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TESTING
CNAS L0220

TEST REPORT

Number: GZHT91203858

Applicant: BINZHOU PIKE RUBBER CO.,LTD
NO.666, GAO 12TH ROAD, NEW AND
HIGH-TECH ZONE, BINZHOU CITY,
SHANDONG PROVINCE, CHINA-256600
Attn: DAISY

Date: Jul 27, 2023

Sample Description:

Three (3) groups of Submitted samples said to be:
(A) Four (4) pieces of Vest in Fluorescent Yellow-Green
(B) One (1) piece of Fluorescent Yellow-Green fabric used for background
(C) One (1) piece of Orange-Red with Retroreflective tape

Standard	:	CSA Z96:22
Buyer's Name	:	TENAQUIP LTD
Colour	:	Fluorescent Yellow-Green and Orange-Red
Vendor	:	--
Manufacturer	:	BinZhou Pike Rubber Co., Ltd
Supplier	:	BinZhou Pike Rubber Co., Ltd
Style No./Name	:	SGI 277; VPWK-001; VPWK-401
P.O. No.	:	--
Ref.	:	Background Fabric: 100% polyester mesh Retroreflective Material: 100% poly Binding: 100% polyester Non-Fluorescent Material: 100% poly Size Range: M-5XL
Country Of Origin	:	China
Goods Exported To	:	Canada; USA
Date Received/Date Test Started	:	Jul 18, 2023
Date Final Information Confirmed	:	--

Test Result Please Refer To Attached Page(S).

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

Authorized By:
For Intertek Testing Services Shenzhen Ltd.
Guangzhou Branch

Guiliang Dong
Senior Lab Manager

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1 Garment Class, Level, And Design (CSA Z96:22, 4)

4.1 HVSA Classes

Sample (A)			
Requirement		**Result**	**Pass / Fail / N/A**
4.1.1	**Colours** Three High-Visibility Fluorescent Colour Ranges Plus Two High-Visibility Bright Colour Ranges For Background Materials And Retroreflective (Or Combined-Performance) Contrasting Stripes/bands Are Specified, Providing Options That Are Intended To Create Conspicuity Against Most Work Environments.	Fluorescent Yellow-Green	Pass
4.1.2	**Classes** Three HVSA Classes Are Specified In Terms Of The Body Coverage Provided: a) Class 3 HVSA Provides The Greatest Visibility Of The User; b) Class 2 HVSA Provides Superior Visibility Of The User And Is More Conspicuous Than Class 1 HVSA; c) Class 1 HVSA Provides The Lowest Recognized Coverage And Good Visibility.	Class 2	Pass
4.1.3	**Body Coverage** Each HVSA Class Shall Cover The Torso And/or Limbs In Accordance With The Minimum Areas For Each Class Described In Table 1.	Cover The Torso	Pass
4.1.4	**Colour-contrasting Stripes/bands** HVSA Shall Incorporate Stripes/bands That Are Colour Contrasting With Background Material And Shall Be Either Retroreflective Or Combined-Performance, As Specified In Table 1, And For Flame-and Flash-resistant (FR) Garments, As Specified In Clause 4.4.	Silver Retroreflective Bands	Pass
4.1.5	**Photometric Performance Level Of Stripes/bands** The Photometric Performance Level Of Retroreflective Materials Selected Shall Meet The Specifications.	-	Pass
4.1.6	**Photometric Performance Levels For Retroreflective Or Combined-performance Materials** The Minimum Photometric Performance Levels For Retroreflective Or Combined-Performance Materials That Shall Be Used In The Construction Of All Three HVSA Classes.	-	Pass

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4.1 HVSA Classes (Cont)

Size	**M**						
Area Of Visible Materials Of HVSA							
Class	Background Material	Retroreflective Or Combined-performance Material Used In Conjunction With Background Material		Combined-Performance Material Used Without Background material		Requirement	Pass/Fail
Class 2	Full Coverage Of Upper Torso	0.1390 m^2	Level 2	-	-	*	Pass

