



United States

Consumer Product Safety Commission

Camping Tent Flammability Testing Report

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*This report was prepared by the CPSC staff.
It has not been reviewed or approved by,
and may not necessarily reflect the views of,
the Commission.*

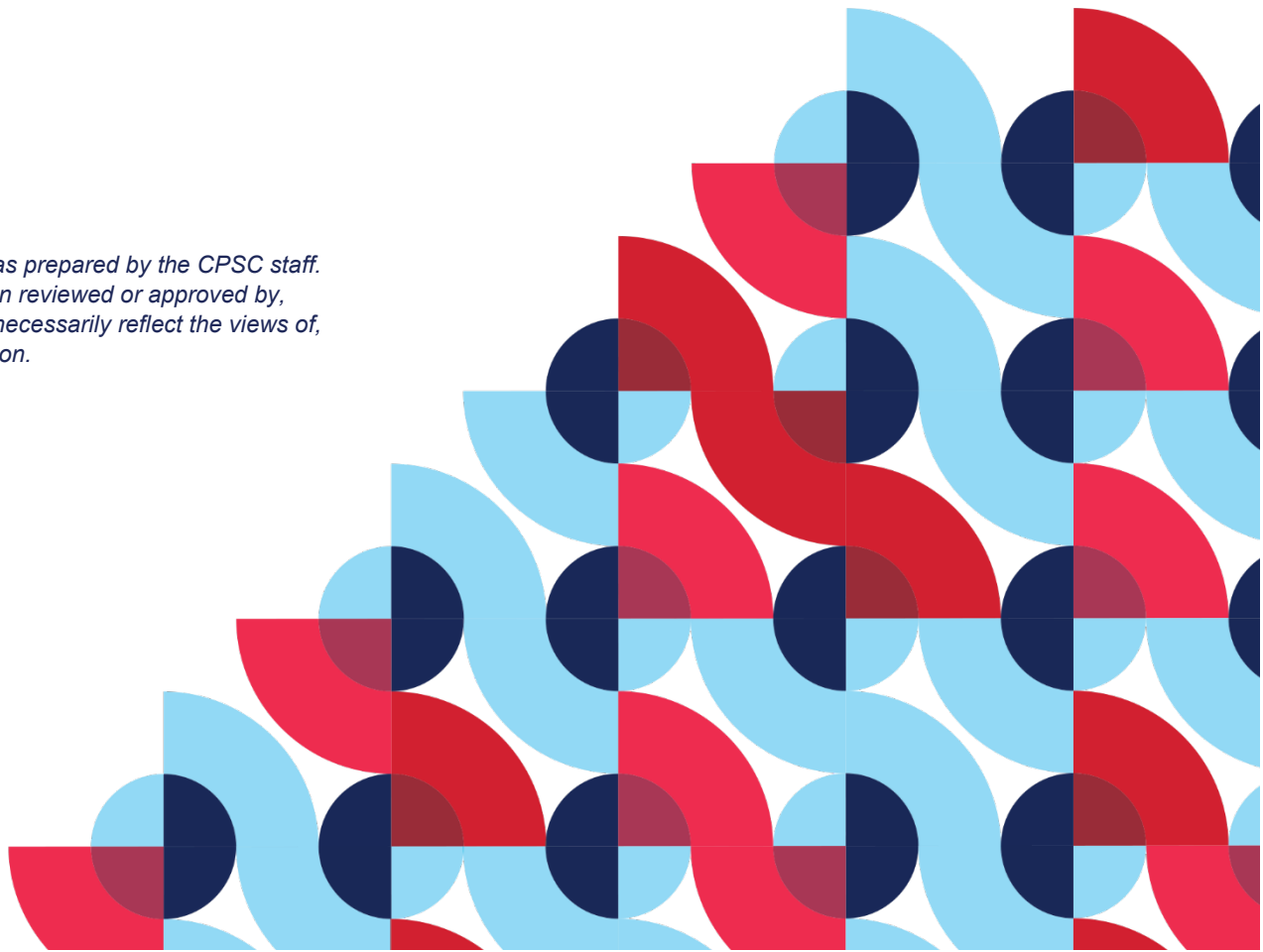


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Preface

CPSC staff prepared this report for ASTM F08.22 Camping Softgoods in support of voluntary standards development. The Commission has not reviewed or approved this report, and it does not necessarily reflect the views of the Commission.

The following staff contributed to this project.

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- Jonathan Kent, General Engineer, LSE
- David Miller, Mathematical Statistician, EPHA

Introduction and Background

The Advanced Textiles Association (ATA), formerly named the Canvas Products Association International (CPAI), in 1976, developed *A Specification for Flame-Resistant Materials Used in Camping Tentage*. ATA developed the standard to reduce fire risk for tents, primarily the fire hazards associated with large paraffin-coated canvas tents that were in use at the time.^{1,2} CPAI revised the standard in 1984 naming it CPAI-84. In 2015, Health Canada and ASTM International identified the need for new or updated standards for tent flammability. In 2020, Health Canada published CAN/CGSB-182.1 *Flammability and Labelling Requirements for Tents* as their proposed standard to replace existing Canadian test requirements that referenced CPAI-84.³ In the same year, ASTM International published ASTM F3431-20 *Standard Specification for Determining Flammability of Materials for Recreational Camping Tents and Warning Labels for Associated Hazards* (ASTM F3431-20), which references the test method in CAN/CGSB-182.1, but also allows tents to be labeled out of flammability testing requirements if the tent is not intended for use with camping stoves or heaters.⁴

CPSC staff raised concerns that the option in ASTM F3431-20, to label subject products and then be exempt from any flammability testing, may reduce safety. The labeling provision does not rest on any objective features such as size, material, or flammability performance. It permits a manufacturer to self-declare that the tent does not have to meet any performance requirements as long as they add a warning label stating that the tent should be kept away from flame and heat sources and don't market the tent as intended for use with camping appliances. Previously under CPAI-84, all tents were required to pass a performance test. Under ASTM F3431-20, a manufacturer can self-certify that their product is exempt from any performance requirements. This is a step backward for safety.

In June 2021, ASTM formed a Task Group under F08.22 to review available test methods and technical data on tentage materials that might support an objective method for evaluating the flammability of tentage materials. CPSC staff proposed that the Task Group develop an appropriate test method, performance requirements, or exemption criteria for certain products based on technical merit or fabric specification, instead of a labeling claim that the products may not be used in a certain manner by consumers. The Task Group found that more data were needed, especially on lightweight tent materials. The Task Group, along with CPSC staff, developed a test plan to characterize the burning characteristics of tent materials and to collect comparison data on a range of tent materials and products. Task Group members provided samples for the study, and CPSC staff conducted testing and collected data.

CPSC staff prepared this report for ASTM F08.22 Camping Softgoods in support of voluntary standards development and includes the complete data collected, and preliminary analysis of the data trends. Staff plans further analysis in 2024 as part of the voluntary standards effort.

Methods and Materials

CPSC staff developed and presented the testing plan at the ASTM F08.22 Camping Softgoods task group meeting where the ASTM committee members agreed upon and finalized the testing plan.

Materials

ASTM F08.22 members submitted for small scale testing 29 fabric-only samples and 15 tent samples, comprised of 38 unique fabrics, for a total of 67 fabric samples. Submitters provided known fabric details including fiber type, fabric weight, thread count, durable water repellent (DWR) chemistry, yarn size, presence of FR, and finishing treatments (see Table 1). CPSC staff verified fabric weight and determined fiber content by solubility and IR spectroscopy. An industry consultant identified samples using a blinded sample identification system. Most samples include a four-digit code. Full tent samples were given a four-digit sample code and the individual fabrics within those tents were given a suffix denoting a particular component according to the key below.

F – Floor (except for 1046F which is the Footprint)

M – Mesh

W – Wall (1046W1 is the lower wall and floor)

R – Rainfly

D – Door

45-degree angle surface ignition tests

CPSC staff subjected tent fabric samples to 45-degree angle surface ignition flammability tests similar to 16 C.F.R 1610 *Standard for the Flammability of Clothing Textiles* with varying flame applications times.⁵ In this test, staff cut ten 2 by 6 inch fabric specimens, cutting five from the horizontal direction and five from the vertical direction of the fabric. Specimens were mounted in a test frame and conditioned in an oven at 105°C for 30 minutes and placed in desiccator until cool before testing. CPSC staff then framed test specimens and placed them in the test cabinet at a 45-degree angle; a flame was applied to the fabric surface for a set time (10 sec, 5 sec, or 1 sec, see Figure 1). Staff recorded the time for the flame to break the stop thread located at the top of the test frame. If the thread did not break, staff recorded the observed burn behavior as did not ignite (DNI) or ignited but extinguished (IBE). The average time was calculated for specimens that burned.

As this is a surface ignition test, staff tested samples with different sides on both sides. A total of 67 fabric samples were tested, 23 of which were tested on both sides due to surface differences, resulting in 90 samples tested totaling 1650 individual specimen tests. Note: to

reduce number of tests, samples were not tested at 5 and 1 second flame application time if they performed well with a 10 second flame application.

Figure 1: 45-degree surface ignition test apparatus



CAN/CGSB-182.1 Flammability and labelling requirements for tents

Staff also tested tent samples to a modified version of CAN/CGSB-182.1 *Flammability and Labelling Requirements for Tents*. Test specimen holders described in 16 C.F.R. § 1615.4(a)(2) were used in place of the specimen holders specified in CAN/CGSB-182.1 Section 5.1.2.3. Although the design of the specimen holders is different, they expose the same fabric specimen area, 2 by 12 inches (51 by 305 mm). The burner design specified in 16 C.F.R. § 1615.4(a)(3) was used in place of the design described in CAN/CGSB-182.1 Section 5.1.2.6. The burner described in 16 C.F.R. part 1615 has a 11 mm inner diameter for the gas tube and is designed to be moved into place below the test specimen from the side. The CPSC burner has an 11 mm inner diameter. The CAN burner has an inner diameter of 9+/-1 mm. The CPSC burner is lit and then moved into place. The CAN burner is moved into place and then ignited below the sample.^{4,6} Staff estimated these differences to have negligible effect on the test results.

In this test, CPSC staff cut ten 70 by 305 mm fabric specimens with five from the horizontal direction and five from the vertical direction of the fabric. Staff placed the specimens in conditioning room at 20 ± 2 °C and 65 ± 5 % relative humidity for at least 12 hours. Staff recorded the mass of each specimen to the nearest 0.001 gram. Just before testing, staff

removed the specimens from conditioning and placed in a sealed container and then tested within 4 minutes of removal from container.

For testing, staff placed specimens vertically in a test cabinet and applied a flame for 12 seconds to the bottom edge of the specimen (see Figure 2). Staff noted the presence of any flaming debris, as defined in CAN/CGSB-182.1 Section 4.2.

Tested specimens were placed back in conditioning room for 20 ± 2 °C and 65 ± 5 % relative humidity for at least 12 hours. The mass of each specimen was then recorded to the nearest 0.001 gram. The damage length was then measured, according to the procedure specified in CAN/CGSB-182.1 Section 5.2.5, using the applicable hooked weight based on the fabric weight of the specimen.

The average percent mass loss and average damage length for the 10 specimens was calculated. Samples were classified as passing or failing according to the performance requirements specified in CAN/CGSB-182.1 Section 5.2.1 which states, "Materials shall, at a minimum, meet the performance requirements for either damage length (5.2.1.1) OR mass loss (5.2.1.2), as well as the criteria for flaming debris (5.2.1.3). Damage length, mass loss and flaming debris shall all be reported."

CPSC staff tested sixty-seven fabric samples for a total of 670 specimen tests. Samples were only tested in as received condition and no testing was done for leaching and weather conditions required in CAN/CGSB-182.1.

Figure 2: CGSB-182.1 test set up



Oxygen Bomb Calorimetry

The heats of combustion for the fabric samples were determined using oxygen bomb calorimetry. In this test, fabric samples were cut and stacked in the sample pan. The weight of the sample was recorded to the nearest 0.0001 gram with a sample target weight between 0.7500 and 1.0000 grams.

A fuse wire was then strung between the two electrode poles and bent so that it was touching the sample. The sample was then sealed in the bomb and the bomb was pressurized with oxygen to approximately 30 atmospheres. The bomb was then purged and refilled with oxygen 3 times.

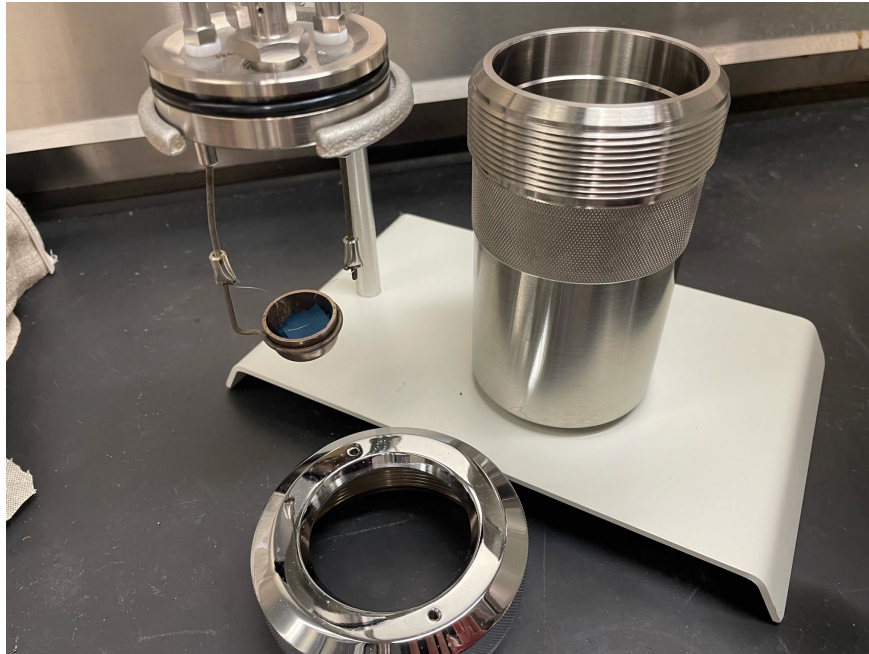
The bomb was then submerged in a bucket containing 2000.0 ± 0.5 grams of deionized water inside the plain jacketed calorimeter.

The test run was then started on the calorimeter control unit and temperature readings of the water were automatically recorded by the unit. Once a stable initial temperature had been reached, the sample was ignited and the temperature of the surrounding water was measured over the course of the experiment. From the temperature rise, the heat of combustion of the sample was calculated automatically by the calorimeter control unit. At the end of the test the

bomb was depressurized and cleaned with deionized water and isopropyl alcohol before the next test.

Three specimens from each sample were tested and the average heat of combustion was calculated. A total of 67 fabric samples were tested in triplicate resulting in 201 individual tests.

Figure 3: Oxygen Bomb

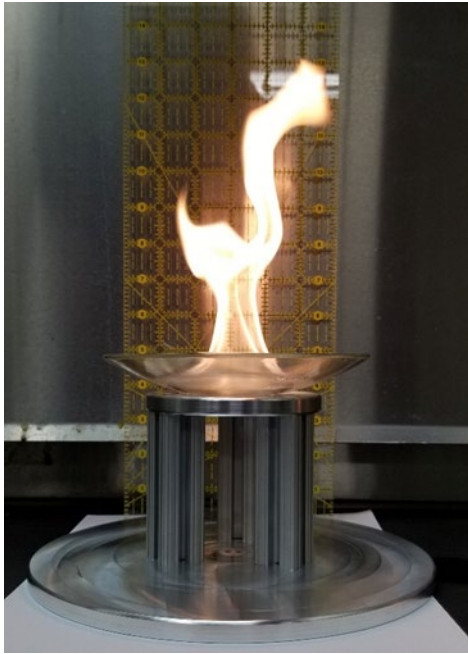


Full Scale Tent Testing

Full scale tent tests with a 3-meter furniture calorimeter were conducted on 15 tent samples. All tents were conditioned for at least 24 hours before testing at 18-25 °C and less than 55% relative humidity. A burner stand with a 9-inch base diameter and 4-inch height was used to hold a 6-inch watch glass in which 10 ml of isopropyl alcohol was placed and ignited (see Figure 4). The burner was positioned in the corner of the tent before ignition. The tests were video recorded from two positions. Observations of the test were recorded, and heat release rate and total heat release were obtained from calorimeter.

Fifteen different tent samples were tested with a total of 30 individual tests.

Figure 4: Tent Burner



Results

Appendix, Tables 2, 3 and 4, respectively, report the individual specimen burn times and burn codes and the average burn time for 45-degree angle surface ignition tests with 10 sec, 5 second, and 1 second flame application times.

The average percent mass loss, average damage length, and pass or fail determination for CAN/CGSB-182.1 tests in as received condition are reported in the Appendix in Table 5 while the individual test specimen data for these tests are reported in the raw data section of the Appendix.

Average heats of combustion were calculated for each sample from bomb calorimetry testing and are reported in Table 6 along with individual specimen data.

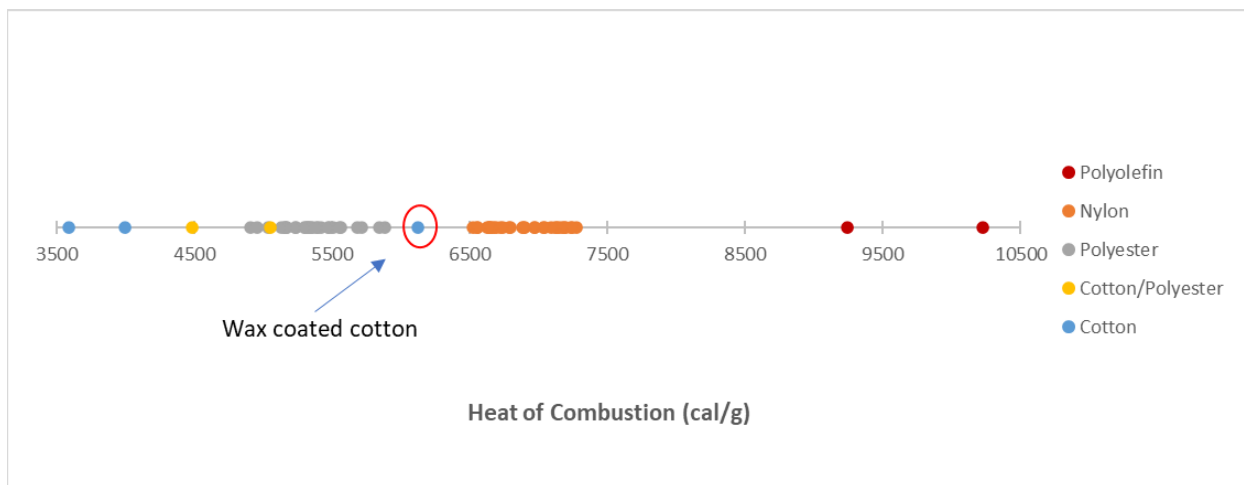
Full scale tent testing, observations, heat release rate, and total heat release are reported in the Appendix.

Discussion and Analysis

The fuel load and the likelihood that the material will ignite and continue to burn are important factors when considering the flammability hazard of a camping tent.

Oxygen bomb calorimetry tests, which are conducted in an oxygen rich environment, gave insight into how much energy is released when the fuel is burned, but is not useful for determining how likely it is to start burning, continue burning, or to self-extinguish. As expected, staff did not observe a large difference in the gross heat of combustion when comparing FR treated and non-FR treated versions of the same fabric as FR treatments decrease the risk of ignition, but won't significantly contribute to the heat of combustion if the entire sample is completely burned. There was a general trend in increasing heat of combustion by fiber type going from cotton as the lowest, to polyester, to nylon, to polyolefin with the highest heat of combustion as shown in Figure 5. The only outlier from this trend was the waxed cotton tent, where the waxed cotton coating contributed to the increased heat of combustion.

Figure 5: Trend in Increasing Heat of Combustion by Fiber Type



The 45-degree angle surface ignition tests and the CAN/CGSB-182.1 test both give insight into likelihood that the fabric will ignite and continue to burn in different scenarios. Incident data suggests that most tent ignitions occur from the inside of a tent.⁷ As there are not many fabric edges inside a tent, a surface ignition would be a more likely scenario. The 45-degree angle test would simulate a surface ignition scenario which could occur inside a tent. Compared to CAN/CGSB-182.1, this is a quick test even when testing both sides of the fabric. Because CAN/CGSB-182.1 is an edge ignition test the surface coating differences can be ignored unlike the 45-degree angle surface ignition tests. The mass loss measurements and the requirement in

CAN/CGSB-182.1 to test in as received, weathered, and leaching conditions make this a labor-intensive test when compared to the 45-degree angle surface ignition test.

Observations from the full-scale tent test indicate that the geometry of the tent was an important factor to consider. In particular, the angle of the sloping tent wall over the burner placed in the tent corner was important as it determined how close the tent wall fabric was to the ignition source flame. One full scale tent test also revealed that smoke and CO trapped within a burning tent could also pose a safety hazard.

Conclusions and Future Work

Data in this study were collected to support finding an objective method for evaluating the flammability of tentage materials and to find an alternative to the current labelling of tents not intended for use with camping appliances out of flammability testing under ASTM F3431-20. From preliminary analysis of the data generated in this study, no obvious overall trends were identified that would yield clear performance-based criteria to exempt certain products from testing based on fabric specification. CPSC staff recommend all fabric types should meet flammability performance requirements or objective exemption criteria. In order to determine requirements, more complex analysis will be required to identify flammability trends that will support an appropriate test method and performance criteria for tentage materials. CPSC staff plans to further analyze the data presented in this report in 2024 if resources are available. The planned analysis may look for overall trends in flammability performance tests as well as trends within subcategories, while considering fabric properties such as fabric weight, fiber type, yarn size, and yarn count. The ASTM Subcommittee and Task Group is expected to revise the voluntary standard once a methodology is finalized.

References

- 1) Advanced Textiles Association. <https://www.textiles.org/>. Accessed July 2023.
- 2) CPAI-84 A Specification for Flame-Resistant Materials Used in Camping Tentage
- 3) CAN/CGSB-182.1-2020 Flammability and labelling requirements for tents
- 4) ASTM F3431-2021 Standard Specification for Determining Flammability of Materials for Recreational Camping Tents and Warning Labels for Associated Hazards
- 5) 16 C.F.R. part 1610 Standard for the Flammability of Clothing Textiles
- 6) 16 C.F.R part 1615 Standard for the Flammability of Children's Sleepwear: Sizes 0 Through 6X (FF 3-71)
- 7) Miller, David. CPSC Memorandum to Allyson Tenney. Incidents Involving Tents between 2010 and 2015. May 2017.

