



Test Report

No.: HKSL1611177431TX

Date: Nov 29, 2016

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Reflective Apparel Factory, Inc.
1649 Sands Place SE STE J, Marietta, GA 30067

The following sample was submitted and identified by the client as:

One sample of Soft Shell – 100% Polyester Shell + TPU Laminate Film + Knitted material Back in Fluorescent Orange.

Colour	:	Fluorescent Orange
Fibre Content	:	100% Polyester
Sample Receiving Date	:	Nov 18, 2016
Test Performing Period	:	Nov 18, 2016 – Nov 29, 2016
Test Performed	:	Selected test(s) as requested by applicant against specified requirement (details please refer to result page(s)).

* * * *

Test Results : Please refer to the next page(s).

Signed for and on behalf of
SGS Hong Kong Ltd.

Ng Siu Lun, Roy
Assistant Technical Manager

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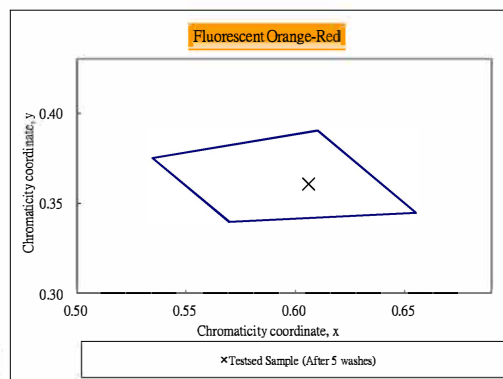
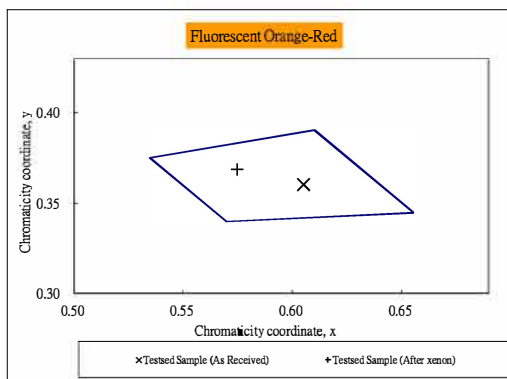
Test Results :

American National Standard for High-Visibility Safety Apparel and Accessories (ANSI/ISEA 107-2015)

Background Material

TESTS FOR ALL MATERIALS				
Test/Method	Section	ANSI/ISEA 107 Requirement	Test Result	Pass/Fail/NA
Determination of Color ASTM E1164-12 (Single layer)	8.1.1 8.2.4 10.2	Test specimen must fulfill the colorimetric requirements of Table 3 for background material	<i>As submitted:</i> x = 0.605 y = 0.360	Pass
			%Y = 53	Pass
			<i>After 40x Xenon:</i> x = 0.575 y = 0.369	Pass
			%Y = 58	Pass
			<i>After 5 washing[#]:</i> x = 0.606 y = 0.361	Pass
			%Y = 54	Pass

[#] Additional tests conducted upon client's request. Washing procedure (follow care label): AATCC 135-2012 Test No. (1)IIA(ii); Machine wash at 80 degree F with 1.8 kg total loading (Type 3 ballast + specimen) and 66±1g of 1993 AATCC Standard Reference detergent, normal cycle, tumble dry delicate less than 140 degree F



The chromaticity shall lie within one of the areas defined in ANSI/ISEA 107 Table 3 and the total luminance factor shall exceed the corresponding minimum in ANSI/ISEA 107 Table 3.

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Color of background material and combined-performance material

Color	Chromaticity coordinates		Minimum total luminance factor
	x	y	Y(%)
Fluorescent orange-red	0.610	0.390	40
	0.535	0.375	
	0.570	0.340	
	0.655	0.345	

TESTS FOR ALL MATERIALS (cont)

Test/Method	Section	ANSI/ISEA 107 Requirement	Test Result	Pass/ Fail/ NA
Colorfastness Crocking AATCC 8-2013	8.2.1	Dry 3.0 Wet 3.0	Dry: 4.5 Wet: 4.5	Pass
Colorfastness Perspiration AATCC 15-2013	8.2.2	Color change 4.0 Staining 3.0	Color change: 4.5 Staining Acetate: 4.5 Cotton: 4.5 Nylon: 4.5 Polyester: 4.5 Acrylic: 4.5 Wool: 4.5	Pass
Tear Resistance (Woven) ASTM D1424-09 (2013)	8.4.2	13 N (1326 gf) (2.92 lbf) Average force machine Average force cross-machine	45.9 N 37.9 N	Pass

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TESTS AS CARE LABEL DICTATES				
Test/Method	Section	ANSI/ISEA 107 Requirement	Test Result	Pass/ Fail/ NA
Colorfastness Domestic Laundry AATCC 61-2013-2A 105°F (modified)	8.2.3 Table 4	Color change 4.5 Staining 3.0	Color change: 4.0 Staining Acetate: 4.5 Cotton: 4.5 Nylon: 4.0 Polyester: 4.5 Acrylic: 4.5 Wool: 4.5	Pass
Colorfastness Water AATCC 107-2013	8.2.3 Table 4	Color change 3.0 Staining 3.0	Color change: 4.5 Staining Acetate: 4.5 Cotton: 4.5 Nylon: 4.5 Polyester: 4.5 Acrylic: 4.5 Wool: 4.5	Pass
Dimensional change Domestic AATCC 135-2012 (3)IIIA(iii)@105°F	8.3.1	Knit or Coated, Non-Woven L +/- 7% W +/-5%	5 th Cycle Length = -0.8 Width = -0.4	Pass
Water Repellency AATCC 22-2010	8.5.1	90 new, 70 after 5 washings	New: 95 After 5 washings [#] : 90	Pass
Water Resistance AATCC 35-2013	8.5.2	≤ 1 gram of water penetration Level 1	New: 0 After 5 washings [#] : 0	Pass
Waterproof AATCC 127-2013	8.5.3	200 cm new and after 5 washings	New: Exceed 500 cm After 5 washings [#] : Exceed 500 cm	Pass
Breathability ASTM E96-13 Procedure B or BW	8.6	Procedure BW 3600 g/m ² /24 hr hydrophilic	3840 g/m ² /24 hr	Pass

Washing procedure (follow care label): AATCC 135-2012 Test No. (1)IIA(ii); Machine wash at 80 degree F with 1.8 kg total loading (Type 3 ballast + specimen) and 66±1g of 1993 AATCC Standard Reference detergent, normal cycle, tumble dry delicate less than 140 degree F

*** End of Report ***

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