



(2011)国认监认字(019)号 2011000267Z

Test Report

No. 2011W846E

Date: Jan. 12, 2012

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Applicant	WENZHOU COFLY OPTICAL CO.,LTD.		
The following sample(s) was/were submitted and identified on behalf of the client as:			
Sample Description	Stainless steel frame, PC temple, TAC polarized lens and acrylic lens	Test Subject	Polarized Sun Bifocal reading sunglasses brown frame
		Quantity	8 pairs
		Style	R11021
		Mark	/
Date Received	2011-12-30		
Testing Period	2011-12-30~2012-1-11		
Test Performed	Selected test(s) as requested by applicant		
Document Accordance	EN 1836:2005+A1:2007 Personal eye-equipment-Sunglasses and Sunlare filters for general use and filters for direct observation of the sun; ISO 16034:2002 Ophthalmic optics-Specifications for single-vision		
Testing Conclusion	The results test is included in tables. For further details, please refer to the following page(s).		
Remark	1.The results in this report are linked only to test samples. 2.Fragmentary copy of this test report without written permission of OGE is prohibited. Copy whole test report without written permission of OGE is permitted. 3.This test report includes 6 pages.		

Approver:

Auditor:

国家眼镜玻璃搪瓷制品质量监督检验中心 (东华大学检测实验室)

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Clause 4 of ISO 16034:2002 General requirements

Table 1

Test item	Requirements	Meet requirements	Comment
Clause 4.1 General requirements	The spectacle lenses of single-vision ready-to-wear near-vision spectacles shall be in accordance with ISO 14889.	Yes	Pass
	The frame of single-vision ready-to-wear near-vision spectacles shall be in accordance with ISO 12870.	Yes	Pass
	The glazing of spectacle lenses shall be verified by the lens retention test as specified in ISO 12870.	Yes	Pass
	The spectacle lenses shall be securely held in position so that movement or rotation in the frame cannot occur under any condition of intended use.	No movement or rotation in the frame	Pass

Clause 4 of ISO 16034:2002 General requirements

Table 2

Test item	Requirements	Values	Comment
Clause 4.2 optical power range (D)	The lenses for single-vision ready-to-wear near-vision spectacles shall have equal nominal power within the range from +1.00 to +3.50 dioptres.	+2.50	Pass

Clause 4 of ISO 16034:2002 General requirements

Table 3

Test item	Requirements	Values	Comment	
Clause 4.3 optical Power tolerances (D)	Tolerances to be applied to the values declared by the manufacturer shall be in accordance with ISO 8980.1 Table 1.	Tolerance on the power of each meridian	-0.04~+0.10	Pass
		Tolerance of the Cylindrical power	-0.10~+0.10	Pass

Clause 4.4 of ISO 16034:2002 Reference points and prismatic power tolerances

Table 4

Test item	Requirements	Values	Comment	
Clause 4.4.2 Prismatic power tolerances (cm/m)	Horizontal tolerance	0.33 cm/m absolute each lens	0.00~0.32	Pass
	Vertical tolerance	0.33 cm/m imbalance between lenses	0.01~0.14	Pass

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Clause 4.1.2 of EN 1836:2005+A1:2007 Transmittance and filter categories

Table 5

Test item		Requirements	Value	Comment
The relative difference in the luminous transmittance value (%)		≤ 15	4.2	Pass
Luminous transmittance, τ_v (%)		Refer to Table 6	16.6	Filter Category : 2
			17.3	
Maximum value of spectral transmittance	τ_F (280nm – 315 nm) (%)		0.0 ($0.0\tau_v$)	Pass
	τ_F (315nm – 350 nm) (%)		0.0 ($0.0\tau_v$)	Pass
Solar UVA transmittance, τ_{SUVA} (315nm – 380nm) (%)			0.0 ($0.0\tau_v$)	Pass

Transmittance for sunglare filters for general use

Table 6

Filter category	Requirements				
	Ultraviolet spectral range			Visible spectral range	
	Maximum value of spectral transmittance, τ_F (%)		Maximum value of solar UVA transmittance, τ_{SUVA}	Range of luminous transmittance, τ_v	
	280-315 nm	Over 315-350 nm		315-380 nm	From over %
0	$0.1 \times \tau_v$	τ_v	τ_v	80	100
1				43	80
2				18	43
3		$0.5 \times \tau_v$	$0.5 \times \tau_v$	8	18
4				3	8

