

# Test Report

Report No.: AGC03778181201-006S2

Date: Jan.14, 2019

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Applicant: MID OCEAN BRANDS B.V

Address: 7/F, Kings Tower, 111 King Lam Street, Cheung Sha Wan, Kowloon, Hong Kong

## Report on the submitted samples said to be:

Sample Name : See Sample Information  
Model : See Sample Information  
Manufacturers : 101191  
Sample Receiving Date : Dec.03, 2018  
Testing Period : Dec.03, 2018 to Dec.18, 2018

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

Test Result : Please refer to next page(s).

## Test Requested

1.ISO 12312-1:2013+A1:2015, excluding:  
- Clause 12 Information and labeling

## Conclusion

Pass



Approved by: Jay. Liu

Liujinliang, Jay.Liu

Laboratory Supervisor



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**1.Tests Conducted Summary:**
**(1) Requirements for Sunglasses**

Test standard: - ISO 12312-1:2013+A1:2015  - ISO 12311:2013	Eye and face protection — Sunglasses and related eyewear — Part 1: Sunglasses for general use  Personal protective equipment —Test methods for Sunglasses and related eyewear
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Note: 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.

CLAUSES	REQUIREMENTS	RESULT	
4	Construction and materials		
4.1	Construction	P	
4.2	Filter material and surface quality	P	
4.3	Physiological compatibility (Nickel Release)	NA	
5	Transmittance		
5.2	Transmittance and filter categories	Filter categories	Cat.3
		UV requirements	P
5.3	General transmittance requirements		
5.3.1	Uniformity of luminous transmittance	P	
5.3.2	Requirements for road use and driving	5.3.2.2 Spectral transmittance	P
		5.3.2.3 Detection of signal lights	P
		5.3.2.4 Driving in twilight or at night	NA
5.3.3	Wide angle scattering	P	
5.3.4	Additional transmittance requirements for specific filter types	5.3.4.1 Photochromic filters	NA
		5.3.4.2 Polarizing filters	NA
		5.3.4.3 Gradient filters	NA
6	Refractive power		
6.1	Spherical and astigmatic power	P	
6.2	Local variations in refractive power	P	
6.3	Prism imbalance (relative prism error)	P	

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CLAUSES	REQUIREMENTS	RESULT
7	Robustness	
7.1	Minimum robustness of filters	P
7.2	Frame deformation and retention of filters	P
8	Resistance to solar radiation	P
9	Resistance to ignition	P
11	Protective requirements	
11.1	Coverage area	P
12	Information and labeling	
12.1	Information to be supplied with each pair of sunglasses	NR
12.2	Additional information	NR

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

## Test Results

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

Sample Number	Defects				Comment	Result
	Construction		Filter material and surface quality			
	Observed	Absent	Observed	Absent		
1		X		X	--	P

#### Requirements:

- Construction shall be smooth and without sharp projections;
- 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 30mm diameter around the reference point that may impair vision, e.g. 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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**Transmittance and filter categories — Clause 5.2**

Sample No.: 1				
Test Items	Requirements	Left	Right	Result(s)
Luminous transmittance $\tau_v$ (380~780)nm (%)	For Cat. 0: 80.0~100	17.9	18.5	Cat.3
	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 categories	Claimed Cat.: (Not Provided)			
$\tau_{SUVB}$ (280~315)nm (%)	For Cat.0, 1: $\leq 0.05\tau_v$ For Cat.2: 1.0% absolute or $0.05\tau_v$ whichever is greater; For Cat.3, 4: 1.0% absolute	0.0	0.0	P
$\tau_{SUVA}$ (315~380)nm (%)	For Cat.0, 1: $\leq \tau_v$ ; For Cat.2, 3: $\leq 0.5\tau_v$ For Cat.4: 1.0% absolute or $0.25\tau_v$ whichever is greater	0.0	0.1	P
$\tau_{sb}$ (380~500)nm (%)	---	14.4	14.2	Only Ref.

