# E3. Declaration of Conformity

Declaration of Conformity to ANSI/ISEA 107-2020, High-Visibility Safety Apparel

Certificate No. J24129-2020								
Supplier name and address: Tingley Rul	bber Corporation							
1551 S. Washington Ave., Suite 403								
Piscataway, NJ 08854								
Product information (name, model number, part number or other information as applicable):								
Icon Jacket, Fluorescent Orange-Red								
Model Number: J24129								
compliant high-visibility safety item for Petested with documents referenced under	ct meets all set requirements as stated in ANSI/ISEA 107-2020 as a erformance Class 3, Type R; All relevant materials have been this certificate number. This item meets all design requirements and unt of visible reflective material and background materials for the							
1. VISIBLE BACKGROUND MATERIA	L:							
<ul> <li>Amount of visible background mate</li> </ul>	rial (smallest size offered): >0.80m² (1240 in.²)							
Please list each material that contributes t Use separate sheet for addition materials.	cowards the amount <b>VISIBLE BACKGROUND MATERIAL</b> listed above.							
Material 1 Identification	,							
Test Lab: Intertek	Material Type: □Knitted X Woven □ Other: ———							
Report #: GZHT91069972	Material Content (such as Polyester, Modacrylic, and others): Polyurethane on 300 denier Polyester							
Date: 11/12/2021	Weight: 5.5 oz Color: Fl. Orange-Red							
Description: Breathable interior coated	Polyurethane on 300D Polyester with exterior DWR coating							
Material 2 Identification								
Test Lab:	Material Type: □Knitted □ Woven □ Other: ———							
Report #:	Material Content (such as Polyester, Modacrylic, and others):							
Date:	Weight: Color:							
Description:								
Material 3 Identification								
Test Lab:	Material Type: □Knitted □ Woven □ Other: ———							
Report #:	Material Content (such as Polyester, Modacrylic, and others):							
Date:	Weight: Color:							
Description:								

## **Declaration of Conformity (page 2 of 2)**

2.	VISIBLE RETROREFLECTIVE MATE	ERIAL
• /	Amount of visible retroreflective material	(smallest size offered) <u>0.20m² (310 in.²)</u>
Ы	ease list each type of material that contr	ibutes towards VISIBLE RETROREFLECTIVE MATERIAL listed above
Ma	aterial 1 Identification	
	Test Lab: Intertek	
	Report #: GZHT91069017	
	Date: 11/11/2021	Style #: VB211A
	Description: 50mm wide sew on silver r	reflective trim
Ma	aterial 2 Identification	
	Test Lab:	
	Report #:	
	Date:	Style #:
	Description:	
*U	se separate sheet for additional materia	als
3.	OVERALL LUMINANCE	
	Check here if test report for option	al Overall Luminance testing is attached.
Th	ne undersigned hereby warrants that he/	she is authorized to legally bind the company identified above.
Si	gned: Mghan BOWS	Title: Product Manager
Pr	<sub>int Name:</sub> Meghan Bowser	Date: 8/17/22



### Certificate of Test

TRC NANJING REPRESENTATIVE Issued To: Our Reference No.: GZHT9106997202

**OFFICE** 

ROOM 1809,#3 BUILDING Certificate Issue Date: Nov 12, 2021

DEYING INT'L PLAZA, #222 CHANGHONG ROAD.

YUHUATAI DISTRICT, NANJING 210012

ANNE WANG Attn:

Description: One (1) piece of submitted sample said to be Hi-Vis Orange PU on 300D Polyester.

We Hereby Declare That The Sample Described Above Has Been Tested By Intertek Testing Services Shenzhen Ltd. Guangzhou Branch And Meets The Requirements Of The Following Selected Tests Of ANSI/ISEA 107-2020.

