

Date:  
February 16, 2005

Report #  
K-422561-011

High Current Test Laboratory  
Kinectrics Inc., Canada  
Test Summary



**Client**

Westex Inc.  
2845 W. 48th Place  
Chicago, IL 60632

**Fabric description**

13.5 oz/yd<sup>2</sup> Indura Ultra Soft Navy Style 801  
(measured weight 13.4 oz/yd<sup>2</sup>)

**Reference Standard**

ASTM F1959/F1959M-04 Standard Test Method for Determining the Arc Rating of Materials for Clothing

**Test Parameters:**

Test current: 8.20kA  
Distance to Fabric: 12  
Arc Gap: 12

Number of samples analysed: 21  
Incident Energy Range: 17 to 25 cal/cm<sup>2</sup>

**Summary**

The arc rating of this material is intended for use as flame resistant clothing for workers exposed to electric arcs. The material used in this test method are in the form of flat specimens, actual performance of the complete garment may vary depending on the final design and assembly of the garment. This test method does not apply to the electrical contact or electrical shock hazard.

Based on the data obtained and analysed in accordance with the latest version of the applicable standards, the following Arc Rating was calculated.

**Arc Thermal Performance Value, ATPV = 21.0 Cal/cm<sup>2</sup>  
Heat Attenuation Factor, HAF = 85.4%**

Panel data and observations of the fabric samples after the arc exposure were collected and summarized in the attached table. The graphs and statistics on the attached sheets provide more detailed information to better understand the Arc Rating assigned to this material. The client shall review this full report, the video recordings of the arc exposure and the photographs of the samples after the test to determine if the material meets the intended specification.

**Test performed by:**

Claude Maurice  
Kinectrics Inc.  
416-207-6305  
HCL@kinectrics.com

**Contact information**

Josh Moody  
Westex Inc.  
773-523-7000  
jmoody@westexinc.com

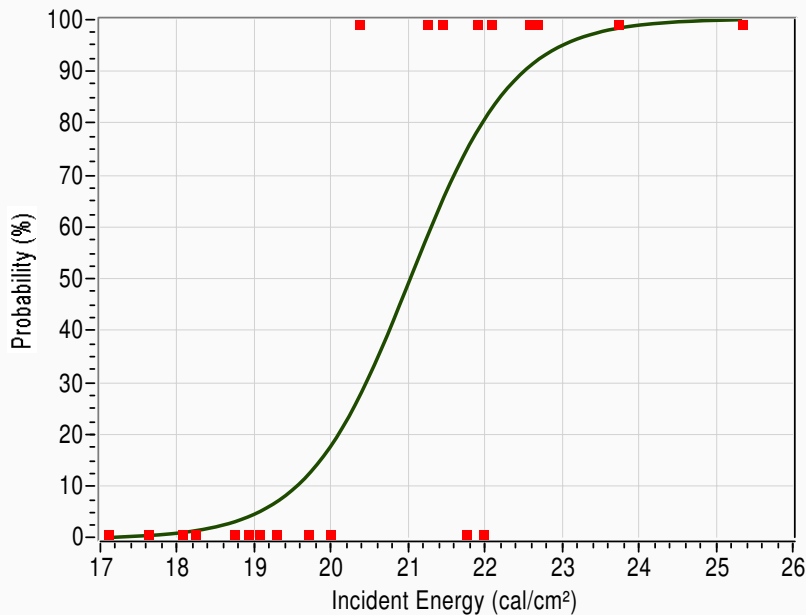
# ASTM F1959/F1959M-04 Standard Test Method for Determining the Arc Rating of Materials for Clothing



**Client:** Westex Inc.  
2845 W. 48th Place  
Chicago, IL 60632

**Fabric** 13.5 oz/yd<sup>2</sup> Indura Ultra Soft Navy Style 801  
**Description:** (measured weight 13.4 oz/yd<sup>2</sup>)