Measurement Uncertainty (if necessary):

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**Uniformity of luminous transmittance — Clause 5.3.1**

Sample No.: 1				
Test Items	Requirements	Left	Right	Result(s)
Difference within filter (%) (relative to higher value)	The relative difference in the luminous transmittance value shall not be greater than 10%, except for Cat. 4 where it shall not be greater than 20%	3.8	2.0	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 shall not exceed 15%	3.0		P

Measurement Uncertainty (if necessary):

**Requirements for road use and driving — Clause 5.3.2**

Sample No.: 1				
Test Items	Requirements	Left	Right	Result(s)
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 (%)	$\cong 0.2\tau_v$	6.4 ( $0.2\tau_v=2.0$ )	5.8 ( $0.2\tau_v=2.0$ )	P
Red Signal	$\cong 0.80$	0.962	0.986	P
Yellow Signal	$\cong 0.60$	1.008	1.023	
Green Signal	$\cong 0.60$	1.042	1.030	
Blue Signal	$\cong 0.60$	0.875	0.851	
Driving in twilight or at night(%)	$\tau_v \cong 75\%$	10.1	9.8	NA

Measurement Uncertainty (if necessary):

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**Wide angle scattering—Clause 5.3.3**

Sample Number	Wide angle scattering(%)		Result
	Left	Right	
1	2.2	2.2	P

Requirements:

The wide angle scattering of the filters in the condition as supplied by the manufacturer shall not exceed the value of 3 %.

Measurement Uncertainty (if necessary):

**Refractive power—Clause 6**

Sample No.: 1					
Test Items	Requirements	Left	Right	Result(s)	
Spherical Power (D)	$\pm 0.12D$	-0.02	-0.03	P	
	The difference between the spherical powers shall not exceed 0.18 D;	0.01		P	
Astigmatic Power (D)	$\cong 0.12D$	0.00	0.00	P	
Local variations in refractive power (D)	Spherical Power	$\pm 0.12D$	1*	-0.02	P
		2*	-0.03	-0.02	
		3*	-0.02	-0.01	
		4*	-0.01	-0.03	
	Astigmatic Power	$\cong 0.12D$	1*	0.02	P
		2*	0.02	0.01	
		3*	0.00	0.02	
		4*	0.01	0.02	
Prism imbalance (cm/m)	Horizontal	Base Out: <1.00	--		
		Base In: <0.25	0.03		
	Vertical	<0.25	0.03		

Measurement Uncertainty (if necessary):

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Note: \* See figure:

Key: A =Reference points

X = Measure point

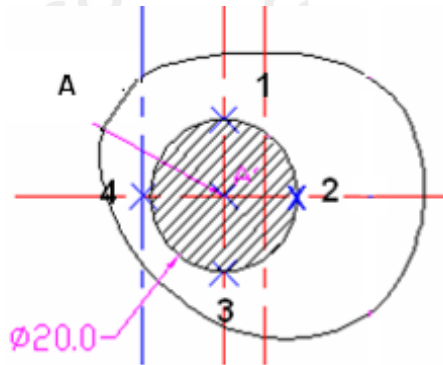


Figure: Measuring Location of refractive power

## Minimum robustness of filters — Clause 7.1

Sample Number	Defects		Comment	Result
	Observed	Absent		
1		X	--	P

Requirements:

None of the following defects shall appear on filters :

1. Filter fracture;
2. Filter deformation;

## Frame deformation and retention of filters — Clause 7.2

Sample Number	Boxed center Distance C (mm)	Residual Deformation X (mm)	Deformation Percentage $\Phi$ (%)	Structure		Lens Retention		Result
				Pass	Fail	Pass	Fail	
1	72.72	0.04	0.1	X		X		P

Requirements:

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

Measurement Uncertainty (if necessary):

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**Resistance to Radiation — Clause 8**