Table 1
Minimum Areas Of High-Visibility Material (Any Size Garment)

	Class 3 HVSA	Class 2 HVSA	Class 1 HVSA
Description Of Minimal Coverage	Class 2 HVSA, Plus Bands Encircling Both Arms And Both Legs. These Bands Shall Be Composed Of Combined-Performance Stripes/bands Or A Combination Of Retroreflective And Background Material, See Clause 4.2.2.8.	Full Coverage Of Upper Torso (Front, Back, Sides, And Over The Shoulders, See Clause 4.5)	Basic Harness Or Stripes/bands Over The Shoulder(s) And Encircling The Waist
Background Material	See Description Of Minimal Coverage	See Description Of Minimal Coverage	0.14 m^2 (Minimum)
Retroreflective Or Combined-Performance Material Used In Conjunction With Background Material	0.20 m^2	0.13 m^2	0.10 m^2
Photometric Performance *	Level 2	Level 1 Or Level 2	Level 1 Or Level 2
Combined-Performance Material Used Without Background Material	-	-	0.20 m^2
Photometric Performance *	-	-	Level 1 Or Level 2

Remark: * = Retroreflective Or Combined-Performance Materials Used On Garments Intended For FR Protection Applications May Meet Performance Levels Lower Than Levels 1 And 2. As A Minimum, They Shall Meet Performance Level FR.
Notes: Full Coverage Of The Side Of The Upper Torso For Class 2 And Class 3 HVSA Is Considered To Be A Minimum Of 50% Coverage From The Bottom Edge Of The Garment To The Top Of The Shoulder.

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4.2 Garment Design

	Requirement	Result	Pass / Fail / N/A
4.2.1	**Ergonomics** The Following Ergonomic Practices Shall Be Considered In The Design And Manufacture Of HVSA:		
a)	HVSA Materials And Components Should Not Be Known To Adversely Affect The User.	-	Pass
b)	HVSA Should Offer The Best Possible Degree Of Comfort While Providing Adequate Conspicuity.	-	Pass
c)	HVSA Parts That Come Into Direct Contact With The User Should Be Free Of Roughness, Sharp Edges, And Projections That Might Cause Excessive Irritation Or Injuries.	-	Pass
d)	HVSA Should Be Constructed To Ensure Its Correct Positioning On The User And To Ensure It Remains In Place On The User's Body For The Foreseeable Period Of Use, Taking Into Account Ambient Factors Together With The Movements And Postures That The User Could Adopt During The Course Of Work. For This Purpose, Appropriate Means, Such As Adequate Size Ranges, Should Be Provided To Enable HVSA to Be Adapted To The Physique Of The User.	-	Pass
e)	HVSA Should Be Selected To Provide The User With A Comfortable Fit For All The Types Of Work To Be Performed. Ideally, The HVSA Should Be Fitted To The User In Combination With Other Work Clothing To Be Worn Under Various Conditions.	-	Pass
4.2.2	**Retroreflective Or Combined-Performance Stripes/bands**		
4.2.2.1	**Width** For All Garment Classes, The Minimum Width Of Combined-Performance Material Or Retroreflective Stripes/bands Shall Be 50 mm.	50 mm	Pass
4.2.2.2	**Contrast** The Retroreflective Or Combined-performance Stripes/bands Shall Be Of A Contrasting Colour To That Of The Background Material Throughout Their Length On Class 2 And Class 3 HVSA.	Silver Bands	Pass

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4.2 Garment Design (Cont)

