

Cone Calorimeter Test Report

Laboratory name LARPM - CIPET BHUBANESWAR
 Operator LARPM
 Filename C:\CC5\DATA\21080001.CSV
 Report name
 Sample description PR-28
 Material name/ID Composite material-A

Specimen information

E	13.1 MJ/kg	Specimen number		Conditioned?	Yes
Thickness	3.09 mm	Nominal duct flow rate	24 l/s	Temperature	23°C
Initial mass	31.3 g	Edge frame used?	Yes	RH	50%
Surface area	88.4 cm ²	Grid used?	No		
Heat flux	50 kW/m ²	Manufacturer			
Separation	25 mm	Sponsor			
Orientation	Horizontal				

Test

Standard used ISO 5660-1
 Date of test 31/08/2021
 Time of test 13:32
 Date of report 31/08/2021

Pre-test conditions

Ambient temperature 22°C
 Ambient pressure 101.148 kPa
 Relative humidity 54%

Test times

Time to ignition 35 s
 Time to flameout 427 s
 End of test criterion ISO 5660-1:2002
 End of test time 300 s
 (for calculations)

Apparatus specifications

C-factor 0.04265
 Duct diameter 0.114 m
 O₂ delay time 8 s
 CO₂ delay time 11 s
 CO delay time 11 s
 OD corr. factor 0.9993

Initial conditions

Baseline ambient oxygen 20.652%
 Baseline oxygen 20.949%
 Baseline carbon dioxide 0.0521%
 Mass at sustained flaming 31.3 g

Heat Release Results

THR (0-300) 73.43 MJ/m²
 THR (0-600) 82.57 MJ/m²
 THR (0-1200) -
 Fuel load 20.73 MJ/kg

Test results (between 35 and 300 s)

		Mean	Peak	at time (s)
Total heat release	73.4 MJ/m ²	Heat release rate (kW/m ²)	276.92	465.09 195
Total oxygen consumed	46.1 g	Effective heat of comb. (MJ/kg)	19.82	39.81 200
Mass lost	32.7 g	Mass loss rate (g/s)	0.124	0.228 140
Average specific MLR	16.46 g/(s·m ²)	Specific extinction area (m ² /kg)	-142.14	4592.97 225
Total smoke release	874.3 m ² /m ²	Carbon monoxide yield (kg/kg)	0.0162	0.1285 40
Total smoke production	7.7 m ²	Carbon dioxide yield (kg/kg)	1.12	1.67 230
MAHRE	264.4 kW/m ²			

