Report # K-419995-02-R00	Test Report Kinectrics Inc., 800 Kipling Avenue, Unit 2 Toronto, Ontario, Canada Tel: 416-207-6000, www.kinectrics.com
Samples Received: Aug-25-17 Samples Tested: Aug-28-17	

Tested for

Oberon
22 Logan Street
New Bedford, MA, 02740-7324
USA

Contact information for item tested:

Oberon
Jack Hirschmann
JHirschmann@oberoncompany.com
508-789-8983

Test item description

Oberon Company,
True Color Grey 65 Fabric;
(L1) Style 1016; Blend: 60% Para-Aramid, 40% Meta-Aramid; Color: Black;
Weave/Knit: Twill; Nominal Weight: 5.0 oz/yd²; Weight as Tested: 5.42 oz/yd²;
Manufacturer: Insulsafe;
(L2/L3) Style 992Q; Blend: 61% Para-Aramid, 39% Meta-Aramid, Weave/Knit: Non-Woven quilted to twill,
Color: Yellow; Nominal Weight: 7.5 oz/yd²; Weight as Tested: 10.09 oz/yd²;
Manufacturer: Insulsafe/DuPont/Oberon;

Reference Standard

ASTM F1959/F1959M-14e1
Standard Test Method for Determining the Arc Rating of Materials for Clothing

Test Parameters:

Test current: 8 kA
Arc Gap: 30 cm
Distance to Fabric: 30 cm

Number of samples ana

Incident Energy Range: 40 to 88 cal/cm²

Arc Rating, ATPV = 76 Cal/cm²
Heat Attenuation Factor, HAF = 96%

No variations to standard method noted.
Samples tested as received, pre-test laundering as required by standard was arranged by client.

Test Summary

The Arc Rating of this material is intended for use as part of a flame resistant garment or system for workers exposed to electric arcs. The test result is applicable only to the test item as described; other fiber blends, weaves, finishing or dye may have different protection level. The test articles are tested as received; no test is done to validate the fiber content or composition. The Arc Rating was calculated based on the data obtained and analysed in accordance with the latest version of the applicable standards. The individual test sheets, graphs, photographs of the samples and video of every test are provided in digital format to the Client for review.

The arc testing performed to the above mentioned Standard is accredited by the Standards Council of Canada (SCC) to conform to the requirements of CAN-P-4E (ISO/IEC 17025:2005). Accreditation by the Standards Council of Canada (SCC) is a mark of competence and reliability recognized throughout the world.

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Note: The test performed does not apply to electrical contact or electrical shock hazard.

Prepared by:

Andrew Haines
2017.10.11
18:30:13 -04'00'

Andrew Haines
HCL Supervising Technologist
Kinectrics Inc.

Approved by:

Kenneth Cheng, P. Eng., MBA
Project Manager, DAM
Kinectrics Inc.

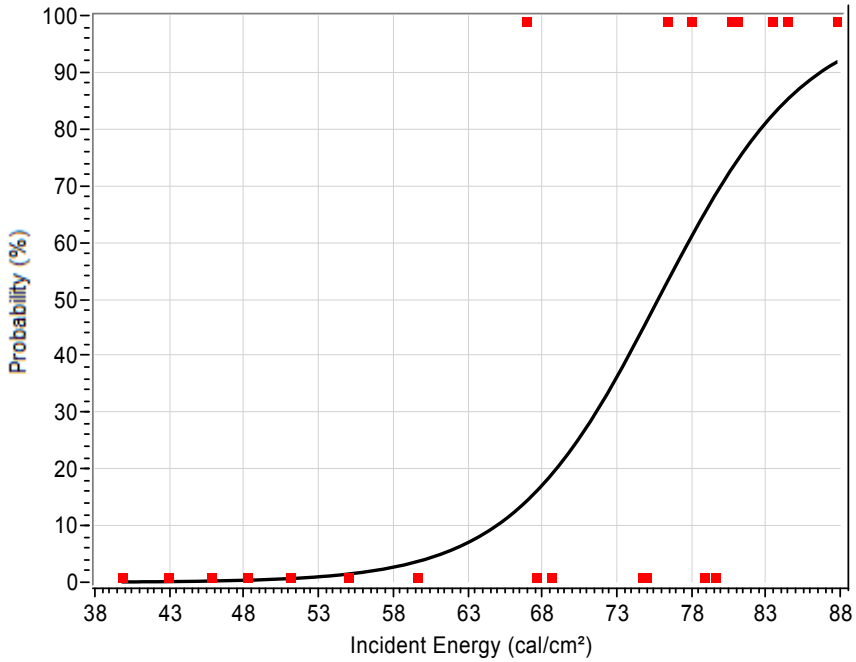
Note: For verification about results in this report, please forward copy of the report or inquiry to hcl@kinectrics.com

Date: Aug-28-17	Determination of ATPV by performing logistic regression on the panel burn response as indicated in Summary Table
Report # K-419995-02-R00	Test Performed in accordance with: ASTM F1959/F1959M-14e1

Fabric Description:

Oberon Company,
True Color Grey 65 Fabric;
(L1) Style 1016; Blend: 60% Para-Aramid, 40% Meta-Aramid; Color: Black;
Weave/Knit: Twill; Nominal Weight: 5.0 oz/yd²; Weight as Tested: 5.42 oz/yd²;
Manufacturer: Insulsafe;
(L2/L3) Style 992Q; Blend: 61% Para-Aramid, 39% Meta-Aramid, Weave/Knit: Non-Woven quilted to twill,
Color: Yellow; Nominal Weight: 7.5 oz/yd²; Weight as Tested: 10.09 oz/yd²;
Manufacturer: Insulsafe/DuPont/Oberon;

