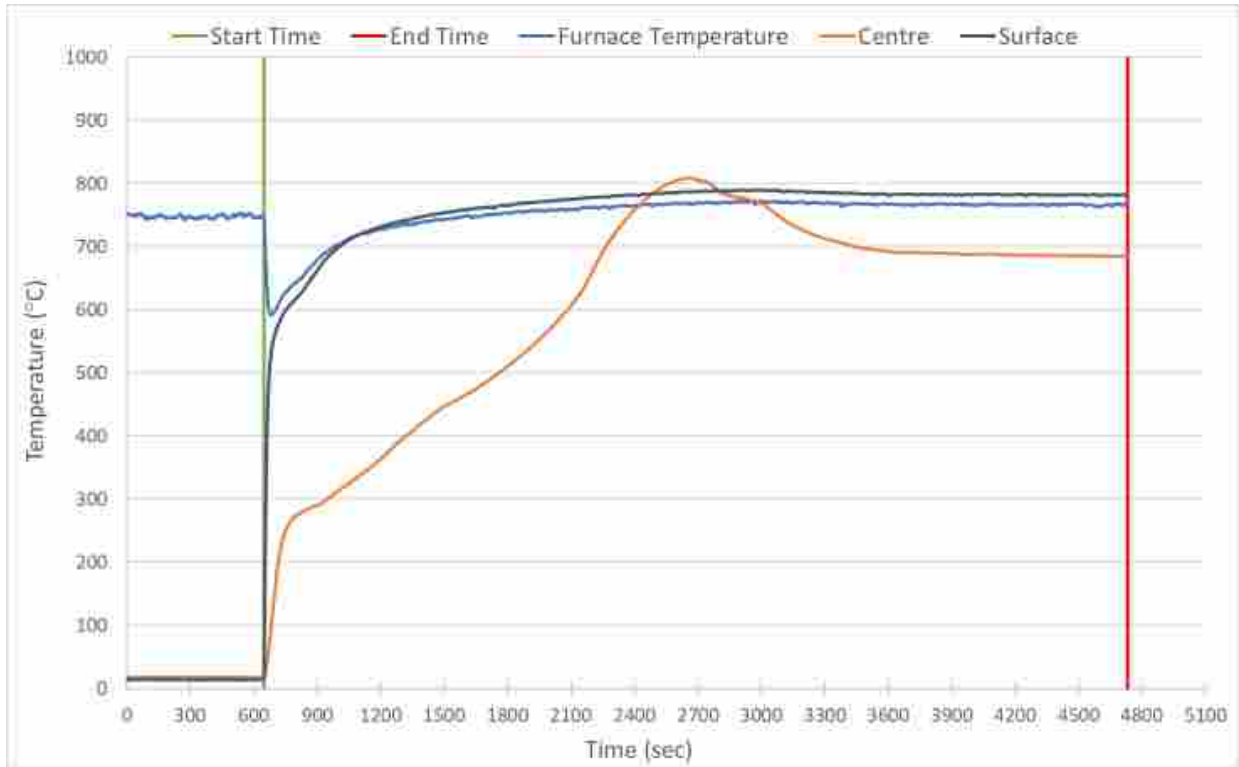
	<h2 style="margin: 0;">AS/NZS 1530.1</h2> <p style="margin: 0;">Methods for fire tests on building materials, components and structures Part1: Combustibility test for materials</p> <p style="margin: 0; font-size: small;">3 Cooper Place, Queanbeyan, NSW 2620 PO Box 5174 Braddon ACT 2612 t: (02) 6111 2909   <a href="mailto:mail@ignislabs.com.au">mail@ignislabs.com.au</a>   <a href="http://www.ignislabs.com.au">www.ignislabs.com.au</a>   ABN: 36 620 256 617</p>	
References:	Standards Australia Committee. <i>Method for fire tests on building materials, components and structures Part1: Combustibility test for materials AS 1530.1-1994_R2016</i>	
Instructions:		
<b>Specimen Information</b>		
Specimen Name:	HMR ResCom	Sponsor: ResCom Building Products Pty Ltd
Specimen Identification:		Sponsor Address: 8 Piper Street, Caboolture QLD 4510
Specimen Description:	White concrete board with light green face	
Construction of Specimen:	The test specimens are cylindrical and each has -	
	(a). Nominal diameter (mm):	44.8 ± 0.15
	(b). Nominal height (mm):	49.99 ± 0.18
	(c). Nominal volume (cm <sup>3</sup> ):	78.74 ± 0.53
	(d). Nominal mass (g):	80.8 ± 0.67
	(e). Colour:	White
Observations:	Five (5) samples were tested in accordance with Australian Standard 1530 Methods for fire tests on building materials, components and structures, Part 1- 1994: Combustibility Test for Materials.	
Test Date:	15/06/2018	Issue Date: 7/03/2019
Expiry Date:	14/06/2023	Project Number: IGNL-1006-01-04 I01R00
<b>Result</b>		
Parameter	Symbol	Arithmetic
Mean furnace thermocouple temperature rise:	$\Delta T_f$	6.47 °C
Mean specimen centre thermocouple temperature rise:	$\Delta T_c$	198.94 °C
Mean specimen surface thermocouple temperature rise:	$\Delta T_s$	4.57 °C
Mean duration of sustained flaming:		0 s
Mean mass loss:		46.91 %
<b>Combustibility</b>		
The material is deemed NON-COMBUSTIBLE according to the test criteria specified in clause 3.4 of as 1530.1- 1994		
<b>Note:</b>		
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.		
Tested by:	Reviewed by:	Authorised by:
Darren Laker	Ram Prakash	Benjamin Hughes-Brown FIEAust CPEng NER APEC Engineer IntPE (Aust)

