



Test Report

Report No.: PL2403246

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Applicant: SNOKO ELECTRONIC TECHNOLOGY CO., LTD

Address of Applicant: Room 1302, Building 3, Songhu Wisdom Valley Scientific Research Center,
No. 6, Minfu Road, Liaobu Town, Dongguan City, Guangdong Province

Date of Receiving Samples: Mar 20, 2024

Testing Period: Mar 20, 2024 to Mar 28, 2024

The submitted sample and sample information was/were submitted and identified by/on behalf of client;

Sample Name: Smart Audio Glasses

Model No.: MINISO-088

Quantity: 3 PCS

Material: Plastic

Age Grading: Adults

Cat. No.: Not Provided

Filter Type: Uniform Lenses

Frame Color: Black

Lens Color: Grey

P.O. No.: Not Provided

Supplier: Not Provided

Brand: Not Provided

Buyer: PRIMARK

Goods exported to: Not Provided

Country of Origin: China

Tests Conducted: As requested by the applicant, refer to attached pages for details.



To be continued

Issued by stamp

Date of Issued: Mar 28, 2024

For and on behalf of:

Shenzhen Precision Eyewear

Testing & Inspection Services Co., Ltd.

Manager: WenHua Li

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Sample Photo(s):



Conclusion:

<u>Tested Samples</u>	<u>Standard</u>	<u>Result</u>
Submitted Samples	1. EN ISO 12312-1: 2022 Eye and face protection — Sunglasses and related eyewear — Part 1: Sunglasses for general use	Pass
	2. UV400 (In-house test, and test method refer to attached pages for details)	Pass

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Tests Conducted Summary

Note: #1 The applicant's attention was drawn that the manufacturer should not use the frame materials which are known to cause irritation, allergic or toxic reaction during wear in a normal state of health against significant proportion of users. Sunglasses shall be designed, manufactured and packaged in such way that, when used under normal conditions, they will not compromise the health or safety of the wearer. The risks posed by substances leaking or evaporating from the sunglasses that can come into prolonged contact with the wearer shall be reduced by the manufacturer to within the limit of any applicable regulatory requirement.

Special attention shall be given to substances that are allergenic, carcinogenic, mutagenic or toxic to reproduction.

Substances recommended for cleaning, maintenance or disinfection shall be known to be unlikely to have any adverse effect upon the wearer, when applied in accordance with the instructions given in the information to be supplied by the manufacturer.

Manufacturers/suppliers shall perform an appropriate risk analysis on potentially harmful substances contained in the sunglasses that, when the sunglasses are used under normal conditions, the health (and safety) of the wearer shall not be compromised.

The following are examples of documents that represent the appropriate information:

- specification of the material(s);
- safety data sheets relating to the materials;
- information relating to the suitability of the materials for use in medical devices, or other relevant applications;
- information relating to toxicological, allergenic, carcinogenic, toxic to reproduction, or mutagenic investigations on the materials.

REQUIREMENTS (According to ISO 12312-1)			TESTING	RESULT
Test item(s)		According to Clause	According to Clause	
Construction and materials	Construction	4.1	ISO 18526-3:2020, 6.1	P
	Filter material and surface quality	4.2	ISO 18526-3:2020, 6.6	P
	Physiological compatibility (only test Nickel release, refer to EN 16128 standard)	4.3	EN 16128:2015	NA
	Head forms	For adult's sunglasses: 1-M	ISO 18526-4	P
		For children's: 1-C6 or 1-C12		NA
Transmittance	Transmittance and filter categories	Filter categories	ISO 18526-2:2020, 7	Cat.3
		UV requirements		P
		Enhanced infrared absorption (If claim)		NA