Color Performance Of Background And Combined-performance Materials Colorfastness To Crocking Of Background Material Color Fastness To Perspiration Of Background Material Colorfastness To Water Of Background Material Water Repellency Protection Water Vapor Permeability Water Vapor Permeability
Color Fastness To Laundry Of Background Material
Dimension Change Of Background Material Tear Resistance

The test results are given in our report No.: GZHT91069972 Dated: Nov 1 Dated: Nov 12, 2021

#### Note:

- 1 This Declaration Applies To The Particular Sample Tested And To The Specific Tests Carried Out As Dated And Detailed In The Report(S) Referenced Above.
- 2 This Certificate Is Valid Only For The Applicant's Selected Test Items And Must Not Be Used Without The Attached Test Report.
- This Certificate Must Not Be Confused Neither With The EU Type Examination Certificate Released By Nofified Body Nor With The Conformalty Declaration Released By Manufacturer.

Authorized By:

For Intertek Testing Services Shenzhen Ltd. Guangzhou Branch

**Guiliang Dong** Senior Lab Manager





Nov 12, 2021

Date:

Applicant: TRC NANJING REPRESENTATIVE OFFICE

ROOM 1809, #3 BUILDING,

DEYING INT'L PLAZA, #222 CHANGHONG ROAD,

YUHUATAI DISTRICT, NANJING 210012

Attn: ANNE WANG

Sample Description:

One (1) piece of submitted sample said to be Hi-Vis Orange PU on 300D Polyester.

Standard ANSI/ISEA 107-2020

Buver Tingley Rubber Corporation

Ref. No. Hi-Vis OR PU on 300D Polyester, #202105/LOT4

Goods Exported to U.S.A

Date Received/Date Test Started Oct. 11, 2021 Date Final Information Confirmed/ Nov. 10, 2021/--

Date Payment Received:

Test Result Please Refer To Attached Page(S).

Should you have any query on this report, you may contact at <a href="mailto:qzfootwear@intertek.com">qzfootwear@intertek.com</a>

Authorized By:

For Intertek Testing Services Shenzhen Ltd.

Guangzhou Branch

Guiliang Dong Senior Lab Manager

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EC / lydiayang







Total Quality. Assured. **TEST REPORT** 

Tests Conducted (As Requested By The Applicant)

Color Performance Of Background And Combined-performance Materials (ANSI/ISEA 107-2020, 8.1.1 (Prior To Exposure Tests) & 8.1.2 (After Xenon Test) & ASTM E1164-17)

Sample	Color	Pre-condition	Chromaticity Coordinates		Total Luminance Factor	Requirement	Pass/Fail	
			ε	X	у	Y (%)		
-	Fluorescent	As	0°	0.5997	0.3558	53	-	-
	Orange/ Red	Received (#1)	90°	0.5998	0.3559	53	-	-
			Mean	0.600	0.356	53	*	Pass
		After Xenon	0°	0.5829	0.3581	56	-	-
		Test (# & #1)	90°	0.5824	0.3581	56	-	-
			Mean	0.583	0.358	56	*	Pass
Note:	The Specimen	Is Backed By A B	lack Unde	rlay With A	Reflectance	e Of Less Than	0.04.	

Sample	Color	Pre-Condition	Chromaticity Coordinates		Total Luminance Factor	Applicant's Requirement	Pass/Fail	
			ε	X	у	Y (%)		
-	Fluorescent	After Washing	0°	0.6008	0.3554	53	-	-
	Orange/ Red	(#1 & #2)	90°	0.6008	0.3554	53	-	-
			Mean	0.601	0.355	53	*	Pass
Note:	The Specimen	Is Backed By A B	ack Unde	rlay With A	Reflectance	e Of Less Than	0.04	·





