

40 Cal ArcGuard RevoLite Arc Flash Kit with Short Coat & Bib Overall



Specs

Product Code	• KIT4SCLT40(With Gloves) • KIT4SCLT40NG(No Gloves)
Sizes	Garment: SM-3X Gloves: 08-12
Stock Colors	
Fabric / Material	11.2 oz. RevoLite™

1

Compliance

Arc Rating	40 cal/cm ²
CAT Level	CAT 4
Standards	• NFPA 70E • ASTM F1506 • CSA Z462 • OSHA 1910.269

Features

Features	 50% lighter than our standard 40 cal kits FR hook and loop closure with drawstring waist Stand up collar for extra coverage Rib knit cuffs for comfortable, secure fit Garments embroidered with arc rating Quick disconnect and adjustable shoulder straps on bib overalls Expandable leg opening to fit over boots Made in the USA 	
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Sizing Chart

ArcGuard® Kit Sizing Charts

	Arc Flash Coat (C04)
Size	Chest	Sleeve Length
SM	37" - 41"	36"
MD	40" - 44"	37"
LG	43" - 47"	38"
XL	46" - 50"	39"
2X	49" - 53"	40"
3X	52" - 56"	40"
4X	55" - 59"	41"

*Other sizes available upon request

A	Arc Flash Bib Overall (C4	15)
Size	Chest	Waist
SM	31" - 34"	33" - 35"
MD	34" - 37"	36" - 38"
LG	37" - 40"	39" - 41"
XL	40" - 44"	42" - 45"
2X	44" - 48"	46" - 49"
3X	48" - 52"	50" - 53"
4X	52" - 56"	54" - 57"

ArcGuard* Ru	bber Voltage Gloves
Size	Hand Circumference
8	8" or less
9	8 - 9"
10	9 - 10"
11	10" - 11"
12	11" - 12"



40 Cal ArcGuard RevoLite Crossvent Hood with PureView Faceshield





Product Code	H65NPQHFANPV
Sizes	One Size Fits Most
Stock Colors	
Fabric / Material	11.2 oz. RevoLite™

1

Compliance

Arc Rating	40 cal/cm ²
CAT Level	CAT 4
Standards	 NFPA 70E ASTM F2178 CSA Z462 ANSI/ISEA Z87.1 (Impact Rating Z81+) OSHA 1910.269

Features

Features	 50% lighter than our standard 40 cal/cm2 Arc Flash PPE Inherently flame resistant Anti-fog faceshield Fans are attached with hook & loop Fans are powered by 9-volt batteries Hood provides a gentle and quiet breeze that keeps you cool and decreases lens fogging Hard hat with slotted adapter included FR fabric will not melt, drip, or ignite Made in the USA
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Product Care

Product Care	 Remove faceshield and hard hat prior to washing hood. Rinse faceshield in warm water to clean debris. DO NOT use chlorine bleach or detergents containing bleach. DO NOT use hydrogen peroxide. DO NOT use fabric softeners or starch. DO NOT line-dry in sunlight. Machine wash warm (Max. 140°F / 60°C) Detergent only Tumble dry low (Max. 160°F / 71°C). Wash according to the instructions above to remove any contaminants in order to maintain fabric performance when garment becomes soiled with dirt, greases, oils, etc.
	order to maintain fabric performance when garment becomes soiled with dirt, greases, oils, etc. • If contaminants cannot be removed after laundering, it is best to discontinue use of garment.

