

TEST REPORT

Hardline Laboratory

Report No. : YA40043/2020

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Date : APR. 20, 2020

Suzhou LYIap Optical Technology Co., Ltd

NO. 66-26 Linggang Road, Luzhi Town, Wuzhong District, Suzhou, Jiangsu

The following merchandise was submitted and identified by the applicant as:

Product Description: Medical isolation eye mask

Style/Item No.: LYS001

SGS Reference No.: SHHL2004509748MD

We have tested the submitted sample(s) as requested and the following results were obtained:

Test Requested: EN 166:2001 / BS EN 166:2002 Personal eye-protection – Specifications
(clause 6.2 not test)

Optional Requirements: 7.2.1.2 Ultraviolet filters (EN 170)
7.2.4 Protection Against Droplets and Splashes of Liquids (3)
7.3.2 Resistance to fogging of oculars (N)

Test Method & Result: --- See following sheet(s) ---

Date of Receipt: APR. 06, 2020

Testing Period: APR. 06 ~ 20, 2020

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Signed for and on behalf of
SGS Taiwan Ltd.


Owen Cheng
Manager



Testing site:
61, Kai-Fa Road, Nanzih Export Processing Zone, 81170, Kaohsiung, Taiwan

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Test Method & Result

EN 166:2001 / BS EN 166:2002 Personal eye-protection – Specifications Personal eye-protection – Specifications

Clause

6 Design and manufacturing requirements

6.1 General construction

Result

Pass

Finding

All samples were assessed. The samples were free from projections, sharp edges or other defects which are likely to cause discomfort or injury during use.

6.2 Materials

No parts of the eye-protector which are in contact with the wearer shall be made of materials which are known to cause any skin irritation.

N/T

6.3 Headbands

Pass

7 Basic, particular and optional requirements

7.1 Basic requirements

7.1.1 Field of vision

Pass

Finding

Samples 01 to 03 were assessed. The samples exhibited at least the minimum field of vision as defined by the Standard.

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Test Result

Clause

7.1.2 Optical requirements

7.1.2.1 Spherical, astigmatic and prismatic refractive powers

7.1.2.1.2 Mounted oculars and unmounted oculars covering both eyes

Result

Optical Class 1

Finding

Sample	Requirement	Optical Class	Spherical Power (D1+D2)/2 m ⁻¹		Astigmatic Power D1-D2 m ⁻¹	
		1	± 0.06		Max. 0.06	
			Left Ocular	Right Ocular	Left Ocular	Right Ocular
01	Test Value	1	0.00	0.00	0.00	0.00
02			0.00	0.01	0.00	0.00
03			0.00	0.01	0.00	0.00

Sample	Requirement	Optical Class	Difference In Prismatic Power		
			Horizontal		Vertical cm/m
			Base Out cm/m	Base In cm/m	
		1	Max. 0.75	Max. 0.25	Max. 0.25
01	Test Value	1	0.05	--	0.00
02			0.05	--	0.00
03			0.05	--	0.00

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Test Result

Clause

7.1.2.2 Transmittance

7.1.2.2.2 Oculars with filtering action (filters) and housings for oculars with filtering action.

Result

The transmittance of oculars with filtering action shall meet the requirements given in the specific standards relating to the various types of ocular

See 7.2.1.2

Goggles and face-shields which claim to provide protection against optical radiation shall provide at least the same level of protection against optical radiation as given by a filter of any scale number declared usable with the eyeprotector by the manufacturer or supplier. Testing shall be in accordance with clause 6 of EN 167:2001.

Pass

7.1.2.2.3 Variations in transmittance

7.1.2.2.3.1 Oculars without corrective effect

Pass

Finding

Sample	04		05		06		Requirement
Luminous Transmittance	17.8 % ~ 100 %						Permissible Relative Variation
Ocular	Left(P1)	Right(P2)	Left(P1)	Right(P2)	Left(P1)	Right(P2)	
P1 & P2	0.86 %	1.25 %	0.48 %	0.80 %	1.59 %	1.33 %	± 5 %
P3	0.74 %		0.40 %		0.56 %		± 20 %

7.1.2.3 Diffusion of light

Pass

Finding

Sample	Requirement	Test Value [(cd/m ²)/lx]
04L	Reduced Luminance Factor ≤ 0.50 [(cd/m ²)/lx]	0.02
05R		0.01
06L		0.01

7.1.3 Quality of material and surface

Pass

Finding

Samples 01 to 03 were assessed. The samples were free from bubbles, scratches, inclusions, dull spots, pitting, mould marks, notches, reinforced points, specks, beads, water specks, pocking, gas inclusions, splintering, cracks, polishing defects or undulations.