Appendix

Table 1: Material Data Provided by Sample Submitters

Sample #	Fiber Content	Finished Weight (gsm)	Yarn Size / Denier	Density - Yarn Count/Per Inch	FR Present	Finishing Treatments % by Weight/Confidential (e.g. % siliconized)*	DWR % by Weight / Confidential DWR Chemistry Type if known **	Total Weight of Finishings (gsm)
89	100 Nylon	75	70D	106*80	NON FR	calc finishing	C6	14
182	100 Nylon	51	30D	128*134	NON FR	calc finishing	SILICONE	13
593	100 Nylon	54	30D	134*124	NON FR	calc finishing	SILICONE	16
594	100 Nylon	127	180D	65*49	NON FR	calc finishing	SILICONE	18
595	100 Nylon	81	70D	106*80	NON FR	calc finishing	SILICONE	20
597	100 Nylon	63	40D	128*108	NON FR	calc finishing	SILICONE	19
646	100 Nylon	53	20D X 20D	200 X 186	NON FR	AROUND 20%	NOT	17
677	100 Nylon	57	30D	135*135	NON FR	calc finishing	C6	20
966	100 Polyester	69	68D	123X87	NON FR	PU 22% of total wt	1% of total wt.	16
981	100 Nylon	53	20D X 20D	200 X 186	NON FR	AROUND 20%	NOT	17
1020	100 Polyester	125	210Dx210 D	62/52	with FR	24%	C6	not avail
1021	100 Polyester	120	210Dx210 D	62/54	NON FR	16.60%	C6	not avail
1022	100 Polyester	280	600Dx600 D	42/28	with FR	17.80%	C6	not avail
1023	100 Polyester	260	600Dx600 D	42/28	NON FR	11.30%	C6	not avail
1024	100 Polyester	120	mesh	not avail	with FR	not avail	none	not avail
1025	100 Polyester	120	mesh	not avail	NON FR	not avail	none	not avail
1026	65/35 PolyCotton	280	S21x21	106Dx58D	with FR	30-35%	C6	80
1027	65/35 PolyCotton	280	S16x16	104Dx54D	NON FR	10-15%	C6	25
1028	100 Nylon	37	15D	353 T	with FR	SIL/PEU	C0	9
1029	100 Nylon	37	15D	400T	with FR	SIL/PEU	C0	9
1030	100 Nylon	52	20D	312T	with FR	SIL/PEU	C0	19
1031	100 Nylon	72	30D	263T	with FR	SIL/PEU	C0	32
1032	100 Nylon	31	20D	312T	with FR	uncoated	C0	N/A

Sample #	Fiber Content	Finished Weight (gsm)	Yarn Size / Denier	Density - Yarn Count/Per Inch	FR Present	Finishing Treatments % by Weight/Confidential (e.g. % siliconized)*	DWR % by Weight / Confidential	DWR Chemistry Type if known **	Total Weight of Finishings (gsm)
1033	100 Nylon	38	15D	400T	NON FR	SIL/PEU	C6		10
1034	100 Nylon	38	15D	400T	NON FR	SIL/PEU	C6		10
1035	100 Nylon	45	20D	330T	NON FR	SIL/PEU	C6		14
1036	100 Nylon	54	30D	270T	NON FR	SIL/PEU	C6		15
1037	100 Nylon	30	20D	330T	with FR	uncoated	C6		N/A
1038	100 Nylon	30	20D	312T	NON FR	uncoated	C0		N/A
1101	100 Nylon	40.1	15D	400T	with FR	PU, Silicone	None		10
1102	100 Nylon	38.6	15D	400T	NON FR	PU, Silicone	None		8
1103	100 Cotton	348.6	443D	138 TC	with FR	PU	C6		78.6
1104	100 Cotton	281.1	443D	138 TC	NON FR	PU	C0		11.1
1105	100 Cotton	375.5	443D	138 TC	NON FR	Wax	None		36.5
1039F	100 Polyester	110	150D	84x53/in	NON FR		C6		
1039M	100 Polyester	50	40D	N/A	NON FR		C6		
1039R	100 Polyester	71	75D	102x81/in	NON FR		C6		
1039W	100 Polyester	71	75D	102x81/in	NON FR		C6		
1040F	100 Polyester	65	68D	102x81/in	NON FR		C6		
1040M	100 Polyester	50	40D	N/A	NON FR		C6		
1040R	100 Polyester	70	75D	102x81/in	NON FR		C6		
1041F	100 Polyester	110	150D	84x53/in	with FR		C6		
1041M	100 Polyester	50	40D	N/A	with FR		C6		
1041R	100 Polyester	71	75D	102x81/in	with FR		C6		
1041W	100 Polyester	71	75D	102x81/in	with FR		C6		
1042F	60/40 HDPE/LDPE	130	1000 Denier	12X10	with FR	0.05	-		6.5
1042M	100 Polyester	42	68D/24F	8.2L/CM	NON FR	-	-		42

Sample #	Fiber Content	Finished Weight (gsm)	Yarn Size / Denier	Density - Yarn Count/Per Inch	FR Present	Finishing Treatments % by Weight/Confidential (e.g. % siliconized)*	DWR % by Weight / Confidential DWR Chemistry Type if known **	Total Weight of Finishings (gsm)
1042R	100 Polyester	85	68D	190T	with FR	0.3511	0.0018	29.8
1042W	100 Polyester	85	68D	190T	with FR	0.3511	0.0018	29.8
1043F	100 LDPE	130		10*10	with FR	0.05		6.5
1043M	100 Polyester	38	68D					38
1043R	100 Polyester	55	68D	100*85T	with FR	0.1	0.002	5.5
1043W	100 Polyester	55	68D	100*85T	with FR	0.1	0.002	5.5
1044D	100 Polyester	73	75D	252x198	NON FR	PU	C6	
1044F	100 Polyester	100	150D	85x32	NON FR	PU	C6	
1044M	100 Nylon	47	40D/10F	28 gauge	with FR	none	none	
1044R	100 Polyester	73	75D	252x198	NON FR	PU	C6	
1044W	100 Polyester	72	75D	112x86	NON FR	none	C6	
1045F	100 Nylon	68	70D	170T	with FR	PU	C6	
1045M	100 Nylon	30	20D/1F	20 gauge	NON FR	none	none	
1045R	100 Nylon	68	40D	130x108	with FR	PU	C6	
1045W	100 Nylon	46	40D	130x108	with FR	None	C6	
1046F	100 Polyester	60	40D	130x108	NON FR	PU	C6	
1046M	100 Nylon	30	20D/1F	20 gauge	NON FR	none	none	
1046R	100 Nylon	54	30D/24F	130x112	NON FR	PU	C6	
1046W1	100 Nylon	60	40D	130x108	NON FR	PU	C6	
1046W2	100 Nylon	47	40D	130x108	NON FR	none	C6	

Table 2: 1610 Test 10 Second Flame Application

Sample #	Specimen #	1	2	3	4	5	6	7	8	9	10	Average Time
Burn Direction		V	V	V	V	V	H	H	H	H	H	
677	Time/Code	DNI	10.7	DNI	DNI	DNI	DNI	9.9	DNI	DNI	9.2	9.9
89	Time/Code	9.9	DNI	IBE	IBE	11.8	IBE	12.6	12.6	DNI	DNI	11.7
593	Time/Code	14.1	14.3	7.8	7.6	9.8	14.4	15.5	15.9	13.7	15.3	12.8
594	Time/Code	19.4	20.6	17.1	19.1	DNI	21.9	18.9	DNI	19.1	DNI	19.4
595	Time/Code	12.4	12.6	IBE	12.8	IBE	IBE	IBE	IBE	IBE	IBE	12.6
597	Time/Code	15.0	11.6	11.0	13.5	13.3	13.4	14.2	10.8	18.3	8.7	13.0
182	Time/Code	7.3	10.7	12.3	13.0	11.3	10.0	6.8	7.1	7.8	7.4	9.4
966	Time/Code	10.0	8.8	10.1	10.3	8.7	16.2	12.3	10.9	10.8	10.9	10.9
981	Time/Code	8.5	8.8	7.8	6.3	11.7	7.5	8.3	8.2	7.5	7.4	8.2
646	Time/Code	6.9	7.2	8.0	6.9	7.9	9.1	8.3	7.4	7.4	7.1	7.6
1020A	Time/Code	DNI	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	N/A
1020B	Time/Code	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	N/A
1021	Time/Code	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	N/A
1022A	Time/Code	IBE	IBE	IBE	DNI	IBE	IBE	IBE	IBE	IBE	IBE	N/A
1022B	Time/Code	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	N/A
1023A	Time/Code	41.0	DNI	44.4	42.4	32.9	51.1	30.7	42.4	51.3	28.4	40.5
1023B	Time/Code	22.5	23.9	21.8	24.6	22.9	22.5	27.0	24.6	20.9	21.2	23.2
1024	Time/Code	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	N/A
1025	Time/Code	14.7	12.9	11.6	14.1	11.6	13.6	14.7	13.7	14.6	14.0	13.6
1026A	Time/Code	DNI	DNI	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	N/A
1026B	Time/Code	DNI	DNI	DNI	DNI	DNI	IBE	IBE	IBE	IBE	IBE	N/A
1027A	Time/Code	DNI	41.7	DNI	IBE	DNI	DNI	DNI	DNI	DNI	DNI	41.7
1027B	Time/Code	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	95.8	95.8
1028	Time/Code	7.3	6.4	6.8	6.7	6.6	7.5	6.1	5.7	6.9	6.8	6.7
1029	Time/Code	8.0	5.6	7.8	7.4	5.4	5.7	5.4	5.7	5.3	6.3	6.3
1030	Time/Code	14.9	7.6	15.7	17.1	11.5	8.3	17.2	6.7	7.4	8.4	11.5
1031	Time/Code	9.4	11.7	14.1	14.2	10.5	IBE	11.5	9.4	11.3	9.1	11.2
1032	Time/Code	IBE	IBE	7.9	7.4	IBE	5.1	5.7	5.1	5.4	5.2	6.0
1033	Time/Code	5.0	5.4	5.0	8.0	6.3	5.0	4.9	4.9	4.9	5.3	5.5
1034	Time/Code	8.3	7.7	5.3	6.3	6.2	5.5	7.9	8.5	7.4	7.8	7.1
1035	Time/Code	6.8	13.5	12.0	12.3	7.8	14.2	12.4	13.3	5.3	7.2	10.5
1036	Time/Code	7.5	9.1	8.0	15.9	8.2	11.6	13.7	6.9	15.7	16.2	11.3

Sample #	Specimen #	1	2	3	4	5	6	7	8	9	10	Average Time
	Burn Direction	V	V	V	V	V	H	H	H	H	H	
1037	Time/Code	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	N/A
1038	Time/Code	7.1	5.1	6.1	5.9	6.8	4.9	5.9	4.3	4.8	5.1	5.6
1040R-A	Time/Code	IBE	16.5	13.0	IBE	IBE	16.0	13.7	13.8	14.9	15.1	14.7
1040R-B	Time/Code	IBE	14.2	10.0	12.1	9.7	13.9	11.3	10.3	8.4	11.0	11.2
1040M	Time/Code	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	N/A
1040F-A	Time/Code	IBE	IBE	IBE	IBE	IBE	DNI	IBE	DNI	DNI	DNI	N/A
1040F-B	Time/Code	IBE	IBE	IBE	8.6	IBE	IBE	IBE	11.2	DNI	IBE	9.9
1101	Time/Code	7.9	4.9	8.7	4.8	5.4	9.2	8.2	5.0	9.4	14.1	7.8
1102	Time/Code	5.3	8.0	6.4	4.7	6.9	4.2	4.2	4.5	4.3	4.4	5.3
1103	Time/Code	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	N/A
1104	Time/Code	43.5	47.7	41.2	49.1	56.1	52.0	43.4	49.8	39.8	47.2	47.0
1105	Time/Code	DNI	41.0	40.4	DNI	DNI	39.3	37.7	37.8	37.5	37.1	38.7
1039F-A	Time/Code	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	N/A
1039F-B	Time/Code	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	N/A
1039W-A	Time/Code	11.8	16.5	IBE	16.9	IBE	11.6	11.3	10.6	9.9	12.5	12.6
1039W-B	Time/Code	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	N/A
1039M	Time/Code	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	N/A
1039R-A	Time/Code	IBE	IBE	IBE	IBE	IBE	IBE	IBE	12.3	IBE	IBE	12.3
1039R-B	Time/Code	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	N/A
1041F-A	Time/Code	IBE	IBE	IBE	IBE	IBE	IBE	23.3	IBE	IBE	IBE	23.3
1041F-B	Time/Code	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	N/A
1041W-A	Time/Code	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	N/A
1041W-B	Time/Code	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	N/A
1041M	Time/Code	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	N/A
1041R-A	Time/Code	10.9	IBE	IBE	IBE	IBE	9.9	16.8	11.4	14.2	17.1	13.4
1041R-B	Time/Code	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	N/A
1042F	Time/Code	IBE	25.3	36.9	IBE	39.5	IBE	IBE	IBE	IBE	IBE	33.9
1042W-A	Time/Code	21.0	18.1	IBE	12.2	16.2	13.5	11.6	14.0	IBE	12.4	14.9
1042W-B	Time/Code	9.8	10.5	9.6	9.9	8.8	10.5	9.9	9.5	9.7	8.1	9.6
1042M	Time/Code	IBE	IBE	IBE	IBE	IBE	IBE	IBE	27.7	16.7	IBE	22.2

Sample #	Specimen #	1	2	3	4	5	6	7	8	9	10	Average Time
	Burn Direction	V	V	V	V	V	H	H	H	H	H	
1042R-A	Time/Code	IBE	IBE	IBE	24.2	IBE	13.7	IBE	IBE	IBE	IBE	19.0
1042R-B	Time/Code	9.5	10.7	IBE	12.1	8.3	9.3	9.4	9.2	9.3	9.0	9.6
1043F	Time/Code	35.2	IBE	IBE	IBE	IBE	34.1	IBE	IBE	37.6	IBE	35.6
1043W	Time/Code	IBE	IBE	IBE	IBE	IBE	15.0	11.5	IBE	18.8	IBE	15.1
1043M	Time/Code	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	N/A
1043R	Time/Code	IBE	12.8	10.1	13.5	11.3	IBE	IBE	IBE	IBE	IBE	11.9
1044F-A	Time/Code	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	N/A
1044F-B	Time/Code	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	N/A
1044D	Time/Code	10.3	10.7	10.4	10.3	10.1	10.3	10.3	10.9	11.1	8.3	10.3
1044W-A	Time/Code	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	N/A
1044W-B	Time/Code	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	N/A
1044M	Time/Code	IBE	17.8	IBE	9.3	IBE	IBE	11.1	IBE	IBE	IBE	12.7
1044R-A	Time/Code	IBE	IBE	IBE	IBE	12.1	9.8	IBE	IBE	IBE	IBE	11.0
1044R-B	Time/Code	12.0	IBE	17.1	IBE	IBE	IBE	IBE	IBE	IBE	IBE	14.6
1045F-A	Time/Code	11.0	11.0	9.7	8.8	9.8	16.2	10.0	11.2	11.0	13.5	11.2
1045F-B	Time/Code	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	N/A
1045M	Time/Code	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	N/A
1045W	Time/Code	IBE	IBE	IBE	IBE	IBE	IBE	IBE	12.3	13.3	IBE	12.8
1045R-A	Time/Code	9.7	8.5	9.2	10.5	IBE	IBE	IBE	IBE	IBE	IBE	9.5
1045R-B	Time/Code	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	N/A
1046F-A	Time/Code	IBE	IBE	11.4	22.8	10.6	15.8	IBE	21.8	15.5	IBE	16.3
1046F-B	Time/Code	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	18.1	18.1
1046W1-A	Time/Code	12.2	9.9	9.8	9.6	10.1	9.1	11.6	8.7	9.4	9.7	10.0
1046W1-B	Time/Code	14.0	IBE	IBE	IBE	IBE	IBE	IBE	IBE	14.2	IBE	14.1
1046W2	Time/Code	IBE	12.7	IBE	IBE	IBE	IBE	IBE	IBE	IBE	14.3	13.5
1046M	Time/Code	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	N/A
1046R-A	Time/Code	8.5	IBE	7.3	IBE	8.1	7.2	8.2	7.7	7.8	13.9	8.6
1046R-B	Time/Code	9.3	11.0	IBE	IBE	IBE	IBE	IBE	IBE	IBE	7.6	9.3

Table 3: 1610 Test 5 Second Flame Application

Sample #	Specimen #	1	2	3	4	5	6	7	8	9	10	Average Time
	Burn Direction	V	V	V	V	V	H	H	H	H	H	
677	Time/Code	IBE	IBE	IBE	IBE	IBE	IBE	IBE	9.4	IBE	IBE	9.4
89	Time/Code	14.4	10.0	10.0	IBE	10.9	IBE	IBE	IBE	IBE	IBE	11.3
593	Time/Code	9.5	10.9	16.8	8.8	11.9	7.7	11.3	7.6	7.7	7.8	10.0
594	Time/Code	16.5	IBE	16.9	DNI	19.1	16.5	DNI	DNI	22.5	17.3	18.1
597	Time/Code	10.4	11.5	14.9	13.6	11.0	14.4	11.8	12.9	12.2	12.2	12.5
182	Time/Code	11.7	7.0	9.0	7.7	6.1	9.1	11.6	12.1	7.3	11.8	9.3
966	Time/Code	9.7	14.2	10.3	15.1	11.8	IBE	10.1	11.3	9.6	8.3	11.2
981	Time/Code	8.2	9.4	8.1	6.7	8.3	8.1	7.8	7.0	5.7	7.2	7.7
646	Time/Code	6.7	6.3	7.5	7.3	9.5	7.6	8.2	7.4	8.1	5.8	7.4
1023A	Time/Code	28.6	DNI	DNI	DNI	DNI	DNI	DNI	30.4	DNI	DNI	29.5
1023B	Time/Code	23.8	DNI	DNI	DNI	23.3	21.9	DNI	DNI	DNI	DNI	23.0
1025	Time/Code	15.3	16.0	19.9	16.0	15.6	14.4	14.1	13.8	13.9	12.5	15.2
1028	Time/Code	6.9	6.1	6.4	7.0	5.8	6.3	6.2	8.1	7.6	8.8	6.9
1029	Time/Code	5.9	8.3	5.7	6.8	IBE	5.4	6.1	5.8	7.6	7.6	6.6
1030	Time/Code	11.2	7.6	7.6	7.9	7.2	8.9	12.7	10.9	9.0	7.2	9.0
1031	Time/Code	11.4	11.8	12.1	11.0	14.7	11.1	12.9	11.1	11.0	9.3	11.6
1032	Time/Code	9.5	7.4	7.3	6.9	6.9	5.5	5.1	5.4	8.2	5.1	6.7
1033	Time/Code	4.9	8.0	5.4	5.5	7.0	5.7	5.2	6.8	6.1	6.1	6.1
1034	Time/Code	9.1	8.2	8.9	9.1	10.6	7.3	4.8	5.5	7.7	5.9	7.7
1035	Time/Code	11.3	6.1	5.4	7.3	6.0	7.1	5.7	11.3	7.4	14.7	8.2
1036	Time/Code	10.5	7.1	7.4	11.0	11.3	13.5	8.0	13.4	7.3	11.3	10.1
1038	Time/Code	6.4	IBE	5.7	7.5	6.7	5.1	4.7	5.0	4.7	5.5	5.7
1040R A	Time/Code	13.2	14.5	12.5	13.6	21.8	15.8	15.9	16.6	16.7	14.1	15.5
1040R B	Time/Code	10.1	9.7	9.9	11.3	11.2	10.5	8.7	9.6	9.3	9.3	10.0
1101	Time/Code	6.2	5.5	4.8	5.0	6.0	6.5	9.5	6.3	5.5	8.6	6.4
1102	Time/Code	5.1	7.3	7.6	7.4	5.4	5.5	5.8	5.5	4.9	5.7	6.0
1104	Time/Code	52.5	DNI	57.5	57.3	DNI	48.4	47.0	51.4	50.3	DNI	52.1
1105	Time/Code	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	N/A
1039W-A	Time/Code	IBE	IBE	IBE	IBE	IBE	12.2	13.9	10.9	9.9	13.2	12.0
1041R-A	Time/Code	17.6	IBE	IBE	IBE	IBE	16.7	19.2	IBE	15.1	10.6	15.8

Sample #	Specimen #	1	2	3	4	5	6	7	8	9	10	Average Time
Burn Direction		V	V	V	V	V	H	H	H	H	H	
1042W-A	Time/Code	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	N/A
1042W-B	Time/Code	10.0	10.7	IBE	9.4	10.1	10.3	10.3	9.6	9.1	10.4	10.0
1042R-B	Time/Code	11.8	9.0	8.9	8.8	9.6	10.9	8.5	9.6	9.0	9.3	9.5
1043R	Time/Code	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	N/A
1044D	Time/Code	10.2	10.4	9.8	10.1	10.0	10.9	11.1	11.2	10.8	10.6	10.5
1045F-A	Time/Code	IBE	IBE	13.2	13.1	IBE	15.0	9.7	12.8	11.4	10.1	12.2
1045R-A	Time/Code	IBE	9.6	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	9.6
1046F-A	Time/Code	11.3	9.0	11.6	9.6	10.1	12.6	IBE	11.7	IBE	IBE	10.8
1046W1-A	Time/Code	9.6	12.0	IBE	11.8	12.6	8.3	IBE	8.8	8.8	IBE	10.3
1046R-A	Time/Code	10.1	8.7	15.2	12.6	10.6	9.1	7.6	12.6	IBE	IBE	10.8

Table 4: 1610 Test 1 Second Flame Application

Sample #	Specimen #	1	2	3	4	5	6	7	8	9	10	Average Time
Burn Direction		V	V	V	V	V	H	H	H	H	H	
89	Time/Code	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	N/A
593	Time/Code	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	N/A
594	Time/Code	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	N/A
597	Time/Code	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	N/A
182	Time/Code	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	N/A
966	Time/Code	DNI	DNI	DNI	DNI	DNI	DNI	DNI	13.1	DNI	DNI	13.1
981	Time/Code	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	N/A
646	Time/Code	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	N/A
1023A	Time/Code	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	N/A
1023B	Time/Code	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	N/A
1025	Time/Code	DNI	DNI	13.8	12.3	DNI	DNI	DNI	DNI	DNI	15.2	13.8
1028	Time/Code	DNI	DNI	IBE	DNI	DNI	7.8	DNI	6.4	8.5	6.4	7.3
1029	Time/Code	DNI	5.0	DNI	DNI	5.8	6.0	DNI	DNI	6.0	DNI	5.7
1030	Time/Code	DNI	DNI	DNI	7.2	DNI	DNI	DNI	DNI	DNI	DNI	7.2

Sample	Specimen #	1	2	3	4	5	6	7	8	9	10	Average Time
	Burn Direction	V	V	V	V	V	H	H	H	H	H	
1031	Time/Code	DNI	IBE	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	N/A
1032	Time/Code	IBE	6.4	8.4	7.8	7.1	5.3	5.7	5.3	4.9	5.0	6.2
1033	Time/Code	DNI	DNI	4.1	4.4	5.2	DNI	5.6	DNI	6.6	DNI	5.2
1034	Time/Code	DNI	DNI	DNI	DNI	DNI	6.0	5.8	5.3	DNI	DNI	5.7
1035	Time/Code	DNI	DNI	DNI	4.8	DNI	DNI	DNI	DNI	DNI	5.8	5.3
1036	Time/Code	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	N/A
1038	Time/Code	4.7	5.5	4.1	4.6	5.0	5.3	6.0	5.6	5.9	5.3	5.2
1040R A	Time/Code	DNI	IBE	DNI	IBE	IBE	16.3	DNI	DNI	17.0	DNI	16.7
1040R B	Time/Code	10.1	DNI	11.8	9.4	10.5	16.8	DNI	DNI	9.6	11.1	11.3
1101	Time/Code	8.5	5.3	5.7	9.1	9.7	DNI	DNI	DNI	DNI	5.6	7.3
1102	Time/Code	4.2	DNI	6.6	6.6	4.5	4.3	4.3	5.9	6.0	4.3	5.2
1104	Time/Code	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	N/A
1039W-A	Time/Code	IBE	IBE	IBE	IBE	IBE	IBE	12.1	11.7	16.4	IBE	13.4
1041R-A	Time/Code	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	IBE	N/A
1042W-B	Time/Code	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	N/A
1042R-B	Time/Code	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	N/A
1044D	Time/Code	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	N/A
1045F-A	Time/Code	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	N/A
1046F-A	Time/Code	DNI	DNI	DNI	12.1	DNI	IBE	12.0	DNI	DNI	DNI	12.1
1046W1-A	Time/Code	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	DNI	N/A
1046R-A	Time/Code	7.8	DNI	DNI	DNI	7.7	DNI	IBE	DNI	IBE	DNI	7.8

Table 5: CAN/CGSB-182.1 Test Mass Loss, Char Length, and Flaming Debris

Sample Number	Mass Loss	Char Length	Flaming Debris	Overall Pass/Fail	Average % Mass Loss	Average Char (mm)	Fabric Weight (g/m2)
677	Pass	Pass	Pass	Pass	0.0	138	59.5
89	Pass	Pass	Pass	Pass	0.6	129.6	74.3
593	Fail	Fail	Pass	Fail	31.9	282.4	58
594	Fail	Fail	Pass	Fail	33.6	286.2	122.5
595	Pass	Pass	Pass	Pass	0.3	121.6	80.2
597	Fail	Fail	Pass	Fail	21.9	288.4	70