Determination of ATPV



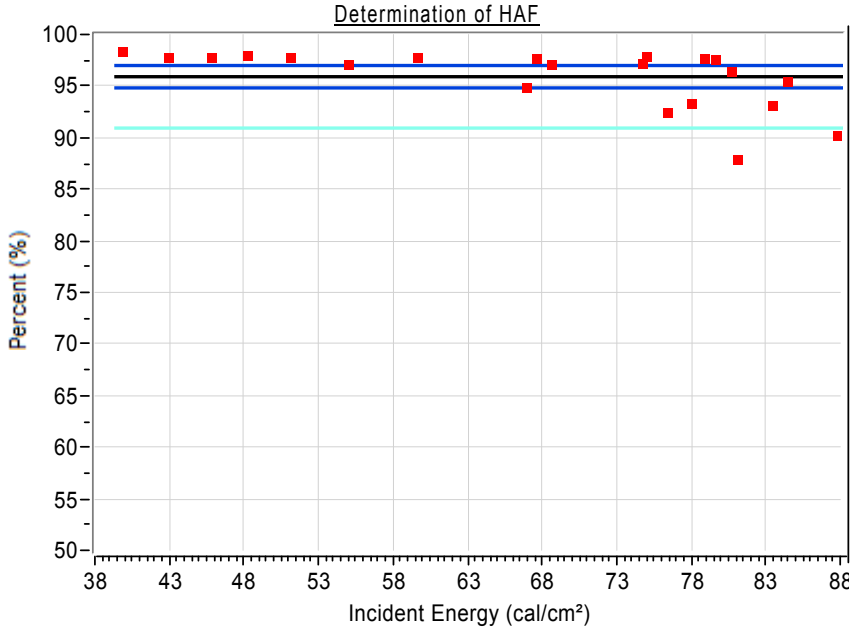
ATPV = 76 cal/cm²

Probability	Ei
5%	61.2
10%	64.9
20%	68.9
30%	71.6
40%	73.8
50%	75.8
60%	77.8
70%	80.0
80%	82.7
90%	86.7

(Note: ATPV is reported to nearest integer for ratings above 10 cal/cm²)

Total points analyzed = 21
Points above Stoll = 8
Points above mix zone = 5
Points below mix zone = 7
 # Pts within 20% = 14
 # Pts in mix zone = 9

Determination of HAF



HAF = 96 %

Confidence Intervals
95% CI = 94.9 , 97.1

Data pts
Best Fit
95% CI
95% CI pts

Date: Aug-28-17	Summary of Measured Energy and Observations
Report # K-419995-02-R00	Test Performed in accordance with : ASTM F1959/F1959M-14e1

Fabric Description: Oberon Company,
True Color Grey 65 Fabric;
(L1) Style 1016; Blend: 60% Para-Aramid, 40% Meta-Aramid; Color: Black;
Weave/Knit: Twill; Nominal Weight: 5.0 oz/yd²; Weight as Tested: 5.42 oz/yd²;
Manufacturer: Insulsafe;
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Color: Yellow; Nominal Weight: 7.5 oz/yd²; Weight as Tested: 10.09 oz/yd²;
Manufacturer: Insulsafe/DuPont/Oberon;

	Test #	Panel	Test Current A	Cycles of 60Hz	Ei Cal/cm²	SCD Cal/cm²	HAF %	>Stoll Y/N	Break Open Y/N	Ablation Y/N	After Flame sec.	Omit Y/N	Comment
1	K-419995-5050	A	8143	70.2	48.2	-1.1	98.0	No	N	N	-	No	
2	K-419995-5050	B	8143	70.2	55.0	-0.6	97.1	No	N	N	-	No	
3	K-419995-5050	C	8143	70.2	51.1	-1.0	97.8	No	N	N	-	No	
4	K-419995-5051	A	8134	85.3	59.6	-1.0	97.8	No	N	N	-	No	
5	K-419995-5051	B	8134	85.3	66.9	0.9	94.9	Yes	Y	Y	-	No	
6	K-419995-5051	C	8134	85.3	68.6	-0.5	97.1	No	N	N	-	No	
7	K-419995-5052	A	8137	95.3	67.6	-1.0	97.7	No	N	N	-	No	
8	K-419995-5052	B	8137	95.3	76.4	3.5	92.5	Yes	Y	Y	-	No	
9	K-419995-5052	C	8137	95.3	78.9	-0.7	97.7	No	N	N	-	No	
10	K-419995-5053	A	8103	105.3	79.6	-0.9	97.6	No	N	N	-	No	
11	K-419995-5053	B	8103	105.3	81.1	7.8	87.9	Yes	Y	Y	-	No	
12	K-419995-5053	C	8103	105.3	83.4	3.2	93.2	Yes	Y	Y	-	No	
13	K-419995-5054	A	8106	100.3	75.0	-0.9	97.9	No	N	N	-	No	
14	K-419995-5054	B	8106	100.3	78.0	2.6	93.4	Yes	Y	Y	-	No	
15	K-419995-5054	C	8106	100.3	74.7	-0.5	97.2	No	N	N	-	No	
16	K-419995-5055	A	8130	110.2	80.7	0.1	96.4	Yes	N	N	-	No	
17	K-419995-5055	B	8130	110.2	87.8	6.2	90.2	Yes	Y	Y	-	No	
18	K-419995-5055	C	8130	110.2	84.4	1.1	95.5	Yes	N	N	-	No	
19	K-419995-5056	A	8193	55.3	39.8	-1.2	98.4	No	N	N	-	No	
20	K-419995-5056	B	8193	55.3	42.9	-1.0	97.8	No	N	N	-	No	
21	K-419995-5056	C	8193	55.3	45.8	-0.9	97.8	No	N	N	-	No	
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No evidence of afterflame in any of the samples tested.