

**Test Report**

NUMBER : [REDACTED]

Applicant:

[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

Date : Apr 29, 2020

Photo



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To be continued

Authorized By :  
For Intertek Testing Services  
(Tianjin) Ltd.



David Zhang  
Senior Manager



## Test Report

NUMBER : XXXXXXXXXX

### Sample Description:

One (1) submitted sample said to be

Item Name : Face shields

Material : PET

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### Conclusion:

<u>Tested Sample</u>	<u>Standard</u>	<u>Result</u>
Submitted Sample	EN 166:2001 – Personal eye-protection — Specifications	Pass
	Excluding:	
	- Clause 6.2 – Materials	
	- Clause 7.1.2.3 – Diffusion of light	
	- Clause 7.1.4.2 – Increased robustness	
	- Clause 7.1.5.2 – Resistance to ultraviolet radiation (oculars only)	
	- Clause 9 – Marking	
	- Clause 10 – Information supplied by the manufacturer	

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To be continued

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## Test Report

NUMBER : XXXXXXXXXX

### Requirements for Eye-protectors

Test standard: EN 166:2001 – Personal eye-protection — Specifications

Number of samples tested: Twelve (12) pairs of face-shields.

Clause	Requirement	Result
6	Design and manufacturing requirements	
6.1	General construction	P
6.2	Materials	#1
6.3	Headbands	P
7	Basic, particular and optional requirements	
7.1	Basic requirements	
7.1.1	Field of vision	P
7.1.2.1	Spherical, astigmatic and prismatic refractive powers	
7.1.2.1.1	Unmounted oculars covering one eye	NA
7.1.2.1.2	Mounted oculars and unmounted oculars covering both eyes	P
7.1.2.1.3	Cover plates	NA
7.1.2.2	Transmittance	
7.1.2.2.1	Oculars without filtering action	P
7.1.2.2.2	Oculars with filtering action (filters) and housings for oculars with filtering action	NA
7.1.2.2.3	Variations in transmittance	NA
7.1.2.3	Diffusion of light	NR
7.1.3	Quality of material and surface	P
7.1.4	Robustness	
7.1.4.1	Minimum robustness	NA
7.1.4.2	Increased robustness	
7.1.4.2.1	Unmounted oculars	NA
7.1.4.2.2	Complete eye-protectors and frames	NR
7.1.5	Resistance to ageing	
7.1.5.1	Stability at an elevated temperature	P
7.1.5.2	Resistance to ultraviolet radiation (oculars only)	NR
7.1.6	Resistance to corrosion	NA
7.1.7	Resistance to ignition	P
7.2	Particular requirements	
7.2.1	Protection against optical radiation	NA
7.2.2	Protection against high-speed particles	NA
7.2.3	Protection against molten metals and hot solids	NA
7.2.4	Protection against droplets and splashes of liquids	NA
7.2.5	Protection against large dust particles	NA
7.2.6	Protection against gases and fine dust particles	NA
7.2.7	Protection against short circuit electric arc	NA

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Clause	Requirement	Result
7.2.8	Lateral Protection	NA
7.3	Optional requirements	
7.3.1	Resistance to surface damage by fine particles	NA
7.3.2	Resistance to fogging of oculars	NA
7.3.3	Oculars with enhanced reflectance in the infrared	NA
7.3.4	Protection against high speed particles at extremes of temperature	NA
9	Marking	#2
10	Information supplied by the manufacturer	#3

Abbreviation: P = Pass; NA = Not Applicable; NR = Not Requested by Applicant

Test data:

### 7.1.2.1 Spherical, astigmatic and prismatic refractive powers

Optical power			Left ocular	Right ocular	Limit Optical class		
					1	2	3
Spherical power ( $m^{-1}$ )			+0.01	+0.01	$\pm 0.06$	$\pm 0.12$	+0.12 -0.25
Astigmatic power ( $m^{-1}$ )			0.00	0.00	$\leq 0.06$	$\leq 0.12$	$\leq 0.25$
Prismatic power Difference Cm/m	Horizontal	Base out	0.06		$\leq 0.75$	$\leq 1.00$	$\leq 1.00$
		Base in	----		$\leq 0.25$	$\leq 0.25$	$\leq 0.25$
	Vertical		0.00		$\leq 0.25$	$\leq 0.25$	$\leq 0.25$

### 7.1.2.2 Transmittance

Range	Transmittance (%)		Requirement
	Left ocular	Right ocular	
380 - 780nm ( $T_V$ )	88.67	89.49	$\geq 74.4\%$

Abbreviation:

$\geq$  = More than or equal to

$\leq$  = Less than or equal to

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### Remarks:

#1 - No parts of the eye-protector which are in contact with the wearer shall be made of materials which are known to cause any skin irritation.

#2 - Eye-protectors in which the frame and ocular form a single unit shall be marked on the frame.

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.

The following example illustrate the principle defined above:

Single unit eye-protector with infrared filter effect resistant to low energy impact, resistant to adherence of molten metal and penetration of hot solids, with the frame offering protection against liquids, molten metals and hot solids and being resistant to low energy impact.

			4-	4	X	2	F	9	-ZZ	3
9	F									
	Code number for infra-red filters									
	Shade number									
	Identification of the manufacturer									
	Optical class									
	Symbol for low energy impact									
	Symbol for molten metals and hot solids									
	The number of this standard									
	Symbol for liquids									
	Symbol for molten metals and hot solids									
	Symbol for low energy impact									

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#3 - The manufacturer shall provide with each eye-protector, replacement ocular and replacement frame at least the following information:

- (a) name and address of the manufacturer;
- (b) the number of this standard;
- (c) the eye-protector model identification;
- (d) instructions for storage, use and maintenance;
- (e) specific instructions for cleaning and disinfection;
- (f) details of the field of use, protection capabilities and performance characteristics;
- (g) details of suitable accessories and spare parts. Instructions for fitting shall be included with the original eye-protector and/or with the spare part or accessory;
- (h) the obsolescence deadline or period of obsolescence, if applicable, for the complete eye-protector and/or component parts;
- (i) the type of packaging suitable for transport, if applicable;
- (j) the significance of the marking on the frame and the ocular;
- (k) a warning that optical class 3 oculars are not intended for long term use, if applicable;
- (l) a warning concerning the compatibility of marking (see notes (4), (5) and (6) to Table 12);
- (m) a warning that materials which may come into contact with the wearer's skin could cause allergic reactions to susceptible individuals;
- (n) a warning that scratched or damaged oculars should be replaced;
- (o) a warning that eye-protectors against high speed particles worn over standard ophthalmic spectacles may transmit impacts, thus creating a hazard to the wearer;
- (p) a note to instruct that if protection against high speed particles at extremes of temperature is required then the selected eye-protector should be marked with the letter T immediately after the impact letter, i.e. FT, BT or AT. If the impact letter is not followed by the letter T then the eye protector shall only be used against high speed particles at room temperature.

Date sample received: Apr 16, 2020

Testing period: Apr 16, 2020 To Apr 29, 2020

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End of report

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