Test averages

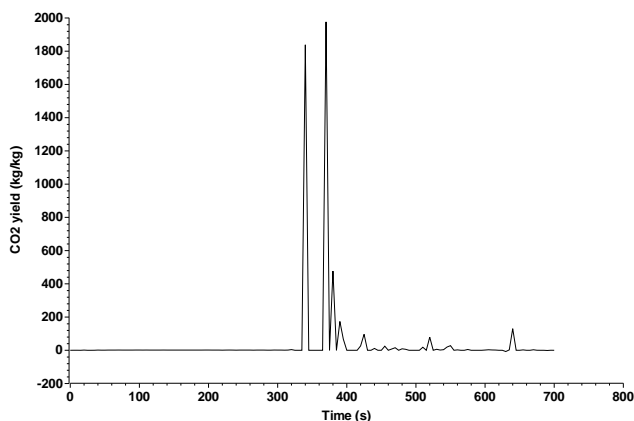
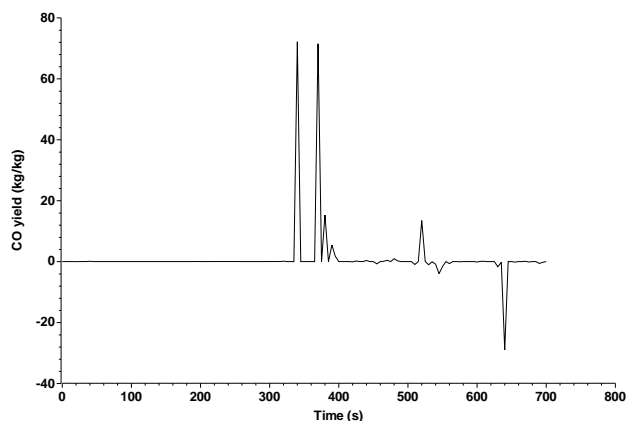
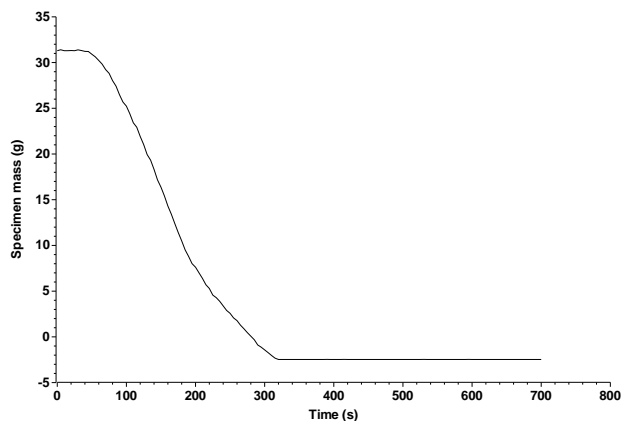
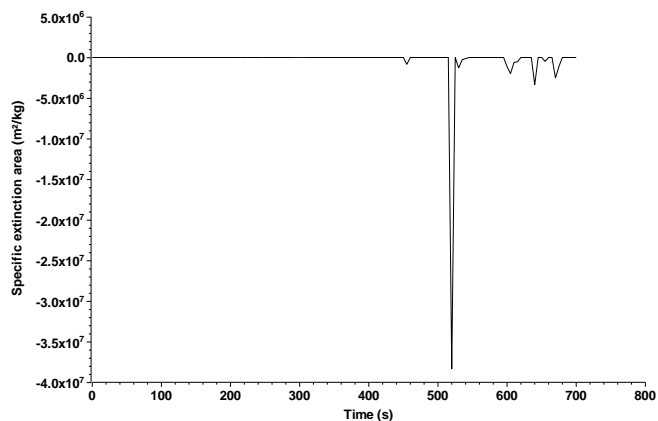
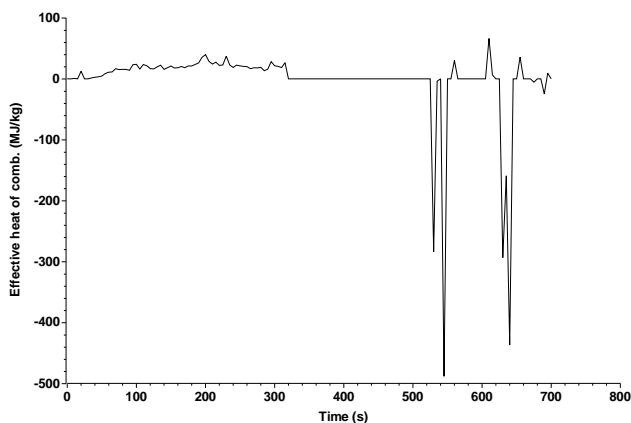
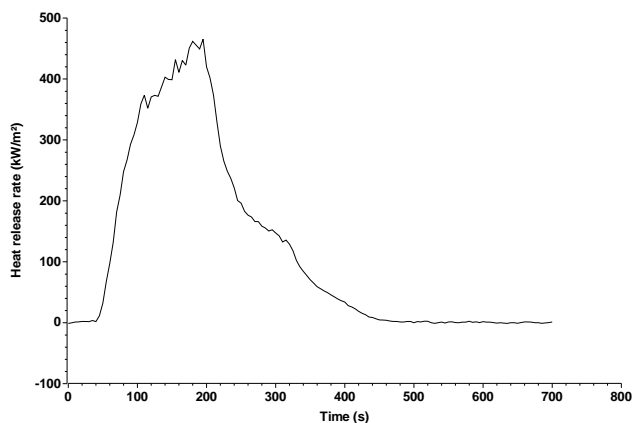
from ignition to ignition plus...	1 min	2 min	3 min	4 min	5 min	6 min	0 s - 35 s	35 s - 635 s
Heat release rate (kW/m ²)	141.28	257.47	313.87	289.67	-	-	1.31	137.53
Effective heat of comb. (MJ/kg)	13.32	17.18	19.50	19.92	-	-	-33.34	21.59
Mass loss rate (g/s)	0.093	0.133	0.142	0.129	-	-	-0.002	0.056
Specific extinction area (m ² /kg)	-1115.74	-716.04	-414.18	-184.56	-	-	-301894.02	165.05
Carbon monoxide yield (kg/kg)	0.0126	0.0142	0.0152	0.0162	-	-	-0.2383	0.0186
Carbon dioxide yield (kg/kg)	1.08	1.15	1.15	1.13	-	-	-4.45	1.19

