



Test Report

No.: T32020220163SN-01

Date: MAR 09, 2020

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MID OCEAN BRANDS B.V.
7/F, KINGS TOWER, 111 KING LAM STREET, CHEUNG SHA WAN, KOWLOON, HONG KONG

This report supersedes all previous documents bearing the test report number T312020220163SN.

The following samples were submitted and identified on behalf of the client as:

SUNGLASSES

SGS Case No. : CA320202211619
 Style / Item No. : MPSPG01, MPSPG02, MPSPG03
 Quantity Submitted : 15 PCS (3 STYLES)
 Manufacturer : 116498
 Country of Origin : CHINA
 Country of Destination : EUROPE
 Sample Receiving Date : FEB 24, 2020
 Test Performing Date : FEB 24 TO MAR 03, 2020

Test Requested : Please refer to the result summary.

Test Method & Results : Please refer to next page(s).

Result Summary :

Test Requested	Conclusion
Eye and face protection — Sunglasses and related eyewear (EN ISO 12312-1:2013+A1:2015) (Excluding Clause 4.3 Physiological compatibility and Clause 12 Information and labelling)	PASS (Category 3)
UV 400 Claim Verification	PASS

Signed for and on behalf of
SGS Hong Kong Ltd.

Wong Sun Leong, John
Technical Services Manager

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EN ISO 12312-1:2013+A1:2015 Eye and face protection — Sunglasses and related eyewear.

Scope : This part of ISO 12312 is applicable to all afocal (plano power) sunglasses and clip-ons for general use, including road use and driving, intended for protection against solar radiation.
 This part of ISO 12312 is not applicable to related eyewear, such as:
 a) eyewear for protection against radiation from artificial light sources, such as those used in solaria;
 b) eye protectors intended for specific sports (e.g. ski goggles or other types);
 c) sunglasses that have been medically prescribed for attenuating solar radiation;
 d) products intended for direct observation of the sun, such as for viewing a partial or annular solar eclipse;
 e) products intended for occupational eye protection.

No. of Specimen : 4 pcs. of completed sunglasses per styles
 Filter Type : Uniform filters
 Conditioning : 23 ± 5°C, 4 hours
 before tests
 Test Condition : 16 °C - 32 °C , 50 ± 20% RH
 Test Result : Details shown as following table:-
 Remark : Transmittance and Optical Properties are measured at reference point (visual centre)

<u>Test Item</u>	<u>Result</u>	<u>Note</u>
Clause 4 Construction and materials:		
Clause 4.1 Construction	PASS	--
Clause 4.2 Filter material and surface quality	PASS	--
Clause 4.3 Physiological compatibility	--	See Note 5
Clause 5 Transmittance		
Clause 5.2 Transmittance and filter categories	PASS	See Note 1
Clause 5.3 General transmittance requirements	--	--
Clause 5.3.1 Uniformity of luminous transmittance	PASS	--
Clause 5.3.2 Requirements for road use and driving	PASS	--
Clause 5.3.2.1 General	PASS	--
Clause 5.3.2.2 Driving in twilight or at night	--	See Note 2
Clause 5.3.3 Wide angle scattering	PASS	--
Clause 5.3.4 Additional transmittance requirements for specific filter types	--	--
Clause 5.3.4.1 Photochromic filters	N/A	See Note 3
Clause 5.3.4.2 Polarizing filters	N/A	See Note 3
Clause 5.3.4.3 Gradient filters	N/A	See Note 3
Clause 5.3.5 Claimed transmittance properties	--	--
Clause 5.3.5.1 Blue-light absorption/transmittance	N/A	No claims, See Note 3
Clause 5.3.5.1.1 Blue-light absorption	N/A	No claims, See Note 3
Clause 5.3.5.1.2 Blue-light transmittance	N/A	No claims, See Note 3

To be cont'd...

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EN ISO 12312-1:2013+A1:2015 Eye and face protection — Sunglasses and related eyewear. (Cont'd)