	Requirement	Result	Pass / Fail / N/A
4.2.2.3	**Space Between Stripes/bands** Whenever Multiple Stripes/bands Are Placed On The Garment, The Stripes/bands Shall Be Spaced In A Manner That Provides A Minimum Distance Between Stripes/bands Of Retroreflective Material At Least Equal To The Width Of The Stripe/band.	-	N/A
4.2.2.4	**Placement From Edges** Horizontal Stripes/bands Placed Near The Bottom Edge Of A Garment, sleeve, or Pant Leg Shall Not Be Placed Less Than 50 mm Away From The Edge.	216 mm Above The Bottom Edge	Pass
4.2.2.5	**Placement On Sleeves And/or Pant Legs** Horizontal Stripes/bands Placed On Sleeves Or Pant Legs Shall Encircle The Arms Or Legs. Note: Stripes/bands Placed Lower On The Arms And Legs Provide A Greater Indication Of Motion And Greater Conspicuity.	-	N/A
4.2.2.6	**Placement On Legs** Horizontal Stripes/bands On The Legs Shall Be Placed Below The Knee.	-	N/A
4.2.2.7	**Gaps** Gaps In Retroreflective Or Combined-performance Stripes/bands And Background Materials To Allow For Fastening And Seams Shall Not Be More Than 50 mm.	7 mm	Pass
4.2.2.8	**Composition** Leg And Arm Bands For Class 3 HVSA Shall Be Composed Of 50 mm Wide Retroreflective Or Combined-Performance Stripes/bands.	-	N/A
	If Arm And Leg Bands Are Composed Of Retroreflective Material, Arm And Leg Bands Shall Also Include:		
a)	At Least 50 mm Wide Stripes/bands Of Background Material Adjacent To One Side Of The Retroreflective Stripes/bands; Or	-	N/A
b)	At Least 25 mm Wide Stripes/bands Of Background Material Evenly On Both Sides Of The Retroreflective Stripes/bands.	-	N/A
c)	Labeling, If Leg And Arm Bands Are Used As Stand-alone Items; And	-	N/A
d)	Arm And Leg Bands Used In Conjunction With Class 2 HVSA To Achieve Class 3 And Shall Meet All Performance Requirements Of This Standard.	-	N/A

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4.2 Garment Design (Cont)

	Requirement	Result	Pass / Fail / N/A
4.2.3	**Configurations Of Coloured Stripes/bands**		
	Coloured Stripes/bands Are Oriented Ensure That Some Part Of Stripes/bands Are Visible From All Angles Around The Body (i.e., 360° Visibility).	-	Pass
	Stripes/bands Shall Be Laid Out For All HVSA Classes As Follows:		
a)	A Waist-level Horizontal Stripes/bands Fully Encircling The HVSA;	-	Pass
b)	Two Vertical Stripes/bands On The Front Extending Over The Shoulders And Down To The Waist;	-	Pass
c)	A Symmetric "X" On The Back Extending From The Shoulders To The Waist-Level Stripe/band; And	-	Pass
d)	For Class 3 HVSA, Stripes/bands Encircling Both Arms And Both Legs Shall Be Added (See Table 1).	-	N/A
4.2.4	**Background Material**		
	HVSA Background Materials Shall Provide The Body Coverage Described In Table 1.	-	Pass
	Fluorescent Background Materials Shall Comply With One Of The Three Colours Specified In Table 2.	-	Pass
	Bright-coloured Background Materials Shall Comply With One Of Two Colours Specified In Table 3.	-	N/A
4.2.5	**Optional ID Patches And Lettering**		
4.2.5.1	If Non-Retroreflective ID Patches Or Lettering Are Used, Their Combined Total Area Shall Not Be Greater Than 105 cm^2 And Placed As Follows:	Not Present	N/A
a)	If On The Front Of The Garment - A Maximum Of 25 cm^2 Of Either Or Both Vertical Stripes/bands May Be Covered; And	-	N/A
b)	If On The Back Of The Garment - The Stripes/bands Shall Not Be Covered.	-	N/A
4.2.5.2	**Retroreflective ID Patches Or Letters** If Retroreflective ID Patches Or Lettering That Meet The Requirements Of Either Table 5, 6, or 7 Are Used, Then Their Combined Total Area Shall Be No Greater Than 500 cm^2 And may be placed anywhere on HVSA.	-	N/A
	Retroreflective ID Patches Or Letters Should Be Situated So As Not To Obscure The Recognizable Pattern Of The Stripes/bands.	-	N/A