Smoke results

Total smoke release: non-flaming phase (0 s - 35 s) 561.9 m²/m²
 Total smoke release: flaming phase (35 s - 300 s) 874.3 m²/m²
 Total smoke release: whole test (0 s - 300 s) 1436.2 m²/m²

Cone Calorimeter Test Report

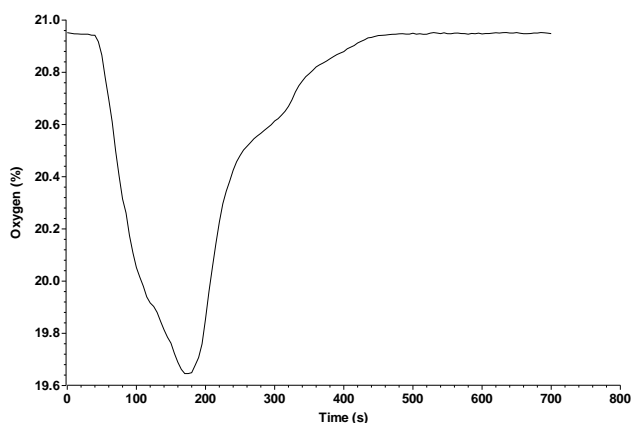
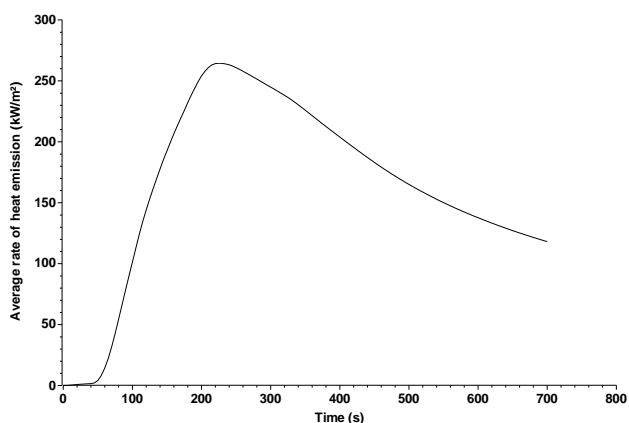
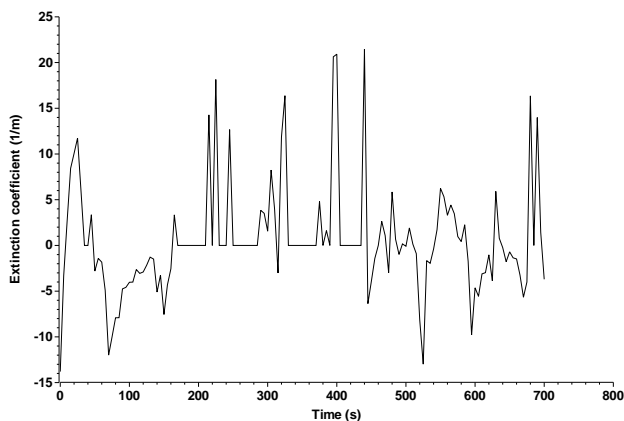
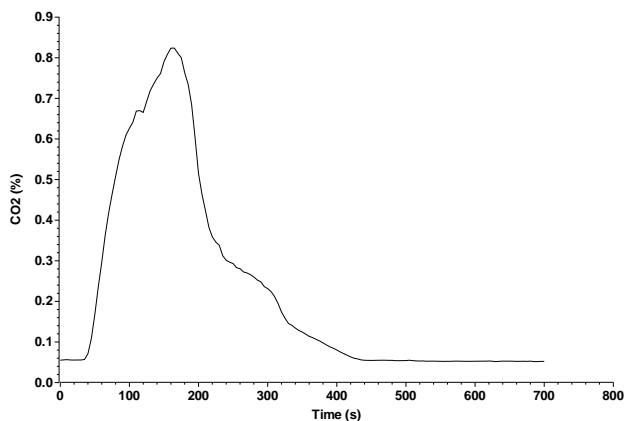
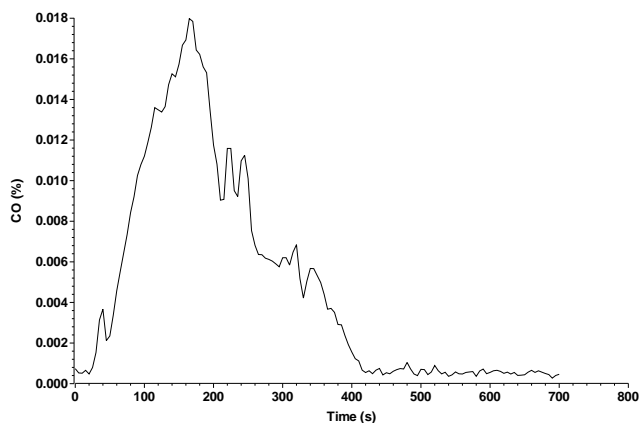
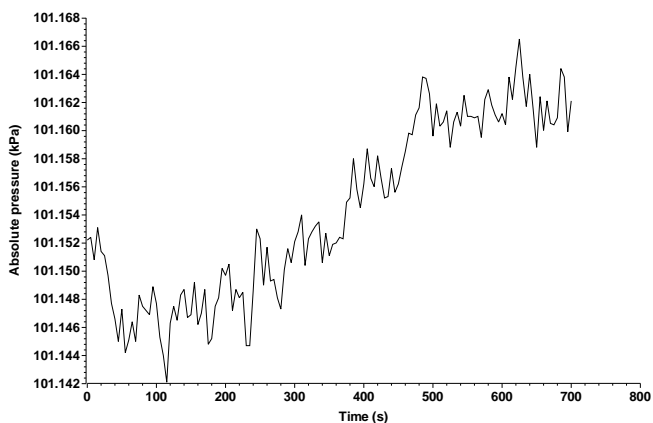
Laboratory name LARPM - CIPET BHUBANESWAR
Operator LARPM
Filename C:\CC5\DATA\21080001.CSV
Report name
Sample description PR-28
Material name/ID Composite material-A



