



## Test Report

No.: GZHL2303007227SD

Date: Apr 06, 2023

Page 1 of 6

GUANGZHOU USOM GLASSES CO., LTD.  
NO.12 YUCAI ROAD ,SHILING TOWN ,HUADU DISTRICT, GUANGZHOU ,GUANGDONG ,CHINA

Sample Description : SPORTS SUNGLASSES WITH TR90 FRAME PC LENS  
Item No. : UY057 UY075 UY066  
Style No. : UY057 UY075 UY066  
Manufacturer : GUANGZHOU SOMTA OPTICAL TECHNOLOGY CO., LTD.  
Country of Origin : CHINA

As above test item and its relevant information regarding to the submission are provided and confirmed by the applicant. SGS is not liable to either the test item or its relevant information, in terms of the accuracy, suitability, reliability or/and integrity accordingly.

\*\*\*\*\*

SGS Ref No. : T32320260349SN  
Sample Receiving Date : Mar 22, 2023  
Test Performing Date : Mar 22, 2023 to Apr 04, 2023  
Test Performed : Selected test(s) as requested by applicant  
Test Result(s) : For further details, please refer to the following page(s)

| Test Requested                                                                                                                                                            | Conclusion                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| Eye and face protection — Sunglasses and related eyewear (EN ISO 12312-1:2022) (Excluding Clause 4.3 Physiological compatibility and Clause 12 Information and labelling) | PASS<br>(Clear lens:<br>Category 0 /<br>Smoke lens:<br>Category 3) |
| UV 400 Claim Verification                                                                                                                                                 | PASS                                                               |

Signed for and on behalf of  
SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch



GZHL2303007227SD

Arthur Mak  
Authorized Signatory



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### Test Results:

#### EN ISO 12312-1:2022 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.<br>This part of ISO 12312 is not applicable to related eyewear, such as:<br>a) eyewear for protection against radiation from artificial light sources, such as those used in solaria;<br>b) eye protectors intended for specific sports (e.g. ski goggles or other types);<br>c) sunglasses that have been medically prescribed for attenuating solar radiation;<br>d) products intended for direct observation of the sun, such as for viewing a partial or annular solar eclipse;<br>e) products intended for occupational eye protection. |
| No. of Specimen           | : 4 pcs. of completed sunglasses per style                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Filter Type               | : Clear lens: Uniform filters; Smoke lens: Polarizing filters.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Conditioning before tests | : 23 ± 5°C, 4 hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 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)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

| Test Item                                                                        | Result | Note                  |
|----------------------------------------------------------------------------------|--------|-----------------------|
| <b>Clause 4 Construction and materials:</b>                                      |        |                       |
| Clause 4.1 Construction                                                          | PASS   | --                    |
| Clause 4.2 Filter material and surface quality                                   | PASS   | --                    |
| Clause 4.3 Physiological compatibility                                           | --     | See Note 4            |
| Clause 4.4 Headforms                                                             | --     | See Note 6            |
| <b>Clause 5 Transmittance</b>                                                    |        |                       |
| Clause 5.2 Transmittance and filter categories <sup>^</sup>                      | PASS   | See Note 1            |
| Clause 5.3 General transmittance requirements                                    | --     | --                    |
| Clause 5.3.1 Uniformity of luminous transmittance <sup>^</sup>                   | PASS   | --                    |
| Clause 5.3.2 Requirements for road use and driving <sup>^</sup>                  | PASS   | --                    |
| Clause 5.3.2.1 General <sup>^</sup>                                              | PASS   | --                    |
| Clause 5.3.2.2 Road use (including driving) in twilight or at night <sup>^</sup> | --     | --                    |
| Clause 5.3.3 Wide angle scattering <sup>^</sup>                                  | PASS   | --                    |
| Clause 5.3.4 Additional transmittance requirements for specific filter types     | --     | --                    |
| Clause 5.3.4.1 Photochromic filters <sup>^</sup>                                 | N/A    | See Note 2            |
| Clause 5.3.4.2 Polarizing filters <sup>^</sup>                                   | PASS   | For Smoke lens        |
| Clause 5.3.4.3 Gradient-tinted filters <sup>^</sup>                              | N/A    | See Note 2            |
| Clause 5.3.4.4 Electro-optical sunglare filter, electro-optical sunglass filter  |        |                       |
| Clause 5.3.5 Claimed transmittance properties                                    | --     | --                    |
| Clause 5.3.5.1 Blue-light absorption/transmittance <sup>^</sup>                  | N/A    | No claims, See Note 2 |
| Clause 5.3.5.1.1 Blue-light absorption <sup>^</sup>                              | N/A    | No claims, See Note 2 |
| Clause 5.3.5.1.2 Blue-light transmittance <sup>^</sup>                           | N/A    | No claims, See Note 2 |



