



中国认可  
国际互认  
检测  
TESTING  
CNAS L1114

# TEST REPORT

Applicant: WENZHOU SUNWEAR GLASSES CO.,LTD  
Address: 59# Zhonghui Road, Shanghui Ind. Wenzhou, Zhejiang, China

Report No: C81391886  
Date: January 10, 2019

Attn: Sunny Zhang  
Sample Description : Optical Frame  
Submitted sample(s) said to be : 10 pieces  
Item No. : SW7851  
Material : Metal & Plastic  
Frame Color : Black  
Lens Color : Clear  
Lens Type : Uniform  
Size : 51 □17 - 135  
P.O. No. : PO: 2019-010282  
Cat. No. : Not Provided  
Age Grade : Adult  
Supplier : Not Provided  
Buyer Name : Not Provided  
Goods exported to : Germany  
Country of origin : China  
Date(s) of samples received : December 26, 2018  
Date of Test Period : December 26, 2018 – January 10, 2019

For and on behalf of :  
UL VS Shanghai Limited Shenzhen Branch

*Hedy Li*

Hedy Li  
Consumer Engineering Manager  
Eyewear Testing Department

**Important Notes :**  
The results only relate to the samples tested.

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**Conclusion:**

**Tested Samples**  
Tested components of submitted samples

**Standard**  
EN ISO 12870:2018: Ophthalmic optics – Spectacle frames -Requirements and test methods

**Result**  
PASS

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## TEST RESULTS

### 1. EN ISO 12870:2018: Ophthalmic optics – Spectacle frames -Requirements and test methods

CLAUSES	REQUIREMENTS	RESULTS
4.2.1	Construction	P
4.2.3	Physiological compatibility -Nickel release	P (See Chemical Tests)
4.3 & 4.4	Dimensional tolerance	P
4.6	Dimensional stability	P
4.7	Resistance to perspiration	P
4.8.1	Mechanical stability _Bridge deformation	P
4.8.2	Mechanical stability _Lens retention	P
4.8.3	Mechanical stability _Endurance	P
4.9	Resistance to ignition	P
4.10	Resistance to optical radiation (Optional)	NA
9	Marking	P

Remark: P = Pass NA = Not Applicable

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## TEST RESULTS

### Construction —Clause 4.2.1

Defects		Comment	Result
Observed	Absent		
X		--	Pass

#### Requirements:

The areas of the spectacle frame that may come into contact with the wearer should be smooth, without sharp protuberances, and all edges should be rounded.

### Dimensional tolerances on nominal size —Clause 4.3, 4.4

Position		Nominal Value (mm)	Measuring Value (mm)	Difference (mm)	Result(s)
Left	A	51	51.48	0.48	Pass
	Overall length of side	135	136.06	1.06	
Right	A	51	51.46	0.46	
	Overall length of side	135	136.38	1.38	
DBL		17	17.26	0.26	

#### Requirements:

Dimension must be within the below tolerances:

A : ±0.5mm      DBL : ±0.5mm      Overall length of side : ±2.0mm

Measurement Uncertainty (if necessary):

Remark : A= horizontal boxed lens size; DBL=distance between lenses;

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## TEST RESULTS

### Dimensional stability at elevated temperature —Clause 4.6

d (mm)		$l_0$ (mm)	$l_1$ (mm)	Difference $l^*$ (mm)	Result(s)
$\geq 100$ mm	$< 100$ mm				
X		105.08	104.23	0.8	Pass

Requirements:

$$l^* = l_1 - l_0$$

–  $12\text{mm} \leq l^* \leq +6\text{mm}$  (if  $d \geq 100\text{mm}$ )

–  $10\text{mm} \leq l^* \leq +5\text{mm}$  (if  $d < 100\text{mm}$ )

Measurement Uncertainty (if necessary):

Remark:

$d$  = the distance between the tip of the side and the back plane of the lens.

