

<b>SAS VOLCOM</b>	<b>Master Test Report Eyewear</b>	No. of Document: SV-200615-01
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### Test report sunglasses acc. to ISO 12312-1:2013/A1:2015 and to ISO 12312-3:2022

Manufacturer: Zhangzhou TONY Optical CO., LTD.      Model: MORPH  
 SAP number: VE03002503      Manufacturer's number: G3662 M85361B B15  
 Lens material: PC      Frame material: POLYAMIDE(PA)  
 Lens colour: BEONZE

Item	Requirement	Relevant clause of ISO 12312-1:2013	Result	Pass/Fail
Construction	smooth material without sharp projections	4.1	OK	Pass
Filter material and surface quality	no material or machining defects	4.2	OK	Pass
Physiological compatibility	nonhazardous materials	4.3	OK	Pass
Luminous Transmittance $T_{vis}$ [%]	according to claimed filter category	5.2, according to table 1	$T_{vis}$ : L: 15.71% cat: 3	Pass
UV-absorption	according to claimed filter category	5.2, according to table 1	400	Pass
UV 400	solar UV up to 400 nm below 0,5 %	5.3.5.2	0.00%	Pass
Homogeneity $T_{vis}$ left to right lens	< 15 % rel.	5.3.1	3%	Pass
Homogeneity $T_{vis}$ within the lens	Cat. 0,1,2,3 < 10 % Cat. 4 < 20 %	5.3.1	L:9.9% R:12.3%	Pass
Requirements for road use	T spectral detection of signal lights (Q values)	5.3.2.2 5.3.2.3	OK R:1.32 Y:1.17 G:0.93 B:0.71	Pass
Driving in twilight or at night	$T_{vis} > 75 \%$	5.3.2.4	NOT SUITABLE	
Wide angle scattering [%]	< 3 %	5.3.3	0.33%	Pass
Photochromic effect	$T_{v0}/T_{v1} \geq 1,25$	5.3.4.1	NONE	
Polarizing effect	Cat. 2,3,4 > 8:1 Cat. 1 > 4:1	5.3.4.2	NONE	
Spherical power [dpt.]	sph $\pm 0,12$	6.1	L:-0.03 R:0.04	Pass
Astigmatic power [dpt.]	astigm. $\leq 0,12$		L:-0.03 R:0.02	
Prism imbalance [cm/m]	horizontal base out $\leq 1,0$ base in $\leq 0,25$ vertical $\leq 0,25$	6.3	NONE -0.09 0.03	Pass
Minimum robustness	no filter fracture or filter deformation	7.1	OK	Pass
Frame deformation	no fracture or permanent deformation, filter not detached	7.2	OK	Pass
Resistance to solar radiation	change in luminous transmittance according to table 4 scattering < 3 % $T_{v0}/T_{v1} \geq 1,25$ all UV requirements still fulfilled	8	OK OK NONE OK	Pass
Resistance to ignition	no ignition or glowing	9	OK	Pass
Protective requirements	two ellipses covered temporal protection for cat.4 glasses	11.1 11.2	OK NONE	Pass
Information and labelling	all required information added	12.1	OK	Pass

Confirmation:	Manufacturer: Zhangzhou TONY Optical CO., LTD.	SAS VOLCOM
	Date 2022-01-17	Signature 苏志慧