Sample Number	Mass Loss	Char Length	Flaming Debris	Overall Pass/Fail	Average % Mass Loss	Average Char (mm)	Fabric Weight (g/m2)
182	Fail	Fail	Pass	Fail	17.5	234.3	53.7
966	Pass	Pass	Pass	Pass	0.8	140.8	71.7
981	Fail	Fail	Pass	Fail	53.8	305.0	46
646	Fail	Fail	Pass	Fail	55.3	305.0	46
1020	Pass	Pass	Pass	Pass	0.5	119.4	140
1021	Pass	Pass	Pass	Pass	1.1	122.7	108.5
1022	Pass	Pass	Pass	Pass	1.0	98.4	281.5
1023	Fail	Fail	Fail	Fail	40.0	304.0	283.7
1024	Pass	Pass	Pass	Pass	0.7	125.0	121
1025	Fail	Fail	Fail	Fail	32.6	281.9	120.5
1026	Fail	Fail	Pass	Fail	9.5	158.1	296.5
1027	Fail	Fail	Pass	Fail	69.0	305.0	211.3
1028	Pass	Pass	Pass	Pass	5.2	142.1	38.7
1029	Pass	Pass	Pass	Pass	6.8	164.8	35.2
1030	Pass	Pass	Pass	Pass	0.6	136.6	59.8
1031	Fail	Pass	Pass	Pass	12.2	181.5	76
1032	Pass	Pass	Pass	Pass	1.6	165.1	30.3
1033	Fail	Fail	Pass	Fail	40.2	305.0	34.7
1034	Pass	Fail	Pass	Pass	18.2	249.6	36
1035	Fail	Fail	Pass	Fail	28.3	297.8	56.3
1036	Fail	Fail	Pass	Fail	15.4	237.6	60.8
1037	Pass	Pass	Pass	Pass	0.5	153.7	29.8
1038	Pass	Pass	Pass	Pass	10.3	192.1	32.7
1039W	Pass	Pass	Pass	Pass	3.7	123.0	72.3
1039F	Pass	Fail	Pass	Pass	5.7	252.2	110.2
1039M	Pass	Pass	Pass	Pass	1.1	137.4	47.2
1039R	Pass	Pass	Pass	Pass	0.1	121.9	73.5
1040F	Pass	Pass	Pass	Pass	0.2	130.4	73.7
1040M	Pass	Pass	Pass	Pass	1.1	135.8	54.2
1040R	Pass	Pass	Pass	Pass	7.0	156.9	75.7
1041F	Pass	Pass	Pass	Pass	2.2	120.9	108.7
1041R	Pass	Pass	Pass	Pass	0.7	127.5	70.3
1041W	Pass	Pass	Pass	Pass	0.6	137.7	74.8
1041M	Pass	Pass	Pass	Pass	0.5	145.8	48.7
1042F	Pass	Pass	Pass	Pass	3.6	186.6	134.7
1042m	Pass	Pass	Pass	Pass	9.9	197.8	40.7

Sample Number	Mass Loss	Char Length	Flaming Debris	Overall Pass/Fail	Average % Mass Loss	Average Char (mm)	Fabric Weight (g/m2)
1042R	Pass	Pass	Pass	Pass	5.9	157.8	67.3
1042W	Pass	Pass	Pass	Pass	7.4	171.0	67.5
1043W	Pass	Pass	Pass	Pass	0.8	129.5	51.8
1043R	Pass	Pass	Pass	Pass	1.2	134.5	52.3
1043m	Pass	Pass	Pass	Pass	0.9	165.0	39.8
1043F	Fail	Pass	Pass	Pass	19.4	112.5	128.2
1044F	Pass	Pass	Pass	Pass	0.3	124.2	105.5
1044W	Pass	Pass	Pass	Pass	0.5	139.4	76.7
1044R	Pass	Pass	Pass	Pass	1.3	131.8	76.8
1044D	Fail	Fail	Pass	Fail	31.6	275.5	73.3
1044m	Pass	Pass	Pass	Pass	1.0	155.6	46.8
1045F	Pass	Pass	Pass	Pass	0.3	132.7	64.3
1045W	Pass	Pass	Pass	Pass	1.1	150.6	46
1045R	Pass	Pass	Pass	Pass	0.2	136.3	59
1045M	Pass	Pass	Pass	Pass	0.3	161.1	33.8
1046R	Pass	Pass	Pass	Pass	0.7	133.8	47.3
1046M	Pass	Pass	Pass	Pass	0.7	166.4	29.3
1046W1	Pass	Pass	Pass	Pass	0.0	121.5	66
1046W2	Pass	Pass	Pass	Pass	1.2	136.4	44
1046F	Pass	Pass	Pass	Pass	3.8	151.5	66.2
1101	Pass	Pass	Pass	Pass	4.5	167.0	41.7
1102	Fail	Fail	Pass	Fail	27.9	291.4	39.7
1103	Pass	Pass	Pass	Pass	3.4	69.1	344.8
1104	Fail	Fail	Pass	Fail	68.1	305.0	282
1105	N/A	Fail	Pass	Fail	66.5	305.0	371.3

Table 6: Heats of Combustion

Sample #	Gross Heat of Combustion (cal/g)			Average Heat of Combustion (cal/g)
	1	2	3	
677	6665	6878	6341	6628
89	7011	6813	7989	7271
593	6325	6932	6908	6722
594	7846	6483	7251	7193
595	6739	6950	6333	6674

Sample #	Gross Heat of Combustion (cal/g)			Average Heat of Combustion (cal/g)
	1	2	3	
597	6737	6640	6597	6658
182	7210	6476	6692	6793
966	5421	5350	5389	5386
981	7439	6501	6971	6971
646	7178	7077	7143	7132
1020	4923	4864	4930	4906
1021	5366	5273	6031	5557
1022	5076	5028	4757	4953
1023	5592	5726	5830	5716
1024	5219	5033	5205	5153
1025	5186	5146	5374	5235
1026	4407	4383	4656	4482
1027	5213	4983	4954	5050
1028	6940	6522	6891	6784
1029	6636	6373	6546	6518
1030	6770	7045	6846	6887
1031	6653	6469	6539	6554
1032	7073	7324	6967	7121
1033	6632	7263	7537	7144
1034	6737	6546	6645	6643
1035	6774	6843	7038	6885
1036	6722	6624	6726	6691
1037	6765	7113	7237	7039
1038	6885	6886	7502	7091
1040R	5344	5296	5320	5320
1040M	5291	5468	5504	5421
1040F	5529	5565	5438	5510
1101	6832	7140	6716	6896
1102	7078	6940	6897	6972
1103	3582	3615	3573	3590
1104	3842	4123	4019	3995
1105	6198	6219	5956	6124
1039F	5579	6315	5744	5880
1039W	5339	5381	5330	5350
1039M	5287	5469	6286	5681

Sample #	Gross Heat of Combustion (cal/g)			Average Heat of Combustion (cal/g)
	1	2	3	
1039R	5666	5511	5258	5478
1041F	5437	5673	5323	5478
1041W	5384	5151	5452	5329
1041M	5291	5226	5389	5302
1041R	5290	5298	5471	5353
1042F	9149	9281	9291	9240
1042W	5425	5386	6708	5840
1042M	5136	5195	5168	5166
1042R	5322	5218	6139	5560
1043F	10020	9987	10674	10227
1043W	5390	5170	5141	5234
1043M	5365	5672	5143	5393
1043R	5082	4939	5073	5031
1044F	5255	5178	5497	5310
1044D	5394	5242	5335	5324
1044W	5258	4989	5256	5168
1044M	6712	7139	6371	6741
1044R	5059	5177	5243	5160
1045F	7197	7011	6902	7037
1045M	7154	7192	7155	7167
1045W	7247	7092	7357	7232
1045R	6717	6423	6777	6639
1046F	4901	5274	5219	5131
1046W1	6655	6301	6706	6554
1046W2	7053	7382	7291	7242
1046M	7070	7416	7081	7189
1046R	6720	6621	6589	6644

Raw Data

CAN/CGSB-182.1 as received raw data tables

Note that mass loss and char length requirements for CAN/CGSB-182.1 vary based on fabric weight.

Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
677	1 V	1.258	1.256	0.001	0.1	146	
Fabric Weight (g/m2)	2 V	1.268	1.267	0.002	0.2	155	
59.5	3 V	1.305	1.299	0.006	0.5	145	
Load	4 V	1.313	1.313	0.000	0.0	133	
50	5 V	1.346	1.345	0.001	0.1	130	
	6 H	1.291	1.291	0.000	0.0	148	
	7 H	1.257	1.258	-0.001	-0.1	147	
	8 H	1.259	1.258	0.001	0.1	112	
	9 H	1.258	1.258	-0.001	-0.1	134	
	10 H	1.261	1.264	-0.003	-0.2	130	
	Average/Number				0.0	138	0
	Pass/Fail				Pass	Pass	Pass
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
89	1 V	1.582	1.566	0.015	0.9	144	
Fabric Weight (g/m2)	2 V	1.565	1.623	-0.058	-3.7	136	
74.3	3 V	1.610	1.610	0.000	0.0	120	
Load	4 V	1.597	1.593	0.005	0.3	117	
50	5 V	1.658	1.557	0.100	6.0	134	
	6 H	1.561	1.578	-0.016	-1.0	135	
	7 H	1.627	1.569	0.058	3.6	143	
	8 H	1.617	1.614	0.003	0.2	117	
	9 H	1.589	1.591	-0.002	-0.1	136	
	10 H	1.651	1.651	-0.001	-0.1	114	
	Average/Number				0.6	129.6	0
	Pass/Fail				Pass	Pass	Pass
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
593	1 V	1.256	0.824	0.432	34.4	305	
Fabric Weight (g/m2)	2 V	1.233	0.787	0.446	36.2	305	
58	3 V	1.228	0.722	0.506	41.2	305	
Load	4 V	1.224	0.701	0.523	42.7	305	
50	5 V	1.244	0.739	0.506	40.6	305	
	6 H	1.216	1.127	0.089	7.3	210	
	7 H	1.223	0.660	0.562	46.0	305	
	8 H	1.227	1.165	0.062	5.1	174	
	9 H	1.217	0.746	0.472	38.8	305	Yes
	10 H	1.211	0.890	0.322	26.6	305	
	Average/Number				31.9	282.4	1
	Pass/Fail				Fail	Fail	Pass

Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
594	1 V	2.623	1.828	0.795	30.3	305	
Fabric Weight (g/m2)	2 V	2.632	1.583	1.049	39.9	305	
122.5	3 V	2.656	1.717	0.938	35.3	305	
Load	4 V	2.698	2.702	-0.003	-0.1	117	
	5 V	2.846	1.741	1.105	38.8	305	
	6 H	2.784	1.729	1.056	37.9	305	
	7 H	2.766	1.752	1.014	36.7	305	
	8 H	3.074	1.927	1.147	37.3	305	
	9 H	2.840	1.757	1.082	38.1	305	
	10 H	2.607	1.526	1.080	41.4	305	
	Average/Number				33.6	286.2	0
	Pass/Fail				Fail	Fail	Pass
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
595	1 V	1.747	1.746	0.001	0.1	146	
Fabric Weight (g/m2)	2 V	1.955	1.948	0.007	0.4	146	
80.2	3 V	1.686	1.681	0.005	0.3	142	
Load	4 V	1.682	1.672	0.010	0.6	89	
50	5 V	1.742	1.733	0.010	0.6	85	
	6 H	1.722	1.720	0.001	0.1	126	
	7 H	1.712	1.712	0.001	0.1	112	
	8 H	1.704	1.698	0.006	0.4	128	
	9 H	1.747	1.743	0.005	0.3	123	
	10 H	1.666	1.657	0.010	0.6	119	
	Average/Number				0.3	121.6	0
	Pass/Fail				Pass	Pass	Pass
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
597	1 V	1.478	0.991	0.488	33.0	305	
Fabric Weight (g/m2)	2 V	1.525	1.372	0.152	10.0	384	
70	3 V	1.413	1.211	0.201	14.2	305	
Load	4 V	1.510	1.111	0.398	26.4	305	
50	5 V	1.514	1.509	0.004	0.3	128	
	6 H	1.479	1.010	0.470	31.8	305	
	7 H	1.464	1.013	0.452	30.9	305	
	8 H	1.439	0.967	0.471	32.7	305	
	9 H	1.536	1.109	0.426	27.7	305	
	10 H	1.416	1.238	0.178	12.6	237	
	Average/Number				21.9	288.4	0
	Pass/Fail				Fail	Fail	Pass

Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
182	1 V	1.093	0.711	0.383	35.0	305	
Fabric Weight (g/m2)	2 V	1.187	0.900	0.287	24.2	305	
53.7	3 V	1.092	0.700	0.393	36.0	305	
Load	4 V	1.163	0.801	0.361	31.0	305	
50	5 V	1.181	1.097	0.085	7.2	225	
	6 H	1.150	1.063	0.086	7.5	225	
	7 H	1.121	0.736	0.385	34.3	305	
	8 H	1.091	1.091	0.001	0.1	138	
	9 H	1.125	1.131	-0.006	-0.5	113	
	10 H	1.104	1.104	0.000	0.0	117	
	Average/Number				17.5	234.3	0
	Pass/Fail				Fail	Fail	Pass
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
966	1 V	1.477	1.446	0.032	2.2	120	
Fabric Weight (g/m2)	2 V	1.453	1.450	0.004	0.3	142	
71.7	3 V	1.475	1.471	0.004	0.3	158	
Load	4 V	1.435	1.371	0.065	4.5	106	Yes
50	5 V	1.460	1.458	0.003	0.2	156	
	6 H	1.388	1.379	0.009	0.6	139	
	7 H	1.473	1.468	0.004	0.3	140	
	8 H	1.480	1.479	0.001	0.1	156	
	9 H	1.400	1.400	0.000	0.0	147	
	10 H	1.452	1.453	-0.001	-0.1	144	
	Average/Number				0.8	140.8	1
	Pass/Fail				Pass	Pass	Pass
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
981	1 V	0.936	0.453	0.482	51.5	305	
Fabric Weight (g/m2)	2 V	0.932	0.439	0.493	52.8	305	
46	3 V	0.921	0.429	0.493	53.5	305	
Load	4 V	0.971	0.445	0.526	54.2	305	
50	5 V	0.925	0.427	0.499	53.9	305	
	6 H	0.930	0.438	0.493	53.0	305	
	7 H	0.922	0.416	0.506	54.9	305	
	8 H	0.949	0.434	0.515	54.3	305	
	9 H	0.943	0.431	0.513	54.3	305	
	10 H	0.996	0.437	0.560	56.2	305	
	Average/Number				53.8	305.0	0
	Pass/Fail				Fail	Fail	Pass

Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
646	1 V	0.934	0.382	0.552	59.1	305	
Fabric Weight (g/m2)	2 V	0.944	0.445	0.500	52.9	305	yes
46	3 V	0.920	0.385	0.534	58.0	305	
Load	4 V	0.931	0.391	0.540	57.9	305	
50	5 V	0.925	0.417	0.507	54.8	305	
	6 H	0.945	0.453	0.492	52.1	305	
	7 H	0.928	0.402	0.525	56.6	305	
	8 H	0.955	0.429	0.526	55.0	305	
	9 H	0.966	0.461	0.505	52.3	305	
	10 H	0.932	0.425	0.506	54.3	305	
	Average/Number				55.3	305.0	1
	Pass/Fail				Fail	Fail	Pass
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1020	1 V	3.137	3.120	0.017	0.5	154	
Fabric Weight (g/m2)	2 V	3.047	3.030	0.017	0.6	119	
140	3 V	2.983	2.956	0.026	0.9	129	
Load	4 V	2.916	2.899	0.017	0.6	113	
100	5 V	2.969	2.953	0.016	0.5	120	
	6 H	2.936	2.919	0.016	0.5	119	
	7 H	3.155	3.142	0.014	0.4	108	
	8 H	2.930	2.918	0.011	0.4	116	
	9 H	3.064	3.048	0.017	0.6	106	
	10 H	3.096	3.082	0.014	0.5	110	
	Average/Number				0.5	119.4	0
	Pass/Fail				Pass	Pass	Pass
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1021	1 V	2.245	2.232	0.013	0.6	116	
Fabric Weight (g/m2)	2 V	2.245	2.236	0.009	0.4	131	
108.5	3 V	2.243	2.233	0.009	0.4	107	
Load	4 V	2.231	2.220	0.011	0.5	128	
100	5 V	2.261	2.246	0.014	0.6	117	
	6 H	2.285	2.272	0.012	0.5	139	
	7 H	2.325	2.312	0.014	0.6	124	
	8 H	2.272	2.275	-0.002	-0.1	128	
	9 H	2.255	2.257	-0.003	-0.1	127	
	10 H	2.262	2.084	0.177	7.8	110	yes
	Average/Number				1.1	122.7	1
	Pass/Fail				Pass	Pass	Pass

Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1022	1 V	5.775	5.758	0.017	0.3	100	
Fabric Weight (g/m2)	2 V	5.725	5.711	0.014	0.2	91	
281.5	3 V	5.797	5.783	0.014	0.2	86	
Load	4 V	5.832	5.820	0.012	0.2	89	
200	5 V	5.889	5.866	0.023	0.4	92	
	6 H	6.152	6.136	0.017	0.3	84	
	7 H	6.053	5.935	0.118	1.9	112	
	8 H	6.106	5.972	0.134	2.2	111	
	9 H	6.066	5.996	0.070	1.2	106	
	10 H	6.001	5.826	0.175	2.9	113	
	Average/Number				1.0	98.4	0
	Pass/Fail				Pass	Pass	Pass
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1023	1 V	6.112	3.256	2.857	46.7	305	yes
Fabric Weight (g/m2)	2 V	6.157	4.102	2.054	33.4	305	yes
283.7	3 V	6.257	4.363	1.893	30.3	295	yes
Load	4 V	6.259	3.654	2.606	41.6	305	yes
200	5 V	6.213	4.035	2.178	35.0	305	yes
	6 H	6.172	3.543	2.629	42.6	305	yes
	7 H	6.116	3.169	2.947	48.2	305	yes
	8 H	6.153	3.611	2.541	41.3	305	
	9 H	6.183	3.831	2.352	38.0	305	
	10 H	6.150	3.499	2.651	43.1	305	yes
	Average/Number				40.0	304.0	8
	Pass/Fail				Fail	Fail	Fail
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1024	1 V	2.552	2.538	0.015	0.6	144	
Fabric Weight (g/m2)	2 V	2.518	2.503	0.015	0.6	150	
121	3 V	2.508	2.493	0.015	0.6	147	
Load	4 V	2.527	2.511	0.016	0.6	117	
100	5 V	2.602	2.586	0.015	0.6	132	
	6 H	2.515	2.499	0.015	0.6	130	
	7 H	2.574	2.556	0.019	0.7	104	
	8 H	2.539	2.505	0.033	1.3	96	
	9 H	2.598	2.572	0.026	1.0	106	
	10 H	2.562	2.545	0.017	0.7	124	
	Average/Number				0.7	125.0	0
	Pass/Fail				Pass	Pass	Pass

Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1025	1 V	2.473	1.591	0.882	35.7	305	
Fabric Weight (g/m2)	2 V	2.443	1.683	0.760	31.1	305	
120.5	3 V	2.471	1.887	0.584	23.6	305	
Load	4 V	2.455	1.656	0.798	32.5	305	
100	5 V	2.471	2.121	0.349	14.1	210	
	6 H	2.500	2.398	0.102	4.1	169	yes
	7 H	2.559	1.587	0.972	38.0	305	yes
	8 H	2.479	0.951	1.528	61.6	305	yes
	9 H	2.425	1.441	0.984	40.6	305	yes
	10 H	2.492	1.384	1.108	44.4	305	
	Average/Number				32.6	281.9	4
	Pass/Fail				Fail	Fail	Fail
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1026	1 V	6.158	5.711	0.447	7.3	132	
Fabric Weight (g/m2)	2 V	6.314	5.891	0.422	6.7	134	
296.5	3 V	6.125	4.270	1.855	30.3	305	
Load	4 V	6.086	5.726	0.361	5.9	140	
200	5 V	6.125	4.885	1.240	20.2	267	
	6 H	6.740	6.280	0.459	6.8	139	
	7 H	6.400	6.374	0.025	0.4	78	
	8 H	6.680	6.406	0.275	4.1	109	
	9 H	6.754	6.270	0.483	7.2	145	
	10 H	6.651	6.266	0.385	5.8	132	
	Average/Number				9.5	158.1	0
	Pass/Fail				Fail	Fail	Pass
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1027	1 V	6.800	2.094	4.706	69.2	305	
Fabric Weight (g/m2)	2 V	6.690	2.095	4.594	68.7	305	
211.3	3 V	6.790	2.144	4.646	68.4	305	
Load	4 V	6.776	2.106	4.669	68.9	305	
200	5 V	6.510	1.932	4.578	70.3	305	
	6 H	6.584	2.086	4.499	68.3	305	
	7 H	6.821	2.044	4.778	70.0	305	
	8 H	6.821	2.072	4.749	69.6	305	
	9 H	6.866	2.194	4.671	68.0	305	
	10 H	6.966	2.230	4.736	68.0	305	
	Average/Number				69.0	305.0	0
	Pass/Fail				Fail	Fail	Pass

Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1028	1 V	0.784	0.773	0.010	1.3	131	
Fabric Weight (g/m2)	2 V	0.790	0.760	0.029	3.7	128	
38.7	3 V	0.790	0.639	0.152	19.2	187	
Load	4 V	0.810	0.800	0.011	1.4	127	
50	5 V	0.790	0.783	0.008	1.0	149	
	6 H	0.782	0.652	0.129	16.5	164	
	7 H	0.787	0.781	0.007	0.9	134	
	8 H	0.786	0.771	0.015	1.9	130	
	9 H	0.784	0.742	0.041	5.2	155	
	10 H	0.791	0.783	0.008	1.0	116	
	Average/Number				5.2	142.1	0
	Pass/Fail				Pass	Pass	Pass
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1029	1 V	0.799	0.762	0.036	4.5	162	
Fabric Weight (g/m2)	2 V	0.803	0.786	0.017	2.1	129	
35.2	3 V	0.792	0.738	0.054	6.8	136	
Load	4 V	0.806	0.799	0.008	1.0	144	
50	5 V	0.799	0.751	0.048	6.0	145	
	6 H	0.809	0.770	0.040	4.9	161	
	7 H	0.793	0.761	0.032	4.0	133	
	8 H	0.791	0.695	0.096	12.1	187	
	9 H	0.800	0.588	0.212	26.5	305	
	10 H	0.795	0.793	0.002	0.3	146	
	Average/Number				6.8	164.8	0
	Pass/Fail				Pass	Pass	Pass

Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1030	1 V	1.170	1.167	0.003	0.3	140	
Fabric Weight (g/m2)	2 V	1.128	1.127	0.001	0.1	132	
59.8	3 V	1.130	1.129	0.000	0.0	136	
Load	4 V	1.130	1.127	0.004	0.4	140	
50	5 V	1.135	1.134	0.000	0.0	124	
	6 H	1.153	1.143	0.010	0.9	146	
	7 H	1.163	1.140	0.022	1.9	140	
	8 H	1.155	1.149	0.005	0.4	145	
	9 H	1.147	1.147	0.001	0.1	118	
	10 H	1.139	1.121	0.018	1.6	145	
	Average/Number				0.6	136.6	0
	Pass/Fail				Pass	Pass	Pass
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1031	1 V	1.567	1.301	0.266	17.0	220	
Fabric Weight (g/m2)	2 V	1.588	1.588	-0.001	-0.1	132	
76	3 V	1.573	1.229	0.344	21.9	228	
Load	4 V	1.567	1.454	0.112	7.1	161	
50	5 V	1.573	1.567	0.006	0.4	127	
	6 H	1.570	1.559	0.011	0.7	102	
	7 H	1.640	1.519	0.121	7.4	162	
	8 H	1.531	1.488	0.042	2.7	113	
	9 H	1.586	1.235	0.351	22.1	265	
	10 H	1.503	0.867	0.636	42.3	305	
	Average/Number				12.2	181.5	0
	Pass/Fail				Fail	Pass	Pass
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1032	1 V	0.675	0.670	0.005	0.7	161	
Fabric Weight (g/m2)	2 V	0.667	0.652	0.015	2.2	170	
30.3	3 V	0.668	0.656	0.012	1.8	161	
Load	4 V	0.658	0.657	0.002	0.3	150	
50	5 V	0.694	0.693	0.001	0.1	171	
	6 H	0.670	0.643	0.026	3.9	191	
	7 H	0.655	0.627	0.027	4.1	164	
	8 H	0.676	0.674	0.003	0.4	177	
	9 H	0.684	0.683	0.000	0.0	152	
	10 H	0.647	0.632	0.016	2.5	154	
	Average/Number				1.6	165.1	0
	Pass/Fail				Pass	Pass	Pass

Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1033	1 V	0.792	0.429	0.362	45.7	305	
Fabric Weight (g/m2)	2 V	0.806	0.478	0.328	40.7	305	
34.7	3 V	0.801	0.446	0.356	44.4	305	
Load	4 V	0.795	0.510	0.284	35.7	305	
50	5 V	0.850	0.557	0.292	34.4	305	
	6 H	0.797	0.448	0.349	43.8	305	
	7 H	0.802	0.499	0.303	37.8	305	
	8 H	0.793	0.445	0.348	43.9	305	
	9 H	0.787	0.490	0.298	37.8	305	
	10 H	0.819	0.507	0.312	38.1	305	
	Average/Number				40.2	305.0	0
	Pass/Fail				Fail	Fail	Pass
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1034	1 V	0.847	0.809	0.038	4.5	175	
Fabric Weight (g/m2)	2 V	0.872	0.805	0.066	7.6	161	
36	3 V	0.866	0.611	0.254	29.3	305	
Load	4 V	0.865	0.392	0.474	54.7	305	
50	5 V	0.866	0.619	0.247	28.5	305	
	6 H	0.843	0.590	0.254	30.1	305	
	7 H	0.845	0.793	0.052	6.2	206	
	8 H	0.838	0.752	0.085	10.1	305	
	9 H	0.884	0.784	0.101	11.4	282	
	10 H	0.897	0.898	-0.002	-0.2	147	
	Average/Number				18.2	249.6	0
	Pass/Fail				Pass	Fail	Pass
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1035	1 V	1.118	1.035	0.083	7.4	233	
Fabric Weight (g/m2)	2 V	1.025	0.755	0.270	26.3	305	
56.3	3 V	0.975	0.712	0.263	27.0	305	
Load	4 V	1.053	0.661	0.393	37.3	305	
50	5 V	1.156	0.719	0.436	37.7	305	
	6 H	1.061	0.865	0.195	18.4	305	
	7 H	1.066	0.727	0.340	31.9	305	
	8 H	1.026	0.699	0.327	31.8	305	
	9 H	1.050	0.751	0.299	28.5	305	
	10 H	1.081	0.682	0.399	36.9	305	
	Average/Number				28.3	297.8	0
	Pass/Fail				Fail	Fail	Pass

Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1036	1 V	1.277	0.911	0.366	28.7	305	
Fabric Weight (g/m2)	2 V	1.255	1.254	0.001	0.1	114	
60.8	3 V	1.205	1.200	0.005	0.4	114	
Load	4 V	1.256	1.242	0.014	1.1	142	
50	5 V	1.344	1.213	0.130	9.7	305	
	6 H	1.311	1.052	0.259	19.7	305	
	7 H	1.245	0.799	0.445	35.7	305	
	8 H	1.235	0.931	0.304	24.6	305	
	9 H	1.261	1.221	0.040	3.2	176	
	10 H	1.289	0.894	0.396	30.7	305	
	Average/Number				15.4	237.6	0
	Pass/Fail				Fail	Fail	Pass
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1037	1 V	0.643	0.641	0.002	0.3	170	
Fabric Weight (g/m2)	2 V	0.642	0.638	0.005	0.8	170	
29.8	3 V	0.637	0.634	0.003	0.5	157	
Load	4 V	0.638	0.635	0.002	0.3	136	
50	5 V	0.637	0.634	0.004	0.6	176	
	6 H	0.646	0.643	0.004	0.6	160	
	7 H	0.642	0.639	0.004	0.6	146	
	8 H	0.640	0.638	0.003	0.5	139	
	9 H	0.673	0.672	0.001	0.1	127	
	10 H	0.639	0.636	0.004	0.6	156	
	Average/Number				0.5	153.7	0
	Pass/Fail				Pass	Pass	Pass
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1038	1 V	0.660	0.652	0.008	1.2	185	
Fabric Weight (g/m2)	2 V	0.681	0.668	0.012	1.8	135	
32.7	3 V	0.678	0.660	0.019	2.8	186	
Load	4 V	0.656	0.495	0.161	24.5	238	yes
50	5 V	0.621	0.320	0.302	48.6	305	yes
	6 H	0.663	0.630	0.033	5.0	173	
	7 H	0.702	0.585	0.117	16.6	235	
	8 H	0.701	0.700	0.002	0.3	170	
	9 H	0.668	0.667	0.001	0.1	135	
	10 H	0.675	0.664	0.012	1.8	159	
	Average/Number				10.3	192.1	2
	Pass/Fail				Pass	Pass	Pass

Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1039W	1 V	1.622	1.567	0.055	3.4	110	
Fabric Weight (g/m2)	2 V	1.615	1.561	0.053	3.3	125	
72.3	3 V	1.600	1.541	0.059	3.7	132	
Load	4 V	1.556	1.502	0.055	3.5	120	
50	5 V	1.641	1.603	0.037	2.3	115	
	6 H	1.706	1.637	0.070	4.1	116	
	7 H	1.589	1.491	0.097	6.1	130	
	8 H	1.626	1.570	0.056	3.4	130	
	9 H	1.707	1.662	0.046	2.7	139	
	10 H	1.582	1.517	0.065	4.1	113	
	Average/Number				3.7	123.0	0
	Pass/Fail				Pass	Pass	Pass
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1039F	1 V	2.502	2.331	0.170	6.8	310	Yes
Fabric Weight (g/m2)	2 V	2.412	2.219	0.193	8.0	310	
110.2	3 V	2.425	1.880	0.545	22.5	310	
Load	4 V	2.452	1.624	0.829	33.8	310	
100	5 V	2.398	2.095	0.303	12.6	310	
	6 H	2.455	2.808	-0.352	-14.3	170	
	7 H	2.402	2.824	-0.422	-17.6	193	
	8 H	2.423	2.804	-0.380	-15.7	140	
	9 H	2.386	2.770	-0.385	-16.1	159	
	10 H	2.427	1.534	0.893	36.8	310	Yes
	Average/Number				5.7	252.2	2
	Pass/Fail				Pass	Fail	Pass
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1039M	1 V	1.150	1.147	0.002	0.2	128	
Fabric Weight (g/m2)	2 V	1.113	1.108	0.006	0.5	144	
47.2	3 V	1.165	1.162	0.002	0.2	131	
Load	4 V	1.138	1.137	0.000	0.0	110	
50	5 V	1.105	1.104	0.000	0.0	116	
	6 H	1.117	1.111	0.006	0.5	123	
	7 H	1.155	1.111	0.044	3.8	159	
	8 H	1.185	1.159	0.026	2.2	156	
	9 H	1.140	1.104	0.036	3.2	178	
	10 H	1.088	1.084	0.003	0.3	129	
	Average/Number				1.1	137.4	0
	Pass/Fail				Pass	Pass	Pass

Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1039R	1 V	1.593	1.642	-0.049	-3.1	135	
Fabric Weight (g/m2)	2 V	1.549	1.550	-0.002	-0.1	111	
73.5	3 V	1.608	1.630	-0.023	-1.4	80	
Load	4 V	1.578	1.573	0.005	0.3	132	
50	5 V	1.596	1.604	-0.008	-0.5	152	
	6 H	1.610	1.605	0.005	0.3	131	
	7 H	1.523	1.517	0.005	0.3	156	
	8 H	1.528	1.522	0.006	0.4	120	
	9 H	1.594	1.586	0.008	0.5	125	
	10 H	1.499	1.436	0.062	4.1	77	
	Average/Number				0.1	121.9	0
	Pass/Fail				Pass	Pass	Pass
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1040F	1 V	1.559	1.549	0.010	0.6	120	
Fabric Weight (g/m2)	2 V	1.645	1.642	0.003	0.2	197	
73.7	3 V	1.677	1.678	-0.002	-0.1	121	
Load	4 V	1.630	1.626	0.004	0.2	133	
50	5 V	1.645	1.647	-0.002	-0.1	129	
	6 H	1.548	1.548	0.000	0.0	127	
11/16/2022	7 H	1.545	1.546	-0.001	-0.1	113	
	8 H	1.596	1.600	-0.004	-0.3	115	
	9 H	1.571	1.563	0.008	0.5	133	
	10 H	1.530	1.519	0.011	0.7	116	
	Average/Number				0.2	130.4	0
	Pass/Fail				Pass	Pass	Pass
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1040M	1 V	1.145	1.144	0.000	0.0	134	
Fabric Weight (g/m2)	2 V	1.209	1.210	-0.001	-0.1	149	
54.2	3 V	1.183	1.185	-0.001	-0.1	145	
Load	4 V	1.185	1.184	0.000	0.0	159	
50	5 V	1.198	1.198	0.000	0.0	135	
	6 H	1.215	1.199	0.016	1.3	131	
11/16/2022	7 H	1.150	1.119	0.032	2.8	125	
	8 H	1.135	1.093	0.041	3.6	134	
	9 H	1.173	1.149	0.025	2.1	103	
	10 H	1.170	1.149	0.021	1.8	143	
	Average/Number				1.1	135.8	0
	Pass/Fail				Pass	Pass	Pass

Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1040R	1 V	1.675	1.448	0.228	13.6	151	
Fabric Weight (g/m2)	2 V	1.632	1.576	0.056	3.4	119	
75.7	3 V	1.785	1.786	-0.001	-0.1	110	
Load	4 V	1.684	1.682	0.003	0.2	146	
50	5 V	1.683	1.629	0.055	3.3	111	
	6 H	1.665	1.130	0.535	32.1	305	yes
11/16/2022	7 H	1.629	1.625	0.005	0.3	154	
	8 H	1.659	1.666	-0.008	-0.5	122	
	9 H	1.684	1.445	0.239	14.2	184	yes
	10 H	1.712	1.659	0.054	3.2	167	
	Average/Number				7.0	156.9	2
	Pass/Fail				Pass	Pass	Pass
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1041F	1 V	2.553	2.551	0.003	0.1	118	
Fabric Weight (g/m2)	2 V	2.349	2.282	0.066	2.8	120	
108.7	3 V	2.384	2.362	0.022	0.9	122	
Load	4 V	2.549	2.497	0.052	2.0	100	
100	5 V	2.460	2.229	0.231	9.4	124	
	6 H	2.317	2.301	0.016	0.7	131	
	7 H	2.352	2.265	0.087	3.7	129	
	8 H	2.339	2.331	0.009	0.4	117	
	9 H	2.306	2.275	0.030	1.3	113	
	10 H	2.320	2.305	0.016	0.7	135	
	Average/Number				2.2	120.9	0
	Pass/Fail				Pass	Pass	Pass
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1041R	1 V	1.608	1.604	0.003	0.2	113	
Fabric Weight (g/m2)	2 V	1.612	1.605	0.007	0.4	135	
70.3	3 V	1.677	1.676	0.002	0.1	115	
Load	4 V	1.716	1.673	0.044	2.6	119	
50	5 V	1.617	1.575	0.042	2.6	130	
	6 H	1.497	1.485	0.012	0.8	126	
	7 H	1.543	1.539	0.004	0.3	155	
	8 H	1.532	1.533	0.000	0.0	142	
	9 H	1.557	1.556	0.001	0.1	115	
	10 H	1.575	1.573	0.002	0.1	125	
	Average/Number				0.7	127.5	0
	Pass/Fail				Pass	Pass	Pass

Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1041W	1 V	1.515	1.515	-0.001	-0.1	131	
Fabric Weight (g/m2)	2 V	1.505	1.505	0.000	0.0	132	
74.8	3 V	1.545	1.540	0.006	0.4	137	
Load	4 V	1.550	1.543	0.007	0.5	141	
50	5 V	1.543	1.537	0.005	0.3	145	
	6 H	1.677	1.642	0.035	2.1	135	
	7 H	1.528	1.517	0.011	0.7	148	
	8 H	1.579	1.562	0.017	1.1	146	
	9 H	1.512	1.504	0.009	0.6	127	
	10 H	1.579	1.566	0.013	0.8	135	
	Average/Number				0.6	137.7	0
	Pass/Fail				Pass	Pass	Pass
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1041M	1 V	1.116	1.114	0.002	0.2	133	
Fabric Weight (g/m2)	2 V	1.141	1.137	0.003	0.3	170	
48.7	3 V	1.192	1.186	0.006	0.5	170	
Load	4 V	1.193	1.188	0.005	0.4	158	
50	5 V	1.100	1.098	0.002	0.2	144	
	6 H	1.164	1.160	0.004	0.3	145	
	7 H	1.165	1.162	0.004	0.3	130	
	8 H	1.112	1.110	0.002	0.2	145	
	9 H	1.109	1.087	0.022	2.0	125	
	10 H	1.113	1.111	0.002	0.2	138	
	Average/Number				0.5	145.8	0
	Pass/Fail				Pass	Pass	Pass
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1042F	1 V	3.121	2.973	0.148	4.7	171	
Fabric Weight (g/m2)	2 V	3.155	2.737	0.418	13.2	305	
134.7	3 V	3.024	2.995	0.029	1.0	165	
Load	4 V	3.103	3.063	0.039	1.3	155	
100	5 V	2.936	2.929	0.007	0.2	146	
	6 H	3.199	3.139	0.059	1.8	147	
	7 H	3.094	2.962	0.132	4.3	277	
	8 H	3.041	2.933	0.109	3.6	169	
	9 H	2.953	2.895	0.058	2.0	161	
	10 H	3.100	2.978	0.122	3.9	170	
	Average/Number				3.6	186.6	0
	Pass/Fail				Pass	Pass	Pass

Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1042m	1 V	0.953	0.950	0.003	0.3	156	
Fabric Weight (g/m2)	2 V	0.918	0.905	0.012	1.3	170	
40.7	3 V	0.921	0.919	0.003	0.3	171	
Load	4 V	0.962	0.959	0.004	0.4	170	
50	5 V	0.953	0.770	0.182	19.1	222	Yes
	6 H	0.961	0.960	0.001	0.1	165	
	7 H	0.964	0.961	0.003	0.3	149	
	8 H	0.918	0.555	0.363	39.5	305	Yes
	9 H	0.890	0.579	0.311	34.9	305	Yes
	10 H	0.968	0.945	0.023	2.4	165	
	Average/Number				9.9	197.8	3
	Pass/Fail				Pass	Pass	Pass
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1042R	1 V	1.705	1.506	0.198	11.6	202	
Fabric Weight (g/m2)	2 V	1.692	1.685	0.008	0.5	137	
67.3	3 V	1.535	1.327	0.208	13.6	185	
Load	4 V	1.609	1.504	0.106	6.6	140	
50	5 V	1.612	1.604	0.007	0.4	136	
	6 H	1.498	1.493	0.005	0.3	121	
	7 H	1.599	1.499	0.100	6.3	122	
	8 H	1.563	1.495	0.069	4.4	133	
	9 H	1.599	1.351	0.249	15.6	265	
	10 H	1.576	1.573	0.003	0.2	137	
	Average/Number				5.9	157.8	0
	Pass/Fail				Pass	Pass	Pass
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1042W	1 V	1.642	1.589	0.053	3.2	147	
Fabric Weight (g/m2)	2 V	1.512	1.126	0.386	25.5	275	
67.5	3 V	1.642	1.542	0.100	6.1	185	
Load	4 V	1.545	1.542	0.003	0.2	150	
50	5 V	1.564	1.197	0.366	23.4	203	
	6 H	1.612	1.596	0.016	1.0	144	
	7 H	1.524	1.446	0.078	5.1	161	
	8 H	1.479	1.450	0.029	2.0	139	
	9 H	1.579	1.562	0.016	1.0	137	
	10 H	1.578	1.479	0.099	6.3	169	
	Average/Number				7.4	171.0	0
	Pass/Fail				Pass	Pass	Pass

Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1043W	1 V	1.320	1.316	0.003	0.2	145	
Fabric Weight (g/m2)	2 V	1.332	1.327	0.005	0.4	112	
51.8	3 V	1.282	1.270	0.012	0.9	141	
Load	4 V	1.325	1.309	0.016	1.2	119	
50	5 V	1.427	1.410	0.017	1.2	115	
	6 H	1.347	1.339	0.009	0.7	124	
	7 H	1.378	1.369	0.009	0.7	146	
	8 H	1.316	1.308	0.008	0.6	144	
	9 H	1.450	1.435	0.015	1.0	112	
	10 H	1.356	1.347	0.009	0.7	137	
	Average/Number				0.8	129.5	0
	Pass/Fail				Pass	Pass	Pass
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1043R	1 V	1.341	1.325	0.015	1.1	115	
Fabric Weight (g/m2)	2 V	1.330	1.313	0.017	1.3	142	
52.3	3 V	1.366	1.343	0.023	1.7	131	
Load	4 V	1.422	1.416	0.006	0.4	144	
50	5 V	1.424	1.421	0.004	0.3	131	
	6 H	1.375	1.363	0.011	0.8	147	
	7 H	1.275	1.236	0.039	3.1	127	
	8 H	1.322	1.303	0.018	1.4	149	
	9 H	1.313	1.301	0.013	1.0	130	
	10 H	1.298	1.288	0.009	0.7	129	
	Average/Number				1.2	134.5	0
	Pass/Fail				Pass	Pass	Pass
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1043m	1 V	0.900	0.895	0.005	0.6	167	
Fabric Weight (g/m2)	2 V	0.909	0.901	0.008	0.9	214	
39.8	3 V	1.026	1.022	0.004	0.4	166	
Load	4 V	0.913	0.897	0.017	1.9	157	
50	5 V	0.927	0.924	0.003	0.3	170	
	6 H	0.940	0.918	0.021	2.2	175	
	7 H	0.949	0.937	0.011	1.2	160	
	8 H	0.925	0.920	0.005	0.5	132	
	9 H	0.866	0.856	0.010	1.2	154	
	10 H	1.002	0.997	0.004	0.4	155	
	Average/Number				0.9	165.0	0
	Pass/Fail				Pass	Pass	Pass

Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1043F	1 V	3.093	2.502	0.591	19.1	116	
Fabric Weight (g/m2)	2 V	2.847	2.410	0.438	15.4	127	
128.2	3 V	2.956	2.422	0.535	18.1	116	
Load	4 V	3.158	2.450	0.708	22.4	117	
100	5 V	3.024	2.394	0.631	20.9	124	
	6 H	2.963	2.344	0.618	20.9	75	
	7 H	3.064	2.402	0.662	21.6	126	
	8 H	3.154	2.422	0.732	23.2	111	
	9 H	2.838	2.385	0.454	16.0	117	
	10 H	2.885	2.419	0.467	16.2	96	
	Average/Number				19.4	112.5	0
	Pass/Fail				Fail	Pass	Pass
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1044F	1 V	2.488	2.483	0.004	0.2	115	
Fabric Weight (g/m2)	2 V	2.658	2.657	0.001	0.0	118	
105.5	3 V	2.541	2.542	-0.002	-0.1	137	
Load	4 V	2.596	2.596	-0.001	0.0	102	
100	5 V	2.426	2.426	0.000	0.0	120	
	6 H	2.409	2.360	0.049	2.0	122	
	7 H	2.447	2.432	0.016	0.7	133	
	8 H	2.524	2.522	0.002	0.1	133	
	9 H	2.468	2.460	0.009	0.4	134	
	10 H	2.418	2.412	0.006	0.2	128	
	Average/Number				0.3	124.2	0
	Pass/Fail				Pass	Pass	Pass
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1044W	1 V	1.716	1.695	0.022	1.3	136	
Fabric Weight (g/m2)	2 V	1.786	1.793	-0.007	-0.4	122	
76.7	3 V	1.738	1.738	0.000	0.0	154	
Load	4 V	1.760	1.755	0.006	0.3	134	
50	5 V	1.683	1.665	0.019	1.1	139	
	6 H	1.610	1.577	0.032	2.0	140	
	7 H	1.743	1.735	0.008	0.5	140	
	8 H	1.746	1.739	0.006	0.3	145	
	9 H	1.755	1.749	0.005	0.3	153	
	10 H	1.752	1.751	0.001	0.1	131	
	Average/Number				0.5	139.4	0
	Pass/Fail				Pass	Pass	Pass

Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1044R	1 V	1.525	1.482	0.043	2.8	127	
Fabric Weight (g/m ²)	2 V	1.594	1.588	0.006	0.4	131	
76.8	3 V	1.506	1.455	0.052	3.5	115	
Load	4 V	1.477	1.464	0.013	0.9	142	
50	5 V	1.655	1.630	0.025	1.5	132	
	6 H	1.543	1.524	0.019	1.2	156	
	7 H	1.544	1.527	0.018	1.2	141	
	8 H	1.687	1.657	0.030	1.8	114	
	9 H	1.608	1.607	0.001	0.1	130	
	10 H	1.576	1.574	0.002	0.1	130	
	Average/Number				1.3	131.8	0
	Pass/Fail				Pass	Pass	Pass
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1044D	1 V	1.620	1.580	0.040	2.5	120	
Fabric Weight (g/m ²)	2 V	1.623	1.346	0.278	17.1	305	
73.3	3 V	1.656	1.566	0.090	5.4	195	
Load	4 V	1.736	1.214	0.523	30.1	305	
50	5 V	1.643	1.053	0.590	35.9	305	
	6 H	1.654	1.264	0.390	23.6	305	
	7 H	1.608	0.095	1.512	94.0	305	
	8 H	1.704	1.184	0.520	30.5	305	
	9 H	1.618	0.954	0.663	41.0	305	
	10 H	1.689	1.075	0.613	36.3	305	
	Average/Number				31.6	275.5	0
	Pass/Fail				Fail	Fail	Pass
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1044m	1 V	1.093	1.082	0.010	0.9	150	
Fabric Weight (g/m ²)	2 V	1.161	1.150	0.010	0.9	130	
46.8	3 V	1.121	1.122	-0.001	-0.1	161	
Load	4 V	1.164	1.152	0.012	1.0	147	
50	5 V	1.065	1.064	0.000	0.0	140	
	6 H	1.177	1.133	0.044	3.7	199	
	7 H	1.090	1.069	0.021	1.9	152	
	8 H	1.153	1.152	0.000	0.0	162	
	9 H	1.172	1.154	0.017	1.5	149	
	10 H	1.080	1.081	-0.001	-0.1	166	
	Average/Number				1.0	155.6	0
	Pass/Fail				Pass	Pass	Pass

Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1045F	1 V	1.626	1.625	0.000	0.0	135	
Fabric Weight (g/m2)	2 V	1.763	1.748	0.014	0.8	144	
64.3	3 V	1.612	1.609	0.002	0.1	113	
Load	4 V	1.499	1.488	0.010	0.7	149	
50	5 V	1.448	1.448	0.000	0.0	120	
	6 H	1.504	1.500	0.004	0.3	130	
	7 H	1.567	1.563	0.003	0.2	132	
	8 H	1.590	1.583	0.006	0.4	141	
	9 H	1.579	1.578	0.001	0.1	126	
	10 H	1.542	1.541	0.001	0.1	137	
	Average/Number				0.3	132.7	0
	Pass/Fail				Pass	Pass	Pass
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1045W	1 H	1.079	1.072	0.007	0.6	143	
Fabric Weight (g/m2)	2 H	1.024	1.014	0.011	1.1	149	
46	3 H	1.109	1.101	0.009	0.8	151	
Load	4 H	1.129	1.117	0.012	1.1	150	
50	5 H	1.055	1.033	0.022	2.1	160	
	6			0.000	#DIV/0!		
	7			0.000	#DIV/0!		
	8			0.000	#DIV/0!		
	9			0.000	#DIV/0!		
	10			0.000	#DIV/0!		
	Average/Number				1.1	150.6	0
	Pass/Fail				Pass	Pass	Pass
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1045R	1 V	1.494	1.488	0.006	0.4	119	
Fabric Weight (g/m2)	2 V	1.381	1.379	0.002	0.1	127	
59	3 V	1.423	1.422	0.001	0.1	135	
Load	4 V	1.356	1.352	0.004	0.3	142	
50	5 V	1.440	1.436	0.004	0.3	133	
	6 H	1.362	1.359	0.004	0.3	149	
	7 H	1.433	1.431	0.002	0.1	146	
	8 H	1.312	1.311	0.001	0.1	131	
	9 H	1.316	1.315	0.002	0.2	142	
	10 H	1.384	1.382	0.002	0.1	139	
	Average/Number				0.2	136.3	0
	Pass/Fail				Pass	Pass	Pass

Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1045M	1 V	0.753	0.750	0.003	0.4	152	
Fabric Weight (g/m2)	2 V	0.706	0.705	0.002	0.3	180	
33.8	3 V	0.706	0.703	0.002	0.3	173	
Load	4 V	0.689	0.686	0.002	0.3	135	
50	5 V	0.778	0.776	0.001	0.1	179	
	6 H	0.737	0.736	0.001	0.1	170	
	7 H	0.761	0.760	0.002	0.3	145	
	8 H	0.751	0.750	0.002	0.3	164	
	9 H	0.707	0.701	0.006	0.8	166	
	10 H	0.737	0.736	0.001	0.1	147	
	Average/Number				0.3	161.1	0
	Pass/Fail				Pass	Pass	Pass
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1046R	1 V	1.181	1.154	0.028	2.4	138	
Fabric Weight (g/m2)	2 V	1.131	1.123	0.008	0.7	142	
47.3	3 V	1.144	1.142	0.003	0.3	138	
Load	4 V	1.115	1.111	0.004	0.4	120	
50	5 V	1.143	1.130	0.012	1.0	160	
	6 H	1.105	1.107	-0.002	-0.2	130	
	7 H	1.097	1.085	0.013	1.2	119	
	8 H	1.148	1.146	0.003	0.3	122	
	9 H	1.182	1.176	0.005	0.4	139	
	10 H	1.144	1.139	0.004	0.3	130	
	Average/Number				0.7	133.8	0
	Pass/Fail				Pass	Pass	Pass
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1046M	1 V	0.706	0.705	0.001	0.1	183	
Fabric Weight (g/m2)	2 V	0.697	0.696	0.001	0.1	172	
29.3	3 V	0.729	0.728	0.001	0.1	162	
Load	4 V	0.793	0.790	0.004	0.5	152	
50	5 V	0.737	0.736	0.000	0.0	151	
	6 H	0.705	0.702	0.003	0.4	170	
	7 H	0.694	0.694	0.000	0.0	185	
	8 H	0.717	0.714	0.003	0.4	176	
	9 H	0.755	0.714	0.041	5.4	152	
	10 H	0.715	0.714	0.002	0.3	161	
	Average/Number				0.7	166.4	0
	Pass/Fail				Pass	Pass	Pass

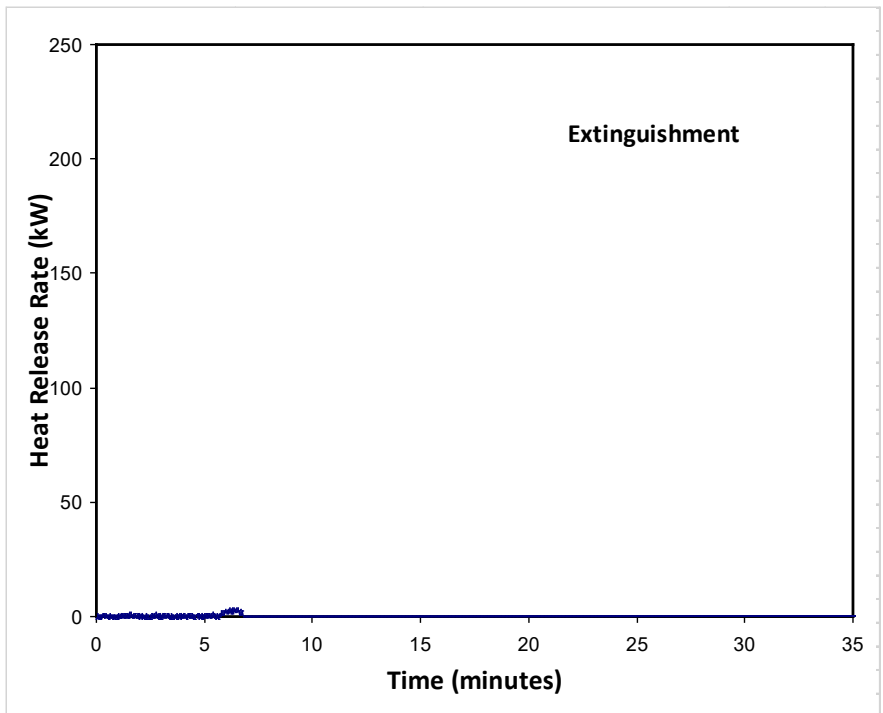
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1046W1	1 V	1.541	1.536	0.006	0.4	139	
Fabric Weight (g/m2)	2 V	1.484	1.483	0.000	0.0	125	
66	3 V	1.485	1.483	0.002	0.1	84	
Load	4 V	1.521	1.529	-0.008	-0.5	143	
50	5 V	1.482	1.478	0.004	0.3	127	
	6 H	1.575	1.573	0.002	0.1	114	
	7 H	1.525	1.534	-0.009	-0.6	131	
	8 H	1.496	1.495	0.000	0.0	128	
	9 H	1.536	1.533	0.004	0.3	108	
	10 H	1.575	1.572	0.004	0.3	116	
	Average/Number				0.0	121.5	0
	Pass/Fail				Pass	Pass	Pass
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1046W2	1 H	1.047	1.033	0.014	1.3	135	
Fabric Weight (g/m2)	2 H	1.052	1.034	0.018	1.7	140	
44	3 H	1.005	0.992	0.012	1.2	131	
Load	4 H	1.029	1.020	0.008	0.8	141	
50	5 H	1.094	1.086	0.008	0.7	135	
	6			0.000	#DIV/0!		
	7			0.000	#DIV/0!		
	8			0.000	#DIV/0!		
	9			0.000	#DIV/0!		
	10			0.000	#DIV/0!		
	Average/Number				1.2	136.4	0
	Pass/Fail				Pass	Pass	Pass
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1046F	1 V	1.420	1.417	0.002	0.1	134	
Fabric Weight (g/m2)	2 V	1.573	1.563	0.010	0.6	123	
66.2	3 V	1.461	1.463	-0.003	-0.2	130	
Load	4 V	1.502	1.498	0.004	0.3	132	
50	5 V	1.628	1.619	0.009	0.6	146	
	6 H	1.462	1.212	0.250	17.1	181	
	7 H	1.590	1.479	0.111	7.0	125	Yes
	8 H	1.513	1.339	0.175	11.6	272	
	9 H	1.442	1.426	0.017	1.2	130	
	10 H	1.517	1.514	0.004	0.3	142	
	Average/Number				3.8	151.5	1
	Pass/Fail				Pass	Pass	Pass

Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1101	1 V	0.885	0.808	0.076	8.6	242	
Fabric Weight (g/m2)	2 V	0.898	0.868	0.029	3.2	153	
41.7	3 V	0.888	0.853	0.035	3.9	158	
Load	4 V	0.907	0.869	0.038	4.2	187	
50	5 V	0.867	0.844	0.023	2.7	146	
	6 H	0.915	0.911	0.004	0.4	129	
	7 H	0.896	0.886	0.010	1.1	149	
	8 H	0.806	0.749	0.056	6.9	170	
	9 H	0.928	0.907	0.020	2.2	149	
	10 H	0.963	0.847	0.116	12.0	187	
	Average/Number				4.5	167.0	0
	Pass/Fail				Pass	Pass	Pass
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1102	1 V	0.832	0.569	0.262	31.5	305	
Fabric Weight (g/m2)	2 V	0.834	0.801	0.033	4.0	169	
39.7	3 V	0.871	0.622	0.249	28.6	305	
Load	4 V	0.851	0.521	0.329	38.7	305	
50	5 V	0.860	0.636	0.223	25.9	305	
	6 H	0.864	0.672	0.192	22.2	305	
	7 H	0.868	0.663	0.204	23.5	305	
	8 H	0.854	0.564	0.290	33.9	305	
	9 H	0.833	0.537	0.296	35.5	305	
	10 H	0.847	0.548	0.300	35.4	305	
	Average/Number				27.9	291.4	0
	Pass/Fail				Fail	Fail	Pass
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1103	1 V	7.669	7.412	0.257	3.4	55	
Fabric Weight (g/m2)	2 V	7.477	7.196	0.281	3.8	71	
344.8	3 V	7.926	7.784	0.143	1.8	40	
Load	4 V	7.830	7.522	0.307	3.9	93	
300	5 V	7.890	7.572	0.318	4.0	67	
	6 H	7.636	7.468	0.168	2.2	57	
	7 H	7.713	7.443	0.271	3.5	74	
	8 H	7.461	7.139	0.323	4.3	85	
	9 H	7.646	7.378	0.268	3.5	70	
	10 H	7.517	7.232	0.285	3.8	79	
	Average/Number				3.4	69.1	0
	Pass/Fail				Pass	Pass	Pass

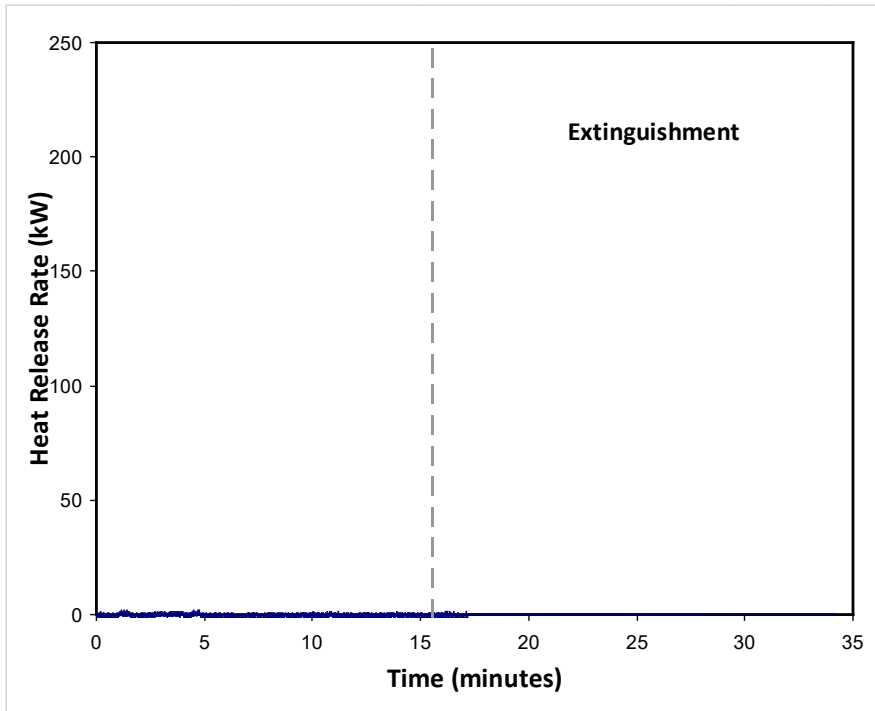
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1104	1 V	6.086	1.947	4.139	68.0	305	
Fabric Weight (g/m2)	2 V	6.065	1.943	4.122	68.0	305	
282	3 V	6.227	1.996	4.231	67.9	305	
Load	4 V	6.232	1.835	4.397	70.6	305	
200	5 V	6.243	1.996	4.246	68.0	305	
	6 H	6.107	1.937	4.169	68.3	305	
	7 H	6.203	2.108	4.095	66.0	305	
	8 H	6.156	2.018	4.138	67.2	305	
	9 H	6.094	2.053	4.041	66.3	305	
	10 H	6.264	1.857	4.407	70.4	305	
	Average/Number				68.1	305.0	0
	Pass/Fail				Fail	Fail	Pass
Sample #	Specimen #	Mass Before	Mass After	Mass Loss	Percent	Char Length (m)	Flaming Debris
1105	1 V	8.471	3.002	5.470	64.6	305	
Fabric Weight (g/m2)	2 V	8.499	2.545	5.954	70.0	305	
371.3	3 V	8.287	2.760	5.527	66.7	305	
Load	4 V	8.129	2.780	5.348	65.8	305	
300	5 V	8.099	2.133	5.966	73.7	305	
	6 H	8.247	2.927	5.319	64.5	305	
	7 H	8.430	3.092	5.338	63.3	305	
	8 H	8.453	2.957	5.496	65.0	305	
	9 H	8.484	3.045	5.439	64.1	305	
	10 H	8.168	2.633	5.535	67.8	305	
	Average/Number				66.5	305.0	0
	Pass/Fail				Pass	Fail	Pass

Full Scale Tent Testing Calorimetry Data and Observations

Note: "NaN" in results stands for "not a number" and indicates a value was not reached for this calculation



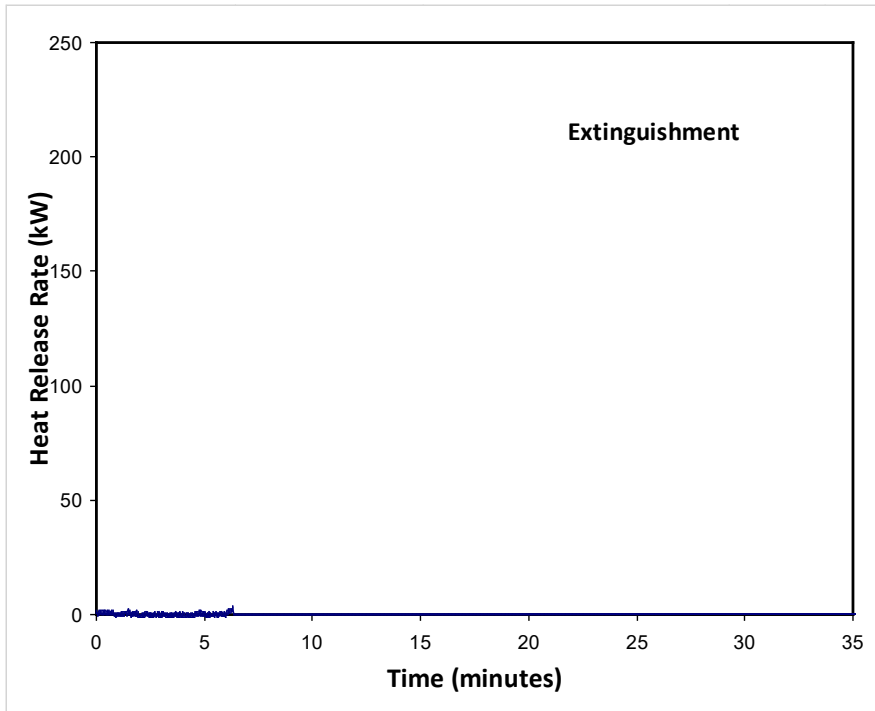
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Filename:			
Lab:	CPSC		
LIMS ID:			
Date:	12/6/2022		
Start Time:	10:16:00 AM		
PI:	Maling		
Operator:	Kent		
Hood Size:	3m x 3m		
Hood Calibration Factor:	0.94		
CPSC Results			
Sample ID:	1048-1		
Time to 200 kW:	NaN	min	
Time to 15 MJ:	NaN	min	
Peak Heat Release Rate:	0.0	kW	
Time to Peak HRR:	0.00	min	
Total Heat Release at 10 min:	0.0	MJ	
End of Test Description:	Water Extinguished		
Notes			
Lab Temperature		18.4 C	
Lab Humidity		42 %	
Time Remove Sample from Conditions		9:43	
Test Start Time		10:15	
Test End Time		10:20	
Height from burner to tent		23 5/8	
Time to breakthrough/melting of tent wall	N/A		
Time to floor ignition	N/A		
Time to tent wall ignition	N/A		
Time to base flame reach 18 inches	N/A		
Observations			



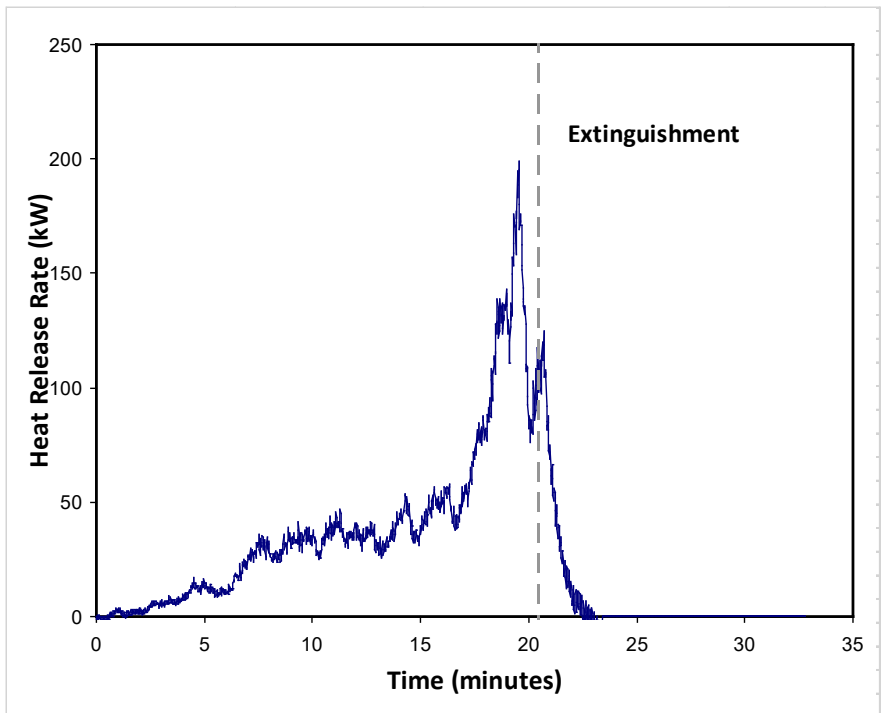
Report Summary			
Filename:			
Lab:	CPSC		
LIMS ID:			
Date:	12/6/2022		
Start Time:	10:29:00 AM		
PI:	Maling		
Operator:	Kent		
Hood Size:	3m x 3m		
Hood Calibration Factor:	0.94		

CPSC Results			
Sample ID:	1048-2		
Time to 200 kW:	NaN	min	
Time to 15 MJ:	NaN	min	
Peak Heat Release Rate:	1.7	kW	
Time to Peak HRR:	4.68	min	
Total Heat Release at 10 min:	0.5	MJ	
End of Test Description:	Water Extinguished		

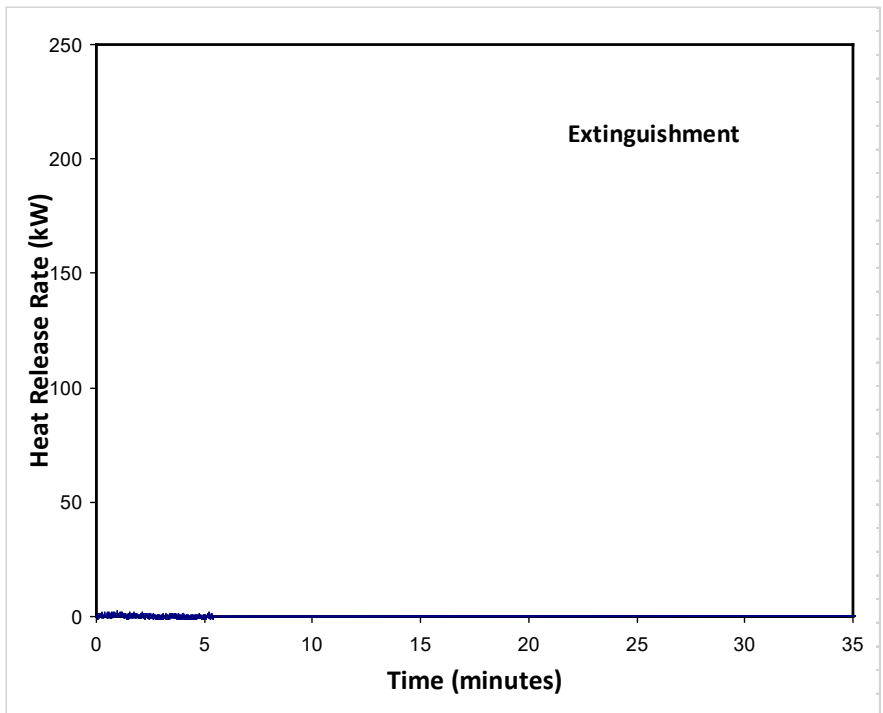
Notes			
	Watch glass in corner. No burner stand		
Lab Temperature		18.4	C
Lab Humidity		42	%
Time Remove Sample from Conditions		9:43	
Test Start Time		10:30	
Test End Time		10:45	
Height from burner to tent			
Time to breakthrough/melting of tent wall	<1 minute		
Time to floor ignition			
Time to tent wall ignition			
Time to base flame reach 18 inches			
Observations	Zipper caught fire and slowly spreads along zip		



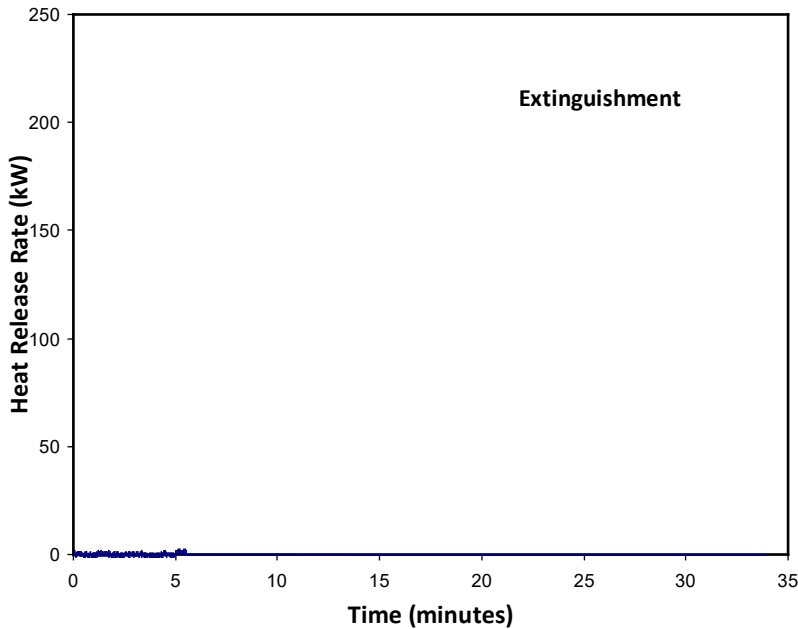
Report Summary			
Filename:			
Lab:	CPSC		
LIMS ID:			
Date:	12/6/2022		
Start Time:	11:14:00 AM		
PI:	Maling		
Operator:	Kent		
Hood Size:	3m x 3m		
Hood Calibration Factor:	0.94		
CPSC Results			
Sample ID:	1047-1		
Time to 200 kW:	NaN	min	
Time to 15 MJ:	NaN	min	
Peak Heat Release Rate:	0.0	kW	
Time to Peak HRR:	0.00	min	
Total Heat Release at 10 min:	0.0	MJ	
End of Test Description:	Water Extinguished		
Notes			
Lab Temperature		17.1 C	
Lab Humidity		48 %	
Time Remove Sample from Conditions		11:00	
Test Start Time		11:10	
Test End Time		11:15	
Height from burner to tent	23 1/8 inch		
Time to breakthrough/melting of tent wall			
Time to floor ignition			
Time to tent wall ignition			
Time to base flame reach 18 inches			
Observations			



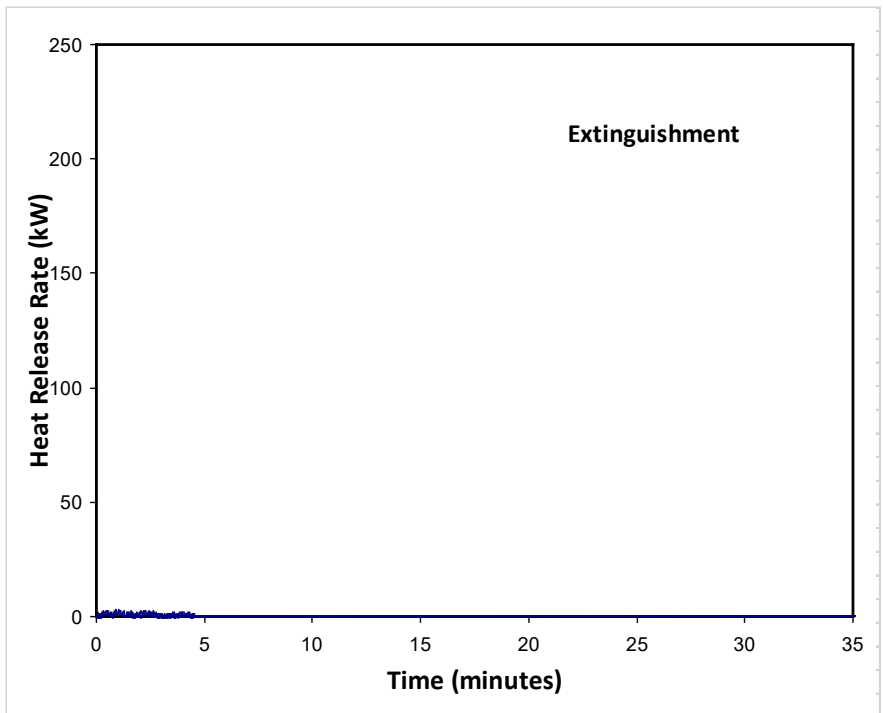
Report Summary			
Filename:			
Lab:	CPSC		
LIMS ID:			
Date:	12/6/2022		
Start Time:	11:24:00 AM		
PI:	Maling		
Operator:	Kent		
Hood Size:	3m x 3m		
Hood Calibration Factor:	0.94		
CPSC Results			
Sample ID:	1047-2		
Time to 200 kW:	NaN	min	
Time to 15 MJ:	12.98	min	
Peak Heat Release Rate:	198.7	kW	
Time to Peak HRR:	19.55	min	
Total Heat Release at 10 min:	8.7	MJ	
End of Test Description:	Water Extinguished		
Notes			
Notes	Watchglass in corner. No burner stand		
Lab Temperature		17.1	C
Lab Humidity		48	%
Time Remove Sample from Conditions		11:00	
Test Start Time		11:20	
Test End Time		11:40	
Height from burner to tent			
Time to breakthrough/melting of tent wall			
Time to floor ignition			
Time to tent wall ignition			
Time to base flame reach 18 inches	~56 seconds		
Observations	A lot of smoke inside tent		