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REQUIREMENTS (According to ISO 12312-1)					TESTING		RESULT
Test item(s)				According to Clause	According to Clause		
General transmittance requirements	Uniformity of luminous transmittance			5.3.1	ISO 18526-2:2020, 7	P	
	Requirements for road use and driving	Filter categories		5.3.2.1	ISO 18526-2:2020, 7	P	
		Spectral transmittance		5.3.2.1	ISO 18526-2:2020, 7	P	
		Detection of signal lights		5.3.2.1	ISO 18526-2:2020, 11	P	
		Road use (including driving) in twilight or at night		5.3.2.2	ISO 18526-2:2020, 16.3.2	NA	
		Wide angle scattering		5.3.3	ISO 18526-2:2020, 14.1	P	
	Additional transmittance requirements for specific filter types	Photochromic filters		5.3.4.1	ISO 18526-2:2020, 16.	NA	
		Polarizing filters		5.3.4.2	ISO 18526-2:2020, 15	NA	
		Gradient filters		5.3.4.3	ISO 18526-2:2020, 7	NA	
		Electro-optical sun glare filter, electro-optical sunglass filter	General	5.3.4.4.1	ISO 18526-2:2020, 17.11 and Annex E.	NA	
			Default mode	5.3.4.4.2	--	NA	
			Reaction time	5.3.4.4.3	ISO 18526-2:2020, 17.1	NA	
			Photosensitive seizures	5.3.4.4.4	--	NA	
			Combined uniformity and angular dependence of luminous transmittance	5.3.4.4.5	ISO 18526-2:2020	NA	
			Narrow angle scatter	5.3.4.4.6	ISO 18526-2:2020, 14.2	NA	
Claimed transmittance properties	Blue-light absorption/transmittance			5.3.5.1	ISO 18526-2:2020, 7	NA	
	UV absorption/transmittance			5.3.5.2	ISO 18526-2:2020, 7	NA	
	Antireflective coated sunglasses			5.3.5.3	ISO 18526-2:2020,13	NA	
	Reduced reflection coated sunglasses			5.3.5.4	ISO 18526-2:2020,13	NA	
	Enhanced infrared absorption			5.3.5.5	ISO 18526-2:2020, 7	NA	

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REQUIREMENTS (According to ISO 12312-1)			TESTING	RESULT
Test item(s)		According to Clause	According to Clause	
Refractive power	Spherical and astigmatic power	6.1	ISO 18526-1:2020, 6.1	P
	Spatial deviation(If during the measurements spherical and astigmatic power, a doubling or other aberration of the image is observed)	6.2	ISO 18526-1:2020, 6.3	NA
	Prism imbalance (relative prism error)	6.3	ISO 18526-2:2020, 6.2	P
Robustness	Minimum robustness of filters(remark: this test is not necessary if the sunglasses meet <u>7.3</u> or <u>7.6</u>)	7.1	ISO 18526-3:2020, 7.2.1	P
	Frame deformation and retention of filters	7.2	ISO 12311, 6	P
	Impact resistance of sunglasses, strength level 1 (optional specification)	7.3	ISO 18526-3:2020, 7.3.1	NA
	Increased endurance of sunglasses (optional specification)	7.4	ISO 12311, 9.7	NA
	Resistance to perspiration(optional specification)	7.5	ISO 12311, 9.10	NA
	Impact resistance of sunglasses, strength level 2 (optional specification)	7.6	ISO 18526-3:2020, 7.3.1	NA
	Impact resistance of sunglasses, strength level 3 (optional specification)	7.6	ISO 18526-3:2020, 7.3.2	NA
Resistance to solar radiation		8	ISO 18526-3:2020, 6.8.2	P
Resistance to ignition		9	ISO 18526-3:2020, 6.10	P
Resistance to abrasion (Optional specification)		10	ISO 8980-5	NA
Protective requirements	Coverage area	11.1	--	P
	Temporal protective requirements(Apply for Cat.4)	11.2	--	NA
Information and labeling	Information to be supplied with each pair of sunglasses	12.1	--	NR
	Additional information	12.2	--	NR

Remark: P=Pass; F=Fail; NA=Not Applicable; NR=Not Require; X=Checked; Cat.=Category;

τ_v =luminous transmittance

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Test Results

Construction — Clause 4.1 and Filter material and surface quality — Clause 4.2

Sample No.	Defects				Comment	Result
	Construction		Filter Material and Surface Quality			
	Observed	Absent	Observed	Absent		
2403246-01		X		X	--	P

Requirements:

1. Construction: Areas of the sunglass, including the frame and, if in a rimless or semi-rimless style, the edges of the filters, that may come into contact with the wearer during intended use shall be smooth and without sharp projections.
2. Filter material and surface quality: Except in a marginal area 5 mm wide, sunglass filters shall have no material or machining defects within an area of 30 mm diameter centred on the reference point that could impair vision, e.g. bubbles, scratches, inclusions, dull spots, pitting, mould marks, notches, reinforced areas, specks, beads, water specks, pock marks, gas inclusions, splintering, cracks, polishing defects or undulations. If this 5 mm wide portion around the edge of the test sample intrudes into this circular area, then this intrusion shall be excluded from testing.

