



# TEST REPORT

<b>NAME OF SAMPLE</b>	<b>Sunglasses</b>
<b>TRADE MARK &amp; TYPE</b>	<b>N.A.</b>
<b>APPLICANT</b>	<b>GOYA IMPORTACIONES Y DISTRBUIONES S.L.</b>
<b>ADDRESS</b>	<b>PLATAFORMA LOGISTICA DE ZARAGOZA C/TRAPANI 27 EDIFICIO 50197 SPAIN</b>
<b>TEST SORT</b>	<b>N.A.</b>
<b>TEST ITEM</b>	<b>Entrusted Test</b>

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**Shenzhen GSI Technology Co., Ltd**

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**TEST REPORT**

<b>SAMPLE NAME</b>	Sunglasses	<b>TRADE MARK</b>	N.A.
<b>MANUFACTURER</b>	GOYA IMPORTACIONES Y DISTRBUIONES S.L.	<b>ARTICLE NUMBER</b>	36006, 36068, 36019, 36094
<b>SUPPLIER</b>	----	<b>SAMPLE CLASS</b>	Passed
<b>BUYER</b>	----	<b>MATERIAL</b>	----
<b>SAMPLE DESTINATION</b>	----	<b>SAMPLE AMOUNT</b>	9 Pairs
<b>TEST DATE</b>	Feb. 29, 2016~ Mar. 07, 2016	<b>SAMPLE RECEIVED DATE</b>	Mar. 07, 2016
<b>SAMPLE DESCRIPTION:</b>			
Good			
<b>Reference:</b>			
<ul style="list-style-type: none"> <li>- EN ISO 12312-1:2013 Eye and face protection - Sunglasses and related eyewear</li> <li>- Part 1: Sunglasses for general use</li> <li>- EN ISO 12311:2013 Personal protective equipment - Test methods for Sunglasses and related eyewear</li> </ul>			
<b>Conclusions:</b>			
Please refer to the following page(s).			
<b>Remark:</b>			
_____			

Tested: Vincent

Checked: Smich

Approved: Normit

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**Tests Conducted**

CLAUSES	REQUIREMENTS	Result	
4 Construction and materials			
4.1	Construction	P	
4.2	Filter material and surface quality	P	
4.3	Physiological compatibility (Only test Nickel Release)	NA	
5 Transmittance			
5.2	Transmittance and filter categories	Filter categories	Category: 3
		UV requirements	P
		I R requirements (Claimed by the manufacturer) (Remark: No claim provided by the applicant)	NA (See Remark)
5.3 General transmittance requirements			
5.3.1	Uniformity of luminous transmittance	P	
5.3.2	Requirements for road use and driving	5.3.2.2 Spectral transmittance	P
		5.3.2.3 Detection of signal lights	P
		5.3.2.4 Driving in twilight or at night (Remark: No claim provided by the applicant )	NA (See Remark)
5.3.3	Wide angle scattering	P	
5.3.4	Additional transmittance requirements for specific filter types	5.3.4.1 Photochromic filters	NA
		5.3.4.2 Polarizing filters	NA
		5.3.4.3 Gradient filters	NA
5.3.5	Claimed transmittance	5.3.5.1 Blue-light-absorption /transmittance (Remark: No claim provided by the applicant)	NA (See Remark)
		5.3.5.2 UV absorption/transmittance (Remark: 100% UV protection claimed by the applicant)	P
		5.3.5.3 Antireflective coated sunglasses (Remark: No claim provided by the applicant )	NA (See Remark)
		5.3.5.4 Enhanced infrared absorption (Remark: No claim provided by the applicant )	NA (See Remark)
6 Refractive power			
6.1	Spherical and astigmatic power	P	
6.2	Local variations in refractive power	P	
6.3	Prism imbalance (Relative prism error)	P	