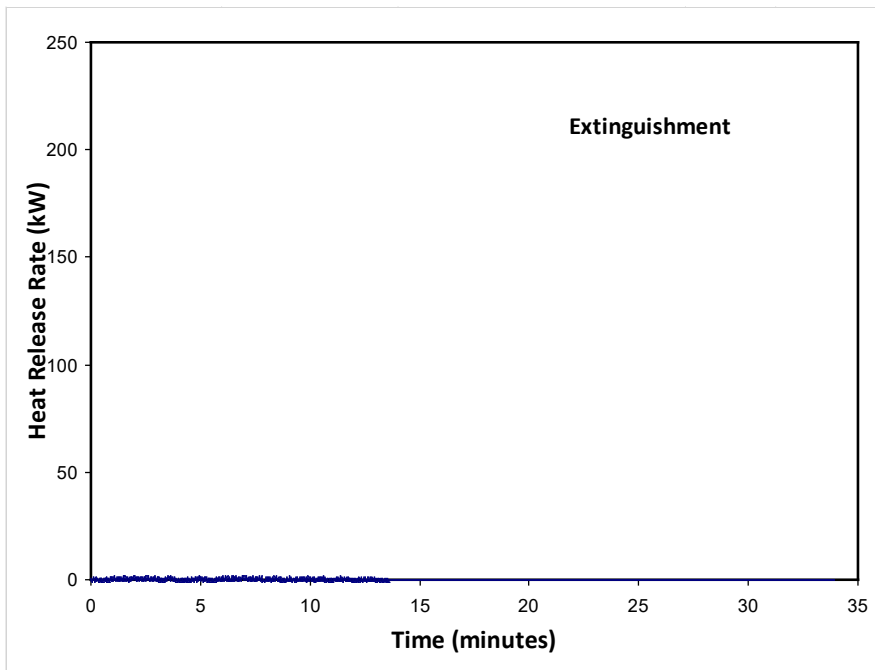
Report Summary			
Filename:			
Lab:	CPSC		
LIMS ID:			
Date:	12/9/2022		
Start Time:	10:54:00 AM		
PI:	Maling		
Operator:	Kent		
Hood Size:	3m x 3m		
Hood Calibration Factor:	0.98		
CPSC Results			
Sample ID:	1045-1		
Time to 200 kW:	NaN	min	
Time to 15 MJ:	NaN	min	
Peak Heat Release Rate:	0.0	kW	
Time to Peak HRR:	0.00	min	
Total Heat Release at 10 min:	0.0	MJ	
End of Test Description:	Water Extinguished		
Notes			
Notes	No fly		
Lab Temperature	18.7	C	
Lab Humidity	24	%	
Time Remove Sample from Conditions	10:43		
Test Start Time	10:50		
Test End Time	10:54		
Height from burner to tent	9 1/2 inches		
Time to breakthrough/melting of tent wall	8 seconds		
Time to floor ignition	N/A		
Time to tent wall ignition	N/A		
Time to base flame reach 18 inches	N/A		
Observations			0



Report Summary		
Filename:		
Lab:	CPSC	
LIMS ID:		
Date:	12/9/2022	
Start Time:	11:05:00 AM	
PI:	Maling	
Operator:	Kent	
Hood Size:	3m x 3m	
Hood Calibration Factor:	0.98	
CPSC Results		
Sample ID:	1045-2	
Time to 200 kW:	NaN	min
Time to 15 MJ:	NaN	min
Peak Heat Release Rate:	0.0	kW
Time to Peak HRR:	0.00	min
Total Heat Release at 10 min:	0.0	MJ
End of Test Description:	Water Extinguished	
Notes		
Notes	With Fly	
Lab Temperature	18.7	C
Lab Humidity	24	%
Time Remove Sample from Conditions	10:43	
Test Start Time	11:01	
Test End Time	11:06	
Height from burner to tent	9 1/2 inches	
Time to breakthrough/melting of tent wall	1:30 minutes break through fly (Couldn't see inside for time to breakthrough tent wall)	
Time to floor ignition	N/A	
Time to tent wall ignition	N/A	
Time to base flame reach 18 inches	N/A	
Observations		



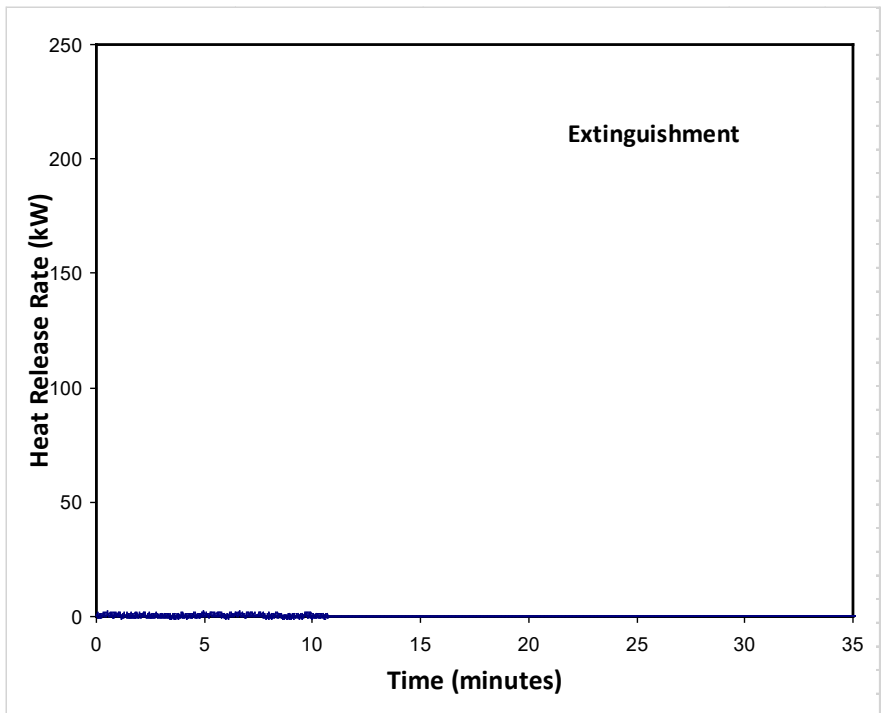
Report Summary			
Filename:			
Lab:	CPSC		
LIMS ID:			
Date:	12/9/2022		
Start Time:	11:28:00 AM		
PI:	Maling		
Operator:	Kent		
Hood Size:	3m x 3m		
Hood Calibration Factor:	0.98		
CPSC Results			
Sample ID:	1046-1		
Time to 200 kW:	NaN	min	
Time to 15 MJ:	NaN	min	
Peak Heat Release Rate:	0.0	kW	
Time to Peak HRR:	0.00	min	
Total Heat Release at 10 min:	0.0	MJ	
End of Test Description:	Water Extinguished		
Notes			
Notes	No fly		
Lab Temperature	18.7	C	
Lab Humidity	24	%	
Time Remove Sample from Conditions	11:20		
Test Start Time	11:25		
Test End Time	11:29		
Height from burner to tent	9 1/2 inches		
Time to breakthrough/melting of tent wall	5 Seconds		
Time to floor ignition	N/A		
Time to tent wall ignition	N/A		
Time to base flame reach 18 inches	N/A		
Observations			



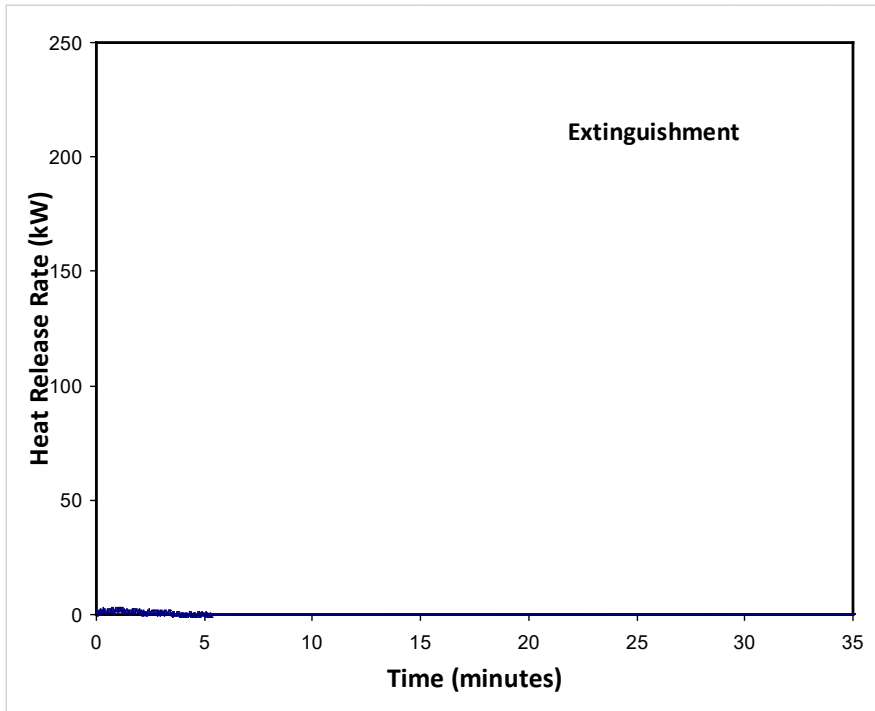
Report Summary			
Filename:			
Lab:	CPSC		
LIMS ID:			
Date:	12/9/2022		
Start Time:	11:38:00 AM		
PI:	Maling		
Operator:	Kent		
Hood Size:	3m x 3m		
Hood Calibration Factor:	0.98		

CPSC Results			
Sample ID:	1046-2		
Time to 200 kW:	NaN	min	
Time to 15 MJ:	NaN	min	
Peak Heat Release Rate:	0.0	kW	
Time to Peak HRR:	0.00	min	
Total Heat Release at 10 min:	0.0	MJ	
End of Test Description:	Water Extinguished		

Notes			
	With Fly		
Lab Temperature	18.7	C	
Lab Humidity	24	%	
Time Remove Sample from Conditions	11:20		
Test Start Time	11:30		
Test End Time	11:35		
Height from burner to tent	9 1/2 inches		
Time to breakthrough/melting of tent wall	<15 seconds		(can't see through fly)
Time to floor ignition	~5 minutes 47 seconds		
Time to tent wall ignition			(can't see through fly)
Time to base flame reach 18 inches	4 minutes 49 seconds		
Observations	Gray fabric stripe continued to burn and spread while other fabrics didn't. Allowed to self extinguish at 8 minutes 58 seconds		



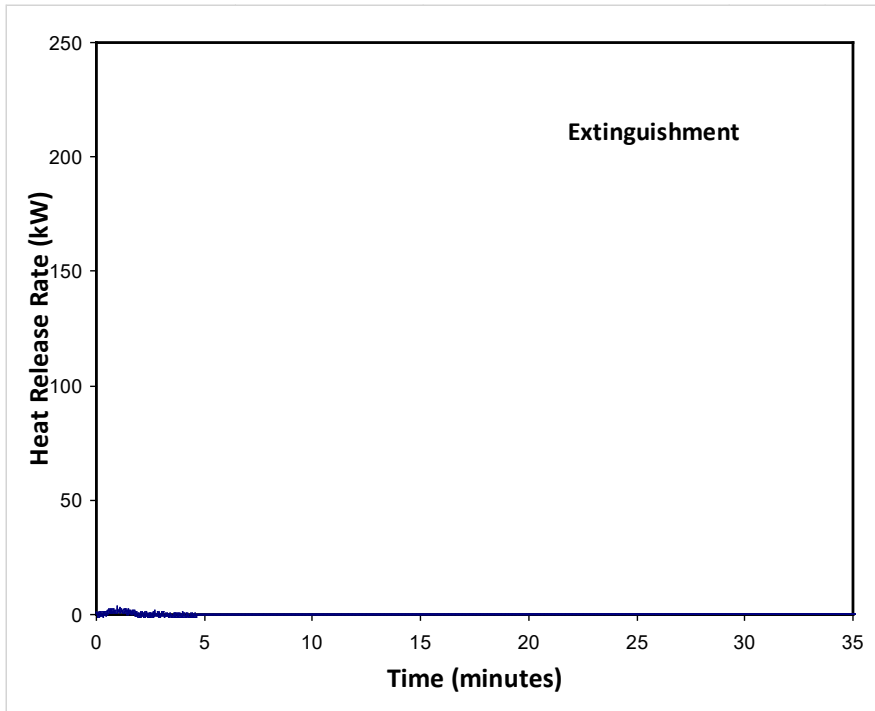
Report Summary			
Filename:			
Lab:	CPSC		
LIMS ID:			
Date:	12/9/2022		
Start Time:	11:59:00 AM		
Pl:	Maling		
Operator:	Kent		
Hood Size:	3m x 3m		
Hood Calibration Factor:	0.98		
CPSC Results			
Sample ID:	1046-3		
Time to 200 kW:	NaN	min	
Time to 15 MJ:	NaN	min	
Peak Heat Release Rate:	0.0	kW	
Time to Peak HRR:	0.00	min	
Total Heat Release at 10 min:	0.0	MJ	
End of Test Description:	Water Extinguished		
Notes			
Notes	With Fly		
Lab Temperature		18.7	C
Lab Humidity		24	%
Time Remove Sample from Conditions		11:20	
Test Start Time		11:55	
Test End Time		12:00	
Height from burner to tent	9 1/2 inches		
Time to breakthrough/melting of tent wall			
Time to floor ignition			
Time to tent wall ignition			
Time to base flame reach 18 inches			
Observations			



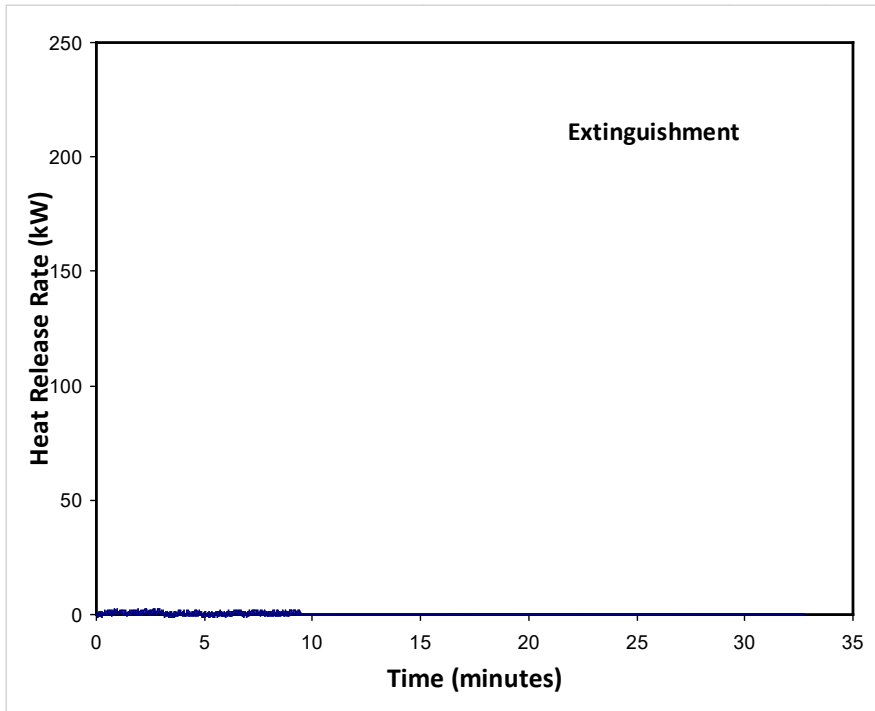
Report Summary			
Filename:			
Lab:	CPSC		
LIMS ID:			
Date:	12/9/2022		
Start Time:	10:02:00 AM		
PI:	Maling		
Operator:	Kent		
Hood Size:	3m x 3m		
Hood Calibration Factor:	0.98		

CPSC Results			
Sample ID:	1044-1		
Time to 200 kW:	NaN	min	
Time to 15 MJ:	NaN	min	
Peak Heat Release Rate:	0.0	kW	
Time to Peak HRR:	0.00	min	
Total Heat Release at 10 min:	0.0	MJ	
End of Test Description:	Water Extinguished		

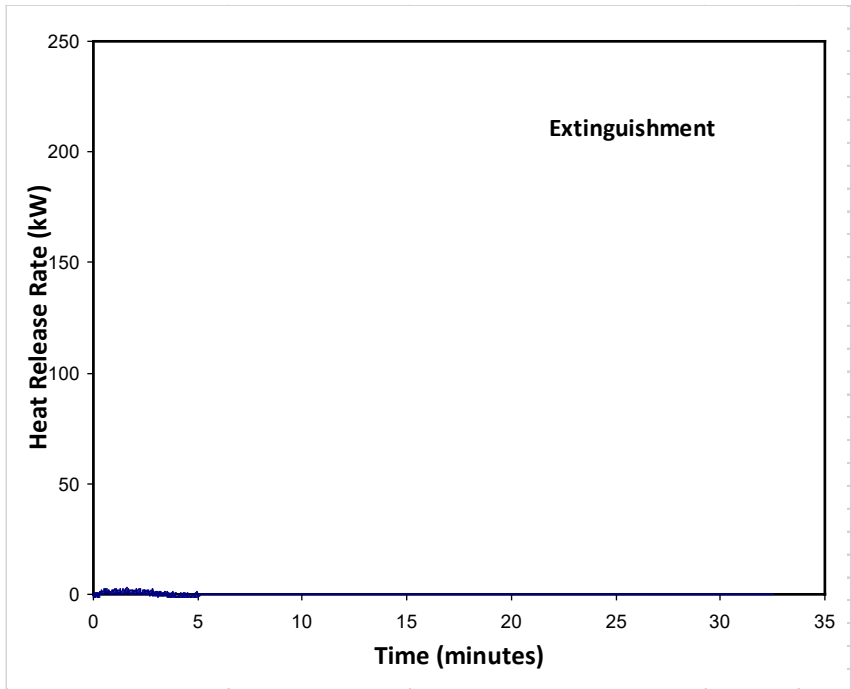
Notes			
Lab Temperature		18.7	C
Lab Humidity		24	%
Time Remove Sample from Conditions		9:40	
Test Start Time		10:10	
Test End Time		10:15	
Height from burner to tent	26 inches		
Time to breakthrough/melting of tent wall			
Time to floor ignition			
Time to tent wall ignition			
Time to base flame reach 18 inches			
Observations			



Report Summary			
Filename:			
Lab:	CPSC		
LIMS ID:			
Date:	12/9/2022		
Start Time:	10:14:00 AM		
PI:	Maling		
Operator:	Kent		
Hood Size:	3m x 3m		
Hood Calibration Factor:	0.98		
CPSC Results			
Sample ID:	1044-2		
Time to 200 kW:	NaN	min	
Time to 15 MJ:	NaN	min	
Peak Heat Release Rate:	0.0	kW	
Time to Peak HRR:	0.00	min	
Total Heat Release at 10 min:	0.0	MJ	
End of Test Description:	Water Extinguished		
Notes			
Notes	Burner placed in vestibule next to tent wall		
Lab Temperature	18.7	C	
Lab Humidity	24	%	
Time Remove Sample from Conditions	9:40		
Test Start Time	10:10		
Test End Time	10:15		
Height from burner to tent	26	inches	
Time to breakthrough/melting of tent wall			
Time to floor ignition			
Time to tent wall ignition			
Time to base flame reach 18 inches			
Observations			0



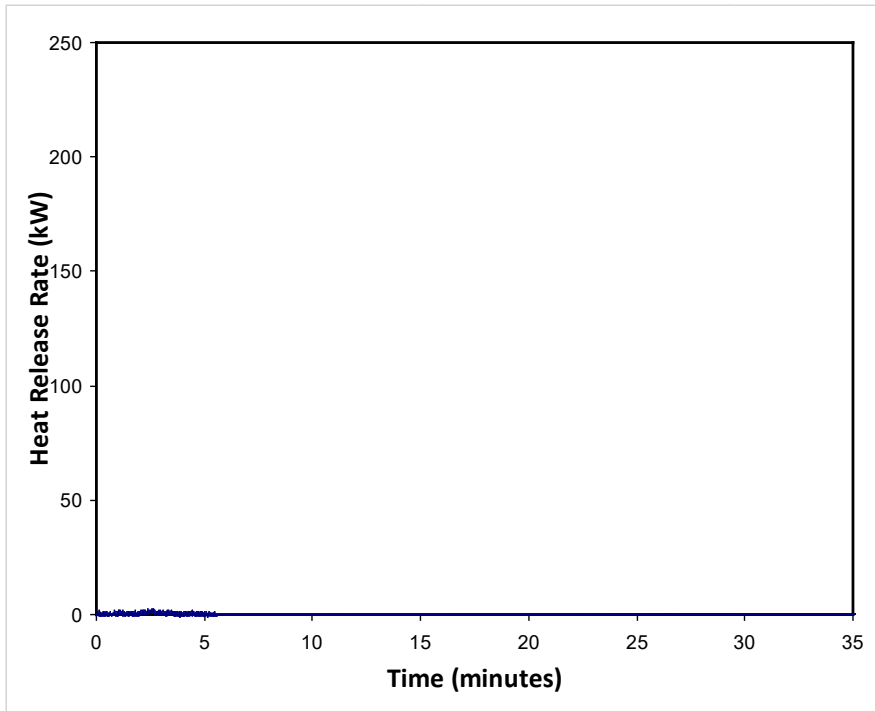
Report Summary			
Filename:			
Lab:	CPSC		
LIMS ID:			
Date:	12/9/2022		
Start Time:	10:23:00 AM		
PI:	Maling		
Operator:	Kent		
Hood Size:	3m x 3m		
Hood Calibration Factor:	0.98		
CPSC Results			
Sample ID:	1044-3		
Time to 200 kW:	NaN	min	
Time to 15 MJ:	NaN	min	
Peak Heat Release Rate:	0.0	kW	
Time to Peak HRR:	0.00	min	
Total Heat Release at 10 min:	0.0	MJ	
End of Test Description:	Water Extinguished		
Notes			
Notes	Burner placed outside tent in tent vestibule		
Lab Temperature	18.7	C	
Lab Humidity	24	%	
Time Remove Sample from Conditions	9:40		
Test Start Time	10:20		
Test End Time	10:24		
Height from burner to tent	7 1/2 inches		
Time to breakthrough/melting of tent wall	<14 seconds		
Time to floor ignition	N/A		
Time to tent wall ignition	N/A		
Time to base flame reach 18 inches	N/A		
Observations			