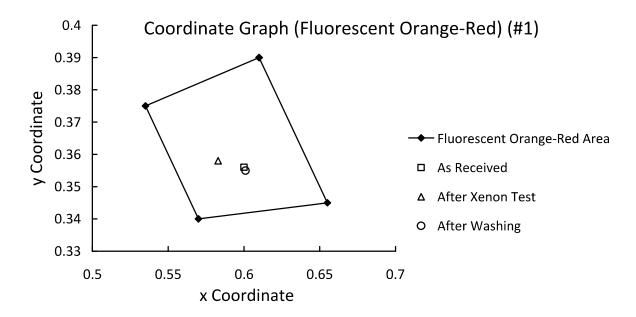


GZHT91069972 Number:

Total Quality. Assured. **TEST REPORT** 

Tests Conducted (As Requested By The Applicant)

Color Performance Of Background And Combined-performance Materials (ANSI/ISEA 107-2020, 8.1.1 (Prior To Exposure Tests) & 8.1.2 (After Xenon Test) & ASTM E1164-17) (Cont)



### Remark: \* =

Color	Chromaticity Coordinates		Minimum Total Luminance Factor			
	X	У	Y (%)			
Fluorescent Orange-Red	0.610 0.535 0.570 0.655	0.390 0.375 0.340 0.345	40			
NOTE The Coordinate Of Sample Should Be Inside The Area Specified By The Table Above.						

Xenon Test Based On AATCC 16.3-2014, Colorfastness To Light Xenon Arc. Expose The Materials To 40 AATCC Fading Units (170 KJ/m²@420nm). Single Layer ISO 6330:2012, Wash Condition:

Washing Stándard:	ISO 6330:2012
Machine:	Type A
Reagent:	Reference Detergent 3
Washing Procedure:	4 N
Bleaching Procedure:	-
Drying Procedure:	Line Dry
Ironing Procedure:	-
Professional Textile Care Procedure:	-
Number Of Cycles:	25

/ lydiayang

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深圳天祥质量技术服务有限公司广州分公司 Room 02, 1-8/F. & Room 01, F101/E201/E301/E401/E501/E601/E701/E801,
No.7-2, Caipin Road, Guangzhou Science City, GETDD, Guangzhou, Guangdong, China 广州经济技术开发区科学规划频路 7 号之二第1—8 层 02 房、01 房 101、E201、E301、A401、E501、E601,1701、E801
Tel: +86 208213 9001 Pax: +86 20 82089999 Postcode: 510663





2 Colorfastness To Crocking Of Background Material (ANSI/ISEA 107-2020, 8.2.1 & AATCC 8-2016)

Preconditioning:

Temperature: (20±2)°C Relative Humidity:  $(65\pm5)\%$ Period: 24 Hours

Sample	Test Condition	Results	Requirement	Pass / Fail
-	Dry	Grade 4.5	Min. Grade 3.0	Pass
	Wet	Grade 4.5	Min. Grade 3.0	Pass

3 Colorfastness To Perspiration Of Background Material (ANSI/ISEA 107-2020, 8.2.2 & AATCC 15-2013)

Test Condition:

Load: 4.54 kg  $(38 \pm 1)$  °C Oven temperature:  $6 h \pm 5 min$ Test Period:

Sample			Results	<u>Requirement</u>	<u>Pass / Fail</u>
-	Color Change:		Grade 4.5	Min. Grade 4.0	Pass
	Color Stain:	-Acetate	Grade 4.5		
		-Cotton	Grade 4.5		
		-Nylon	Grade 4.5		
		-Polyester	Grade 4.5	Min. Grade 3.0	Pass
		-Acrylic	Grade 4.5		
		-Wool	Grade 4.5		





Colorfastness To Water Of Background Material (ANSI/ISEA 107-2020, 8.2.3 & AATCC 107-2013)

Test Condition:

Pressure: 4.5 kg Oven Temperature:  $(38 \pm 1) \, ^{\circ}\text{C}$ Test Period: 18 h