Determination of ATPV, 50% Probability of 2nd Degree Burn

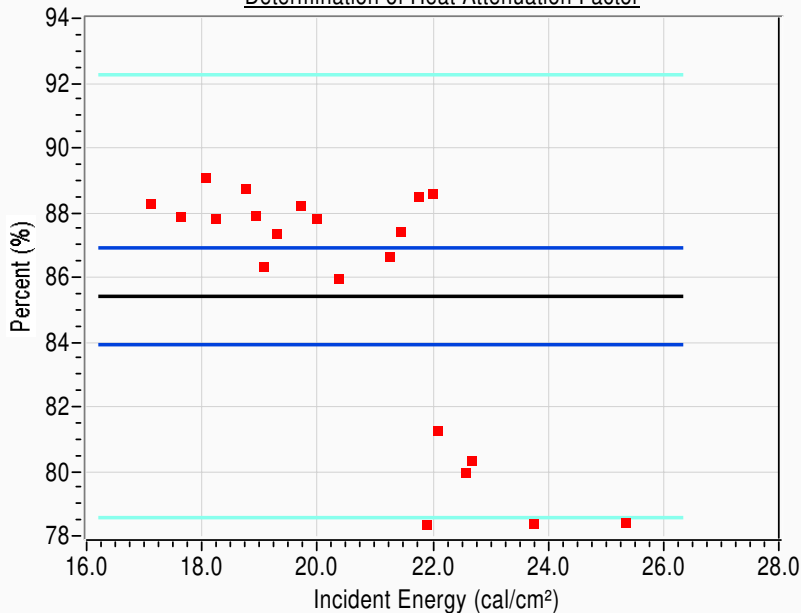


**ATPV = 21.0 cal/cm<sup>2</sup>**

Probability of Burn	Ei
5%	19.0
10%	19.5
20%	20.1
30%	20.5
40%	20.8
50%	21.0
60%	21.3
70%	21.6
80%	22.0
90%	22.5

# Pts = 21  
# Pts above Stoll = 9  
# Pts Break-Open = 1  
# Pts always >STOLL = 5  
# Pts always <STOLL = 10  
# Pts within 20% = 20  
# Pts in mix zone = 6

Determination of Heat Attenuation Factor



**HAF = 85.4 %**

Confidence Intervals  
95% CI = 83.9 , 86.9

Data pts  
Best Fit  
95% CI  
95% CI pts

ASTM F1959/F1959M-04  
Standard Test Method for Determining the Arc Rating of Materials for



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**Fabric Description:** 13.5 oz/yd<sup>2</sup> Indura Ultra Soft Navy Style 801  
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	Test #	Panel	Cycles # (60Hz)	Ei cal/cm <sup>2</sup>	SCD cal/cm <sup>2</sup>	HAF %	Burn yes/no	Break Open Y/N	After Flame sec.	Omit Y/N	Comment	Ignition T-shirt
1	05-664	A	24.2	17.62	-0.47	87.89	No	-	-	No	Charred, loss of strength, rips apart easily	-
2	05-664	B	24.2	19.06	-0.13	86.35	No	-	-	No	"	-
3	05-664	C	24.2	18.92	-0.29	87.92	No	-	-	No	"	-
4	05-665	A	26.1	19.98	-0.16	87.83	No	-	-	No	"	-
5	05-665	B	26.1	19.70	-0.41	88.23	No	-	-	No	"	-
6	05-665	C	26.1	18.23	-0.23	87.83	No	-	-	No	"	-
7	05-666	A	28.1	21.98	-0.22	88.59	No	-	-	No	heavily charred, brittle, very weak, breaks apart when handled.	-
8	05-666	B	28.1	20.36	0.12	85.97	Yes	-	-	No	"	-
9	05-666	C	28.1	21.75	-0.14	88.51	No	-	-	No	"	-
10	05-667	A	31.1	25.34	3.10	78.43	Yes	-	-	No	"	-
11	05-667	B	31.1	21.89	2.26	78.35	Yes	-	-	No	"	-
12	05-667	C	31.1	22.57	2.09	79.99	Yes	-	-	No	"	-
13	05-668	A	30.2	23.73	2.82	78.41	Yes	-	-	No	"	-
14	05-668	B	30.2	22.67	2.03	80.36	Yes	-	-	No	"	-
15	05-668	C	30.2	19.28	-0.09	87.36	No	-	-	No	"	-
16	05-669	A	30.2	22.08	1.70	81.28	Yes	-	-	No	"	-
17	05-669	B	30.2	21.25	0.40	86.64	Yes	Yes	-	No	"	-
18	05-669	C	30.2	21.44	0.19	87.43	Yes	-	-	No	"	-
19	05-670	A	25.2	17.10	-0.37	88.30	No	-	-	No	Charred, loss of strength, rips apart easily	-
20	05-670	B	25.2	18.74	-0.45	88.76	No	-	-	No	"	-
21	05-670	C	25.2	18.06	-0.40	89.10	No	-	-	No	"	-
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