## EN ISO 12312-1:2022 Eye and face protection — Sunglasses and related eyewear. (Cont'd)

| Test Item                                                                                  | Result | Note                               |
|--------------------------------------------------------------------------------------------|--------|------------------------------------|
| <b>Clause 5 Transmittance</b>                                                              |        |                                    |
| Clause 5.3.5.2 UV absorption/transmittance                                                 | --     | --                                 |
| Clause 5.3.5.2.1 General                                                                   | N/A    | No claims, See Note 2              |
| Clause 5.3.5.2.2 Solar UV absorption <sup>^</sup>                                          | N/A    | No claims, See Note 2              |
| Clause 5.3.5.2.3 Solar UV transmittance <sup>^</sup>                                       | N/A    | No claims, See Note 2              |
| Clause 5.3.5.2.4 Solar UV-A absorption <sup>^</sup>                                        | N/A    | No claims, See Note 2              |
| Clause 5.3.5.2.5 Solar UV-A transmittance <sup>^</sup>                                     | N/A    | No claims, See Note 2              |
| Clause 5.3.5.2.6 Solar UV-B absorption <sup>^</sup>                                        | N/A    | No claims, See Note 2              |
| Clause 5.3.5.2.7 Solar UV-B transmittance                                                  | N/A    | No claims, See Note 2              |
| Clause 5.3.5.3 Antireflective coated sunglasses <sup>^</sup>                               | N/A    | No claims, See Note 2              |
| Clause 5.3.5.4 Reduced Reflection coated sunglasses <sup>^</sup>                           | N/A    | No claims, See Note 2              |
| Clause 5.3.5.5 Enhanced infrared absorption <sup>^</sup>                                   |        |                                    |
| <b>Clause 6 Refractive power</b>                                                           |        |                                    |
| Clause 6.1 Spherical and astigmatic power <sup>^</sup>                                     | PASS   | --                                 |
| Clause 6.2 Spatial deviation <sup>^</sup>                                                  | N/A    | See Note 2                         |
| Clause 6.3 Prism imbalance (relative prism error) <sup>^</sup>                             | PASS   | --                                 |
| <b>Clause 7 Robustness</b>                                                                 |        |                                    |
| Clause 7.1 Minimum robustness of filters                                                   | PASS   | --                                 |
| Clause 7.2 Frame deformation and retention of filters <sup>^</sup>                         | PASS   | See Note 5                         |
| Clause 7.3 Impact resistance of the filter, strength level 1 (optional specification)      | N/C    | Optional Specification, See Note 3 |
| Clause 7.4 Increased endurance of sunglasses (optional specification)                      | N/C    | Optional Specification, See Note 3 |
| Clause 7.5 Resistance to perspiration (optional specification)                             | N/C    | Optional Specification, See Note 3 |
| Clause 7.6 Impact resistance of the filter, strength level 2 or 3 (optional specification) | PASS   | For Level 2                        |
| <b>Clause 8 Resistance to solar radiation</b>                                              | PASS   | --                                 |
| <b>Clause 9 Resistance to ignition</b>                                                     | PASS   | --                                 |
| <b>Clause 10 Resistance to abrasion (optional specification)</b>                           | N/C    | Optional Specification, See Note 3 |
| <b>Clause 11 Protective requirements</b>                                                   |        |                                    |
| Clause 11.1 Coverage area                                                                  | PASS   | --                                 |
| Clause 11.2 Temporal protective requirements                                               | N/A    | See Note 2                         |
| <b>Clause 12 Information and labelling</b>                                                 |        |                                    |
| Clause 12.1 Information to be supplied with each pair of sunglasses                        | N/C    | See Note 3, 7                      |
| Clause 12.2 Additional information                                                         | --     | See Note 9                         |





## EN ISO 12312-1:2022 Eye and face protection — Sunglasses and related eyewear. (Cont'd)

Note(s) : # 1 **Clear lens**

The submitted sample is classified as Category 0. No claim information of category was provided with the sample.