Sample			<u>Requirement</u>	Pass / Fail	
-	Color Change:		Grade 4.5	Min. Grade 3.0	Pass
	Staining	-Acetate	Grade 4.5		
		-Cotton	Grade 4.5		
		-Nylon	Grade 4.5		
		-Polyester	Grade 4.5	Min. Grade 3.0	Pass
		-Acrylic	Grade 4.5		
		-Wool	Grade 4.5		

5 Water Repellency Protection (Spray Test) (ANSI/ISEA 107-2020, 8.5.1 & AATCC 22-2017)

Specimen Conditioning:

Temperature: **(20±2)**℃ Relative Humidity:  $(65\pm5)\%$ Period: 24 Hours

Test Condition:

Water Temperature: **(27±1)**℃ Water Volume: 250 ml

Spray Time 25 - 30 Seconds

Sample	Pre-treatment	Results	<u>Requirement</u>	<u>Pass/Fail</u>
-	As Received	100	Min. 90	Pass
	After 5 Laundry Cycles (*)	80	Min. 70	Pass

AATCC 135-2018 (Home Laundering) Remark:

/ lydiayang

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深圳天祥质量技术服务有限公司广州分公司
Room 02, 1-8/F. & Room 01, E101/E201/E301/E403/E501/E601/E701/E801,
No.7-2, Caipin Road, Guangzhou Science City, GETDD, Guangzhou, Guangdong, China 广州经济技术开发区科学规范频路 7 号之二第1 8 是 02 房、01 房 101、E201、E301、A201、E501、E603、E01、E801
Tel: +86 208213 9001 Pax: 中86 20 82089909 Postcode: 510663





Total Quality. Assured. **TEST REPORT** 

Tests Conducted (As Requested By The Applicant)

6 Waterproof Protection (Hydrostatic Pressure Test) (ANSI/ISEA 107-2020, 8.5.3 & AATCC 127-2017)

Specimen Conditioning:

Temperature: (20±2)°C Relative Humidity:  $(65\pm5)\%$ 

Period: 24 Hours

Test Condition:

Equipment Type: Hydrostatic Head Tester

Water Temperature: **(21±2)**℃ Gradient 60 mbar/min

Sample	Pre-treatment	Specimen	Results	<u>Requirement</u>	Pass/Fail
-		1	> 500 cm	Min. 200 cm	Pass
	As Received	2	> 500 cm	Min. 200 cm	Pass
		3	> 500 cm	Min. 200 cm	Pass
	After 5 Laundry Cycles(*)	1	> 500 cm	Min. 200 cm	Pass
		2	> 500 cm	Min. 200 cm	Pass
		3	> 500 cm	Min. 200 cm	Pass

Sample	Pre-treatment	Specimen	Results	Applicant's Requirement	Pass/Fail
-		1	> 500 cm	Min. 200 cm	Pass
	After 25 Laundry Cycles(*)	2	> 500 cm	Min. 200 cm	Pass
	,	3	> 500 cm	Min. 200 cm	Pass

Remark: \* = AATCC 135-2018 (Home Laundering)





GZHT91069972 Number:

Water Vapor Permeability For Background Materials Classified As Breathable (ANSI/ISEA 107-2020, 8.6 & ASTM E96-16, Procedure B – Upright For Microporous)

Test Condition:

Temperature: 23℃ Relative Humidity: 50%

Sample	Specimen	Results (WVT)	<u>Requirement</u>	Pass/Fail
	1	889.5 g/m <sup>2</sup> /24 Hours	-	-
	2	880.7 g/m <sup>2</sup> /24 Hours	-	-
	3	885.1 g/m <sup>2</sup> /24 Hours	-	-
	Average	885.1 g/m <sup>2</sup> /24 Hours	*	Pass

Remark:  $* = Min. 600 \text{ g/m}^2/24 \text{ Hours For Procedure B}$ 

Remark: This Test Was Conducted At Room 801/901, No. 8, East BaoYing Road, Huangpu District, Guangzhou.