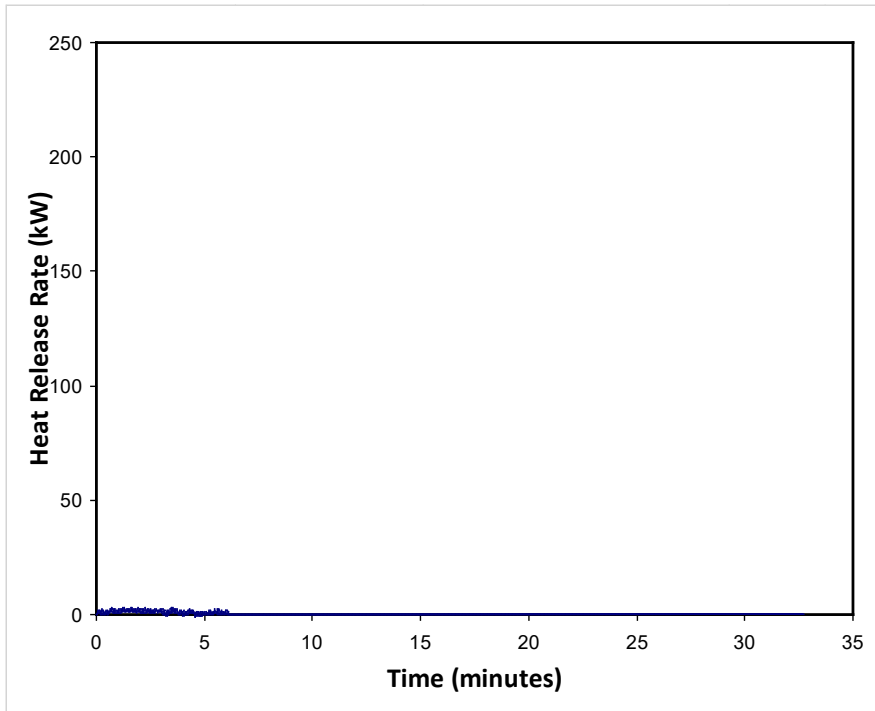
Report Summary			
Filename:			
Lab:	CPSC		
LIMS ID:			
Date:	12/9/2022		
Start Time:	10:35:00 AM		
PI:	Maling		
Operator:	Kent		
Hood Size:	3m x 3m		
Hood Calibration Factor:	0.98		

CPSC Results			
Sample ID:	1044-4		
Time to 200 kW:	NaN	min	
Time to 15 MJ:	NaN	min	
Peak Heat Release Rate:	0.0	kW	
Time to Peak HRR:	0.00	min	
Total Heat Release at 10 min:	0.0	MJ	
End of Test Description:	Water Extinguished		

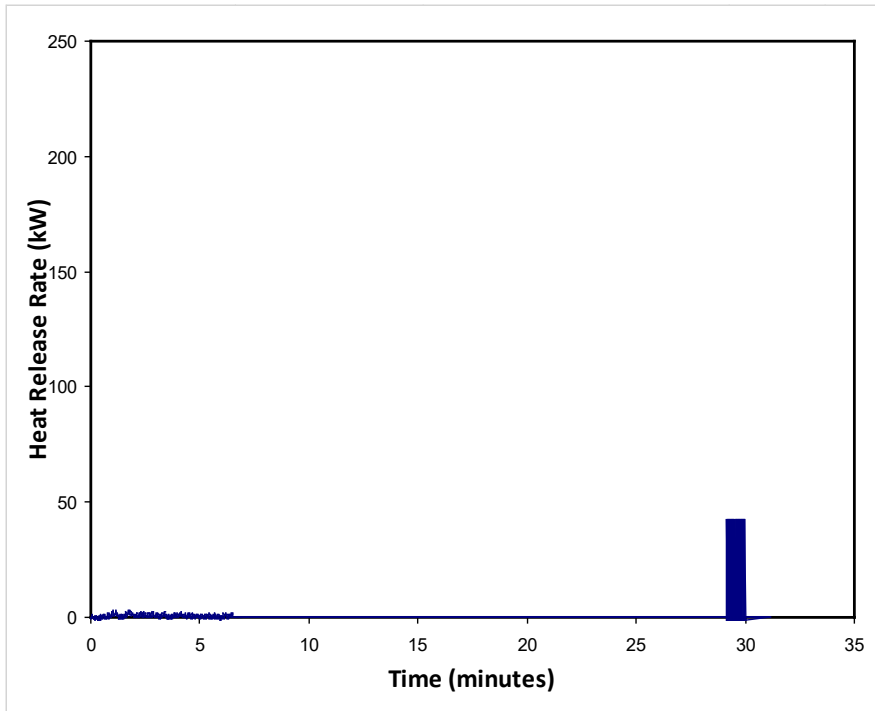
Notes			
	Burner under window partially open with fabric draping down		
Lab Temperature		18.7	C
Lab Humidity		24	%
Time Remove Sample from Conditions		9:40	
Test Start Time		10:32	
Test End Time		10:36	
Height from burner to tent	42 1/2 inches		
Time to breakthrough/melting of tent wall	N/A		
Time to floor ignition	N/A		
Time to tent wall ignition	N/A		
Time to base flame reach 18 inches	N/A		
Observations	Did not catch fire		



Report Summary			
Filename:			
Lab:	CPSC		
LIMS ID:			
Date:	2/3/2023		
Start Time:	1:49:00 PM		
Pl:	Maling		
Operator:	Kent		
Hood Size:	3m x 3m		
Hood Calibration Factor:	1.04		
CPSC Results			
Sample ID:	1039_1		
Time to 200 kW:	NaN	min	
Time to 15 MJ:	NaN	min	
Peak Heat Release Rate:	0.0	kW	
Time to Peak HRR:	0.00	min	
Total Heat Release at 10 min:	0.0	MJ	
End of Test Description:	Self Extinguished		
Notes			
Notes	Burner in corner by tall door		
Lab Temperature	20.6	C	
Lab Humidity	23	%	
Time Remove Sample from Conditions	1:35		
Test Start Time	1:45		
Test End Time	1:50		
Height from burner to tent	32 1/2 inches		
Time to breakthrough/melting of tent wall			
Time to floor ignition			
Time to tent wall ignition			
Time to base flame reach 18 inches			
Observations	Didn't burn		



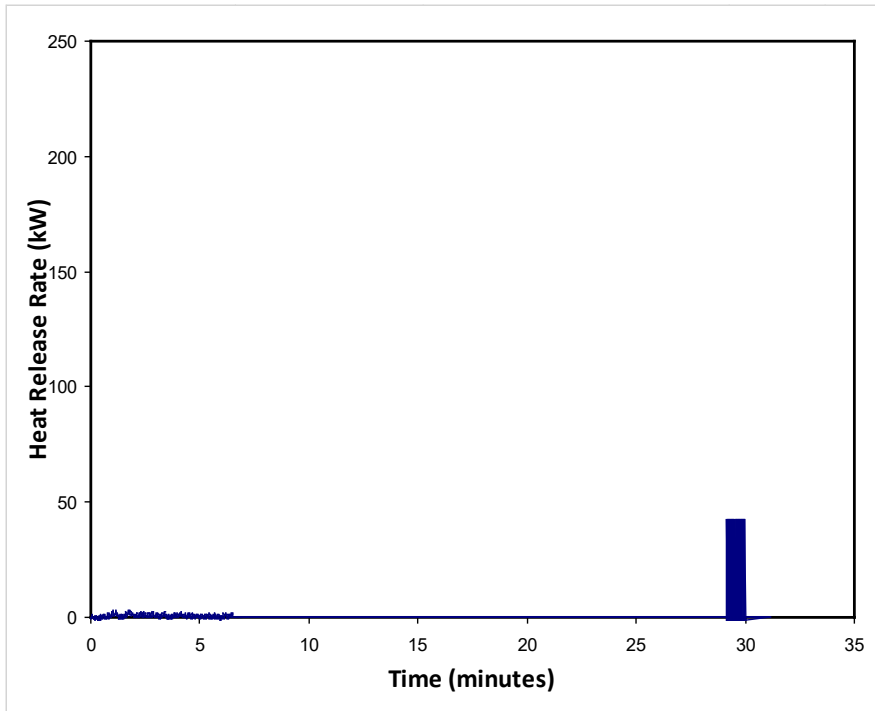
Report Summary			
Filename:			
Lab:	CPSC		
LIMS ID:			
Date:	2/3/2023		
Start Time:	1:59:00 PM		
Pl:	Maling		
Operator:	Kent		
Hood Size:	3m x 3m		
Hood Calibration Factor:	1.04		
CPSC Results			
Sample ID:	1039_2		
Time to 200 kW:	NaN	min	
Time to 15 MJ:	NaN	min	
Peak Heat Release Rate:	0.0	kW	
Time to Peak HRR:	0.00	min	
Total Heat Release at 10 min:	0.0	MJ	
End of Test Description:	Self Extinguished		
Notes			
Notes	Burner in corner by short door		
Lab Temperature	20.6	C	
Lab Humidity	23	%	
Time Remove Sample from Conditions	1:35		
Test Start Time	1:55		
Test End Time	2:00		
Height from burner to tent	16 1/2	inches	
Time to breakthrough/melting of tent wall			
Time to floor ignition			
Time to tent wall ignition			
Time to base flame reach 18 inches			
Observations	Didn't burn. No melting		



Report Summary			
Filename:			
Lab:	CPSC		
LIMS ID:			
Date:	2/3/2023		
Start Time:	2:07:00 PM		
PI:	Maling		
Operator:	Kent		
Hood Size:	3m x 3m		
Hood Calibration Factor:	1.04		

CPSC Results			
Sample ID:	1039_3		
Time to 200 kW:	NaN	min	
Time to 15 MJ:	NaN	min	
Peak Heat Release Rate:	0.0	kW	
Time to Peak HRR:	0.00	min	
Total Heat Release at 10 min:	0.0	MJ	
End of Test Description:	Self Extinguished		

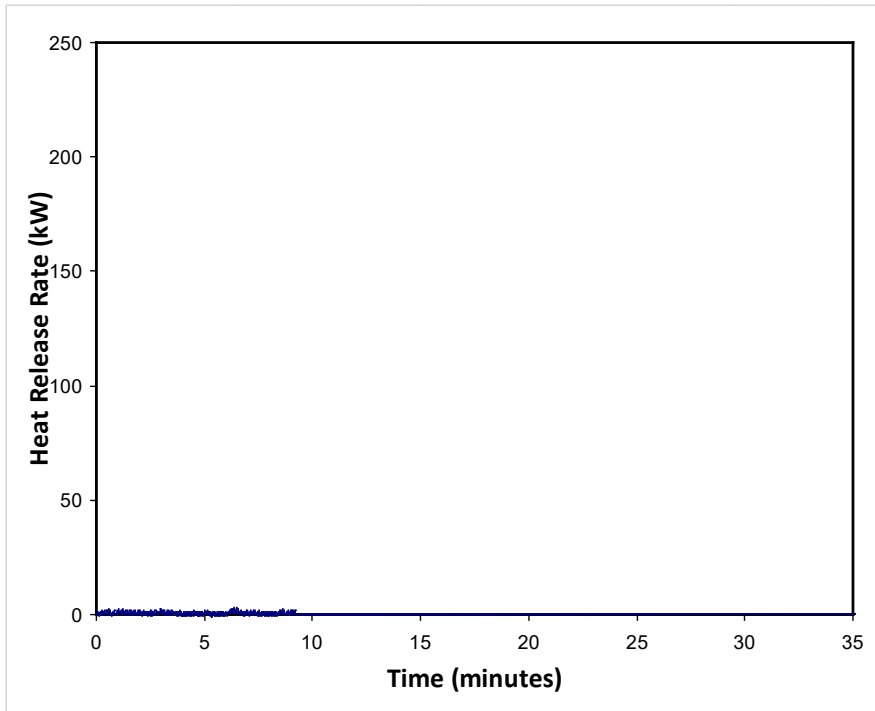
Notes			
Notes	Watchglass in corner by short door. No burner s		
Lab Temperature	20.6	C	
Lab Humidity	23	%	
Time Remove Sample from Conditions	1:35		
Test Start Time	2:04		
Test End Time	2:09		
Height from burner to tent	18 1/2	inches	
Time to breakthrough/melting of tent wall			
Time to floor ignition			
Time to tent wall ignition			
Time to base flame reach 18 inches			
Observations	Didn't burn. No melting		0



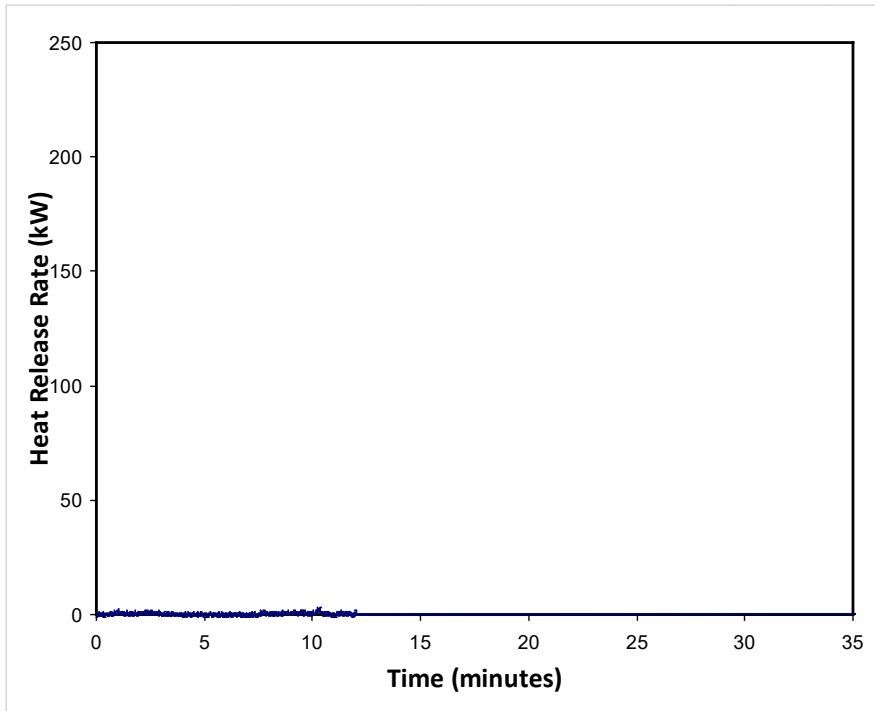
Report Summary			
Filename:			
Lab:	CPSC		
LIMS ID:			
Date:	2/3/2023		
Start Time:	2:07:00 PM		
Pl:	Maling		
Operator:	Kent		
Hood Size:	3m x 3m		
Hood Calibration Factor:	1.04		

CPSC Results			
Sample ID:	1039_3		
Time to 200 kW:	NaN	min	
Time to 15 MJ:	NaN	min	
Peak Heat Release Rate:	0.0	kW	
Time to Peak HRR:	0.00	min	
Total Heat Release at 10 min:	0.0	MJ	
End of Test Description:	Self Extinguished		

Notes			
Notes	Watchglass in corner by short door. No burner s		
Lab Temperature	20.6	C	
Lab Humidity	23	%	
Time Remove Sample from Conditions	1:35		
Test Start Time	2:04		
Test End Time	2:09		
Height from burner to tent	18 1/2	inches	
Time to breakthrough/melting of tent wall			
Time to floor ignition			
Time to tent wall ignition			
Time to base flame reach 18 inches			
Observations	Didn't burn. No melting		0



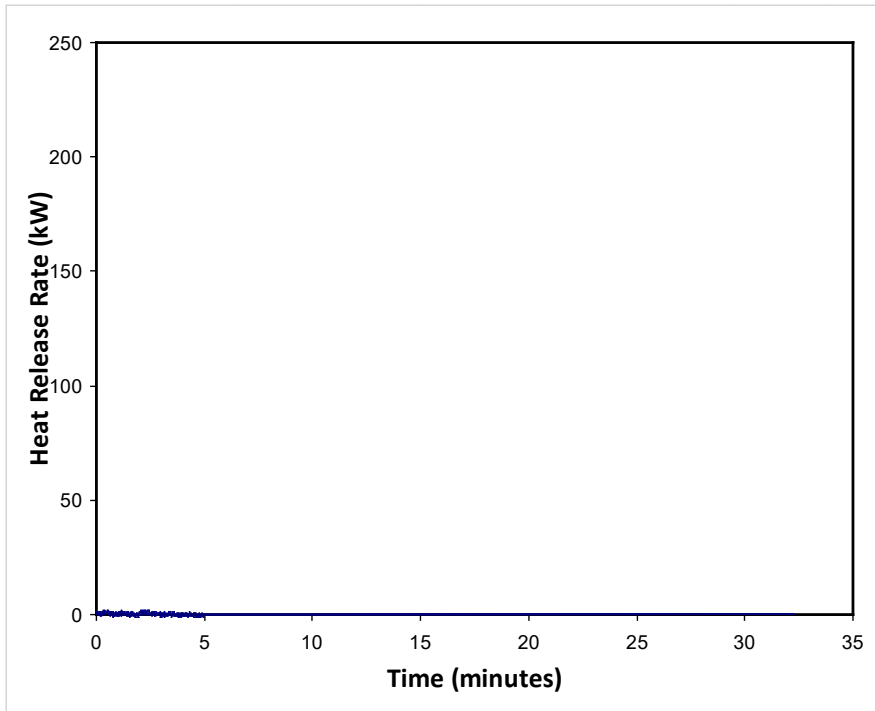
Report Summary			
Filename:			
Lab:	CPSC		
LIMS ID:			
Date:	2/3/2023		
Start Time:	1:27:00 PM		
PI:	Maling		
Operator:	Kent		
Hood Size:	3m x 3m		
Hood Calibration Factor:	1.04		
CPSC Results			
Sample ID:	1040_1		
Time to 200 kW:	NaN	min	
Time to 15 MJ:	NaN	min	
Peak Heat Release Rate:	0.0	kW	
Time to Peak HRR:	0.00	min	
Total Heat Release at 10 min:	0.0	MJ	
End of Test Description:	Self Extinguished		
Notes			
Notes	Burner in corner by tall door		
Lab Temperature	20.6	C	
Lab Humidity	23	%	
Time Remove Sample from Conditions	1:20		
Test Start Time	1:25		
Test End Time	1:30		
Height from burner to tent	8 inches		
Time to breakthrough/melting of tent wall	< 20 seconds		
Time to floor ignition			
Time to tent wall ignition			
Time to base flame reach 18 inches			
Observations			



Report Summary			
Filename:			
Lab:	CPSC		
LIMS ID:			
Date:	2/3/2023		
Start Time:	11:59:00 AM		
PI:	Maling		
Operator:	Kent		
Hood Size:	3m x 3m		
Hood Calibration Factor:	1.04		

CPSC Results			
Sample ID:	1041_1		
Time to 200 kW:	NaN	min	
Time to 15 MJ:	NaN	min	
Peak Heat Release Rate:	0.0	kW	
Time to Peak HRR:	0.00	min	
Total Heat Release at 10 min:	0.0	MJ	
End of Test Description:	Self Extinguished		

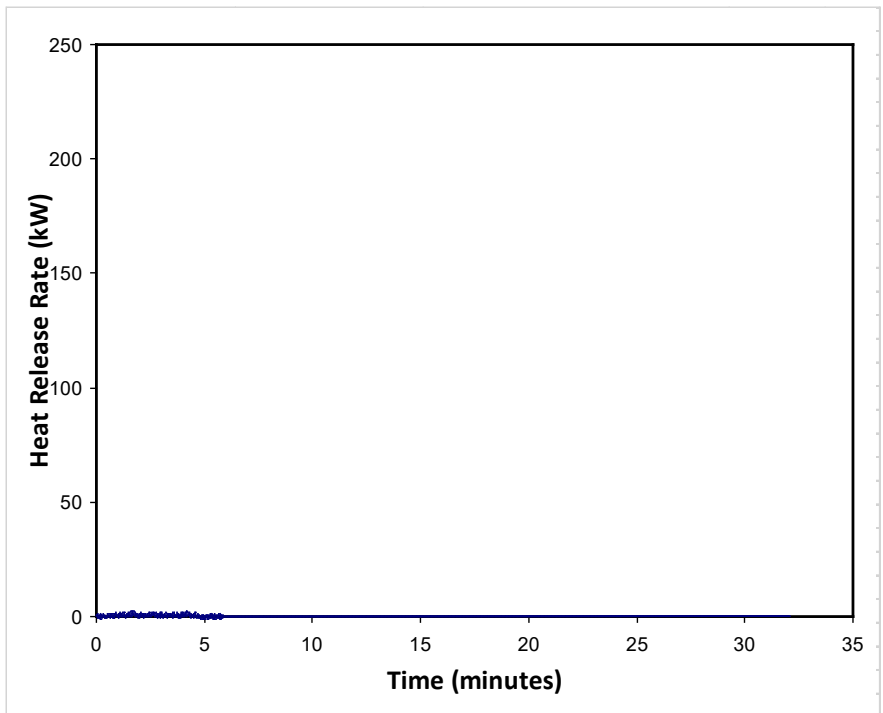
Notes			
Lab Temperature		20.6	C
Lab Humidity		23	%
Time Remove Sample from Conditions		11:37	
Test Start Time		11:55	
Test End Time		12:00	
Height from burner to tent			
Time to breakthrough/melting of tent wall			
Time to floor ignition			
Time to tent wall ignition			
Time to base flame reach 18 inches			
Observations	No Melting		



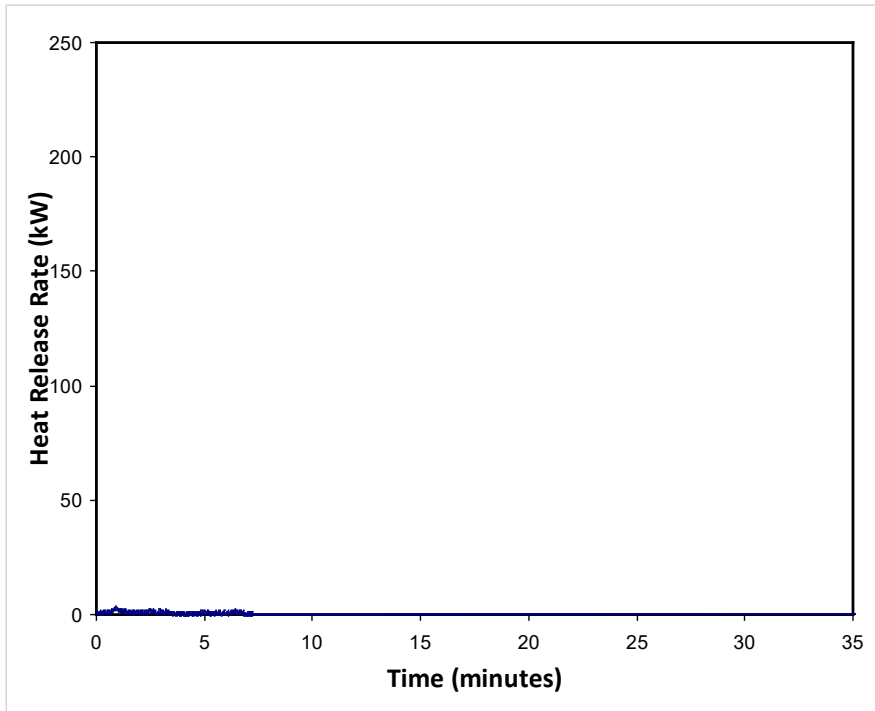
Report Summary			
Filename:			
Lab:	CPSC		
LIMS ID:			
Date:	2/3/2023		
Start Time:	12:15:00 PM		
PI:	Maling		
Operator:	Kent		
Hood Size:	3m x 3m		
Hood Calibration Factor:	1.04		

CPSC Results			
Sample ID:	1041_2		
Time to 200 kW:	NaN	min	
Time to 15 MJ:	NaN	min	
Peak Heat Release Rate:	0.0	kW	
Time to Peak HRR:	0.00	min	
Total Heat Release at 10 min:	0.0	MJ	
End of Test Description:	Self Extinguished		

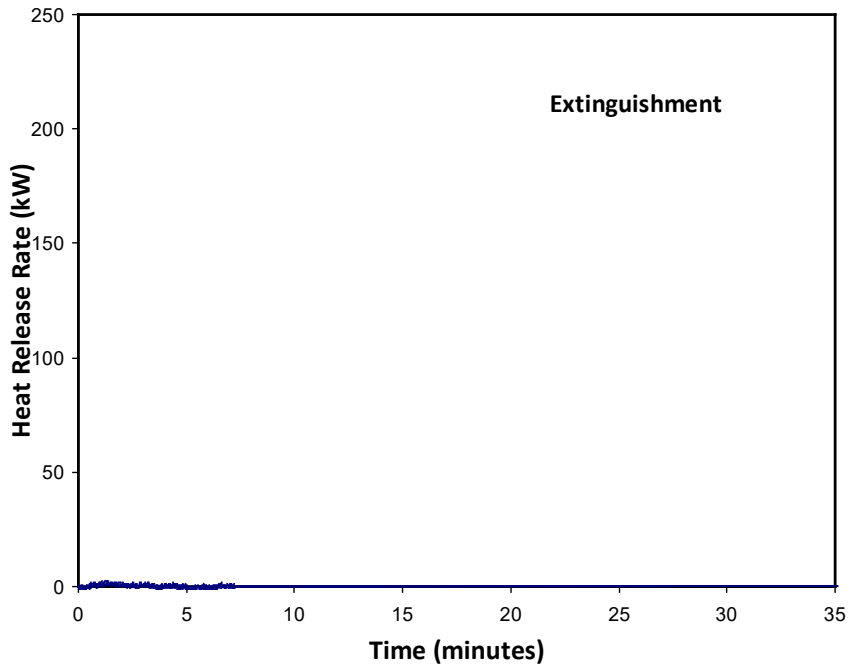
Notes			
Lab Temperature		20.6	C
Lab Humidity		23	%
Time Remove Sample from Conditions		11:37	
Test Start Time		12:11	
Test End Time		12:16	
Height from burner to tent		12	1/2
Time to breakthrough/melting of tent wall			
Time to floor ignition			
Time to tent wall ignition			
Time to base flame reach 18 inches			
Observations			