Sample No.: 1		Test Items	Requirements	Left	Right	Result(s)
The relative change of luminous transmittance		For Cat. 0: <math>\leq \pm 3\%</math>	Before exposure	17.9	18.5	P
		For Cat. 1: <math>\leq \pm 5\%</math>	After exposure	18.5	18.7	
		For Cat. 2: <math>\leq \pm 8\%</math>	Difference	3.4	1.1	
Wide angle scattering		After exposure, the value of wide angle scattering shall not exceed the limit value of 3%;		2.2	2.3	P
Requirements for the ultraviolet spectral range for $\tau_v$ (%)	$\tau_{SUVB}$ (280~315) nm (%)	For Cat. 0,1: $\leq 0.05\tau_v$ For Cat. 2: 1.0% absolute or $0.05\tau_v$ whichever is greater; For Cat. 3, 4: 1.0% absolute		0.0	0.0	P
	$\tau_{SUVA}$ (315~380) nm (%)	For Cat. 0,1: $\leq \tau_v$ ; For Cat. 2, 3: $\leq 0.5\tau_v$ For Cat. 4: 1.0% absolute or $0.25\tau_v$ whichever is greater;		0.0	0.0	P

Measurement Uncertainty (if necessary):

**Ignition—Clause 9**

Sample Number	Continued combustion		Comment	Result
	Yes	No		
1		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 Number	Type (Adult/Children)	Test Position	Coverage area		Comment	Result
			Pass	Fail		
1	Adults	Left	X		--	P
		Right	X		--	P

**Requirements:**

- Adults' sunglasses shall cover two ellipses of horizontal diameter of 40mm and a vertical diameter of 28mm, the centres of which are separated 64mm and symmetrically placed on either side of the centre of the nose bridge of the frame.
- Children's sunglasses shall cover two ellipses of horizontal diameter of 34mm and a vertical diameter of 24mm, the centres of which are separated 54mm and symmetrically placed on either side of the centre of the nose bridge of the frame.

**Sample description:**

1	Green lens
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## Sample Information

Model	Sample Name
MO9034-48	plastic bi-color outer in Black and inner in Lime with lime mirror lens
MO9521-48	Stainless iron silver color with lime mirror lens(lime pouch)
MO8652-09	plastic Transparent frosty white frame and green leg with lime mirror lens
MO9022-40	plastic in wood pattern and matt finish with green mirror lens

This report is to supersede the report with No.: AGC03778181201-006S1 dated on Dec.21,2018.

## The photo of the sample



**AGC03778181201-006S2**

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\*\*\* End of Report\*\*\*

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**No.18 C**



# Test Report

**Report No.:** AGC03778190101-005

**Date:** Jan.18, 2019

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**Applicant:** MID OCEAN BRANDS B.V

**Address:** 7/F, Kings Tower, 111 King Lam Street, Cheung Sha Wan, Kowloon, Hong Kong

**Report on the submitted samples said to be:**

**Sample Name :** See Sample Information

**Model :** See Sample Information

**Manufacturers :** 101191

**Sample Receiving Date :** Jan.14, 2019

**Testing Period :** Jan.14, 2019 to Jan.18, 2019

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

**Test Result :** Please refer to next page(s).

**Test Requested:**

UV400 (In-house test, and test method refer to attached pages for details)

**Conclusion:**

Pass



Liujinliang, Jay.Liu

Laboratory Supervisor



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**Tests Conducted Summary**
**UV400**(In-house test, non-accredited test item)

As requested by the applicant, refer to test procedure of "Resistance to Radiation" in this report, assessment was made against a level of 100% UV protection, in which the spectral transmittance was examined within a range of 280nm-400nm before and after exposure.

Sample Number	Wavelength (nm)	Maximum Spectral transmittance (%)		Result
		Left	Right	
1	280-400	0.1	0.1	Pass

Requirements:

Maximum spectral transmittance shall not exceed 0.5%.

Measurement Uncertainty (if necessary):

**Sample description:**

1	Green lens
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**Sample Information**

Model	Sample Name
MO9034-48	plastic bi-color outer in Black and inner in Lime with lime mirror lens
MO9521-48	Stainless iron silver color with lime mirror lens(lime pouch)
MO8652-09	plastic Transparent frosty white frame and green leg with lime mirror lens
MO9022-40	plastic in wood pattern and matt finish with green mirror lens

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## The photo of the sample



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