Color Fastness To Laundry Of Background Material (ANSI/ISEA 107-2020, 8.2.3) 8

Test Condition:

Test Method: AATCC 61-2013-2A, Modified To Use 105°F (Domestic Laundry)

Sample			Results	Requirement	Pass / Fail
	Color Change:		Grade 4.5	Min. Grade 4.5	Pass
	Color Stain:	-Acetate	Grade 4.0		
		-Cotton	Grade 4.5		
		-Nylon	Grade 4.0		
		-Polyester	Grade 4.5	Min. Grade 3.0	Pass
		-Acrylic	Grade 4.5		
		-Wool	Grade 4.5		

Remark: This Test Was Conducted At Room 801/901, No. 8, East BaoYing Road, Huangpu District, Guangzhou.

/ lydiayang

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Number:

GZHT91069972

Total Quality. Assured. **TEST REPORT** 

Tests Conducted (As Requested By The Applicant)

Dimension Change Of Background Material (Home Laundering) (ANSI/ISEA 107-2020, 8.3 & ASTM D1776-16)

Test Condition:

Standard Code: AATCC 135-2012 (3)(III)(A)(iii)

Cleaning Cycles:

Sample		Results	Requirement	<u>Pass / Fail</u>
	Length	-0.8%	*	Pass
	Width	-0.4%	*	Pass

Remark: \* =

Material Type	Knit Fabrics And All Other Materials
Length	Not Exceed $\pm 7\%$
Width	Not Exceed $\pm 5\%$

Remark: This Test Was Conducted At Room 801/901, No. 8, East BaoYing Road, Huangpu District, Guangzhou.

Tear Resistance Of Woven Materials (Uncoated, Coated Or Laminate) (ANSI/ISEA 107-2020, 8.4.2 & ASTM 10 D1424-09(2019))

Preconditioning:

Temperature: (20±2)℃ Relative Humidity: (65±5)% Period: 24 hours

Sample	Specimen	Machine Direction	Requirement	Pass/Fail
	1	Over 62.8 N (#)	-	-
	2	Over 62.8 N (#)	-	-
	3	Over 62.8 N (#)	-	-
	4	Over 62.8 N (#)	-	-
	5	Over 62.8 N (#)	-	-
	Average	Over 62.8 N (#)	Min. 13 N	Pass
	Specimen	Cross-Machine Direction	<u>Requirement</u>	<u>Pass/Fail</u>
	1	Over 62.8 N (#)	-	-
	2	Over 62.8 N (#)	-	-
	3	Over 62.8 N (#)	-	-
	4	Over 62.8 N (#)	-	-
	5	Over 62.8 N (#)	-	-
	Average	Over 62.8 N (#)	Min. 13 N	Pass

Remark: #=The Maximum Capacity Of The Tester Is 62.8 (N)

N = Newton

This Test Was Conducted At Room 801/901, No. 8, East BaoYing Road, Huangpu District, Guangzhou.

/ lydiayang

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End Of Report

This report is made solely on the basis of your instructions and/or information and materials supplied by you. It is not intended to be a recommendation for any particular course of action. Intertek does not accept a duty of care or any other responsibility to any person other than the Client in respect of this report and only accepts liability to the Client insofar as is expressly contained in the terms and conditions governing Intertek's provision of services to you. Intertek makes no warranties or representations either express or implied with respect to this report save as provided for in those terms and conditions. We have aimed to conduct the Review on a diligent and careful basis and we do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise, except in the event of our gross negligence or wilful misconduct. No copy of the test report(except for full text copy) shall be made without the written approval by Intertek.



### **Certificate of Test**

TRC NANJING REPRESENTATIVE OFFICE Issued To: Our Reference No.: GZHT9106901702

> ROOM 1809,#3 BUILDING, Certificate Issue Date: Nov 11, 2021

DEYING INT'L PLAZA,#222 CHANGHONG

ROAD.

YUHUATAI DISTRICT, NANJING 210012

Attn: ANNE WANG

Description: One (1) piece of submitted sample said to be Silver VB211A WP Reflective Tape.