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4.2 Garment Design (Cont)

Requirement		Result	Pass / Fail / N/A
4.2.5.3	**Emergency And Incident, And Law Enforcement Responders** To Distinguish Emergency Services Responding To An Incident Scene, The Following Basic Colours Should Be Used For ID Patches And Lettering And Considered In The HVSA Design For Emergency First Responders: a) Green For Emergency Medical Services; b) Red For Fire Services; And c) Blue For Law Enforcement Personnel.	-	N/A
4.2.6	**Tear-Away Capability** When The HVSA Design Incorporates Tear-away Capability, The Garment Shall Separate In Such A Way That No Section Can Encircle Any Part Of The Body.	-	N/A

4.3 HVSA Design Considerations For Emergency And Incident Responders, And Law Enforcement Personnel

Requirement		Result	Pass / Fail / N/A
	Class 2 Or Class 3 HVSA Shall Be Designed So As Not To Encumber Or Deny Access To Essential Equipment Required By Emergency And Incident Responders, And Law Enforcement Personnel. Design Modifications Shall Be Made To The Garment Design Criteria (See Clause 4.2 And Table 1) If The Modifications Are Necessary To Access Their Essential Equipment.	-	N/A

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4.4 Special Allowances For FR Garment Design

	Requirement	Result	Pass / Fail / N/A
4.4.1	**FR Stripes/bands Requirements** Class 1 level FR HVSA special allowance stripes/bands shall have		
a)	Retroreflective And Fluorescent Material (Side By Side Along Its Length) With A Minimum 50 mm Combined Width Of Retroreflective And Fluorescent Material;	-	N/A
b)	A Minimum 19 mm Wide Retroreflective Material Meeting The Requirements Of Table 5 (Level 2) And The Fluorescent Background Material Meeting The Requirements Of The Chromaticity And Luminance Values In Table 2;	-	N/A
c)	Waist-Level Horizontal Stripe/band Fully Encircling The HVSA;	-	N/A
d)	Two Vertical Stripes/bands On The Front Extending Over The Shoulders And Down To The Waist;	-	N/A
e)	A Symmetric "X" On The Back Extending From The Shoulders To The Waist-level Stripe/band; And	-	N/A
f)	Stripes/bands Encircling Both Arms And Both Legs	-	N/A
4.4.2	**Class 1, Class 2, Or Class 3 FR HVSA** Stripes/bands Shall Have		
a)	A minimum 50 mm wide retroreflective or combined-performance;	-	N/A
b)	Performance Material Meeting Photometric requirements;	-	N/A
c)	Minimum required background material as specified in table 1;	-	N/A
d)	A configuration that complies with clause 4.2.2; and	-	N/A
e)	Background material meeting the requirements of the chromaticity and luminance Values.	-	N/A

4.5 Requirements For Bib-Style Overalls

	Requirement	Result	Pass / Fail / N/A
	As a special case, bib-style overalls are recognized as class 2 HVSA (see table 1). This HVSA shall meet the following criteria:		
a)	Be composed entirely of compliant background material (see clause 4.2.4); and	-	N/A
b)	Include compliant leg bands (see clause 4.2.2).	-	N/A

Compliance: The Submitted Sample **MEETS** The Design Requirements Class 2 Apparel Of CSA Z96:22, Clause 4.