Report # K-422697	7-0612PNorfab		I est Report Kinectrics Inc., 800 Kipling Avenue, Unit 2	15
Samples Received: Nov, 2006	Samples Tested December 7, 2	l: 006	Toronto, Ontario, Canada Tel: 416-207-6000, www.kinectrics.com	KINECTRICS
Tested for			Contact information for item tested:	
Hugh Hoagland			Harrish Lilani	
ArcWear com			NorFab Corporation	
502-314-7158			610-270-0792	
hugh@arcwear.com	n		norfabhl1@aol.com	
Toot item deserie			Hondon (Buol. com	
Norfab, Three Lay over Style 6 OQ 1 Para-Aramid, Yell	yers, Style 5 PT 33 I PB1 Quilted Liner low quilted with 100	9, 4.7 oz/yd² , 6.0 oz/yd² 0% Nomex, I	² 159 g/m², 40% Twaron 30% OPF 30% Kynol 203 g/m²: Spunlace, 50% Basofil 25% Meta-A Powder Blue	, Dark Greer ramid 25%
Poforonoo Stand	lard			
ASTM F1959/F19 Standard Test Me Electric Arc Expo	959M-06ae1 ethod for Determinir osure Method	ng Arc Thern	nal Performance of Textile Materials for Clothir	ng by
Test Parameters	Test current:	7.98kA	Number of samples analysed:	21
Di	stance to Fabric:	12"		
<u>Summary</u> The Arc Rating of this	Arc Gap: Arc F Heat A material is intended fo	Rating, A ttenuation	TPV = 44.1 Cal/cm ² n Factor, HAF = 93%	ctric arcs. The
Summary The Arc Rating of this material was tested by different protection lev garment. The Arc Rati	Arc Gap. Arc F Heat A material is intended fo Kinectrics as received el. Actual performance ng was calculated basi	Rating, A ttenuation or use as part of . The test result of the comple ed on the data	Incident Energy Range: 35 to 5 TPV = 44.1 Cal/cm ² n Factor, HAF = 93% of a flame resistant garment for workers exposed to ele It is applicable only to the Test Item, other material or co te garment may vary depending on the final design and obtained and analysed in accordance with the latest v	7 cal/cm ²
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			20.70 Dds	sofil 25%		Aramid	20.70 Lai				PF 30% K 100% N	ynol, Dark Green over Style 6 OQ 1 PB1 Quitted Liner, 6.0 oz/yd² 203 g/m²: lomex, Powder Blue
						U.		, Inseam	nana ha		hservati	Suc
Test #	Panel	Test Current A	Cycles of 60Hz	Cal/cm ²	² Cal/cm ²	HAF %	AIN	Break Open Y/N	Ablation	After Flame sec.	omit YN	Comment
1 06-432	A		48.3	39.73	-0.09	94.5	8	. 			°N S	
2 06-432			48.3	35.07	-0.82	95.2	8				oN :	
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5 06-4325			52.2	43.34	-0.57	95.5	٩ ٧				No	
6 06-4325	с С		52.2	43.90	-0.56	96.0	N				No	
7 06-433(A		52.2	45.19	2.16	90.3	Yes	~		2	No	
8 06-433(8		52.2	40.11	-0.56	94.9	No				No	
9 06-433(ပ ဓ		52.2	41.62	-0.58	95.4	٩				٩	
10 06-433	A		56.2	51.30	5.20	86.3	Yes	۲		2	No	
11 06-433	•		56.2	42.66	0.03	93.9	Yes				No	
12 06-433	ں ۔		56.2	45.45	-0.30	95.3	N				No	
13 06-433	A S		58.3	45.06	1.77	91.4	Yes	~		2	No	
14 06-433	8		58.3	45.10	-0.45	95.5	No				No	
15 06-433	• د		58.3	42./6	-0.23	94.5	on 1	. ,			N	
17 06-4335	x a		62.3	42.38	000	6.00	Yes			, ,	o N	
18 06-4333			62.3	51.96	0.06	95.4	Yes				No	
19 06-4334	4		68.3	53.20	3.05	90.4	Yes	7		-	No	
20 06-433	8		68.3	43.26	0.19	93.9	Yes				No	
21 06-4334	c t		68.3	57.27	2.10	92.2	Yes	۲			No	
22												
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Hugh Hoagland Consulting, Inc.



Electric Arc Exposure Tests

For National Safety Apparel, Inc.

Hood

Revolite[®] 40 Cal Hood, Style H65NPQH

Report Number: 1209F28, Revision: 00

September 19, 2012

Tests Conducted at Kinectrics High Current Laboratory Toronto, Ontario, Canada



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Page 1 of 6

Electric Arc Exposure Report

ASTM F2178-08 Standard Test Method for Determining the Arc Rating and Standard Specification for Eye or Face Protective Products

General

At the request of Jeff Martin electric arc exposure tests were conducted on hoods for National Safety Apparel, Inc.. Jeff Martin arranged with ArcWear.com to facilitate testing by the High Current Laboratory of Kinectrics in Toronto and to review test data.

The tests documented in this report were conducted in accordance with:

• ASTM F2178-08 Standard Test Method for Determining the Arc Rating and Standard Specification for Face Protective Products

Test Samples

Hood test samples (were) received on September 17, 2012.

Samples were tested as received. No washing or any other preparation is required by the standard.

Test Results

The test program includes minimum of ten two-mannequin arc trials. The test data set is evaluated using logistic regression method.