Luminous transmittance,  $\tau_v$  (%):

Left Filter 91.22 %

Right Filter 91.07 %

**Smoke lens**

The submitted sample is classified as Category 3. No claim information of category was provided with the sample.

Luminous transmittance,  $\tau_v$  (%):

Left Filter 11.09 %

Right Filter 11.08 %

# 2 "N/A" means not applicable for the submitted sample.

# 3 "N/C" means not conducted on this report as client requested.

# 4 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.

# 5 No fracture at any point observed, the deformation is below 2%.

# 6 Headform 1-M was defaulted to be used for those methods where headform is required.

# 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) Transmittance requirements applicable to this product;

d) Polarizing efficiency in cases of polarizing filters;

e) The base material of filters and frame.

^ According to Annex A of EN ISO 12311:2013, EN ISO 18526-1: 2020 & EN ISO 18526-2:2020, the item/sample/testing article has (not) complied with the requirements of EN ISO 12312-1:2022 with the expanded measurement uncertainty with a 95% coverage probability,  $w=U_{95}$ .



SGS-CTI (Shanghai) Technical Services Co., Ltd.  
Guangzhou Branch Testing Center

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**EN ISO 12312-1: 2022 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, $\tau_{SUVB}$ | Maximum value of solar UVA transmittance, $\tau_{SUVA}$ | Range of luminous transmittance, $\tau_V$ |                 |
|                                      |                 | 280-315 nm                                               | 315-380 nm                                              | From over %                               | To and include% |
| Light tint sunglasses                | 0               | 0.05 x $\tau_V$                                          | $\tau_V$                                                | 80.0                                      | 100             |
|                                      | 1               |                                                          |                                                         | 43.0                                      | 80.0            |
| General purpose sunglasses           | 2               | 1.0% or 0.05x $\tau_V$ (whichever is greater)            | 0.5 x $\tau_V$                                          | 18.0                                      | 43.0            |
|                                      | 3               | 1.0%                                                     |                                                         | 8.00                                      | 18.0            |
| Very dark Special Purpose sunglasses | 4               | 1.0%                                                     | 1.0% or 0.25x $\tau_V$ (whichever is greater)           | 3.00                                      | 8.00            |

**UV 400 Claim Verification**
**Clear lens**

| Performance Parameter                                  | Value (%) (Left Filter) | Value (%) (Right Filter) | Requirements |
|--------------------------------------------------------|-------------------------|--------------------------|--------------|
| Solar UV Transmittance, $\tau_{SUV}$ (280nm – 400nm)   | 0.17                    | 0.14                     | $\leq 0.5\%$ |
| Solar UVA Transmittance, $\tau_{SUVA}$ (315nm – 400nm) | 0.21                    | 0.21                     | $\leq 0.5\%$ |
| Solar UVB Transmittance, $\tau_{SUVB}$ (280nm – 315nm) | 0.10                    | 0.27                     | $\leq 0.5\%$ |

**Smoke lens**

| Performance Parameter                                  | Value (%) (Left Filter) | Value (%) (Right Filter) | Requirements |
|--------------------------------------------------------|-------------------------|--------------------------|--------------|
| Solar UV Transmittance, $\tau_{SUV}$ (280nm – 400nm)   | 0.16                    | 0.14                     | $\leq 0.5\%$ |
| Solar UVA Transmittance, $\tau_{SUVA}$ (315nm – 400nm) | 0.19                    | 0.17                     | $\leq 0.5\%$ |
| Solar UVB Transmittance, $\tau_{SUVB}$ (280nm – 315nm) | 0.11                    | 0.20                     | $\leq 0.5\%$ |



## Test Report

No.: GZHL2303007227SD

Date: Apr 06, 2023

Page 6 of 6

### Note:

1. Requirement is with reference to EN ISO 12312-1:2022
2. According to Annex A of EN ISO 18526-2:2020, the item/sample/testing article has (not) complied with the requirements of EN ISO 12312-1: 2022 with the expanded measurement uncertainty with a 95% coverage probability,  $w=U_{95}$ ).
3. This test was subcontracted to SGS Hong Kong Limited.

### Sample Photo:



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



SGS Standards Technical Services Co., Ltd.  
Guangzhou Branch Testing Center

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