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CLAUSES	REQUIREMENTS	Result
7 Robustness		
7.1	Minimum robustness of filters	P
7.2	Frame deformation and retention of filters	P
7.3	Impact resistance of the filter, strength level1 (optional specification) (Remark: No claim provided by the applicant)	NA (See Remark)
7.4	Increased endurance of sunglasses (optional specification) (Remark: No claim provided by the applicant)	NA (See Remark)
7.5	Resistance to perspiration (optional specification) (Remark: No claim provided by the applicant)	NA (See Remark)
7.6	Impact resistance of the filter, strength level 2 or 3 (optional specification) (Remark: No claim provided by the applicant)	NA (See Remark)
8	Resistance to solar radiation	P
9	Resistance to ignition	P
10	Resistance to abrasion (optional specification) (Remark: No claim provided by the applicant )	NA (See Remark)
11 Protective requirements		
11.1	Coverage area	P
11.2	Temporal protective requirements(filter category 4)	NA
12 Information and labelling		
12.1	Information to be supplied with each pair of sunglasses	N.R.
12.2	Additional information	N.R.

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**Test Results**

**Construction-Clause 4.1 and Filter material and surface quality -Clause 4.2**

Sample	Defects				Comment	Result
	Construction		Filter material and surface quality			
	Observed	Absent	Observed	Absent		
Sunglasses		X		X		P
Requirements: 1. Construction: shall be smooth and without sharp projections; 2. Except in a marginal area 5 mm wide, sunglass filters shall have no material or machining defects within an area of 30mm 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						

**Transmittance and filter categories - Clause 5.2**

Test Items	Requirements	Left	Right	Result
Luminous transmittance $\tau_v$ (%)	$\tau_v$ (380~780nm): 8.0-18.0% Claimed Category: ( Cat. 3 )	13.4	13.3	Cat. 3
$\tau_{SUVB}$ (280~315 nm) (%)	For category 0,1 : $\leq 0.05 \tau_v$ For category 2 : 1.0% absolute or $0.05 \tau_v$ whichever is greater; For category 3,4: 1.0% absolute Left: $\leq 1.0$ Right: $\leq 1.0$	0.0	0.0	P
$\tau_{SUVA}$ (315~380nm) (%)	For category 0,1: $\leq \tau_v$ ; For category 2,3: $\leq 0.05 \tau_v$ For category 4 : 1.0% absolute or $0.25 \tau_v$ whichever is greater Left: $0.5 \tau_v=6.1$ Right: $0.5 \tau_v=6.9$	0.0	0.0	P
$\tau_{sb}$ (380~500nm) (%)	---	6.1	6.9	Ref.Only

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**Uniformity of luminous transmittance - Clause 5.3.1**

Test Items		Requirements	Left	Right	Result
Difference within filter (%) (relative to higher value)	$\tau_{v(\min)}$	The relative difference in the luminous transmittance value shall not be greater than 10%, except for Cat.4 where it shall not be greater than 20%.	13.4	13.3	P
	$\tau_{v(\max)}$		13.9	13.8	
	Relative difference		3.6	3.6	
Difference with mounted filters (relative to higher value)		The relative difference between the luminous transmittance value of the visual center for right and left eye shall not exceed 15%.	0.7		P

**Requirements for road use and driving- Clause 5.3.2**

Test Items	Requirements	Left	Right	Result
Category	Filters suitable for road use and driving shall be categories 0, 1, 2 or 3	Cat.3	Cat.3	P
Spectral transmittance (475~650nm) (%)	$\geq 0.2 \tau_v$	8.5	8.5	P
	Left: $0.2 \tau_{v=2.7}$ Right: $0.2 \tau_{v=2.7}$			
Red Signal	$\geq 0.80$	0.976	0.985	
Yellow Signal	$\geq 0.60$	1.025	1.027	
Green Signal	$\geq 0.60$	1.021	1.020	
Blue Signal	$\geq 0.60$	0.852	0.848	

**Wide angle scattering - Clause 5.3.3**

Sample	Wide angle scattered light (%)		Result
	Left	Right	P
Sunglasses	0.1	0.4	
Requirements: The wide angle scattering of the filters in the condition as supplied by the manufacturer shall not exceed the value of 3 %.			

**UV-400-Clause 5.3.5.2**

Sample	Wavelength (nm)	Maximum spectral transmittance (%)		Result
		Left	Right	
Sunglasses	280-400	0.0	0.0	P
Requirements: Maximum spectral transmittance shall not exceed 0.5%.				