Transmittance and filter categories — Clause 5.2

Sample No.: 2403246-01				
Test Items	Requirements	Left	Right	Result
τ_v (380~780)nm (%)	For Cat. 0: 80.0~100	9.8	9.9	P
	For Cat. 1: 43.0~80.0			
	For Cat. 2: 18.0~43.0			
	For Cat. 3: 8.0~18.0			
	For Cat. 4: 3.0~8.0			
Filter Cat.	Claimed: Not Provided	Cat.3	Cat.3	
τ_{SUVB} (280~315)nm (%)	☐ For Cat. 0,1: $\leq 0.05 \tau_{vD65}$ ☐ For Cat. 2: 1.0% absolute or $0.05 \tau_{vD65}$ whichever is greater; ☒ For Cat. 3, 4: 1.0% absolute	0.0	0.0	P
τ_{SUVA} (315~380)nm (%)	☐ For Cat. 0,1: $\leq \tau_{vD65}$; ☒ For Cat. 2, 3: $\leq 0.5 \tau_{vD65}$ ☐ For Cat. 4: 1.0% absolute or $0.25 \tau_{vD65}$ whichever is greater;	0.0	0.0	P
τ_{sb} (380~500)nm (%)	---	8.5	8.6	Only Ref.

Measurement Uncertainty (if necessary):

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Uniformity of luminous transmittance — Clause 5.3.1

Sample No.: 2403246-01				
Test Items	Requirements	Left	Right	Result
Difference within filter (%) (relative to higher value)	The relative difference in the luminous transmittance value: ☒ For Cat. 0, 1, 2, 3: $\leq 15\%$ ☐ For Cat. 4: $\leq 20\%$	1.0	0.0	P
Difference with mounted filters (relative to higher value)	The relative difference between the luminous transmittance value of the visual center for right and left eye: ☐ For gradient-tinted filters: $\leq 20\%$ ☒ For all other types: $\leq 15\%$	1.0		P

Measurement Uncertainty (if necessary):

Requirements for road use and driving — Clause 5.3.2

Sample No.: 2403246-01				
Test Items	Requirements	Left	Right	Result
Categories	Filters suitable for road use and driving shall be categories 0, 1, 2 or 3	Cat.3	Cat.3	P
Spectral transmittance (475~650)nm (%)	$\geq 0.2 \tau_{vD65}$	$0.80 \tau_{vD65}$	$0.81 \tau_{vD65}$	P
Red Signal	≥ 0.80	1.11	1.11	P
Yellow Signal	≥ 0.60	0.99	0.98	P
Green Signal	≥ 0.60	1.02	1.02	P
Blue Signal	≥ 0.60	1.15	1.14	P
Road use (including driving) in twilight or at night (%)	≥ 75.0	9.8	9.9	NA

Measurement Uncertainty (if necessary):

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Wide angle scattering — Clause 5.3.3

Sample No.	Wide Angle Scattering (%)		Result
	Left	Right	
2403246-01	1.4	1.6	P

Requirements:

At the reference point, the wide-angle scatter of the filters in the condition as supplied by the manufacturer shall not exceed the value of 3 %.

Measurement Uncertainty (if necessary):

Spherical and Astigmatic Power— Clause 6.1

Sample No.: 2403246-01				
Test Items	Requirements	Left	Right	Result
Spherical Power (D)	$\pm 0.12D$	0.06	-0.02	P
	The difference between the spherical powers shall not exceed 0.18 D	0.08		P
Astigmatic Power (D)	$\leq 0.12D$	0.00	0.00	P

Measurement Uncertainty (if necessary):

Prism imbalance (relative prism error) — Clause 6.3

Sample No.	Requirements		Measured (cm/m)	Result
2403246-01	Horizontal	☒ Base Out: $< 1.00\text{cm/m}$	0.03	P
		☐ Base In: $< 0.25\text{cm/m}$		
	Vertical	$< 0.25\text{ cm/m}$	0.05	P

Measurement Uncertainty (if necessary):

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Minimum robustness of filters — Clause 7.1

Sample No.	Defects		Comment	Result
	Observed	Absent		
2403246-02		X	--	P

Requirements:

None of the following defects shall appear on filters :

- Filter fracture;
- Filter deformation;

Note:

- For clip-ons neither a) nor b) are applicable.
- This test is not necessary if the sunglasses meet Impact resistance of sunglasses, strength level 1, or level 2, or Level 3.