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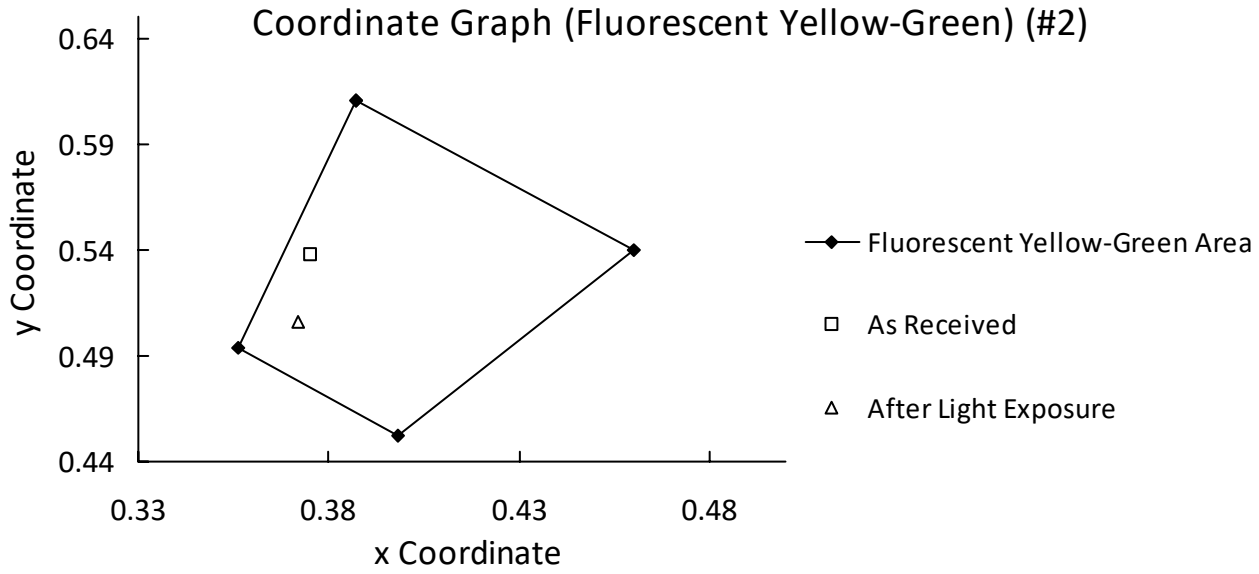
2 Colour Performance
(CSA Z96:22, 5.1 (As Received) & 5.2 (After Light (Xenon) Exposure) & ASTM E1164-12(2017)e1)

Sample (B)							
Material Type	Colour	Pre-Condition	Chromaticity Coordinates		Luminance Factor β	Requirement	Pass/Fail
			x	y			
Background	Fluorescent Yellow-Green	As Received (#2)	0.375	0.538	0.89	*	Pass
		After Light Exposure (#1 & #2)	0.372	0.506	0.83	*	Pass
Note: The Specimen Is Backed By A Black Underlay With A Reflectance Of Less Than 0.04							



Remark: * =

Material Type	Colour	Chromaticity Coordinates		Minimum Total Luminance Factor β
		x	y	
Fluorescent Background And Combined-Performance Material	Fluorescent Yellow-Green	0.387 0.356 0.398 0.460	0.610 0.494 0.452 0.540	0.70
NOTE: The Coordinate Of Sample Should Be Inside The Area Specified By The Table Above				

#1 = Xenon Test Based On AATCC 16.3, Expose The Materials To 40 AATCC Fading Units (170 KJ/m^2@420nm)
#2 = Two Layers Of The Same Material

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3 Colourfastness To Crocking (CSA Z96:22, 5.3.1 & AATCC TM8-2016e)

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

Sample	Test Condition	Colour Change	Requirement	Pass/Fail
(B)	Dry	Grade 4.5	Min. Grade 3.0	Pass
	Wet	Grade 4.0	Min. Grade 3.0	Pass

4 Colourfastness To Perspiration (CSA Z96:22, 5.3.2 & AATCC TM15-2021)

Test Condition:
Pressure: 4.45 kg
Oven Temperature: (38±1)℃
Test Period: 6 h ± 5 min