Following test data was recorded for each trial:

- arc exposure electrical conditions: arc trial number, RMS arc current, peak arc current, arc voltage, arc duration, energy dissipated in arc, plots of arc current and arc voltage
- temperature rise response from two monitor and four face sensors for each instrumented mannequin head in each trial, plot of Incident energy distribution *Ei* from bare shot analysis
- photographs of exposed material panels
- video

Above mentioned test data is part of report and is available for download from <u>ArcWearOnline.com</u> arc testing website. Test data is accessible only to and protected with National Safety Apparel, Inc. unique password.

Essential test data and test results are presented in the table below and on the attached data pages as follows:

- arc rating ATPV or EBT or both and plots of the burn injury probability (ATPV) or breakopen probability (EBT) or both versus *Ei*
- test specimen description and order of layers for fabric system and faceshield
- distance from an arc center line to the panel surface

ArcWear

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- subjective evaluation
- heat attenuation factor (HAF) and plot of HAF on Ei
- ignition probability value (if determined during testing)

Rating

ArcWear

Rating resulted from Hood arc testing is ATPV = 56 cal/cm²

Rating resulted from Hood Fabric System previous testing is ATPV = 42 cal/cm²

Hood system specified in the Table 1 below received final arc rating as:

ATPV = 42 cal/cm²

	Table 1							
Customer	National Safety Apparel, Inc.							
Manufacturer,	Revolite [®] 40 Cal Hood, Style H65NPQH							
Part/Model Number								
General Design								
	Hood fabric system							
Layer 1	Norfab, Style 05PT339, 5.0 oz/yd ² Plain Weave, 40% Twaron 30% OPF							
	30% Kynol, Olive							
Layer 2	Norfab, Style 06OQCH1, 6.23 oz/yd ² Quilted insulation: Insulation -							
	Spunlace, 50% Basofil 25% Meta-Aramid, 25% Para-aramid, Yellow							
Layer 3	Norfab, Style 06OQCH1, 6.23 oz/yd ² Quilted Insulation: Liner - 100%							
	Nomex, Blue2							
Layer 4	Bib Only – Style 40022Q, Plain Weave, 65% Modacrylic 33% Nomex-							
	Kevlar 2% Anti-static, Khaki							
	Hood faceshield system							
Manufacturer,	Elvex Style FS-ARC40-18-V Lens							
Design								
Layer 1 Material,	Polycarbonate, Thickness 0.07 inch, 1.8 mm, Light Green							
Color, Thickness								
	Hard Hat							
Manufacturer,	MSA Model 475358							
Part/Model Number								

The order of layering is numbered starting from the outer layer listed first.

Requested by: Jeff Martin

Hugh Horglad

Approved by Hugh Hoagland Arcwear.com

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- b) assumes any liabilities with respect to the use of, or for damages resulting from the use of, any information, apparatus, method, or process disclosed in this report

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Report # K-418465-1209F28

Samples Tested:

SEP 19, 2012

Samples Received: SEP 17. 2012

Tested for

Hugh Hoagland ArcWear.com 502-333-0510 arctesting@arcwear.com

Test item description

NSA, Revolite® 40 Cal Hood, Style H65NPQH, Faceshield: Elvex, Style FS-ARC40-18-V, Lens Light Green, .07 in Thickness, Polycarbonate, Hardhat: MSA 475358, Fabric: Three Layers, Norfab, Style 05PT339, 5.0 oz/yd² Plain Weave, 40% Twaron 30% OPF 30% Kynol, Olive over Norfab, Style 06OQCH1, 6.23 oz/yd², Liner, Spunlace, 50% Basofil 25% Meta-Aramid, 25% Para-aramid, Yellow guilted with 100% Nomex, Blue, Bib Only-Layer 4: Style 40022Q, Plain Weave, 65% Modacrylic 33% Nomex-Kevlar 2% Anti-static, Khaki, ArcWear# 1209F28

Reference Standard

ASTM F2178-08 Standard Test Method for Determining the Arc Rating and Standard Specification for Eye and Face Protective Products

<u>Test Parameters:</u>	Test current:	8 kA
	Arc Gap:	30 cm
Dista	ance to Fabric:	30 cm

Number of samples analysed: 20

Incident Energy Range: 38 to 68 cal/cm²

Arc Rating, ATPV = 56 Cal/cm² Heat Attenuation Factor, HAF = 95%

Arc Rating Fabric Limit ATPV = 42 cal/cm²

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 samples were tested by Kinectrics as received. The test result is applicable only to the Test Item, other material or color may have different protection level. Actual performance of the complete garment may vary depending on the final design and assembly of the garment. 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.