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Clause

7.1.4.2 Increased robustness

7.1.4.2.2 Complete eye-protectors and frames

Result

Pass

Finding

Sample	Impact Point		Conditioning	Result
07	Right Ocular	Visual Center	55°C	None of the samples tested occurred any of the impact defects listed in the Standard.
08	Left Ocular	Visual Center		
09	Right Lateral	Eye Side		
10	Left Lateral	Eye Side		
11	Right Ocular	Visual Center		
12	Left Ocular	Visual Center		
13	Right Ocular	Visual Center	-5°C	
14	Left Ocular	Visual Center		
15	Right Lateral	Eye Side		
16	Left Lateral	Eye Side		
17	Right Ocular	Visual Center		
18	Left Ocular	Visual Center		

7.1.5 Resistance to ageing

7.1.5.1 Stability at an elevated temperature

Pass

Finding

Samples 01 to 03 were assessed. The samples tested showed no apparent deformation.

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Clause

7.1.5.2 Resistance to ultraviolet radiation (oculars only)

Result

Pass

Finding

Sample	Requirement		Test Value (%)
	Luminous Transmittance	Permissible Relative Change	
04L	17.8 % ~ 100 %	± 5 %	-0.11
05R			-0.14
06L			-0.33

Finding

Sample	Requirement	Test Value [(cd/m ²)/lx]
04L	Reduced Luminance Factor ≤ 0.50 [(cd/m ²)/lx]	0.02
05R		0.01
06L		0.02

7.1.6 Resistance to corrosion

N/A

7.1.7 Resistance to ignition

Pass

Finding

Samples 10 to 12 were assessed. For each of the samples tested, no part of the eye-protectors ignites or continues to glow after removal of the steel rod.

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Test Result

Clause

7.2 Particular requirements

7.2.1 Protection against optical radiation

7.2.1.2 Ultraviolet filters – EN 170

EN 170:2002 – Personal eye-protection – Ultraviolet filters –
Transmittance requirements and recommended use

5.2 Transmittance requirements

Result

Scale number

2C-1.2

Finding

Sample	04L	05R	06L	Requirement Scale number 2C-1.2
Luminous Transmittance (Tv)	93.79%	94.03 %	93.99 %	74.4 % to 100 %
T313(nm)	0.0000 %	0.0000 %	0.0000 %	≤ 0.0003 %
T365(nm)	0.00 %	0.00 %	0.00 %	≤ 10 %
Max. 210 to 313nm	0.0000 %	0.0000 %	0.0000 %	≤ T313(nm)
Max. 313 to 365nm	0.00 %	0.00 %	0.00 %	≤ T365(nm)
Max. 365 to 405nm	75.14 %	74.48 %	75.11 %	≤ Tv

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Test Result

Clause

5.3 Ocular with enhanced colour recognition (optional) of EN 170:2002

Result

Pass

Finding

Sample	Range	Requirement (Minimum spectral transmittance)	Test Value
			Left Ocular
04L	500 ~ 650 nm	$\geq 0.2 T_v$	0.98 T _v (91.88 %)
05R	500 ~ 650 nm	$\geq 0.2 T_v$	0.98 T _v (92.22 %)
06L	500 ~ 650 nm	$\geq 0.2 T_v$	0.98 T _v (92.13 %)

Sample	The relative visual attenuation coefficient (Quotient) Q	Requirement	Test Value
04L	Red	≥ 0.80	0.99
	Yellow	≥ 0.80	1.00
	Green	≥ 0.80	1.00
	Blue	≥ 0.80	1.00
05R	Red	≥ 0.80	1.00
	Yellow	≥ 0.80	1.00
	Green	≥ 0.80	1.00
	Blue	≥ 0.80	1.00
06L	Red	≥ 0.80	1.00
	Yellow	≥ 0.80	1.00
	Green	≥ 0.80	1.00
	Blue	≥ 0.80	1.00

Remark: Only applicable clauses were shown.