$l_0$  = the Initial distance between the tips of the sides;

$l_1$  = the distance between the tips of the sides after test;

### Resistance to perspiration —Clause 4.7

After 8 hours of test		After 24 hours of test		Comment	Result(s)
Pass	Fail	Pass	Fail		
X		X		--	Pass

Requirements:

- No spotting or color change anywhere on the frame, excluding joints and screws, after testing for 8 hours;
- No corrosion, surface degradation or separation of any coating layer on the parts liable to come into prolonged contact with the skin during wear, after testing for a total of 24hours.

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### Bridge deformation and lens retention — Clause 4.8.1, 4.8.2

Boxed center distance C (mm)	Residual deformation X (mm)	Deformation Percentage Φ(%)	Structure		Lens Retention		Result(s)
			Pass	Fail	Pass	Fail	
68.92	0.21	0.3	X		X		Pass

#### Requirements:

1. Be permanently deformed from its original configuration (Deformation percentage Φ) by not more than 2% of the distance C,

$$\text{Calculation : } \Phi (\%) = \frac{X}{C} \times 100$$

2. No fracture ;

3. Neither test lens is dislodged wholly or partially from its original location in the groove or mount.

Measurement Uncertainty (if necessary):

### Endurance — Clause 4.8.3

Permanent Deformation d* (mm)	Structure		Function of Hinge		Result(s)
	Pass	Fail	Pass	Fail	
3.5	X		X		Pass

#### Requirements:

1. d\* ≤ 5 mm , be permanently deformed from its original position after 500 cycles;

2. No fracture at any point ;

3. Function of hinge:

- a. except for frames fitted with sprung hinges, require more than light finger pressure to open and close the sides;
- b. for frames that are not fitted with sprung hinges, have a side that closes under its own weight at any point in the opening/closing cycle,
- c. for sides with fitted with sprung hinges, the side shall still support its weight in the open position.

Measurement Uncertainty (if necessary):

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### Resistance to ignition — Clause 4.9

Continued combustion		Comment	Result(s)
Yes	No		
	X	--	Pass
Requirements: The frame shall be no continued combustion after withdrawal of the test rod.			

### Marking — Clause 9

Observed Result		Comment	Result
Meet	No Meet		
X		--	Pass
Requirements: Spectacle frames shall be marked with the minimum information given in below: a) Identification of manufacturer or his/her agent or supplier b) Model/Color identification c) Horizontal boxed lens size with box symbol <input type="checkbox"/> d) Distance between lenses e) Overall length of side			

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## TEST RESULTS

### 2. CHEMICAL TESTS:

Tested Sample ID	Product Description / Sample Group Desc.
001	Optical frame

**Nickel release test - Determination Of Nickel Release In Metallic Substances In Direct & Prolonged Skin Contact [Point 27 of the Annex XVII Of The Regulation (EC) No. 1907/2006 (REACH) With Further Amendment]**

#### Organic Coating Test

Test Method: - EN 12472:2005+A1:2009 Method for the simulation of wear and corrosion for the detection of nickel release from coated items ; and - EN 16128:2015 Ophthalmic optics — Reference method for the testing of spectacle frames and sunglasses for nickel release;

Sample	Tested part	Test area (cm <sup>2</sup> )	Impedance per unit area (Ω·cm <sup>2</sup> )			Mean Value (Ω·cm <sup>2</sup> )	Conclusion
			Trial 1	Trial 2	Trial 3		
001	Front rim	12.0	1.34 x 10 <sup>6</sup>	1.34 x 10 <sup>6</sup>	1.34 x 10 <sup>6</sup>	1.34 x 10 <sup>6</sup>	PASS
	Front rim	12.0	1.34 x 10 <sup>6</sup>	1.34 x 10 <sup>6</sup>	1.33 x 10 <sup>6</sup>	1.33 x 10 <sup>6</sup>	PASS

#### Remarks:

- Must be retest if the value of (highest impedance reading - lowest impedance reading)/ lowest impedance reading>30%
- Coating test is based on Electrochemical Impedance Spectroscopy (EIS) to ensure the organic coating is of sufficient quality to prevent the release of nickel from the test part which does not exceed the regulatory limit
- EIS test limit:  $\geq 3.0 \times 10^5 \Omega \cdot \text{cm}^2$ , Non-compliant test parts may be subject to the migration test

\*\*\*\*\* End of report \*\*\*\*\*

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