

<b>SAS VOLCOM</b>	<b>Master Test Report Eyewear</b>	No. of Document: SV-200615-01
-------------------	-----------------------------------	----------------------------------

### Test report sunglasses acc. to ISO 12312-1:2013/A1:2015 and to ISO 12312-3:2022

Manufacturer: Zhangzhou TONY Optical CO., LTD.      Model: FRANKEN  
 SAP number: VE02200904      Manufacturer's number: G4104 S86326 5983302  
 Lens material: PC POL      Frame material: POLYAMIDE(PA)  
 Lens colour: BRONZE FADE POLAR

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: 9.42% R: 9.39% 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	1%	Pass	
Homogeneity $T_{vis}$ within the lens	Cat. 0,1,2,3 < 10 % Cat. 4 < 20 %	5.3.1	L:4.8% R:3.5%	Pass	
Requirements for road use	T spectral detection of signal lights (Q values)	5.3.2.2 5.3.2.3	OK R:1.46 Y:1.10 G:0.90 B:1.08	Pass	
Driving in twilight or at night	$T_{vis} > 75 \%$	5.3.2.4	NOT SUITABLE		
Wide angle scattering [%]	< 3 %	5.3.3	0.47%	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:-0.01 R:0.07	Pass	
Astigmatic power [dpt.]	astigm. $\leq 0,12$		L:0.00 R:0.05		
Prism imbalance [cm/m]	horizontal base out $\leq 1,0$ base in $\leq 0,25$ vertical $\leq 0,25$	6.3	0.05 NONE -0.05	Pass	
Minimum robustness	no filter fracture or filter deformation		7.1		OK
Frame deformation	no fracture or permanent deformation, filter not detached		7.2		OK
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
Protective requirements	two ellipses covered temporal protection for cat.4 glasses		11.1 11.2		OK NONE
Information and labelling	all required information added		12.1		OK

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