As of August 1, 2010, the arc testing performed to the above mentioned Standard is accredited by the Standards Council of Canada to conform to the requirments of CAN-P-4E (ISO/IEC 17025:2005) by QMI, a division of SAI Global and North America's leading QMS registrar. Adherence to this standard provides one of the strongest assurances of service quality available. As a minimum, since July 1998 all work at Kinectrics is performed to meet the requirements of ISO 9001.

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Note

- The test performed does not apply to electrical contact or electrical shock hazard.
- An unsigned copy of this report is an unofficial reporting of information. Report must be signed to validate test data and comform Performed by:

Joe Ogrodowczyk Station Operator High Current Laboratory Ph: 416-207-6000

Approved by:

Claude Maurice, Lab Manager High Current Laboratory hcl@kinectrics.com

ArcWear 13113 Eastpoint Park Blvd Suite E, Louisville, KY 40223 Phone: 502-333-0510, www.ArcWear.com

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Test Report

Jeff Martin

Kinectrics Inc., 800 Kipling Avenue, Unit 2 Toronto, Ontario, Canada Tel: 416-207-6000, www.kinectrics.com

Contact information for item tested:

National Safety Apparel, Inc.

(216) 941-1111 ext 3171

jmartin@nsamfg.com



lepo <-41	rt # 8465-1209F28						-	Test Perf	ormed ir	n accord	ance with	n : ASTM	F2178-08
	Fabric Description	III NSA Fabi Spui 33%	, Revolit ric: Three nlace, 50 Nomex	te® 40 C e Layers)% Baso -Kevlar 2	al Hood , Norfab fil 25% I 2% Anti-	, Style , Style Meta-A static,	H65NPC 05PT33 ramid, 2 Khaki, <i>F</i>	QH, Face 9, 5.0 oz/ 5% Para- ArcWear#	shield: El yd ² Plain aramid, ` 1209F28	vex, Styl Weave, Yellow qu B	e FS-ARC 40% Twa uilted with	40-18-V, ron 30% (100% No	Lens Light Green, .07 in Thickness, Polycarbonate, Hardhat: MSA 475358, DPF 30% Kynol, Olive over Norfab, Style 06OQCH1, 6.23 oz/yd², Liner, nex, Blue, Bib Only-Layer 4: Style 40022Q, Plain Weave, 65% Modacrylic
	Test #	Panel	Test Current	Cycles of 60Hz	Ei Cal/cm²	SCD Cal/cm ²	HAF %	Burn Y/N	Break Open Y/N	Ablation Y/N	After Flame	Omit Y/N	Comment
	K-419465-6924	٨	7040	55.2	45.2	-0.21	95.0	No			0	No	
2	K-418465-6834	- A B	7949	55.2	4J.2 58.4	0.21	94.4	Yes			3 14	No	
-3	K-418465-6835	A	7971	52.2	46.0	-0.19	94.2	No		<u> </u>	4.5	No	
4	K-418465-6835	в	7971	52.2	54.4	0.3	94.5	Yes	-	-	5	No	
5	K-418465-6836	Α	7979	49.2	39.0	-0.09	94.2	No		-	3	No	
6	K-418465-6836	В	7979	49.2	50.8	0.2	94.3	NO	-	-	12	No	"YES" BURN CHANGED INTO 'NO", NOISE ON MONITOR SENSOR
7	K-418465-6837	Α	7959	46.2	45.5	-0.37	95.3	No	-	-	5.5	No	
8	K-418465-6837	В	7959	46.2	45.8	0.4	93.1	Yes	•	-	5	No	
9	K-418465-6838	Α	7977	43.2	38.1	-0.32	94.4	No	-	-	8	No	
0	K-418465-6838	В	7977	43.2	40.8	0.0	93.5	NO	-	· ·	14.5	No	"YES" BURN CHANGED INTO 'NO", NOISE ON MONITOR SENSOR
	K-418465-6839	A	7927	58.2	49.6	-0.33	95.2	No	-	-	5	No	
4	K-418465-6844	<u>в</u>	7927	58.2 67.2	55.9 67.1	0.0	94.9	NU	-		9 12	NO No	TES BUKN CHANGED IN IU NU", NUISE UN MUNITUK SENSUK 5
4	K-418465-6841	A B	7922	67.2	65.7	0.84	93.4	Yes	•		13	NO	
5	K-418465-6842	A	7956	61.3	58.6	0.07	95.0	NO	-	<u> </u>	5.5	No	"YES" BURN CHANGED INTO 'NO". NOISE ON MONITOR SENSOR
6	K-418465-6842	В	7956	61.3	67.1	0.4	94.7	Yes			6	No	
7	K-418465-6843	A	7955	70.2	64.6	0.25	95.0	Yes	-	- I	6	No	
8	K-418465-6843	В	7955	70.2	67.6	0.5	94.5	Yes		-	9	No	
19	K-418465-6844	Α	7960	64.2	60.7	-0.19	95.6	No	-	-	-	No	
20	K-418465-6844	В	7960	64.2	59.5	0.4	93.9	Yes	-	-	-	No	
21													
22													
23													
24													
25													
27									1				
28													
29													
30													
1													
32													
33													
4													
35													
6													
37													
58													
39													
_		_							_	_			

