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TEST REPORT

Client Name:	Shantou bojiaxin Electronic Co., Ltd
Name of product:	Protective spectacles
Manufacturer:	-----
Model:	6010
Test sort:	Commission Test

Shenzhen Boyuan Testing Technology CO,.LTD

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Applicant:	Shantou bojiaxin Electronic Co., Ltd
Address of Applicant:	Zhanglin kehuangtou road section, Dongli Town, Chenghai District, Shantou City
Manufacturer:	/
Address of Manufacturer:	/
Samples Receiving Date:	March 30, 2020
Testing Period:	From March 30, 2020 to April 03, 2020
Tested Standard:	EN 166:2001 & EN 167:2001& EN 168:2001

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

Sample Name:	Protective spectacles
Model No.:	6010
Trade Mark:	/
Production batch:	/
Quantity:	18 Paris
Material:	■Plastic ☐Metal ☐Combinated
Types of eye-protectors:	☐Spectacles without lateral protection ■Goggles ☐Face-shields
Filter Type:	■Uniform lenses ☐Gradient lenses ☐Polarizing Lenses
Tests Conducted:	As requested by the applicant, refer to attached page(s) for details.

Approved by	Checked by	Edited by
2020-04-03	2020-04-03	2020-04-03
Date	Date	Date

1.Sample photo:

2.Conclusion:

Tested Samples	Standard	Result
Protective spectacles	EN 166:2001 & EN 167:2001& EN 168:2001	Pass

3.Tests Conducted Summary

3.1 Requirements for Personal eye-protection
Test standard:

- EN 166:2001 Personal eye-protection - Specifications
- EN 167:2001 Personal eye-protection - Optical test methods
- EN 168:2001 Personal eye-protection - Non-optical test methods

3.2 Requirements for Personal eye-protection

Requirement	EN	Clause	Clause test ing		Result
			EN	Clause	
Marking	166	9.1/9.2/9.4	Visual inspection		P
Information	166	10	Visual inspection		P
Construction and materials	166	6.1	Visual inspection		P
		6.2	Manufacturer's certificates		NR
Headbands	166	6.3	By measuring		NA
Quality of material and surface	166	7.1.3	167	5	P
Field of vision	166	7.1.1	168	18	P
Refractive properties	166	7.1.2.1	167	3	P
Thermal stability	166	7.1.5.1	168	5	P
Transmittance of oculars	166	7.1.2.2.1	167	6	P
Transmittance of frames	166	7.1.2.2.2	167	6	NA
Variations in transmittance	166	7.1.2.2.3	167	7	NA
Diffusion of light	166	7.1.2.3	167	4	P
Lateral protection	166	7.2.8	168	19	NA
UV stability	166	7.1.5.2	168	6	P
Minimum robustness	166	7.1.4.1	168	4	NA
Increased robustness	166	7.1.4.2.2	168	3.2	P
Corrosion	166	7.1.6	168	8	NA
Ignition	166	7.1.7	168	7	P

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

4.Test Results for Personal eye-protection

Marking- Clause9.1/9.2/9.4

Sample No.	Observed	Absent	Comment	Result
N1~N18		X	---	P

Requirements:
1. All markings shall be clear and permanent. The marking shall be fully visible when the complete eye-protector is assembled and shall not encroach into the minimum field of vision defined in 7.1.1. Outside of this area the marking shall not impede vision when worn.
2. The marking of oculars shall contain the relevant technical information.
3. The marking shall comprise the full ocular marking, a hyphen, the number of this standard and then any appropriate symbols for field of use and level of impact.

Information- Clause10

Sample No.	Observed	Absent	Comment	Result
N1~N18		X	---	P

Requirements:
The manufacturer provide with each eye-protector, replacement ocular and replacement frame information.

☆General Construction — Clause6.1

Quality of material and surface — Clause 7.1.3

Sample No.	Defects				Comment	Result
	General Construction		Quality of material and surface			
	Observed	Absent	Observed	Absent		
N1~N18		X		X	---	P

Requirements:
1. Eye-protectors shall be free from projections, sharp edges or other defects which are likely to cause discomfort or injury during use.
2. Except for a marginal area 5 mm wide, oculars shall be free from any significant defects likely to impair vision in use, such as bubbles, scratches, inclusions, dull spots, pitting, mould marks, scouring, grains, pocking, scaling and undulation.