Sample	Results			Requirement	Pass/Fail
(B)	Colour Change:		Grade 4.5	Min. Grade 3.0	Pass
	Staining:	-Acetate	Grade 4.5	Min. Grade 3.0	Pass
		-Cotton	Grade 4.5		
		-Nylon	Grade 4.0		
		-Polyester	Grade 4.5		
		-Acrylic	Grade 4.5		
		-Wool	Grade 4.5		

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5 Photometric Performance Prior To Test Exposure (CSA Z96:22, 6.1 & ASTM E809-21)

Sample	x-Direction (Horizontal: ε_1=0°)				
	Observation Angle	Entrance Angle β_1 (β_2=0)	Coefficient Of Retroreflection	Level 2 Requirement	Pass/Fail
(A)	12′ (0.2°)	5°	438 cd/(lx·m^2)	Min. 330 cd/(lx·m^2) (*)	Pass
	12′ (0.2°)	20°	436 cd/(lx·m^2)	Min. 290 cd/(lx·m^2) (*)	Pass
	12′ (0.2°)	30°	420 cd/(lx·m^2)	Min. 180 cd/(lx·m^2) (*)	Pass
	12′ (0.2°)	40°	359 cd/(lx·m^2)	Min. 65 cd/(lx·m^2) (*)	Pass
	20′ (0.33°)	5°	324 cd/(lx·m^2)	Min. 250 cd/(lx·m^2) (*)	Pass
	20′ (0.33°)	20°	327 cd/(lx·m^2)	Min. 200 cd/(lx·m^2) (*)	Pass
	20′ (0.33°)	30°	316 cd/(lx·m^2)	Min. 170 cd/(lx·m^2) (*)	Pass
	20′ (0.33°)	40°	270 cd/(lx·m^2)	Min. 60 cd/(lx·m^2) (*)	Pass
	1°	5°	35.9 cd/(lx·m^2)	Min. 25 cd/(lx·m^2) (*)	Pass
	1°	20°	36.7 cd/(lx·m^2)	Min. 15 cd/(lx·m^2) (*)	Pass
	1°	30°	35.8 cd/(lx·m^2)	Min. 12 cd/(lx·m^2) (*)	Pass
	1°	40°	37.4 cd/(lx·m^2)	Min. 10 cd/(lx·m^2) (*)	Pass
	1° 30′ (1.5°)	5°	22.9 cd/(lx·m^2)	Min. 10 cd/(lx·m^2) (*)	Pass
	1° 30′ (1.5°)	20°	22.0 cd/(lx·m^2)	Min. 7 cd/(lx·m^2) (*)	Pass
	1° 30′ (1.5°)	30°	21.7 cd/(lx·m^2)	Min. 5 cd/(lx·m^2) (*)	Pass
	1° 30′ (1.5°)	40°	19.9 cd/(lx·m^2)	Min. 4 cd/(lx·m^2) (*)	Pass
	y-Direction (Vertical: ε_2=90°)				
	Observation Angle	Entrance Angle β_1 (β_2=0)	Coefficient Of Retroreflection	Level 2 Requirement	Pass/Fail
	12′ (0.2°)	5°	429 cd/(lx·m^2)	Min. 330 cd/(lx·m^2) (*)	Pass
	12′ (0.2°)	20°	434 cd/(lx·m^2)	Min. 290 cd/(lx·m^2) (*)	Pass
	12′ (0.2°)	30°	418 cd/(lx·m^2)	Min. 180 cd/(lx·m^2) (*)	Pass
	12′ (0.2°)	40°	365 cd/(lx·m^2)	Min. 65 cd/(lx·m^2) (*)	Pass
	20′ (0.33°)	5°	323 cd/(lx·m^2)	Min. 250 cd/(lx·m^2) (*)	Pass
	20′ (0.33°)	20°	322 cd/(lx·m^2)	Min. 200 cd/(lx·m^2) (*)	Pass
	20′ (0.33°)	30°	313 cd/(lx·m^2)	Min. 170 cd/(lx·m^2) (*)	Pass
	20′ (0.33°)	40°	269 cd/(lx·m^2)	Min. 60 cd/(lx·m^2) (*)	Pass

