



**Test Report**

Report No.: PL 2002021

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**Applicant:** GUANGZHOU JULONG SPORTS PRODUCTS CO., LTD

**Address of Applicant:** 4th Floor, No.1 Yongfu RD, Yongfa Ave, Xinhua, Huadu, Guangzhou, China

**Date of Receiving Samples:** Feb 20, 2020

**Testing Period:** Feb 21, 2020 to Feb 27, 2020

**Description of Samples**

The submitted sample and sample information was/were submitted and identified by/on behalf of client;

**Sample Name:** Safety Goggles

**Model No.:** JL-08

**Device Type:** Goggles

**Quantity:** 17 PCS

**Material:** Plastic

**Scale No.:** Clear

**Impact Mark:** Z87+

**Lenses Type:** Clear, Plano

**Frame Color:** Clear & Black

**Lenses Color:** Clear

**Manufacturer/Brand:** Not provided

**Buyer :** Not provided

**Dimension:** Not provided

**P/O. No.:** Not provided

**Country of Origin:** Not provided

**Country of Destination:** Not provided

**Tests Conducted:** As requested by the applicant, refer to attached page(s) for details.

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To be continued

Issued by stamp

Date of Issued: Feb 28, 2020

For and on behalf of:

Shenzhen Precision Eyewear  
Testing & Inspection Services Co., Ltd.

Manager: WenHua Li

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**Conclusion:**

<u>Tested Samples</u>	<u>Standard</u>	<u>Result</u>
Submitted Samples	ANSI / ISEA Z87.1 - 2015 Occupation and Educational Personal Eye and Face Protection Devices, only test the related parameters of cover lenses, please refer to "Tests Conducted Summary" for details	Pass

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### Tests Conducted Summary

CLAUSES	REQUIREMENTS		RESULTS
5. General Requirements			
5.1 Optical Requirements			
5.1.1	Optical Quality		P
5.1.2	Luminous Transmission (Applicable for clear lenses)		P
5.1.3	Haze (Applicable for clear plano lenses)		P
5.1.4	Refractive Power, Astigmatism, Resolving Power, Prism and Prism Imbalance for Plano Protectors (Exempt from the requirement for the filter lenses of shade 9 or higher.)		P
5.2	Physical Requirements		P
5.2.1	Drop Ball Impact Resistance (Protector first tested to and meeting the requirements of Section 6.2 are exempt from drop ball impact testing.)		P
5.2.2	Ignition (exclusive of textiles or elastic bands)		P
5.2.3	Corrosion Resistance of Metal Components		<b>NA</b> <b>(No Metal Part)</b>
5.2.4	Minimum Coverage Area		P
5.3	Markings		NR
5.4 Other Requirements			
5.4.1	Vented Goggles: The vented portion shall be such that the openings exclude spherical objects 1.5mm (0.06 in.) in diameter or greater and shall be no direct straight-line passage.		NA
5.4.4	Frames for Replaceable or Removable Lenses: Shall be supplied with detailed specifications on the required lens bevel design or mounting technique and nominal lens sizing		NA
5.5 Replaceable Lenses			
5.5.1	Goggles	Round lenses measuring 50 mm shall have a dimensional tolerance of $\pm 0.2$ mm;	NA
		Rectangular lenses measuring 51 x 108 mm shall have a dimensional tolerance of $\pm 0.8$ mm.	NA
5.5.2	Welding Helmets and Hand shields		NA

Remark: P = Pass; F = Fail; NA = Not Applicable, NR=Not Required; X=Checked;

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### Tests Conducted

CLAUSES	REQUIREMENTS	RESULTS
6. Impact Protector Requirements		
6.1.1	Protectors Marked for Impact Rated Protectors: Impact-rated protectors and replaceable components shall meet the impact requirements and marking requirements in this standard.	NA (No Claimed)
6.1.2	Frames and Shells: Frames shall meet with high mass impact and high velocity impact (Exempt from the penetration requirement.)	NA (No Claimed)
6.1.3	Lateral (Side) Coverage	P
6.2 Impact Requirements		
6.2.2	High Mass Impact	P
6.2.3	High Velocity Impact	P
6.2.4	Penetration Test (lenses only)	P
7. Optical Radiation Protector Requirements		
7.1	Protectors with Clear lenses	NA
7.2 Protector providing Filtrations of Optical Radiation		
7.2.1.2	Visible Light Filters (Refer to ANSI Z80.3-2010)	NA (Clear Lenses)
7.2.1.3	Variations in Luminous Transmittance	NA (Clear Lenses)

Remark: P = Pass; F = Fail; NA = Not Applicable, NR=Not Required; X=Checked;

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### Test Results

#### Optical Quality — Clause 5.1.1 & 9.1/Physical Requirements — Clause 5.2

Sample No.	Defects		Comment	Results
	Observed	Absent		
2002021-01		X	--	P

Requirements:

- Optical Quality: Protector lenses shall be free of striae, bubbles, waves and other visible defects which would impair their optical quality.
- Physical Requirements: Protectors shall be free from projections, sharp edges or other defects which are likely to cause discomfort or injury during use.

#### Luminous Transmission (Apply for Clear Plano Lenses only) — Clause 5.1.2 & 7.1 & 9.2

Sample No.	Luminous Transmission (%)		Results
	Left	Right	
2002021-01	89.7	90.7	P

Requirements:

Clear plano, reader, magnifier and prescription lenses shall have a luminous transmission not less than 85%.

Measurement Uncertainty (if necessary):

#### Haze (Apply for Clear Plano Lenses only) — Clause 5.1.3 & 9.3

Sample No.	Haze (%)		Results
	Left	Right	
2002021-01	0.7	0.4	P

Requirements:

Clear plano lens shall exhibit not more than 3% haze.

