

SAS VOLCOM	Master Test Report Eyewear	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: VE03004826 Manufacturer's number: G3662 M70252 G15
 Lens material: PC Frame material: POLYAMIDE(PA)
 Lens colour: Green Gray

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: 14.46% 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:1.01 Y:1.00 G:1.03 B:0.98	Pass		
Driving in twilight or at night	$T_{vis} > 75 \%$	5.3.2.4	NOT SUITABLE			
Wide angle scattering [%]	< 3 %	5.3.3	0.39%	Pass		
Photochromic effect	$T_{vo}/T_{v1} \geq 1,25$	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:0.00 R:-0.01	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 -0.19 0.04	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 % $T_{vo}/T_{v1} \geq 1,25$ 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 2022-12-22	Signature: 苏志慧