## 2. TEST CALCULATIONS

Parameter	Symbol or expression	Unit symbol	Results					Arithmetic (Mean)
			1	2	3	4	5	
Atmospheric temperature		°C	16.80	17.30	18.40	20.40	19.40	
Humidity		%RH	50.00	53.00	42.50	49.20	36.60	
Height	h	mm	49.99	49.74	50.05	50.24	49.91	49.99
Diameter	d	mm	44.98	44.74	44.89	44.58	44.79	44.60
Initial specimen volume	V	cm <sup>3</sup>	79.39	78.16	79.17	78.38	78.60	78.74
Initial specimen mass	msi	g	81.50	80.50	81.50	80.00	80.50	80.80
Density	r	kg/m <sup>3</sup>	1026.52	1029.98	1029.40	1020.68	1024.18	1026.15
Sample holder weight	w	g	15.00	15.00	15.00	15.00	15.00	15.00
Final specimen mass	msf	g	43.50	42.50	43.50	42.50	42.50	42.90
Mass loss	$\Delta m = (msi - msf) / msi * 100$	%	46.63	47.20	46.63	46.88	47.20	46.91
Total duration of sustained flaming	Cumulative total of duration of flaming*	s	0.00	0.00	0.00	0.00	0.00	0.00
Initial furnace thermocouple temperature	Tfi	°C	745.10	750.10	744.70	741.50	745.60	745.40
Maximum furnace thermocouple temperature	Tfm	°C	772.00	839.00	757.90	781.20	804.20	790.86
Final furnace thermocouple temperature	Tff	°C	766.95	838.34	734.74	778.69	803.24	784.39
Furnace thermocouple temperature rise	$\Delta Tf = Tfm - Tff$	°C	5.05	0.66	23.16	2.51	0.96	6.47
Maximum specimen centre thermocouple temperature	Tcm	°C	808.60	1114.80	992.30	1028.10	994.50	987.66
Final specimen centre thermocouple temperature	Tcf	°C	685.00	796.15	700.92	917.19	844.34	788.72
Specimen centre thermocouple temperature rise	$\Delta Tc = Tcm - Tcf$	°C	123.60	318.65	291.38	110.91	150.16	198.94
Maximum specimen surface thermocouple temperature	Tsm	°C	789.80	849.10	763.10	796.70	808.50	801.44
Final specimen surface thermocouple temperature	Tsf	°C	781.82	848.14	751.83	796.25	806.31	796.87
Specimen surface thermocouple temperature rise	$\Delta Ts = Tsm - Tsf$	°C	7.98	0.96	11.27	0.45	2.19	4.57
Test duration	t	min	68.05	51.83	55.37	40.07	41.32	51.33