National Safety Apparel Size Chart

How to Measure:

1. Chest

Measure just under arms and across shoulder blades holding tape firm and level.

2. Sleeve

With elbow slightly bent, measure from center of the back neck to elbow and down to the sleeve hem (as seen in the illustration).

3. Centerfront Length

Measure from the shoulder at the neck straight down to the hem holding the tape firm and level.



C04--32 Sizing Chart

Conducted By: Carrie Koman Date: 6/29/10 Verified By: Melissa Gerhardt Date: 5/31/11

Alpha Size	SM	MD	LG	XL	2X	3X	4X	5X
Chest ¹ :	49"	52"	55"	58"	61"	64"	67"	70"
Sleeve Length ¹ :	32"	33"	34"	35"	36"	36"	37"	37"

¹⁾ Actual measurement should be +/- 1" of measurement shown in chart ²⁾ Actual measurement should be +/- 1/2" of measurement shown in chart ***These measurements are based on a garment that has not been laundered***

This sizing chart applies for the following item numbers:

C04----3203, C04-----3240, C04-----3240Z, C04-----3240ZF, C04-----3203, C04-----3203F, C04-----3203W, C04-----3203EV, C04-----3203VR, C04-----3203IP, C04-----3203EV, C04-----3203VR, C04-----3203VR, C04-----3203Z



National Safety Apparel Size Chart

How to Measure:

Waist Measure around the natural waistline. Inseam Measure from crotch seam down to pant hem.



C45 Sizing Chart			Conducted	Conducted By: Carrie Koman Date: 6/29/10 Verified By: Melissa Gerhardt Date: 5/31/11								
Alpha Size	SM	MD	LG	XL	2X	3X	4X	5X				
Waist ¹ :	33"	37"	41"	45"	49"	53"	57"	61"				
Inseam ² :		32" (based on a 32" inseam)										
Bib Height ² :	13.5"	13.5"	13.5"	13.5"	13.5"	13.5"	13.5"	13.5"				
1)	A atual ma	auromont o	hould be \perp	1 " of more	ouromont c	hown in ah	ort					

¹⁾ Actual measurement should be $+/-1^{\prime\prime}$ of measurement shown in chart

 $^{\rm 2)}$ Actual measurement should be +/- 1/2" of measurement shown in chart

These measurements are based on a garment that has not been laundered

This sizing chart applies for the following item numbers:

C45----32, C45-----32, C45----3223, C45----32110, C45----3214, C45----3221, C45-----3240, C45----3217 C45-----3240F, C45-----3255ZF, C45-----3255F, C45-----32005, C45-----32006, C45-----32007, C45-----3226, C45----32008, C45-----32009, C45------32F, C45-----32W, C4545------3222, C45-----32NV, C45-----32ZL, C45-----32LZP, C45------3240G, C45------3240W, C45-----32003, C45-----32007LP, C45-----3219, C45-----32C C45-----3219LP, C45------32111, C45-----32111QN, C45-----3214ZP, C45-----3218SP, C45------3208, C45-----3216, C45------3218ST, C45------3225, C45-----32OR3



NSA (USA) JACKET Size Chart (C04) & BIB OVERALL Size Chart (C45)

How to Measure ?

To determine the proper size, always go with the larger measurement. If the individual's waist measurement is larger than their chest, than go with that.

For an individual with a 40" waist, I would have them go with a size 2X. The exact waist measurement on a 2X bib overall is 49". They should order a size 2X for both the coat and the bib overall.

Please keep in mind that these are the 'actual' measurements of the garments. To determine the correct size to order, we recommend you take an individual's chest measurement, adding 10-12" to the measurement and then looking at the chart.

Example: Chest measurement of 42", +10", they would order a size MD.