



# Certificate of Test

*We hereby declare that the item described below has been tested by the Merchandise Testing Laboratories (U.K.) Ltd. And complies with the requirements of*

**ANSI/ISEA 107:2004 for Chromaticity, Clause 7.1.1**  
**Fastness to Crocking, Perspiration, Washing, Clause 7.2**  
**Dimensional stability on Washing (3) IIIA (iii) @ 105°F, Clause 7.3**  
**Tear Strength, Clause 7.4**  
**Resistance to Water Penetration: Hydrostatic Head, Rain Test and Spray Test, Clause 7.5**  
**Breathability, clause 7.6**

*The full details of the tests and the results are given in our reports*

TR994/06211      Dated: 22/06/05

### *Description of item tested:*

PHB71G 300 Den Hi Vis Orange Breathable Hydrophilic  
14803301 1-1AH

(Material: 100% polyester 300d Oxford with breathable PU coating.  
for items: VEA411/VEA412, VEA431, VEA431-BLK, VEA432, VEA433, H803, H804)

### *Submitted by:*



Reflective Apparel Factory  
1649 Sands Place SE Suite J  
Marietta, Georgia 30067

*Certificate authorised by:*



**Title: J. Moore - Textile Technologist**

**Date: 22<sup>nd</sup> June 2005**

**Accredited to the ISO/IEC Guide 17025: through UKAS system Laboratory Number 4021**



# Test Report

**TR994/06211**

**ANSI/ISEA 107-2004 Background Material Testing Report**

Material Description: 300Den Hi Vis Orange Breathable Hydrophilic	Test Lab(s): Merchandise Test Laboratories
Fabric : PHB71G Lot # : 14803301 1-1AH	Address: Oakhurst House, 57 Ashbourne Road, Derby, DE22 3FS
	Contact Person:
Colour: HV Orange	Date Tested: Authorized 22 <sup>nd</sup> June 2005

Required Tests				
Test/Method	Section	ANSI/ISEA 107 Requirement	Test Result	Pass/Fail/NA
Determination of color ASTME1164-02 (Single layer)	7.1.1	Test specimen must fulfill the colorimetric requirements of Table 2 for background material	As submitted: $x = 0.6043$ $y = 0.3580$ $\%Y = 0.54$  After 40x Xenon: $x = 0.5801$ $Y = 0.3668$ $\%Y = 0.55$	PASS  PASS
Determination of Color ASTME1164-94 (Two layers of the same material)	7.1.1 9.2	Test specimen must fulfil the colorimetric requirements of Table 2 for background material	As submitted: $x = N/A$ $y = N/A$ $\%Y = N/A$  After 40x Xenon: $x = N/A$ $Y = N/A$ $\%Y = N/A$	
Colorfastness Crocking AATCC 8-2001	7.2.1	Dry 3.0 Wet 3.0	4.5 4.5	PASS
Colorfastness Perspiration AATCC 15-2000	7.2.2	Color change 4.0 Staining 3.0	Acetate: 4.5 Cotton: 4.5 Nylon: 4.5 Polyester: 4.5 Acrylic: 4.5 Wool: 4.5	PASS

Authorised by *J Moore*  
Miss J. Moore C.Text A.T.I.  
Technical Textile  
Testing Manager

*S.J.C. Welden*  
Mrs. S.J.C. Welden B.Sc (Hons)  
Deputy Technical Textile  
Testing Manager

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Required Tests (continued)				
Test/Method	Section	ANSI/ISEA 107 Requirement	Test Result	Pass/ Fail/ NA
Dimensional change Domestic AATCC 135-2000 (3) IIIA(iii) @ 105°F	7.3.1	Woven	1 <sup>st</sup> Cycle Length = N/A Width = N/A	PASS
		L +/- 4% W +/- 2%	5 <sup>th</sup> Cycle: Length = -0.1 % Width = -0.2 %	
	Knitted	L +/- 7%	1 <sup>st</sup> Cycle: Length = N/A Width = N/A	N/A
		W +/- 5%	5 <sup>th</sup> Cycle: Length = N/A Width = N/A	
Bursting Strength (knitted) ASTM D3787-01	7.4.1	267 N (60lb) (27.2kg)	N/A	N/A
Tear Resistance (woven) ASTM D1424-96	7.4.2	13N (3lb) (1.3kg)	Average force machine - 30N Average force cross machine 30N	PASS
Breathability ASTM E96-00 Procedure B	7.6	≥ 600g/m <sup>2</sup> /24 hr microporous ≥ 3,600g/m <sup>2</sup> /24 hr hygroscopic	N/A  4,486 g/m <sup>2</sup> /24 hr	PASS

Tested as care label dictates				
Test/Method	Section	ANSI/ISEA 107 Requirement	Test Result	Pass/ Fail/ NA
Colorfastness Domestic/Commercial Laundry AATCC 61-2001-2A 120°F	7.2.3 Table 4	Color change 4.0 Staining 3.0	Acetate: Cotton: Nylon: Polyester: Acrylic: Wool:	N/A
Colorfastness Domestic/Commercial Laundry AATCC 61-2001-2A 160°F	7.2.3 Table 4	Color change 4.0 Staining 3.0	Acetate: Cotton: Nylon: Polyester: Acrylic: Wool:	N/A
Colorfastness Domestic/Commercial Laundry AATCC 61-2001-2A 105°F	7.2.3 Table 4	Color change 4.0 Staining 3.0	Acetate: 4.5 Cotton: 4.5 Nylon: 4.5 Polyester: 4.5 Acrylic: 4.5 Wool: 4.5	PASS

Authorised by *J Moore*  
Miss J. Moore C.Text A.T.I.  
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## ANSI/ISEA 107-2004 Background Material Testing Report

Tested as care label dictates				
Test/Method	Section	ANSI/ISEA 107 Requirement	Test Result	Pass/Fail/NA
Colorfastness Water AATCC 107-2002	7.2.3 Table 4	Color change 3.0 Staining 3.0	Acetate Cotton: Nylon: Polyester: Acrylic: Wool:	N/A
Colorfastness Hypochlorite Bleaching AATCC 61-2001-4A	7.2.3 Table 4	Fading 4.0		N/A
Colorfastness Hypochlorite Bleaching AATCC 61-2001-5A	7.2.3 Table 4	Fading 4.0		N/A
Colorfastness Hot Pressing AATCC 133-1999	7.2.3 Table 4	Color change 4.5 Staining 3.0		N/A
Colorfastness Dry Cleaning AATCC 132-2001-5A	7.2.3 Table 4	Color change 4.0		N/A
Dimensional change Commercial AATCC 96-1999 IIIe-A and/or E@145°F	7.3.1	Woven L+/- 4% W+/-2%	1 <sup>st</sup> Cycle: Length = Width = 5 <sup>th</sup> Cycle: Length = Width =	N/A
		Knitted L+/- 7% W+/-5%	1 <sup>st</sup> Cycle: Length = Width = 5 <sup>th</sup> Cycle: Length = Width =	
Water Resistance AATCC 35-2000	7.5	1gram of water penetration Level 1	As rec. 0.3g After 5 Laundering 0.4g	PASS
Water Resistance AATCC 127-1998 (Hydrostatic Head)	7.5	>200 cm of water As Received & After 5 Launderings	>200 cm of water As Received and after 5 Launderings	PASS
Water Resistance AATCC 22-2001	7.5.1	90 new, 70 after 5 washings	100 80	PASS

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