The test results relate to the behaviour of the test specimens of a product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

Cone Calorimeter Test Report

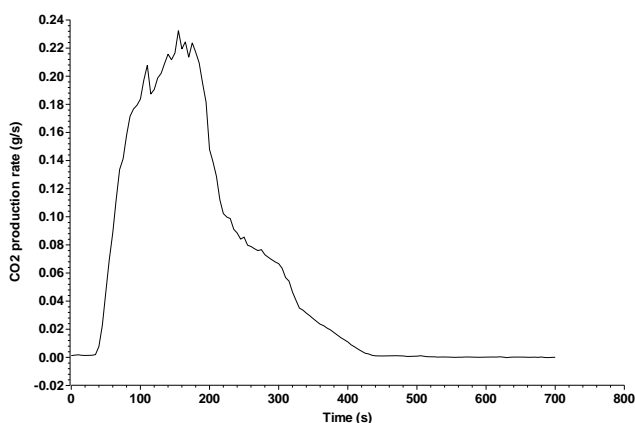
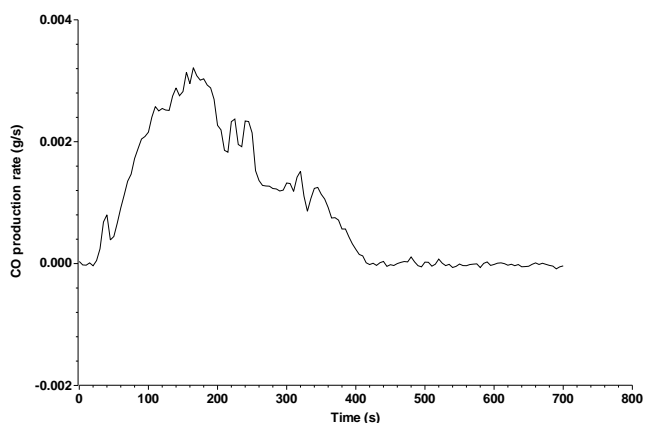
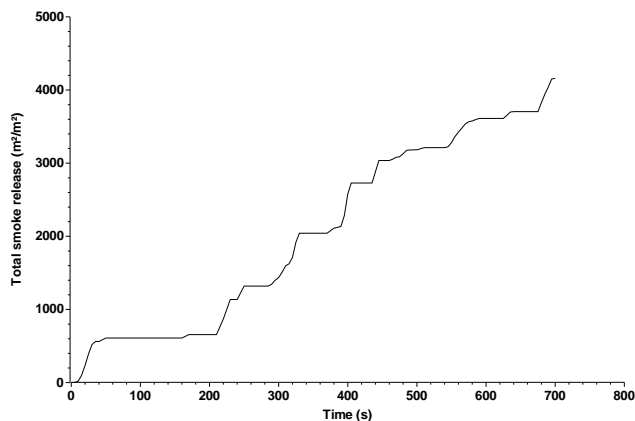
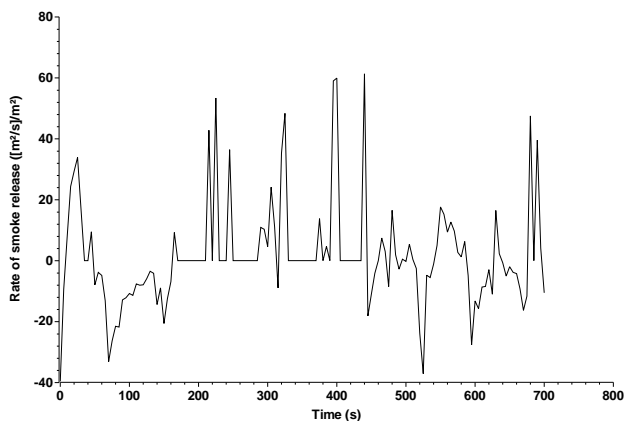
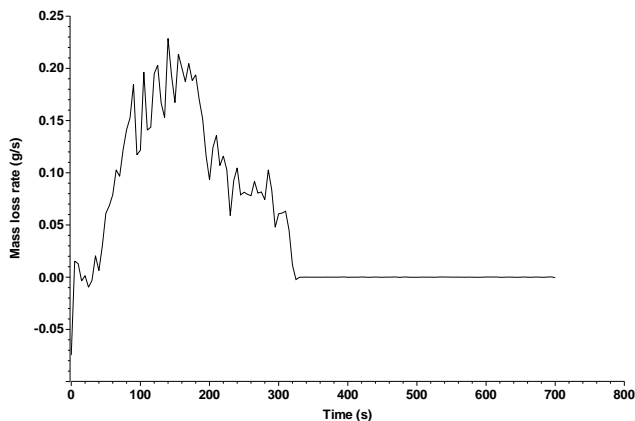
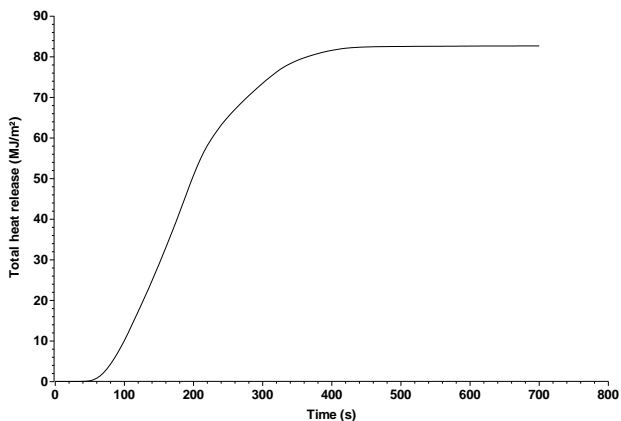
Laboratory name LARPM - CIPET BHUBANESWAR
Operator LARPM
Filename C:\CC5\DATA\21080001.CSV
Report name
Sample description PR-28
Material name/ID Composite material-A



The test results relate to the behaviour of the test specimens of a product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