<u>Test Item</u>	<u>Result</u>	<u>Note</u>
Clause 5 Transmittance		
Clause 5.3.5.2 UV absorption/transmittance	--	--
Clause 5.3.5.2.1 General	N/A	No claims, See Note 3
Clause 5.3.5.2.2 Solar UV absorption	N/A	No claims, See Note 3
Clause 5.3.5.2.3 Solar UV transmittance	N/A	No claims, See Note 3
Clause 5.3.5.2.4 Solar UV-A absorption	N/A	No claims, See Note 3
Clause 5.3.5.2.5 Solar UV-A transmittance	N/A	No claims, See Note 3
Clause 5.3.5.2.6 Solar UV-B absorption	N/A	No claims, See Note 3
Clause 5.3.5.2.7 Solar UV-B transmittance	N/A	No claims, See Note 3
Clause 5.3.5.3 Antireflective coated sunglasses	N/A	No claims, See Note 3
Clause 5.3.5.4 Enhanced infrared absorption	N/A	No claims, See Note 3
Clause 6 Refractive power		
Clause 6.1 Spherical and astigmatic power	PASS	--
Clause 6.2 Local variations in refractive power	N/A	See Note 3
Clause 6.3 Prism imbalance (relative prism error)	PASS	--
Clause 7 Robustness		
Clause 7.1 Minimum robustness of filters	PASS	--
Clause 7.2 Frame deformation and retention of filters	PASS	See Note 6
Clause 7.3 Impact resistance of the filter, strength level 1 (optional specification)	N/C	Optional Specification, See Note 4
Clause 7.4 Increased endurance of sunglasses (optional specification)	N/C	Optional Specification, See Note 4
Clause 7.5 Resistance to perspiration (optional specification)	N/C	Optional Specification, See Note 4
Clause 7.6 Impact resistance of the filter, strength level 2 or 3 (optional specification)	N/C	Optional Specification, See Note 4
Clause 8 Resistance to solar radiation	PASS	--
Clause 9 Resistance to ignition	PASS	--
Clause 10 Resistance to abrasion (optional specification)	N/C	Optional Specification, See Note 4
Clause 11 Protective requirements		
Clause 11.1 Coverage area	PASS	--
Clause 12 Information and labelling		
Clause 12.1 Information to be supplied with each pair of sunglasses	N/C	See Note 4, 7
Clause 12.2 Additional information	--	See Note 9

To be cont'd...

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EN ISO 12312-1:2013+A1:2015 Eye and face protection — Sunglasses and related eyewear. (Cont'd)

Note(s) : # 1 **MPSG-01**
 The submitted sample is classified as Category 3. The Category 3 claim was found on the sample.

Luminous transmittance, τ_v (%):

Left Filter 11.02 %

Right Filter 10.03 %

MPSG-02

The submitted sample is classified as Category 3. The Category 3 claim was found on the sample.

Luminous transmittance, τ_v (%):

Left Filter 9.95 %

Right Filter 9.22 %

MPSG-03

The submitted sample is classified as Category 3. The Category 3 claim was found on the sample.

Luminous transmittance, τ_v (%):

Left Filter 16.89 %

Right Filter 17.48 %

- # 2 The filter has a luminous transmittance of less than 75 % and higher than 8 %, the following warning: “Not suitable for driving in twilight or at night” or “Not suitable for driving at night or under condition of dull light” should be provided.
- # 3 “N/A” means not applicable for the submitted sample.
- # 4 “N/C” means not conducted on this report as client requested.
- # 5 Sunglasses shall be designed and manufactured in such a way that when used under the conditions and for the purposes intended, they will not compromise the health and safety of the wearer. The risks posed by substances leaking from the device that may come into prolonged contact with the skin shall be reduced by the manufacturer to below any regulatory limit. Special attention shall be given to substances which are allergenic, carcinogenic, mutagenic or toxic to reproduction.
- # 6 No fracture at any point observed, the deformation is below 2%.
- # 7 No label was provided for reviewing in time of testing.
- # 8 CE mark is required under Personal Protective Equipment Regulation (EU) 2016/425.
- # 9 The following information shall be available from the manufacturer on request.
 - a) An explanation of the trademarks that are not universally recognized or foreseen by the users of this part of ISO 12312.
 - b) The position of the reference point when different from the one defined in this part of ISO 12312.
 - c) The country of origin (e.g. “made in”).
 - d) The nominal value of luminous transmittance.
 - e) Transmission requirements applicable to this product.
 - f) Polarization efficiency in cases of polarizing filters.
 - g) The base material of filters and frame.

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EN ISO 12312-1:2013+A1:2015 Eye and face protection — Sunglasses and related eyewear. (Cont'd)

Table I. Category requirements for sunglare filters for general use

Description label	Filter category	Requirements			
		Ultraviolet spectral range		Visible spectral range	
		Maximum value of solar UV-B transmittance, τ_{SUVB}	Maximum value of solar UVA transmittance, τ_{SUVA}	Range of luminous transmittance, τ_V	
		280-315 nm	315-380 nm	From over %	To and include%
Light tint sunglasses	0	0.05 x τ_V	τ_V	80.0	100
	1			43.0	80.0
General purpose sunglasses	2	1.0% or 0.05x τ_V (whichever is greater)	0.5 x τ_V	18.0	43.0
	3			1.0%	8.00
Very dark Special Purpose sunglasses	4	1.0%	1.0% or 0.25x τ_V (whichever is greater)	3.00	8.00

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EN ISO 12312-1:2013+A1:2015 Eye and face protection — Sunglasses and related eyewear. (Cont'd)