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Photometric Performance Prior To Test Exposure (Cont)

Sample	y-Direction (Vertical: ε_2=90°)				
	Observation Angle	Entrance Angle β_1 (β_2=0)	Coefficient Of Retroreflection	Level 2 Requirement	Pass/Fail
(A)	1°	5°	36.4 cd/(lx·m^2)	Min. 25 cd/(lx·m^2) (*)	Pass
	1°	20°	33.6 cd/(lx·m^2)	Min. 15 cd/(lx·m^2) (*)	Pass
	1°	30°	33.1 cd/(lx·m^2)	Min. 12 cd/(lx·m^2) (*)	Pass
	1°	40°	32.6 cd/(lx·m^2)	Min. 10 cd/(lx·m^2) (*)	Pass
	1° 30′ (1.5°)	5°	23.6 cd/(lx·m^2)	Min. 10 cd/(lx·m^2) (*)	Pass
	1° 30′ (1.5°)	20°	22.4 cd/(lx·m^2)	Min. 7 cd/(lx·m^2) (*)	Pass
	1° 30′ (1.5°)	30°	21.0 cd/(lx·m^2)	Min. 5 cd/(lx·m^2) (*)	Pass
	1° 30′ (1.5°)	40°	18.9 cd/(lx·m^2)	Min. 4 cd/(lx·m^2) (*)	Pass
Remark: * = If A Sample Is Defined As Orientation Sensitive In Orientation Sensitive Check Test, The Coefficient Of Retroflection Of This Material At One Of The Two Rotation Angles Shall Comply With The Minimum Requirement, The Coefficient Of Retroflection At The Other Rotation Angle Shall Comply With Not Less Than 75% Of The Minimum Requirement.					

Orientation Sensitive Check Test (For Original Material)			
Sample Direction	Observation Angle	Entrance Angle 5°	Comment
x-Direction [Horizontal]	12′ (0.2°)	438 cd/(lx·m^2)	If The Difference Between The X And Y Values Is Less Than 15% The Sample Is Not Considered Orientation Sensitive.
y-Direction [Vertical]	12′ (0.2°)	429 cd/(lx·m^2)	
Difference Between x & y Direction	9 cd/(lx·m^2)		
Difference Expressed As A Percentage (%)	2.0%		Non-sensitive

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6 Photometric Performance After Abrasion (CSA Z96:22, 6.2 & 7.4.1)

Test Exposure	Test Method
Abrasion	ISO 12947-2:2016, Pressure: 9 kPa, 5000 cycles

Sample	x-Direction (Horizontal: ε=0°)				
	Observation Angle	Entrance Angle β_1 (β_2 = 0°)	Coefficient Of Retroreflection	Level 2 Requirement	Pass/Fail
(C)	12′ (0.2°)	5°	371 cd/(lx·m^2)	Min. 100 cd/(lx·m^2)	Pass

Sample	y-Direction (Vertical: ε=90°)				
	Observation Angle	Entrance angle β_1 (β_2 = 0°)	Coefficient Of Retroreflection	Level 2 Requirement	Pass/Fail
(C)	12′ (0.2°)	5°	362 cd/(lx·m^2)	Min. 75 cd/(lx·m^2)	Pass

7 Photometric Performance After Flexing (CSA Z96:22, 6.2 & 7.4.2)

Test Exposure	Test Method
Flexing	ISO 7854:1995, Method A, 7500 Cycles

Sample	x-Direction (Horizontal: ε=0°)				
	Observation Angle	Entrance angle β_1 (β_2 = 0°)	Coefficient Of Retroreflection	Level 2 Requirement	Pass/Fail
(C)	12′ (0.2°)	5°	376 cd/(lx·m^2)	Min. 100 cd/(lx·m^2)	Pass