Cone Calorimeter Test Report

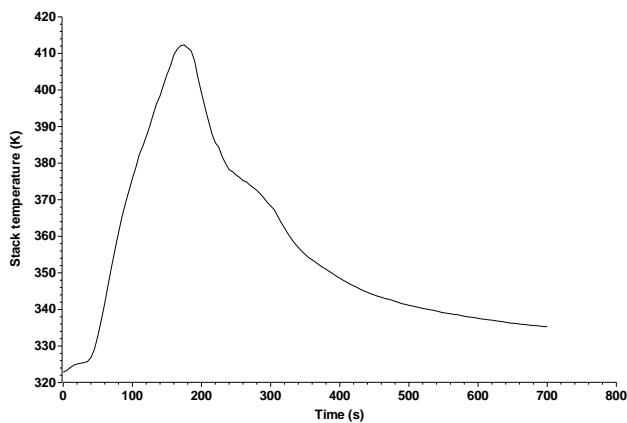
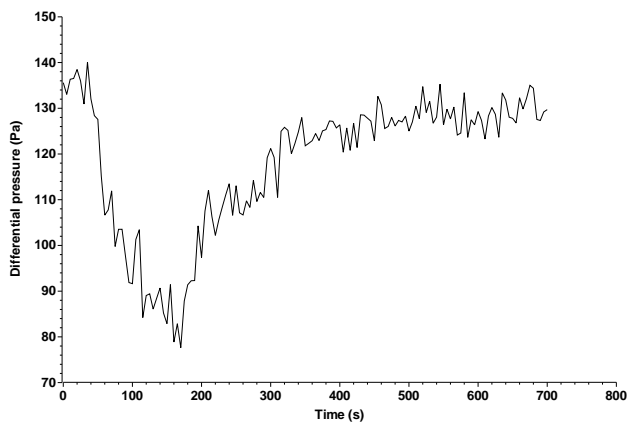
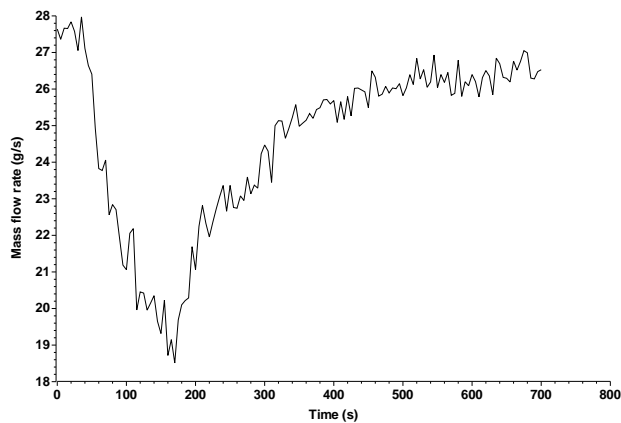
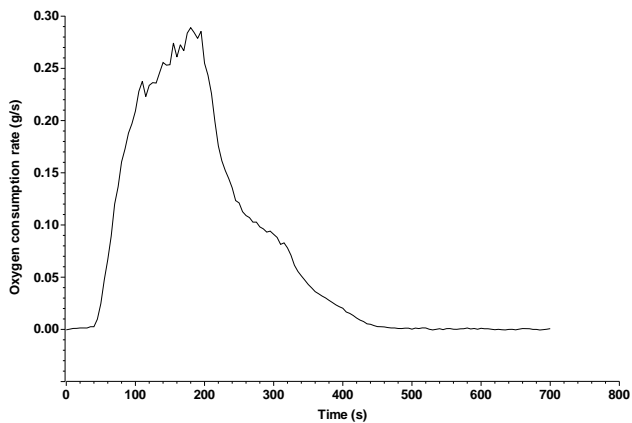
Laboratory name LARPM - CIPET BHUBANESWAR
Operator LARPM
Filename C:\CC5\DATA\21080001.CSV
Report name
Sample description PR-28
Material name/ID Composite material-A



The test results relate to the behaviour of the test specimens of a product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

Cone Calorimeter Test Report

Laboratory name LARPM - CIPET BHUBANESWAR
Operator LARPM
Filename C:\CC5\DATA\21080001.CSV
Report name
Sample description PR-28
Material name/ID Composite material-A



The test results relate to the behaviour of the test specimens of a product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.