Clause 4.1.3 of EN 1836:2005+A1:2007 General transmittance requirements

Table 7

Test item	Requirements		Values	Comment
Clause 4.1.3.2.2 Spectral transmittance (500-650 nm)	$\geq 0.2\tau_v$		$0.6\tau_v$	Pass
Clause 4.1.3.2.2 Recognition of signal lights	Q_{red}	≥ 0.80	1.41	Pass
	Q_{yellow}	≥ 0.80	1.24	Pass
	Q_{green}	≥ 0.60	0.85	Pass
	Q_{blue}	≥ 0.60	0.83	Pass

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Clause 4.1.4 of EN 1836:2005+A1:2007 Special transmittance requirements

Table 8

Test item	Requirements	Values	Comment	
Clause 4.1.4.2 Polarising filters (°)	the deviation between the plane of polarisation from the horizontal direction	$\pm 5^\circ$	-4~+4	Pass
	the misalignment between the plane of polarisation of the left and right filters	$\leq 6^\circ$	2~4	Pass

Clause 4.2 of EN 1836:2005+A1:2007 Optical power of oculars

Table 9

Test item	Requirements	Values	Comment		
Clause 4.2.2 Oculars mounted in spectacles	optical Power tolerances	Tolerance on the power of each meridian	-0.08~+0.01	Pass	
		Tolerance of the Cylindrical power	0.01~0.09	Pass	
	Prismatic power tolerances	Horizontal tolerance	Base out	0.01	Pass
			Base in	0.00~0.02	Pass
		Vertical tolerance	0.00~0.04	Pass	

The maximum optical power values shall be as given in Table 4 of EN 1836:2005+A1:2007

Clause 4.4 of EN 1836:2005+A1:2007 Material and surface quality

Table 10

Test item	Requirements	Meet requirements	Comment
Clause 4.4 Material and surface quality	sunglare filters shall have no material or machining defects within an area of 30 mm 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. Single defects outside this area are permissible	Yes	Pass

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Clause 4.5 of EN 1836:2005+A1:2007 Robustness

Table 11

Test item	Requirements	Meet requirements	Comment
Clause 4.5.1 Minimum robustness	The loading mass is lowered on to the ocular at a speed not exceeding 400 mm/min. The force of (100 ± 2) N is maintained for (10 ± 2) s. The loading mass is then removed, none of the defects shall appear on sunglare filters	No ocular fracture or deformation	Pass

Clause 4.7 of EN 1836:2005+A1:2007 Ignition

Table 12

Test item	Requirements	Meet requirements	Comment
Clause 4.7 Ignition	When tested as described in Clause 7 of EN 168:2001, sunglare filters shall not ignite or continue to glow after removal of the steel rod.	No continued combustion	Pass

Clause 5 of EN 1836:2005+A1:2007 Requirements for complete sunglasses

Table 13

Test item	Requirements	Meet requirements	Comment
Clause 5.2 General construction	Sunglasses shall be free from projections, sharp edges or other defects which are likely to cause discomfort or injury during intended use.	No projection, sharp edges or other defects	Pass

Clause 5.3 of EN 1836:2005+A1:2007 Mechanical requirements

Table 14

Test item	Requirements	Meet requirements	Comment
Clause 5.3.1 Minimum robustness	When tested according to 6.10, the frame fitted with filters shall not fracture at any point	Yes	Pass
	When tested according to 6.10, the frame fitted with filters shall not be permanently deformed from the original position by more than ± 2 % of the distance between the reference points of the frame	Yes	Pass
	When tested according to 6.10, the frame fitted with filters shall not neither filter shall be displaced from the frame	Yes	Pass

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Clause 5 of EN 1836:2005+A1:2007 Requirements for complete sunglasses

Table 15

Test item	Requirements	Meet requirements	Comment
Clause 5.4 Ignition	When tested as described in Clause 7 of EN 168:2001, sunglasses shall be no continued combustion after withdrawal of the test rod.	No continued combustion	Pass

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