☆Field of vision — Clause 7.1.1

Sample No.	Head-form		Exhibit minimum field of vision defined in the standard		Comment	Result
	Medium	Small	Yes	No		
N1~N18	X		X		---	P

Requirements:
Eye-Protectors shall be exhibit field of vision an area of not less than 22 mm in the horizontal length and 20mm in the vertical width in front of each eye.

Refractive properties — Clause 7.1.2.1

Optical power		Left	Right	Limit			Result
Spherical power(m^{-1})		+0.03	+0.03	■Optical class1≤±0.06D □Optical class2≤±0.12D □Claimed Cat.:(Not Provided)			P
Astigmatic power(m^{-1})		0.01	0.02	■Optical class1≤0.06D □Optical class2≤0.12D □Claimed Cat.:(Not Provided)			P
Prismatic power difference（cm/m）				■Optical class1	□Optical class2	□Optical class3	
Horizontal	Base In	0.21	0.18	0.25	0.25	0.25	P
	Base Out	0.53	0.58	0.75	1.00	1.00	P
Vertical		0.15	0.12	0.25	0.25	0.25	P

Thermal stability — Clause 7.1.5.1

Sample No.	Observed	Absent	Comment	Result
N1~N3		X	---	P
Requirements: Assembled eye-protectors shall show no apparent deformation				

Transmittance of oculars— Clause 7.1.2.2.1

Sample No.	Observed	Absent	Comment	Result
N1~N6		X	---	P
Requirements: Oculars intended to protect the eyes against mechanical or chemical hazards only, and cover plates, shall have a luminous transmittance greater than 74,4 %.				

Diffusion of light— Clause 7.1.2.3

Sample No.	Test Items	Requirements	Left	Right	Result
N4~N6	Diffusion of light	$\leqslant 0.50 \frac{cd}{m^2 lx}$	0.29	0.26	P

UV stability — Clause 7.1.5.2

Sample No.	Test Items	Requirements			Left	Right	Result
N4~N6	Difference within filter visual centre(s) P_1 (and P_2) (%)	Luminous transmittance		Permissible relative change %	12.2%	11.7%	P
		less than%	up to %				
		100	17.8	± 5			
		17.8	0.44	± 10			
		0.44	0.023	± 15			
		0.023	0.0012	± 20			
		0.0012	0.000023	± 30			
	Diffusion of light	$\leqslant 0.50 \frac{cd}{m^2 lx}$			0.23	0.22	P

Increased robustness — Clause 7.1.4.2.2

Sample No.	Impact point	Test temperature °C	Result
N7	1	+55	P
N8		-5	P
N9	2	+55	P
N10		-5	P
N11	3	+55	P
N12		-5	P
N13	4	+55	P
N14		-5	P

On so testing the following defects shall not occur:

a) ocular fracture : an ocular shall be considered to have fractured if it cracks through its entire thickness into two or more pieces, or if more than 5 mg of the ocular material becomes detached from the surface away from the one struck by the ball, or if the ball passes through the ocular;

b) ocular deformation : an ocular shall be considered to have been deformed if a mark appears on the white paper on the opposite side to that struck by the ball;

c) ocular housing or frame fracture : an ocular housing or frame shall be considered to have failed if it separates into two or more pieces, or if it is no longer capable of holding an ocular in position, or if an unbroken ocular detaches from the frame, or if the ball passes through the housing or frame;

d) lateral protection failure : the lateral protection shall be considered to have failed if it fractures through its entire thickness into two or more separate pieces, or if one or more particles become detached from the surface remote from the impact point, or if it allows the ball to penetrate completely, or if it partially or totally detaches from the eye-protector, or if its component parts become separated.

Ignition — Clause 7.1.7

Sample No.	Not ignite or continue to glow	Requirements	Result
N7~N9	X	Not ignite or continue to glow after withdrawal of the test rod.	P

STATEMENT: “☆” item to be outside the scope of authorized by CNAS.

**********End of report**********