Sample	y-Direction (Vertical: ε=90°)				
	Observation Angle	Entrance angle β_1 (β_2 = 0°)	Coefficient Of Retroreflection	Level 2 Requirement	Pass/Fail
(C)	12′ (0.2°)	5°	367 cd/(lx·m^2)	Min. 75 cd/(lx·m^2)	Pass

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8 Photometric Performance After Folding At Cold Temperatures (CSA Z96:22, 6.2 & 7.4.3)

Test Exposure	Test Method
Folding At Cold Temperatures	a) ISO 4675:2017, (-20±1)℃ b) Reconditioning For 2 H At (20±2)℃ And (65±5)% Relative Humidity

Sample	x-Direction (Horizontal: ε=0°)				
	Observation Angle	Entrance angle β_1 (β_2 = 0°)	Coefficient Of Retroreflection	Level 2 Requirement	Pass/Fail
(C)	12′ (0.2°)	5°	399 cd/(lx·m^2)	Min. 100 cd/(lx·m^2)	Pass

Sample	y-Direction (Vertical: ε=90°)				
	Observation Angle	Entrance angle β_1 (β_2 = 0°)	Coefficient Of Retroreflection	Level 2 Requirement	Pass/Fail
(C)	12′ (0.2°)	5°	410 cd/(lx·m^2)	Min. 75 cd/(lx·m^2)	Pass

9 Photometric Performance After Temperature Variation (CSA Z96:22, 6.2 & 7.4.4)

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

Sample	x-Direction (Horizontal: ε=0°)				
	Observation Angle	Entrance angle β_1 (β_2 = 0°)	Coefficient Of Retroreflection	Level 2 Requirement	Pass/Fail
(C)	12′ (0.2°)	5°	401 cd/(lx·m^2)	Min. 100 cd/(lx·m^2)	Pass

Sample	y-Direction (Vertical: ε=90°)				
	Observation Angle	Entrance angle β_1 (β_2 = 0°)	Coefficient Of Retroreflection	Level 2 Requirement	Pass/Fail
(C)	12′ (0.2°)	5°	405 cd/(lx·m^2)	Min. 75 cd/(lx·m^2)	Pass

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10 Photometric Performance (Wet Performance) (CSA Z96:22, 6.2 & 7.4.9)

Sample	x-Direction (Horizontal: ε=0°)				
	Observation Angle	Entrance angle β_1 (β_2 = 0°)	Coefficient Of Retroreflection	Level 2 Requirement	Pass/Fail
(C)	12′ (0.2°)	5°	270 cd/(lx·m^2)	Min. 100 cd/(lx·m^2)	Pass

Sample	y-Direction (Vertical: ε=90°)				
	Observation Angle	Entrance angle β_1 (β_2 = 0°)	Coefficient Of Retroreflection	Level 2 Requirement	Pass/Fail
(C)	12′ (0.2°)	5°	228 cd/(lx·m^2)	Min. 75 cd/(lx·m^2)	Pass

11 Bursting Strength Of Knitted And Other Nonwoven Materials (CSA Z96:22, 5.5.1 & ASTM D6797-15)

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

Sample	Specimen	Results	Requirement	Pass/Fail
(B)	1	383.5 N	Min. 133 N	Pass
	2	355.0 N	Min. 133 N	Pass
	3	365.5 N	Min. 133 N	Pass
	4	396.0 N	Min. 133 N	Pass
	5	392.5 N	Min. 133 N	Pass
	Average	378.5 N	Min. 133 N	Pass

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End Of Report

Remark:
1. As Requested by the Applicant, For Details Refer to Attached Page (s).
2. All the tested item are tested under the standard condition.
3. The report is valid with commission test only for the test samples in the case of delivering samples by clients.

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