--- End of EN 170---

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Test Result

Clause

7.2.4 Protection Against Droplets and Splashes of Liquids

Eye-protectors for use against droplets (goggles) and splashes of liquids (face-shields) shall be tested in accordance with the methods specified in clause 12 of EN 168:2001.

Result

Pass

7.3.2 Resistance to fogging of oculars (N)

Pass

Finding

The assessed samples were free from fogging for a minimum of 8 seconds.

9. Marking

No Claim

10. Information supplied by the manufacturer

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No provided

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- Remark:**
1. Samples were provided by applicant and samples were randomly selected to be assessed.
 2. Only applicable clauses were shown.
 3. N/T = Not Test
 4. N/A = Not Applicable
 5. The content of this report is invalid if it is not presented as the entire report.
 6. The statement of conformity is based on the test results, but does not include the measurement uncertainty.

– Picture(s) –

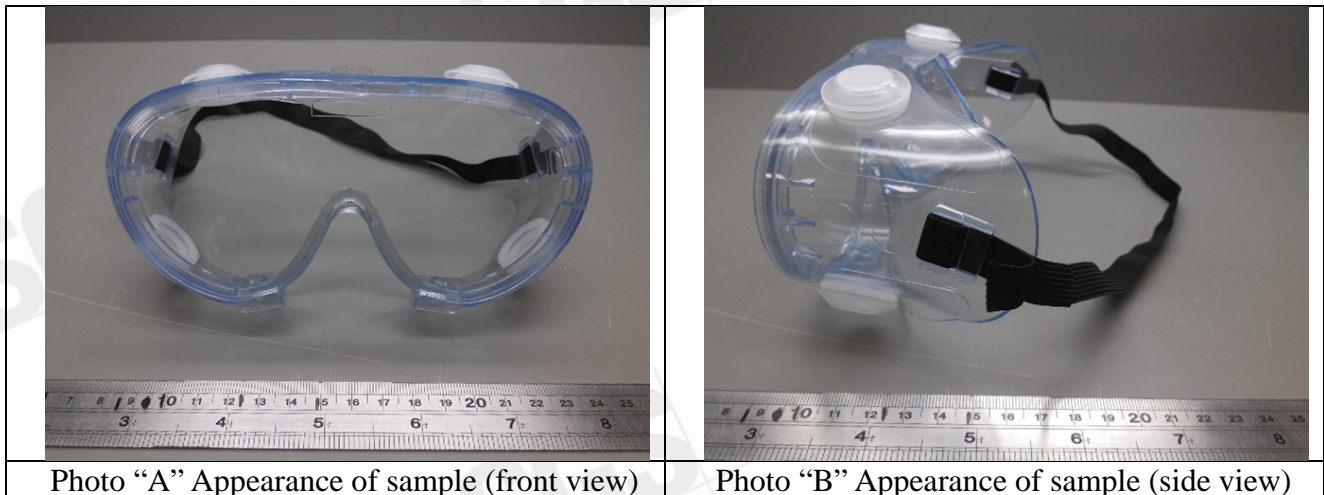


Photo "A" Appearance of sample (front view)

Photo "B" Appearance of sample (side view)

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Annex

Estimates of the uncertainty of measurement at a confidence level of 95 %

Clause		Uncertainty	Unit
6.3	Headbands	0.4 (Max.)	mm
7.1.2.1	Spherical and astigmatic refractive power	0.01 (Max.)	D
	Prismatic refractive power difference	0.01 (Max.)	cm/m
7.1.2.2.1	Transmittance values (%)	from 100 to 17.8	%
7.1.2.2.2			
7.1.2.2.3		from 17.8 to 0.44	
7.1.5.2			
7.2.1		0.25	
7.1.2.3	Diffusion of light	0.0251	[(cd/m ²)/lx]
7.3.1			
7.1.2.4	Polarizing filters	0.1 (Max.)	degree

Remark: Values expressed as a percentage (%) are relative.

--- End of Report ---