Measurement Uncertainty (if necessary):

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### Test Results

#### Refractive Power, Astigmatism, Resolving Power — Clause 5.1.4 & 9.4

Sample No.	Location	Spherical Power (D)	Astigmatic Power (D)	Resolving Power	Results
2002021-01	Left	0.03	0.01	More than 20	P
	Right	0.00	0.00	More than 20	
Specification	<input type="checkbox"/> Spectacle / Reader	+/- 0.06	≤0.06	Pattern 20	
	<input checked="" type="checkbox"/> Goggle /Full-facepiece respirator	+/- 0.06	≤0.06	Pattern 20	
	<input type="checkbox"/> Faceshield windows/ Loose- fitting respirator	No requirement		Pattern 20	
	<input type="checkbox"/> Welding helmet lenses	+/- 0.06	≤0.06	Pattern 20	

Measurement Uncertainty (if necessary):

Remark: The tolerance on refractive power and astigmatism power are not requirement for faceshield windows;

#### Prismatic Power and Prism Imbalance for Plano Protectors — Clause 5.1.4 & 9.4

Sample No.	Vertical Imbalance (Δ)	Horizontal Imbalance (Δ)		Prismatic (Δ)		Results
		Base Out	Base In	Left	Right	
2002021-01	0.01	--	0.21	0.05	0.14	P
<b>Requirement:</b>						
<input type="checkbox"/> Spectacle/Reader	≤0.25	≤0.50	≤0.25	≤0.50		
<input checked="" type="checkbox"/> Goggle/Full- facepiece respirator	≤0.125	≤0.50	≤0.125	≤0.25		
<input type="checkbox"/> Faceshield windows / Loose- fitting respirator	≤0.37	≤0.75	≤0.125	≤0.37		
<input type="checkbox"/> Welding helmet lenses	≤0.25	≤0.75	≤0.25	≤0.50		

Measurement Uncertainty (if necessary):

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#### Drop Ball Impact Resistance — Clause 5.2.1 & 9.6

Sample No.	Impact Position	Defects		Comment	Results
		Observed	Absent		
2002021-03	Left		X	---	P
2002021-04	Right		X	---	P
2002021-05	Left		X	---	P
2002021-06	Right		X	---	P

Requirements:

A complete device shall fail if any of the following occurs:

- Lens(Lens only) fracture
- piece fully detached from the inner surface
- penetration of the rear surface
- lens not retained

#### Ignition — Clause 5.2.2 & 9.7

Sample No.	Continued combustion		Comment	Results
	Observed	Absent		
2002021-17		X	--	P

Requirements:

The frame shall be no continued combustion after withdrawal of the test rod.

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### Test Results

#### Minimum Coverage Area —Clause 5.2.4

Sample No.	Type	Test Position	Minimum Coverage area		Comment	Results
			Pass	Fail		
2002021-02	Adult	Left	X		---	P
		Right	X		---	P

Requirements:

1. For adult: the frame, lens housing or carrier and lens(es) shall cover in plane view an area of not less than 40 mm in width and 33 mm in height (elliptical) in front of each eye, centered on the geometrical center of the lens.
2. For children: the frame, lens housing or carrier and lens(es) shall cover in plane view an area of not less than 34mm in width and 28 mm in height (elliptical), centered on the geometrical center of the lens.

#### High Mass Impact Test —Clause 6.2.2&9.11

Sample No.	Impact Position	Defects		Comment	Results
		Observed	Absent		
2002021-03	Left		X	--	P
2002021-04	Right		X	--	P
2002021-05	Left		X	--	P
2002021-06	Right		X	--	P

Requirements:

A complete device shall fail if any of the following occurs:

- piece fully detached from the inner surface
- fracture
- penetration of the rear surface
- lens not retained



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#### High Velocity Impact Test (Impact-rate protector) — Clause 6.2.3&9.12

Steel ball diameter: <input checked="" type="checkbox"/> Ø6.35mm <input type="checkbox"/> Ø6.00mm						
Sample No.	Impact Position		Defects		Comment	Results
			Observed	Absent		
2002021-07	Left	Center		X	--	P
2002021-08		30° Temporal		X	--	P
2002021-09	Right	Center		X	--	P
2002021-10		30° Temporal		X	--	P
2002021-11	90° above 10mm			X	--	P
2002021-12	90° below 10mm			X	--	P
<b>Requirements:</b> A complete device shall fail if any of the following occurs: - piece fully detached from the inner surface - fracture - penetration of the rear surface - lens not retained - any piece adhering to the contact paste, or observes contact paste on the projectile or complete device.			<b>Table: High Velocity Impact Testing</b>			
			Device Type		Minimum Velocity(m/s)	
					Ø6.35mm steel ball	Ø6.00mm steel ball
			<input type="checkbox"/> Welding helmets		45.7	50.9
			<input checked="" type="checkbox"/> Spectacles, Reader, Magnifiers		45.7	50.9
<input type="checkbox"/> Goggles, Full faceshieldsrespirators		76.2	84.7			
<input type="checkbox"/> Faceshield / Loose-fitting respirator		91.4	101.5			

#### Plastic Lens Penetration Test (for Plastic lenses only) — Clause 6.2.4&9.13

Sample No.	Impact Position	Defects		Comment	Result
		Observed	Absent		
2002021-13	Left		X	--	P
2002021-14	Right		X	--	P
2002021-15	Left		X	--	P
2002021-16	Right		X	--	P
<b>Requirements:</b> A complete device shall fail if any of the following occurs: - piece fully detached from the inner surface - fracture - penetration of the rear surface - lens not retained					

----- Report End -----

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