We Hereby Declare That The Sample Described Above Has Been Tested By Intertek Testing Services Shenzhen Ltd. Guangzhou Branch And Meets The Requirements Of The Following Selected Tests Of ANSI/ISEA 107-2020.

Retroreflective Performance Prior to Test Exposure Retroreflection After Abrasion Retroreflection After Flexing Retroreflection After Folding At Cold Temperatures Retroreflection After Temperature Variation

Retroreflection After Washing Retroreflection (Wet Performance)

The test results are given in our report

No.: GZHT91069017 Dated: Nov 11, 2021

#### Note:

- This Declaration Applies To The Particular Sample Tested And To The Specific Tests Carried Out As Dated And Detailed In The Report(S) Referenced Above.
- This Certificate Is Valid Only For The Applicant's Selected Test Items And Must Not Be Used Without 2 The Attached Test Report.
- This Certificate Must Not Be Confused Neither With The EU Type Examination Certificate Released By Nofified Body Nor With The Conformalty Declaration Released By Manufacturer.

Authorized By:

For Intertek Testing Services Shenzhen Ltd.

Guangzhou Branch

Guiliang Dong Senior Lab Manager





Nov 11, 2021

Date:

Applicant: TRC NANJING REPRESENTATIVE OFFICE

ROOM 1809, #3 BUILDING,

DEYING INT'L PLAZA, #222 CHANGHONG ROAD,

YUHUATAI DISTRICT, NANJING 210012

Attn: ANNE WANG

Sample Description:

One (1) piece of submitted sample said to be Silver VB211A WP Reflective Tape.

Standard ANSI/ISEA 107-2020

Buyer **Tingley Rubber Corporation** 

VB211A WP Reflective Tape, #20210820-3 Ref.

Goods Exported to U.S.A.

Date Received/Date Test Started Oct. 09, 2021 Nov. 11, 2021/--Date Final Information Confirmed/

Date Payment Received:

Test Result Please Refer To Attached Page(S).

Should you have any query on this report, you may contact at qzfootwear@intertek.com

Authorized By:

For Intertek Testing Services Shenzhen Ltd.

Guangzhou Branch

Guiliang Dong Senior Lab Manager

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1 Retroreflective Performance Prior to Test Exposure (ANSI/ISEA 107-2020, 9.1 & 10.3 & ASTM E809-08(2013))

Sample	Observation Angle	Entrance Angle $\beta_1$ ( $\beta_2$ =0)	Coeffici Retroref cd/(lx	Tection	<u>Requirement</u>	Pass/Fail
-	0.20° [12′]	5°	504	500	Min. 330/248 cd/( $lx \cdot m^2$ ) (*)	Pass
		20°	475	468	Min. 290/218 cd/(lx·m²) (*)	Pass
		30°	398	391	Min. 180/135 cd/( $lx \cdot m^2$ ) (*)	Pass
		40°	232	216	Min. 65/47 cd/( $lx \cdot m^2$ ) (*)	Pass
	0.33° [20′]	5°	288	286	Min. 250/188 cd/(lx·m²) (*)	Pass
		20°	274	267	Min. 200/150 cd/(lx·m²) (*)	Pass
		30°	246	241	Min. 170/128 cd/(lx·m²) (*)	Pass
		40°	171	168	Min. 60/45 cd/(lx·m²) (*)	Pass
	1.0°	5°	82.5	80.7	Min. 25/18.8 cd/(lx·m²) (*)	Pass
		20°	83.9	83.6	Min. 15/11.3 cd/(lx·m <sup>2</sup> ) (*)	Pass
		30°	79.9	79.5	Min. 12/9 cd/(lx·m²) (*)	Pass
		40°	49.7	45.2	Min. 10/7.5 cd/(lx·m²) (*)	Pass
	1.5° [1° 30′]	5°	19.8	18.5	Min. 10/7.5 cd/(lx·m²) (*)	Pass
		20°	21.5	21.0	Min. 7/5.25 cd/(lx·m²) (*)	Pass
		30°	24.7	24.4	Min. 5/3.75 cd/(lx·m <sup>2</sup> ) (*)	Pass
		40°	22.7	22.4	Min. 4/3 cd/(lx·m²) (*)	Pass