Frame deformation and retention of filters —Clause 7.2

Sample No.	Boxed Center Distance, C (mm)	Residual Deformation X (mm)	Deformation Percentage Φ (%)	Structure		Lens Retention		Result
				Pass	Fail	Pass	Fail	
2403246-03	77.36	0.58	0.7	X		X		P

Requirements:

- Be permanently deformed from its original configuration by not more than 2% of the distance C,. Deformation percentage, Φ ; Calculation: $\Phi (\%) = X/C \times 100$
- No fracture or crack at any point;
- No filter shall be displaced from the frame.

Measurement Uncertainty (if necessary):

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Resistance to Radiation — Clause 8

Sample No.: 2403246-01				
Test Items	Requirements	Left	Right	Result
Relative change of luminous transmittance (%)	☐ For Cat. 0: $\pm 3\%$; ☐ For Cat. 1: $< \pm 5\%$ ☐ For Cat. 2: $\pm 8\%$ ☒ For Cat. 3&4: $\pm 10\%$	1.0	0.0	P
Wide angle scattering (%)	After exposure, the value of wide angle scattering shall not exceed the limit value of 3%	1.5	1.5	P
τ_{SUVB} (280~315)nm (%)	☐ For Cat. 0,1: $\leq 0.05 \tau_{\text{v D65}}$ ☐ For Cat. 2: 1.0% absolute or $0.05 \tau_{\text{v D65}}$ whichever is greater; ☒ For Cat. 3, 4: 1.0% absolute	0.0	0.0	P
τ_{SUVA} (315~380)nm (%)	☐ For Cat. 0,1: $\leq \tau_{\text{v D65}}$; ☒ For Cat. 2, 3: $\leq 0.5 \tau_{\text{v D65}}$ ☐ For Cat. 4: 1.0% absolute or $0.25 \tau_{\text{v D65}}$ whichever is greater;	0.0	0.0	P

Measurement Uncertainty (if necessary):

Ignition — Clause 9

Sample No.	Continued Combustion		Comment	Result
	Yes	No		
2403246-03		X	--	P

Requirements:

The filters and frame shall be no continued combustion after withdrawal of the test rod.

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Coverage area — Clause 11.1

Sample No.: 2403246-02					
Test items	Requirement		Left	Right	Result
Cover two ellipses	Sunglasses shall cover two ellipses, and symmetrically placed on each side of the centre of the bridge of the frame:		Meet	Meet	P
	☒ For Adults': - horizontal diameter: (40±1)mm - vertical diameter: (28±1) mm	☐ For Children': - horizontal diameter: (34±1)mm - vertical diameter: (24±1) mm			
*Prevent UV radiation	τ_{SUVB} (280~315) nm (%)	☐ For Cat. 0,1:≤0.05 $\tau_{v D65}$ ☐ For Cat. 2:1.0% absolute or 0.05 $\tau_{v D65}$ whichever is greater ☒ For Cat. 3, 4: 1.0% absolute	0.0	0.0	P
	τ_{SUVA} (315~380) nm (%)	☐ For Cat. 0,1: ≤ $\tau_{v D65}$; ☒ For Cat. 2, 3: ≤ 0.5 $\tau_{v D65}$ ☐ For Cat. 4:1.0% absolute or 0.25 $\tau_{v D65}$ whichever is greater;	0.0	0.0	P
Note: 1. Adults' headform: ☒ 1-M, PD=64mm ☐ As defined by the headform utilized, PD=()mm 2. Children's headform: ☐ 1-C6, PD= 52 mm ☐ 1-C12, PD=58mm.					

Measurement Uncertainty (if necessary):

Remark: *Prevent UV radiation measured point: Any point within specified two elliptical regions.

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2. UV400 (In-house test, non- accredited test item)

Assessment was made against a level of 100% UV protection, in which the spectral transmittance was examined within a range of 280nm - 400nm.

Sample Number	Wavelength (nm)	Maximum Spectral transmittance (%)		Result
		Left	Right	
2403246-01	280-400	0.0	0.0	P
Requirements: Maximum spectral transmittance shall not exceed 0.5%.				

Measurement Uncertainty (if necessary):

----- End of Report -----

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