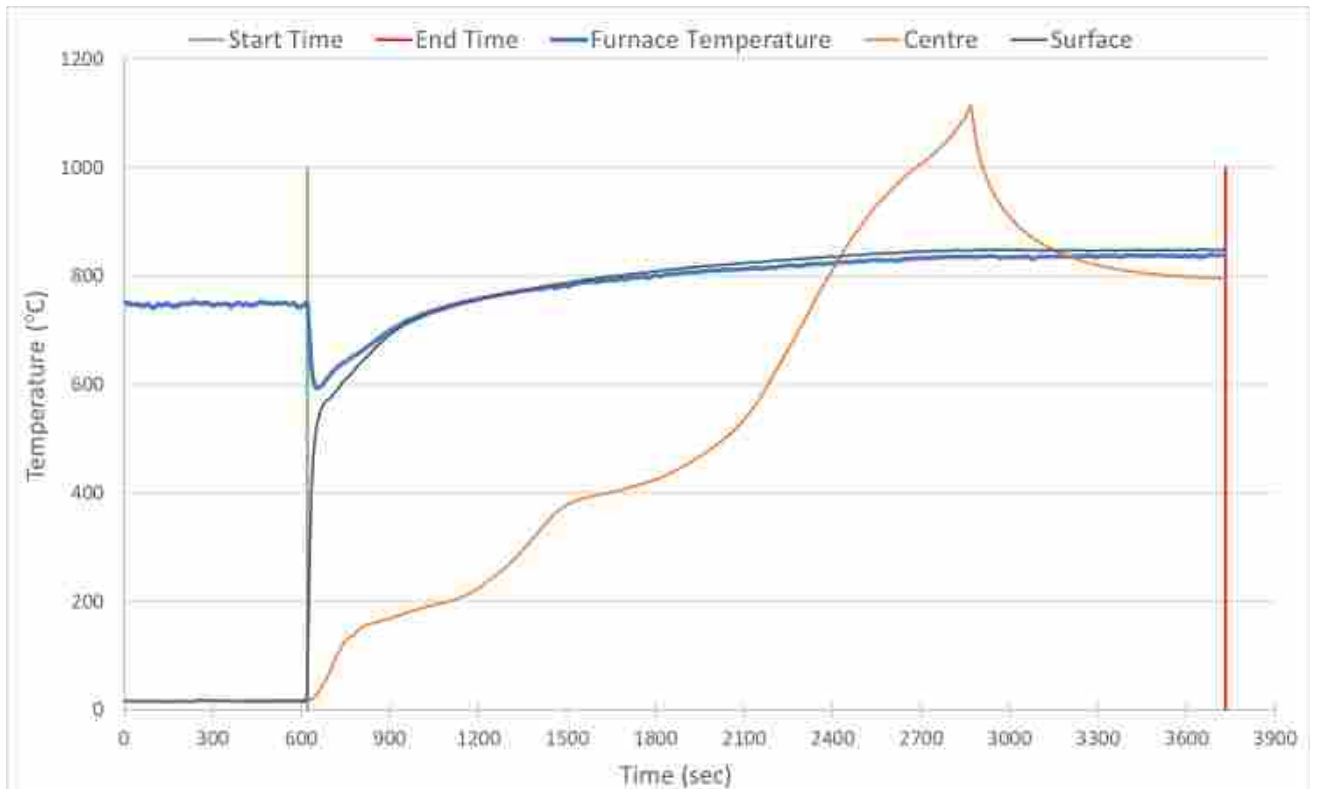
**FIGURE 1:**

Test 1



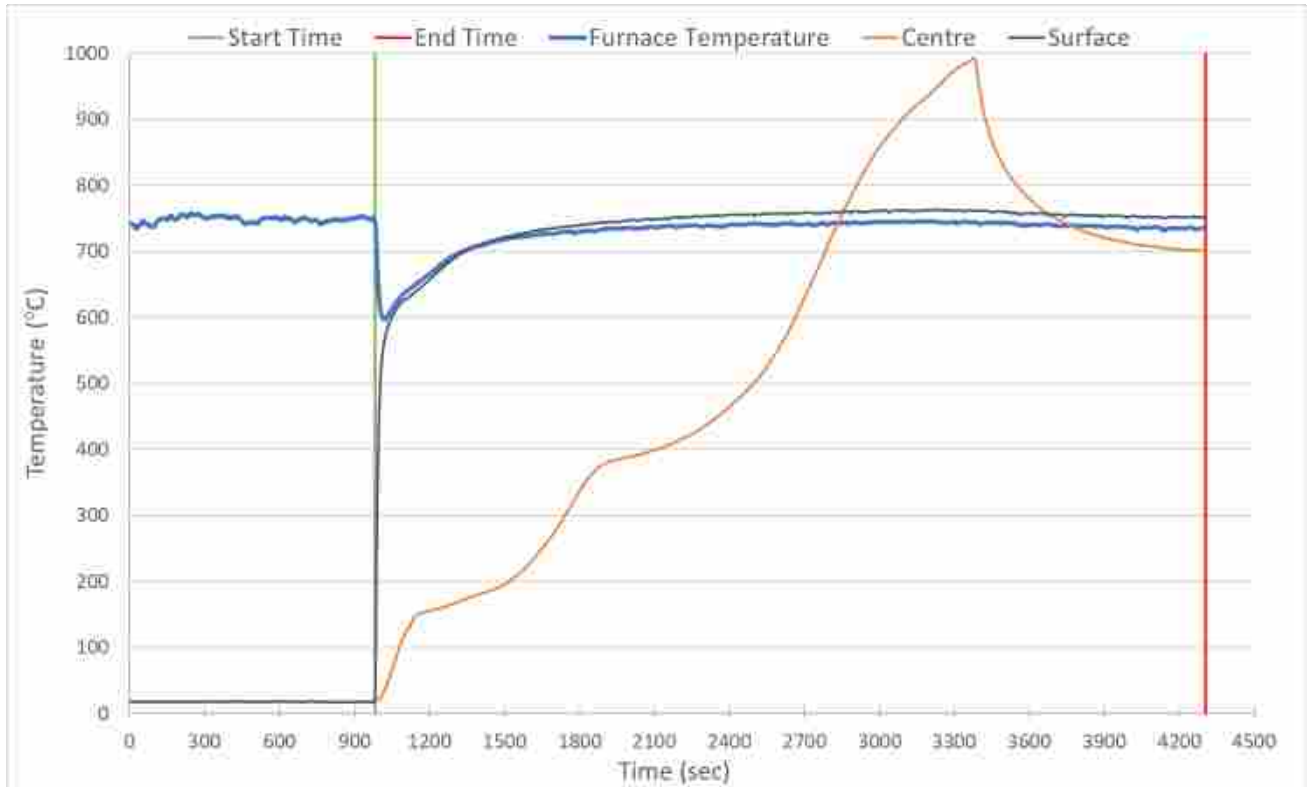
**FIGURE 2:**

Test 2



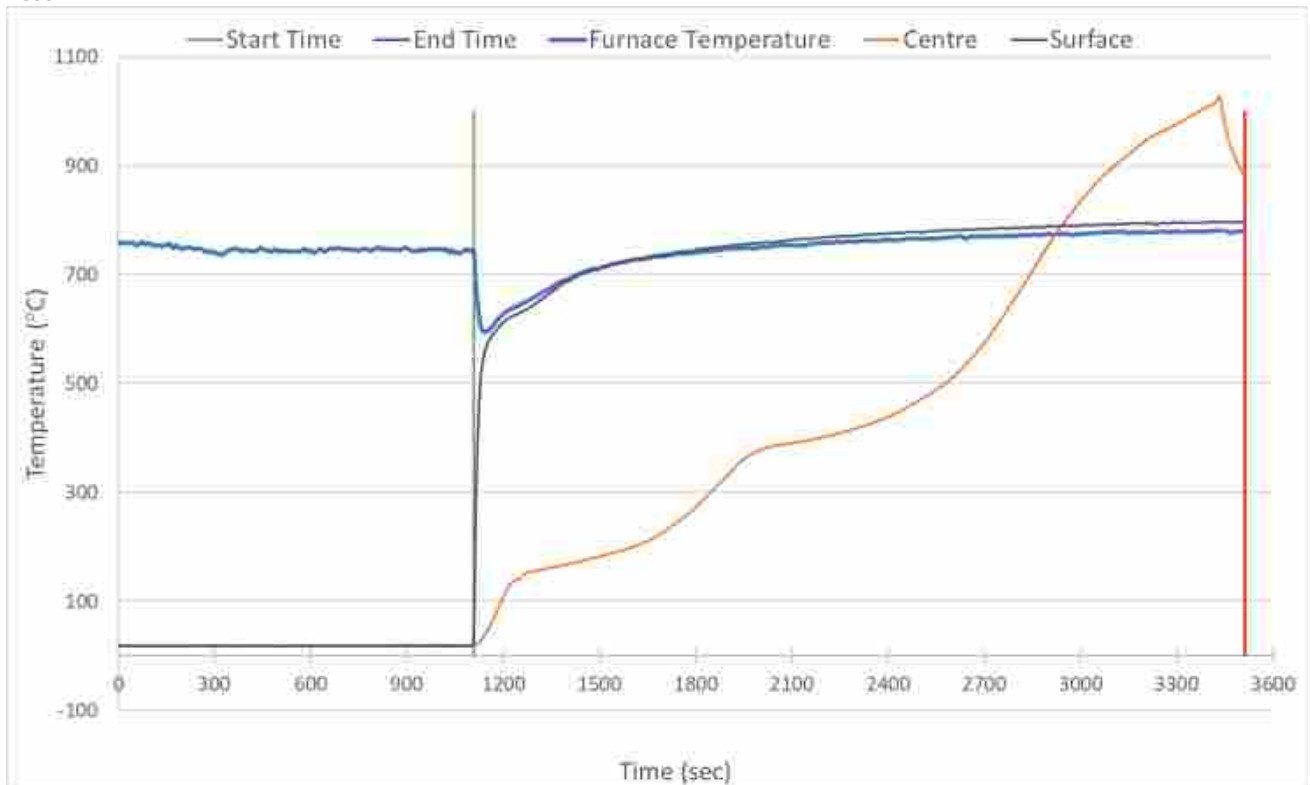
**FIGURE 3:**

Test 3



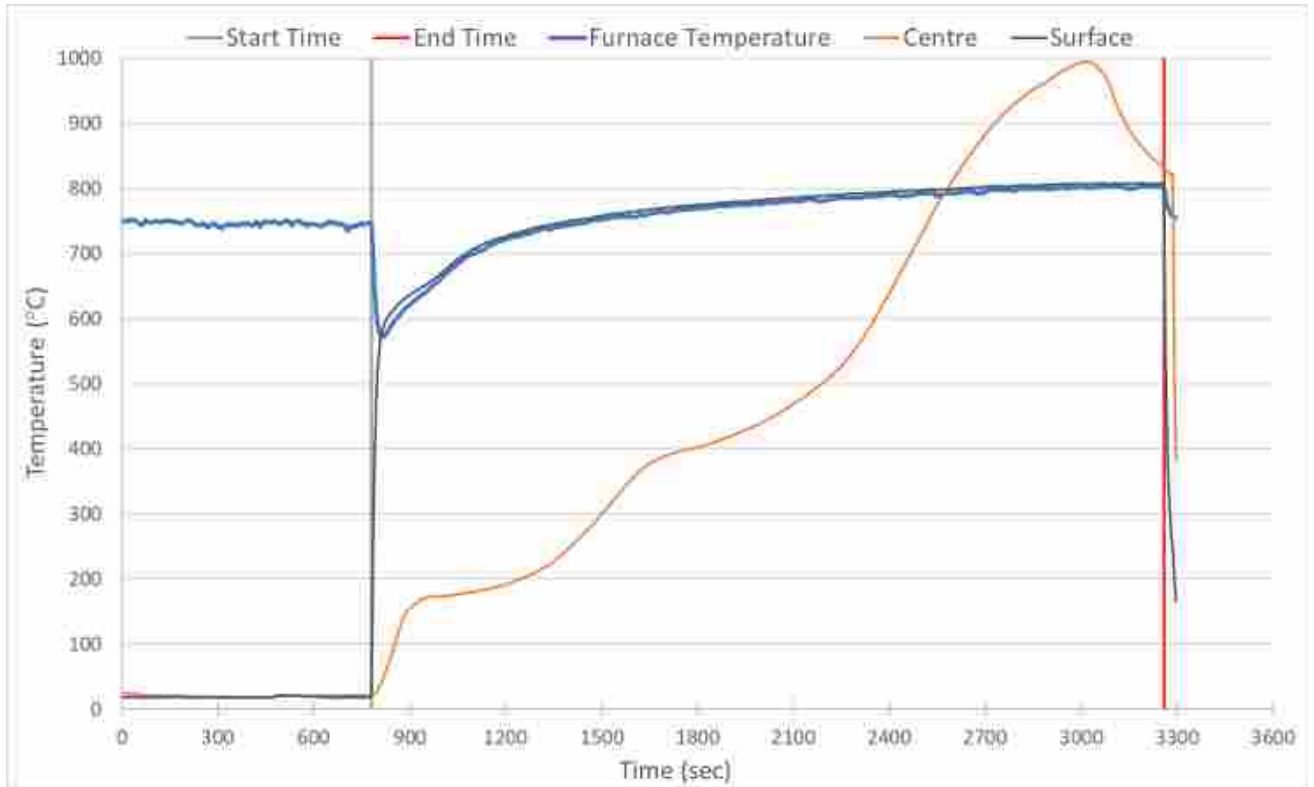
**FIGURE 4:**

Test 4



**FIGURE 5:**

Test 5



### 3. TEST PHOTOS

**FIGURE 6:**

SPECIMEN BEFORE AND AFTER THE TEST







This alternative solution report serves as a certificate from professional engineer in accordance with Clause A2.2(a)(iii) of the National Construction Code Volume One Building Code of Australia against Performance Requirement EP1.4 This alternative solution report serves as a certificate from professional engineer in accordance with Clause A2.2(a)(iii) of the National Construction Code Volume One Building Code of Australia against Performance Requirement EP1.4 This alternative solution report serves as a certificate from professional engineer in accordance with Clause A2.2(a)(iii) of the National Construction Code Volume One Building Code of Australia against Performance Requirement EP1.4

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