<sup>\*=</sup> Retroreflective Material Shall Comply With The Minimum Requirements For The Coefficient Of Retroreflection At The One Of The Two Rotation Angles, And Shall Be Not Less Than 75% Of The Values At The Other Rotation Angle.

Note: Take Measurements At  $\epsilon 1=0^{\circ}$  And  $\epsilon 2=90^{\circ}$  . Maximum Value Is Recorded On Left Side Of The Result Column And The Other Value On Right Side Of Test Result Column.





2 Retroreflection After Abrasion (ANSI/ISEA 107-2020, 9.2 & 10.4.1)

Test Exposure	Test Method
Abrasion	ISO 12947-2:2016, Pressure: 9 kPa, 5,000 Cycles

Sample	x-Direction (Horizontal: ε=0°)					
	Observation Angle	Entrance Angle $\beta_1$ $(\beta_2 = 0^\circ)$	Coefficient Of Retroreflection	<u>Requirement</u>	Pass / Fail	
-	0.20° [12′]	5°	471 cd/(lx·m <sup>2</sup> )	Min. 100 cd/(lx·m²)	Pass	

Sample	y-Direction (Vertical: $\epsilon$ =90 $^{\circ}$ )					
	Observation Angle	Entrance Angle $\beta_1$ $(\beta_2 = 0^\circ)$	Coefficient Of Retroreflection	<u>Requirement</u>	Pass / Fail	
-	0.20° [12′]	5°	470 cd/(lx·m <sup>2</sup> )	Min. 75 cd/(lx·m <sup>2</sup> )	Pass	

Retroreflection After Flexing (ANSI/ISEA 107-2020, 9.2 & 10.4.2)

Test Exposure	Test Method
Flexing	ISO 7854:1995, Method A, 7,500 Cycles

Sample	x-Direction (Horizontal: $\epsilon$ =0 $^{\circ}$ )					
	Observation Angle	Entrance Angle $\beta_1$ $(\beta_2 = 0^\circ)$	Coefficient Of Retroreflection	<u>Requirement</u>	Pass / Fail	
-	0.20° [12′]	5°	474 cd/(lx·m <sup>2</sup> )	Min. 100 cd/(lx·m <sup>2</sup> )	Pass	

Sample	y-Direction (Vertical: ε=90°)						
	Observation Angle	Entrance Angle $\beta_1$ $(\beta_2 = 0^\circ)$	Coefficient Of Retroreflection	<u>Requirement</u>	Pass / Fail		
_	0.20° [12′]	5°	474 cd/(lx·m²)	Min. 75 cd/(lx·m <sup>2</sup> )	Pass		

/ lydiayang





4 Retroreflection After Folding At Cold Temperatures (ANSI/ISEA 107-2020, 9.2 & 10.4.3)

Test Exposure	Test Method
Folding At Cold Temperatures	ISO 4675:2017, Exposure At $(-20\pm1)^{\circ}$ C For 4 Hours

Sample		x-Direction (Horizontal: $\epsilon$ =0 $^{\circ}$ )				
	Observation Angle	Entrance Angle $\beta_1$ $(\beta_2 = 0^\circ)$	Coefficient Of Retroreflection	<u>Requirement</u>	Pass / Fail	
-	0.20° [12′]	5°	500 cd/(lx·m <sup>2</sup> )	Min. 100 cd/(lx·m <sup>2</sup> )	Pass	