Table II. Information and labeling requirement

Clause	Test Item
12	Information and labelling
12.1	<p>Information to be supplied with each pair of sunglasses.</p> <p>The manufacturer shall provide information for the user with each pair of sunglasses. This information shall be in the form of markings on the frame or separate information on labels, packaging, etc., that accompanies the sunglasses at the point of sale. Where pictograms are used, an explanation of the significance of these pictograms shall also be available.</p> <p>The use information shall contain following items:</p> <ol style="list-style-type: none"> Identification of model; Name and address of the manufacturer; Information of reference to EN ISO 12312; Type of filter, if photochromic and/or polarizing; Number of filter category, in both the faded and darkened states for photochromic filters, marked preferably on the frame or on the filter; Description of the filter category in the form of a symbol and/or verbal description as given in below table 5. (Minimum height of the symbols shall be 5mm)

Table 5 — Description of filter categories and assigned symbols

Filter category	Description	Usage	Symbol
0	Light tint sunglasses	Very limited reduction of sunglare	 IEC 60417-5955
1		Limited protection against sunglare	 ISO 7000-2948
2	General purpose sunglasses	Good protection against sunglare	 ISO 7000-2949
3		High protection against sunglare	 ISO 7000-2950
4	Very dark special purpose sunglasses, very high sunglare reduction	Very high protection against extreme sunglare, e.g. at sea, over snowfields, on high mountains, or in desert	 ISO 7000-2951
NOTE The wording and/or the pictograms may be used.			

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EN ISO 12312-1:2013+A1:2015 Eye and face protection — Sunglasses and related eyewear. (Cont'd)

Table II. Information and labeling requirement (Cont'd)

Clause	Test Item
--------	-----------

12	Information and labelling
12.1	Information to be supplied with each pair of sunglasses. (Continued)

- g) Restrictions of use, which shall include at least the following:
 - not for direct observation of the sun;
 - not for protection against artificial light sources, e.g. solaria;
 - not for use as eye protection against mechanical impact hazards (for products not satisfying the requirements of 7.3 or 7.6);
 - any other restrictions deemed appropriate by the manufacturer, eg. increased or decreased transmittance of photochromic glasses due to high or low temperatures or to low light conditions.;
- h) when the filter does not meet the necessary requirements for driving and for filter category 4, the following warning: “Not suitable for driving and road use” in the form of the symbols shown in figure 2 and/or in writing. The minimum height of the symbol shall be 5 mm.



Figure 2 — Symbol: “Not suitable for driving and road use”

- i) When the filter has a luminous transmittance of less than 75% and higher than 8%, the following warning: “Not suitable for driving in twilight or at night” or “Not suitable for driving at night or under condition of dull light”. The same warning applies to photochromic filters for which the luminous transmittance in faded conditions is less than 75%.

If relevant, instructions for care and cleaning if the wrong use of cleaning products might damage the sunglasses and a list of damaging products not suitable for cleaning.

12.2 Additional information.

The following information shall be available from the manufacturer on request.

- a) An explanation of the trademarks that are not universally recognized or foreseen by the users of this part of ISO 12312.
- b) The position of the reference point when different from the one defined in this part of ISO 12312.
- c) The country of origin (e.g. “made in”).
- d) The nominal value of luminous transmittance.
- e) Transmission requirements applicable to this product.
- f) Polarization efficiency in cases of polarizing filters.
- g) The base material of filters and frame.

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Table II. UV 400 Claim Verification
MPSG-01

Performance Parameter	Value (%) (Left Filter)	Value (%) (Right Filter)	Requirements
Solar UV Transmittance, τ_{SUV} (280nm – 400nm)	0.04	0.06	$\leq 0.5\%$
Solar UVA Transmittance, τ_{SUA} (315nm – 400nm)	0.05	0.06	$\leq 0.5\%$
Solar UVB Transmittance, τ_{SUB} (280nm – 315nm)	0.03	0.05	$\leq 0.5\%$

MPSG-02

Performance Parameter	Value (%) (Left Filter)	Value (%) (Right Filter)	Requirements
Solar UV Transmittance, τ_{SUV} (280nm – 400nm)	0.02	0.02	$\leq 0.5\%$
Solar UVA Transmittance, τ_{SUA} (315nm – 400nm)	0.02	0.03	$\leq 0.5\%$
Solar UVB Transmittance, τ_{SUB} (280nm – 315nm)	0.01	0.01	$\leq 0.5\%$

MPSG-03

Performance Parameter	Value (%) (Left Filter)	Value (%) (Right Filter)	Requirements
Solar UV Transmittance, τ_{SUV} (280nm – 400nm)	0.05	0.07	$\leq 0.5\%$
Solar UVA Transmittance, τ_{SUA} (315nm – 400nm)	0.06	0.08	$\leq 0.5\%$
Solar UVB Transmittance, τ_{SUB} (280nm – 315nm)	0.04	0.06	$\leq 0.5\%$

Note: requirement is with reference to EN ISO 12312-1:2013+A1:2015

Remark: UV400 claim is found on the product.

Photo Appendix



*** End of Report ***

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