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**Refractive power- Clause 6**

Test Items		Requirements		Left	Right	Result
Spherical Power (D)		± 0.12D		0.01	0.01	P
		The difference between the spherical powers shall not exceed 0.18 D;		0.01		P
Astigmatic Power (D)		≤0.12D		0.00	0.00	P
Local variations in refractive power( D)	Spherical Power	± 0.12D	1*	-0.01	0.00	P
			2*	0.00	-0.01	
			3*	+0.02	0.01	
			4*	0.00	0.00	
	Astigmatic Power	≤0.12D	1*	0.01	0.00	
			2*	0.00	-0.02	
			3*	0.00	0.00	
			4*	0.00	0.00	
Prism Imbalance (cm/m)		Horizontal	Base Out:<1.00	0.46		P
			Base In:<0.25	--		
		Vertical	<0.25	0.11		

**Minimum robustness of filters-Clause 7.1 and Frame deformation and retention of filters**

**Clause 7.1**

Sample	Defects				Comment	Result
	Construction		Filter material and surface quality			
	Observed	Absent	Observed	Absent		
Sunglasses		X		X		P
Requirements: None of the following defects shall appear on filters: 1. Filter fracture; 2. Filter deformation;						

**Clause 7.2**

Sample	Boxed center distance C (mm)	Deformation X(mm)	Deformation Percentage Φ (%)	Structure		Lens Retention		Results
				Pass	Fail	Pass	Fail	
Sunglasses	73.12	0.11	0.2	X		X		P
Requirements: Calculation: $\Phi(\%) = X/C*100$ 1. Deformation percentage $\Phi \leq 2\%$ ; 2. No fracture or crack at any point ; 3. No filter shall be displaced from the frame.								

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**Resistance to Radiation -Clause 8**

Test Items		Requirements	Left	Right	Result
The relative change of luminous transmittance		For category 0: < ±3%	Before Expose	13.4	P
		For category 1: < ±5%	After Expose	13.4	
		For category 2: < ±8%	Difference	0.0	
		For category 3&4: < ±1 0%		0.0	
Wide angle scattering		Shall not exceed the limit value of 3%;	0.2	0.5	P
Requirements for the ultraviolet spectral range for $\tau_v$ (%)	$\tau_{SUVB}$ (280~315 nm)	For category 0,1 : $\leq 0.05 \tau_v$ For category 2 : 1.0% absolute or $0.05 \tau_v$ whichever is greater; For category 3,4: 1.0% absolute Left: $\leq 1.0$ Right: $\leq 1.0$	0.0	0.0	P
	$\tau_{SUVA}$ (315~380nm)	For category 0,1: $\leq \tau_v$ ; For category 2,3: $\leq 0.5 \tau_v$ For category 4 : 1.0% absolute or $0.25 \tau_v$ whichever is greater Left: $0.5 \tau_v=6.7$ Right: $0.5 \tau_v=6.6$	0.0	0.0	P

**Ignition- Clause 9**

Sample	Component	Continued combustion		Comment	Result
		Yes	No		
Sunglasses	Filters		X	--	P
	Filters		X		P
Requirements: The filters and Fame shall be no continued combustion after withdrawal of the test rod.					

**Coverage area - Clause 11.1**

Sample	Sunglasses Type	Test position	Coverage area		Comment	Result
			Pass	Fail		
Sunglasses	Adult's	Left	X			P
		Right	X			P
<b>Requirements:</b> 1. Adult's sunglasses: shall cover two ellipses of horizontal diameter of 40mm and a vertical diameter of 28mm, the centres of which are separated 64mm and symmetrically placed on either side of the centre of the nose bridge of the frame. 2. Children's sunglasses: shall cover two ellipses of horizontal diameter of 34mm and a vertical diameter of 24mm, the centres of which are separated 54mm and symmetrically placed on either side of the centre of the nose bridge of the frame.						

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**Note:**

- Remark: P = Pass; F = Fail; NA = Not Applicable; X=Checked;
- Photo is included.



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

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