Sample		y-Direction (Vertical: ε=90°)					
	Observation	Entrance Angle β <sub>1</sub>	Coefficient Of	Requirement	Pass / Fail		
	Angle	$(\beta_2 = 0^{\circ})$	Retroreflection	<u>Requirement</u>	1 033 / 1 011		
-	0.20° [12′]	5°	496 cd/(lx·m <sup>2</sup> )	Min. 75 cd/( $lx \cdot m^2$ )	Pass		

5 Retroreflection After Temperature Variation (ANSI/ISEA 107-2020, 9.2 & 10.4.4)

Test Exposure	Test Method
	a) For 12 H At 50±2℃; Immediately Followed By
Temperature Variation	b) 20 H At −30±2℃; Immediately Followed By
	c) For At Least 2 H At 20±2℃ And 65±5 % Relative Humidity

Sample		x-Direction (Horizontal: $\epsilon$ =0 $^{\circ}$ )					
	Observation Angle	Entrance Angle $\beta_1$ $(\beta_2 = 0^\circ)$	Coefficient Of Retroreflection	<u>Requirement</u>	Pass / Fail		
-	0.20° [12′]	5°	503 cd/(lx·m <sup>2</sup> )	Min. 100 cd/(lx·m²)	Pass		

Sample		y-Direction (Vertical: ε=90°)					
	Observation Angle	Entrance Angle $\beta_1$ $(\beta_2 = 0^\circ)$	Coefficient Of Retroreflection	<u>Requirement</u>	Pass / Fail		
-	0.20° [12′]	5°	499 cd/(lx·m²)	Min. 75 cd/(lx·m <sup>2</sup> )	Pass		

/ lydiayang





6 Retroreflection After Washing (ANSI/ISEA 107-2020, 9.2 & 10.4.5.2 (Washing))

### Wash Condition:

ISO 6330:2012
Type A
Reference Detergent 3
6N
-
After Each Wash Cycle Dried The Samples At 50±5℃.
-
-
25

Sample		x-Direction (Horizontal: $\varepsilon=0^{\circ}$ )					
	Observation Angle	Entrance Angle $\beta_1$ $(\beta_2 = 0^\circ)$	Coefficient Of Retroreflection	<u>Requirement</u>	Pass / Fail		
_	0.20° [12′]	5°	278 cd/(lx·m <sup>2</sup> )	Min. 100 cd/(lx·m <sup>2</sup> )	Pass		

Sample		y-Direction (Vertical: ε=90°)				
	Observation Angle	Entrance Angle $\beta_1$ $(\beta_2 = 0^\circ)$	Coefficient Of Retroreflection	<u>Requirement</u>	Pass / Fail	
-	0.20° [12′]	5°	270 cd/(lx·m <sup>2</sup> )	Min. 75 cd/(lx·m <sup>2</sup> )	Pass	

#### 7 Retroreflection (Wet Performance) (ANSI/ISEA 107-2020, 9.2 & Appendix B)

Test Exposure	Test Method	
Retroreflective Wet Performance	ANSI/ISEA 107-2020, Appendix B	

Sample		x-Direction (Horizontal: $\epsilon$ =0 $^{\circ}$ )				
	Observation Angle	Entrance Angle $\beta_1$ $(\beta_2 = 0^\circ)$	Coefficient Of Retroreflection	<u>Requirement</u>	Pass / Fail	
-	0.20° [12′]	5°	358 cd/(lx·m <sup>2</sup> )	Min. 100 cd/(lx·m <sup>2</sup> )	Pass	

Sample		Y	y-Direction (Vertical: $\epsilon$ =90°	)	
	Observation Angle	Entrance Angle $\beta_1$ $(\beta_2 = 0^\circ)$	Coefficient Of Retroreflection	<u>Requirement</u>	Pass / Fail
-	0.20° [12′]	5°	343 cd/(lx·m <sup>2</sup> )	Min. 75 cd/(lx·m <sup>2</sup> )	Pass

/ lydiayang

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