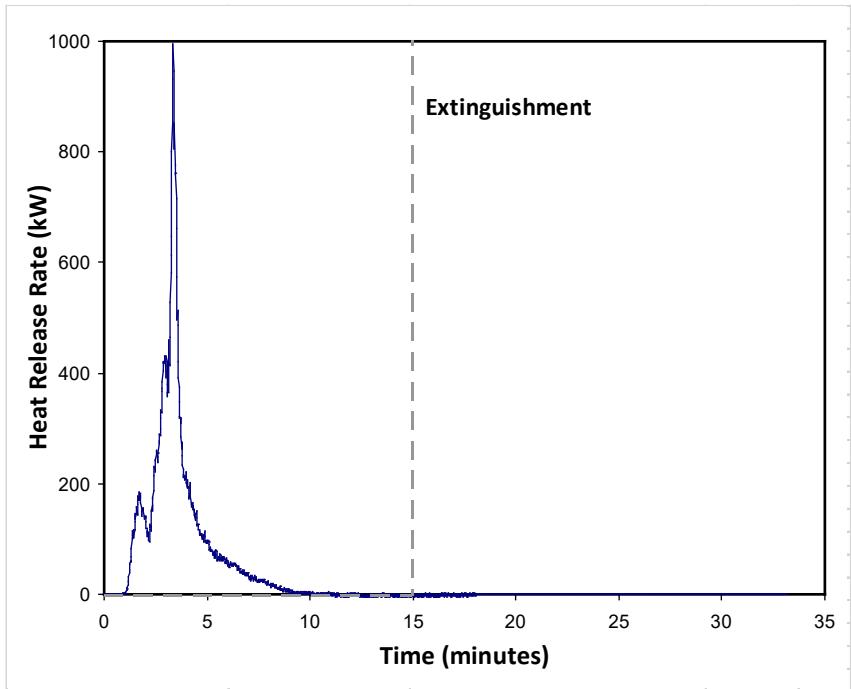
Report Summary			
Filename:			
Lab:	CPSC		
LIMS ID:			
Date:	2/3/2023		
Start Time:	12:23:00 PM		
PI:	Maling		
Operator:	Kent		
Hood Size:	3m x 3m		
Hood Calibration Factor:	1.04		
CPSC Results			
Sample ID:	1041_3		
Time to 200 kW:	NaN	min	
Time to 15 MJ:	NaN	min	
Peak Heat Release Rate:	0.0	kW	
Time to Peak HRR:	0.00	min	
Total Heat Release at 10 min:	0.0	MJ	
End of Test Description:	Self Extinguished		
Notes			
Lab Temperature		20.6 C	
Lab Humidity		23 %	
Time Remove Sample from Conditions		11:37	
Test Start Time		12:20	
Test End Time		12:35	
Height from burner to tent			
Time to breakthrough/melting of tent wall			
Time to floor ignition			
Time to tent wall ignition			
Time to base flame reach 18 inches			
Observations			



Report Summary			
Filename:			
Lab:	CPSC		
LIMS ID:			
Date:	2/3/2023		
Start Time:	11:28:00 AM		
Pl:	Maling		
Operator:	Kent		
Hood Size:	3m x 3m		
Hood Calibration Factor:	1.04		
CPSC Results			
Sample ID:	1042		
Time to 200 kW:	NaN	min	
Time to 15 MJ:	NaN	min	
Peak Heat Release Rate:	0.0	kW	
Time to Peak HRR:	0.00	min	
Total Heat Release at 10 min:	0.0	MJ	
End of Test Description:	Self Extinguished		
Notes			
Lab Temperature	20.6	C	
Lab Humidity	23	%	
Time Remove Sample from Conditions	11:15		
Test Start Time	11:25		
Test End Time	11:30		
Height from burner to tent	9 1/2 inches		
Time to breakthrough/melting of tent wall	12 seconds		
Time to floor ignition			
Time to tent wall ignition			
Time to base flame reach 18 inches			
Observations			



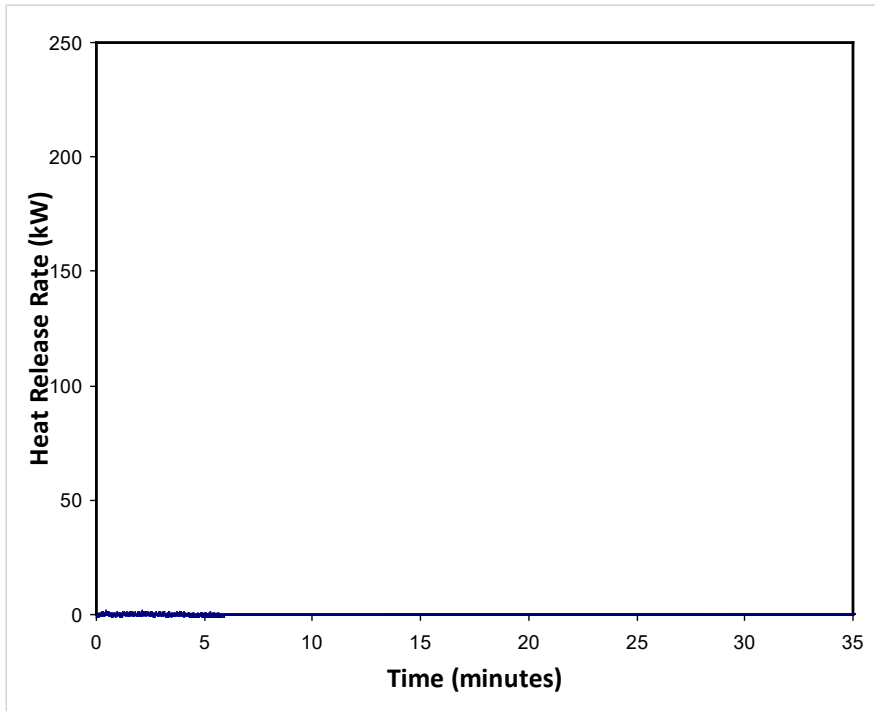
Report Summary			
Filename:			
Lab:	CPSC		
LIMS ID:			
Date:	2/3/2023		
Start Time:	11:02:00 AM		
PI:	Maling		
Operator:	Kent		
Hood Size:	3m x 3m		
Hood Calibration Factor:	1.04		
CPSC Results			
Sample ID:	1043		
Time to 200 kW:	NaN	min	
Time to 15 MJ:	NaN	min	
Peak Heat Release Rate:	0.0	kW	
Time to Peak HRR:	0.00	min	
Total Heat Release at 10 min:	0.0	MJ	
End of Test Description:	Water Extinguished		
Notes			
Lab Temperature	20.6	C	
Lab Humidity	23	%	
Time Remove Sample from Conditions	10:29		
Test Start Time	10:59		
Test End Time	11:05		
Height from burner to tent	8 1/2 inches		
Time to breakthrough/melting of tent wall	< 15 seconds melt away		
Time to floor ignition			
Time to tent wall ignition			
Time to base flame reach 18 inches	1 minute 4 seconds (melting up to line, but not flaming)		
Observations			



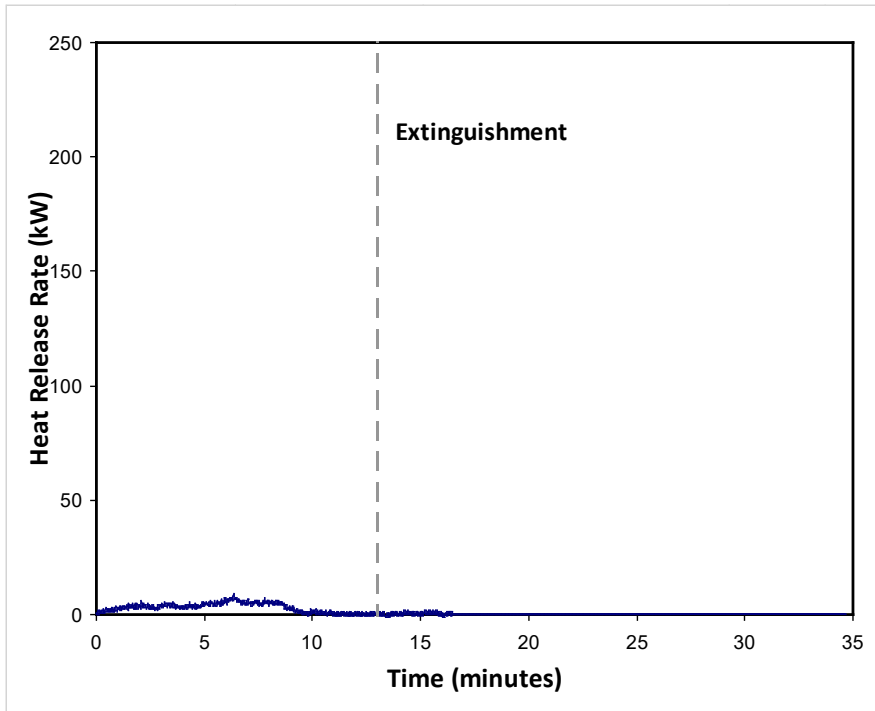
Report Summary			
Filename:			
Lab:	CPSC		
LIMS ID:			
Date:	1/11/2023		
Start Time:	11:22:00 AM		
PI:	Maling		
Operator:	Kent		
Hood Size:	3m x 3m		
Hood Calibration Factor:	1.09		

CPSC Results			
Sample ID:	1105Tri		
Time to 200 kW:	2.42	min	
Time to 15 MJ:	2.77	min	
Peak Heat Release Rate:	994.8	kW	
Time to Peak HRR:	3.35	min	
Total Heat Release at 10 min:	67.1	MJ	
End of Test Description:	Water Extinguished		

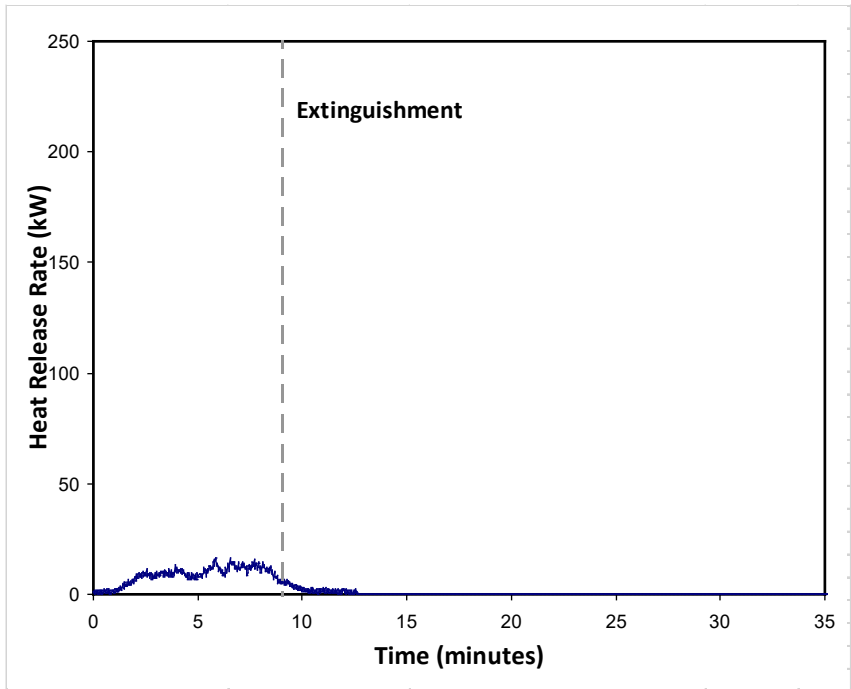
Notes			
Lab Temperature		23.1 C	
Lab Humidity		23 %	
Time Remove Sample from Conditions		11:15	
Test Start Time		11:20	
Test End Time		11:34	
Height from burner to tent	3 1/4 inches		
Time to breakthrough/melting of tent wall	15 seconds		
Time to floor ignition	<2 minutes		
Time to tent wall ignition	< 15 seconds		
Time to base flame reach 18 inches	< 40 seconds		
Observations	Tent collapse < 5minutes. Almost completely burned in 6 minutes.		



Report Summary			
Filename:			
Lab:	CPSC		
LIMS ID:			
Date:	1/10/2023		
Start Time:	2:28:00 PM		
PI:	Maling		
Operator:	Kent		
Hood Size:	3m x 3m		
Hood Calibration Factor:	1.1		
CPSC Results			
Sample ID:	1101		
Time to 200 kW:	NaN	min	
Time to 15 MJ:	NaN	min	
Peak Heat Release Rate:	1.6	kW	
Time to Peak HRR:	2.10	min	
Total Heat Release at 10 min:	0.2	MJ	
End of Test Description:	NA		
Notes			
Notes	With fly		
Lab Temperature		23.8 C	
Lab Humidity		17 %	
Time Remove Sample from Conditions		2:16	
Test Start Time		2:25	
Test End Time		2:30	
Height from burner to tent	8.5 inches		
Time to breakthrough/melting of tent wall	N/A		
Time to floor ignition	N/A		
Time to tent wall ignition	N/A		
Time to base flame reach 18 inches	N/A		
Observations			0



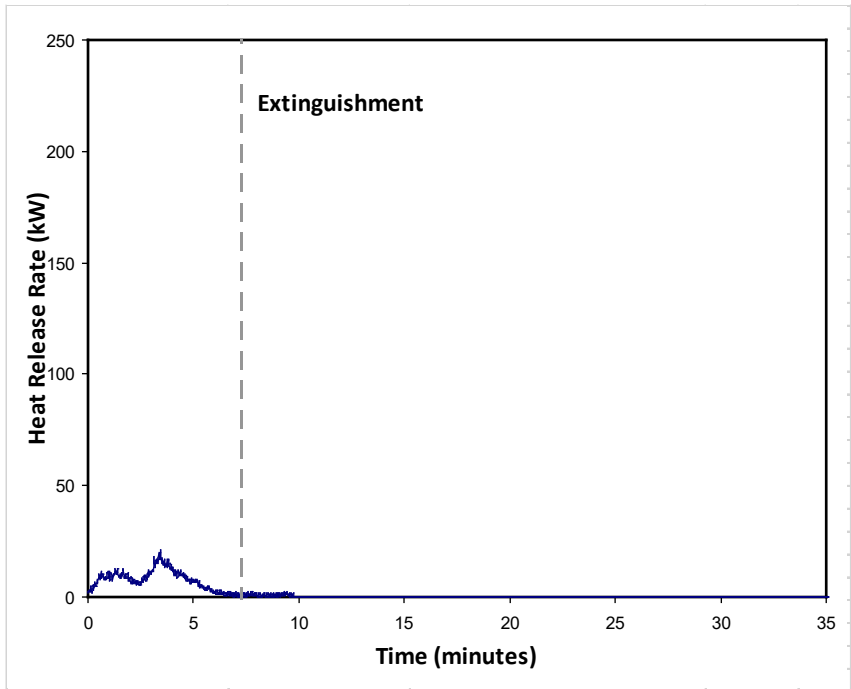
Report Summary			
Filename:			
Lab:	CPSC		
LIMS ID:			
Date:	1/11/2023		
Start Time:	10:59:00 AM		
Pl:	Maling		
Operator:	Kent		
Hood Size:	3m x 3m		
Hood Calibration Factor:	1.09		
CPSC Results			
Sample ID:	1101Tri		
Time to 200 kW:	NaN	min	
Time to 15 MJ:	NaN	min	
Peak Heat Release Rate:	9.2	kW	
Time to Peak HRR:	6.35	min	
Total Heat Release at 10 min:	2.2	MJ	
End of Test Description:	Water Extinguished		
Notes			
Lab Temperature		23.1 C	
Lab Humidity		23 %	
Time Remove Sample from Conditions		10:53	
Test Start Time		10:56	
Test End Time		11:09	
Height from burner to tent	3 1/4 inches		
Time to breakthrough/melting of tent wall	< 12 seconds		
Time to floor ignition	< 20 seconds		
Time to tent wall ignition	< 12 seconds		
Time to base flame reach 18 inches	<15 seconds		
Observations			



Report Summary			
Filename:			
Lab:	CPSC		
LIMS ID:			
Date:	1/10/2023		
Start Time:	2:03:00 PM		
PI:	Maling		
Operator:	Kent		
Hood Size:	3m x 3m		
Hood Calibration Factor:	1.1		

CPSC Results			
Sample ID:	1102		
Time to 200 kW:	NaN	min	
Time to 15 MJ:	NaN	min	
Peak Heat Release Rate:	16.5	kW	
Time to Peak HRR:	5.85	min	
Total Heat Release at 10 min:	4.7	MJ	
End of Test Description:	Water Extinguished		

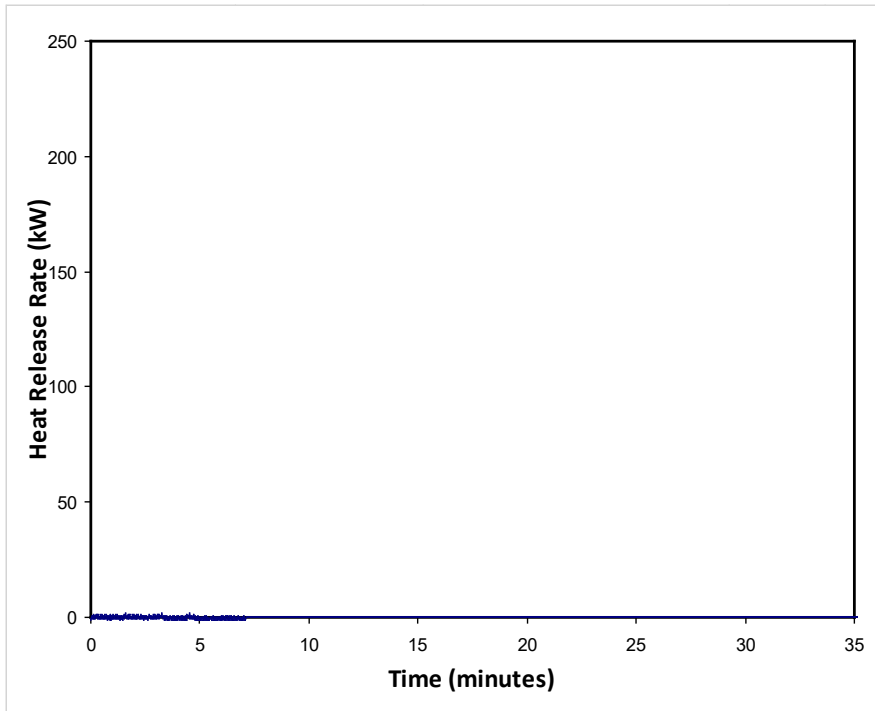
Notes			
Notes	With fly		
Lab Temperature		23.8 C	
Lab Humidity		17 %	
Time Remove Sample from Conditions		1:50	
Test Start Time		2:00	
Test End Time		2:09	
Height from burner to tent	8.75 Inches		
Time to breakthrough/melting of tent wall	<57 Seconds		
Time to floor ignition	< 1 minutes		
Time to tent wall ignition	< 42 seconds		
Time to base flame reach 18 inches	~ 2 minutes 20 seconds		
Observations	Fly catch fire around 4 minutes. Tent collapse at 8 min 28 sec		



Report Summary			
Filename:			
Lab:	CPSC		
LIMS ID:			
Date:	1/11/2023		
Start Time:	10:41:00 AM		
PI:	Maling		
Operator:	Kent		
Hood Size:	3m x 3m		
Hood Calibration Factor:	1.09		

CPSC Results			
Sample ID:	1102Tri		
Time to 200 kW:	NaN	min	
Time to 15 MJ:	NaN	min	
Peak Heat Release Rate:	20.9	kW	
Time to Peak HRR:	3.45	min	
Total Heat Release at 10 min:	3.3	MJ	
End of Test Description:	Water Extinguished		

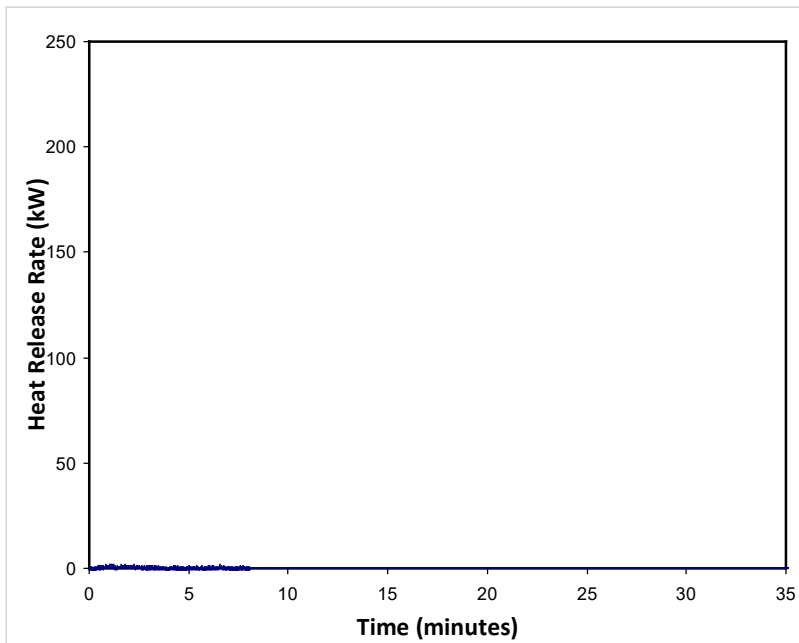
Notes			
Lab Temperature		23.1 C	
Lab Humidity		23 %	
Time Remove Sample from Conditions		10:25	
Test Start Time		10:37	
Test End Time		10:45	
Height from burner to tent	3 1/4 inches		
Time to breakthrough/melting of tent wall	< 5 seconds		
Time to floor ignition	<15 seconds		
Time to tent wall ignition	<15 seconds		
Time to base flame reach 18 inches	<15 seconds		
Observations	6 minute 20 seconds sides almost completely burned. Tent floor still on fire.		0.00



Report Summary			
Filename:			
Lab:	CPSC		
LIMS ID:			
Date:	1/10/2023		
Start Time:	2:44:00 PM		
PI:	Maling		
Operator:	Kent		
Hood Size:	3m x 3m		
Hood Calibration Factor:	1.1		

CPSC Results			
Sample ID:	1103a		
Time to 200 kW:	NaN	min	
Time to 15 MJ:	NaN	min	
Peak Heat Release Rate:	1.8	kW	
Time to Peak HRR:	1.60	min	
Total Heat Release at 10 min:	0.3	MJ	
End of Test Description:	NA		

Notes			
	Burner Stand		
Lab Temperature		23.8 C	
Lab Humidity		17 %	
Time Remove Sample from Conditions			
Test Start Time		2:33	
Test End Time		2:41	
Height from burner to tent	8 1/4 inches		
Time to breakthrough/melting of tent wall			
Time to floor ignition			
Time to tent wall ignition			
Time to base flame reach 18 inches			
Observations			



Report Summary			
Filename:			
Lab:	CPSC		
LIMS ID:			
Date:	1/11/2023		
Start Time:	12:00:00 PM		
PI:	Maling		
Operator:	Kent		
Hood Size:	3m x 3m		
Hood Calibration Factor:	1.09		

CPSC Results			
Sample ID:	1103b		
Time to 200 kW:	NaN	min	
Time to 15 MJ:	NaN	min	
Peak Heat Release Rate:	2.1	kW	
Time to Peak HRR:	1.12	min	
Total Heat Release at 10 min:	0.3	MJ	
End of Test Description:	NA		

Notes	No burner stand. Watchglass directly in tent corner		
Lab Temperature		23.1 C	
Lab Humidity		23 %	
Time Remove Sample from Conditions			
Test Start Time		11:59	
Test End Time		12:05	
Height from burner to tent	9 inches		
Time to breakthrough/melting of tent wall	< 1 min 45 secs		Hard to see with fly. Did not spread
Time to floor ignition			
Time to tent wall ignition			
Time to base flame reach 18 inches			
Observations			