Test Report 3209045.

[redacted]

Introduction.

This report has been prepared by S Macdonnell and relates to the activity detailed below:

Job/Registration Details		Client Details
Job number:	**3209045**	[redacted] China
Job type:	Testing Samples Submitted	
Start Date:	2 June 2020	
Test type:	Direct	
Sample ID:	10189842	
Registration:	**CE 729273**	
Scheme:	PPE Regulation and EU recommendation 2020/403	
Protocol:	PP123	
Scheme Mgr:	Nathan Shipley	

The report has been approved for issue by M Mayo – Testing Team Manager

Approved For Issue	
	Issue Date: 9 June 2020

Objectives.

This is limited testing to only certain clauses or sub-clauses of the standard but these have been followed in full, as defined. This technical specification is applied to safety eyewear for use by healthcare workers, first responders and other personnel involved in the efforts to contain the COVID-19 virus and avoid its further spread and in relation to the EU Commission recommendation sheet 2020/403.

Product Scope.

Goggles model 501

Goggles model 502

Goggles model 503

Report Summary.

The samples were received on 29 May 2020 and the testing was started on 2 June 2020.
The samples submitted complied with the limited requirements of the test work conducted.

Test Samples.

Sample Id	ER Number	Description
1	10189842	6 x goggles model 501 6 x goggles model 502 6 x goggles model 503

Test Requirements.

BS EN 166:2002 + Results Table - Personal Eye Protection

Clause	Requirements	
6	**Design and Manufacturing Requirements**	
6.1	**General construction** Eye-protectors shall be free from projections, sharp edges or other defects which are likely to cause discomfort or injury during use.	model 501: Pass model 502: Pass model 503: Pass
6.2	**Materials** 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. **Note:-** **Manufacturer's responsibility to use materials not known to cause skin irritation when in contact with the wearer of the eye-protector.**	N/T
6.3	**Headbands** Headbands, when used as the principal means of retention, shall be at least 10 mm wide over any portion which may come into contact with the wearer's head. Headbands shall be adjustable or self-adjusting.	model 501: Pass model 502: Pass model 503: Pass
7	**Basic, particular and optional requirements**	
7.1 7.1.1	**Basic requirements** **Field of vision** The size of the field of vision is defined in conjunction with the appropriate head-form described in clause 17 of EN 168:2001.	model 501: Pass model 502: Pass model 502: Pass

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Clause	Requirements	
7.1.2	**Optical requirements**	
7.1.2.1	**Spherical, astigmatic and prismatic refractive powers**	
7.1.2.1.1	**Unmounted oculars covering one eye** For non-corrective oculars testing shall be in accordance with clause 3.1 of EN 167:2001, and for corrective oculars in accordance with EN ISO 8980-3. **Not applicable to style of eye-protector.**	N/A
7.1.2.1.2	**Mounted oculars and unmounted oculars covering both eyes** The refractive power characteristics of mounted oculars or unmounted oculars covering both eyes shall be measured by the method specified in clause 3.2 of EN 167:2001 at the visual centre of the ocular.	model 501: Pass model 502: Pass model 503: Pass
7.1.3	**Quality of material and surface** Testing shall be in accordance with clause 5 of EN 167:2001. 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.	model 501: Pass model 502: Pass model 503: Pass
7.2.4	**Protection against droplets and splashes of liquids** Eye-protectors for use against droplets (goggles) and splashes of liquids (face-shields) shall be tested in accordance with the methods specified in clause 12 of EN 168:2001. The results shall be considered to be satisfactory if: a) no pink or crimson colouration appears in the ocular regions defined by the two circles when assessing goggles for protection against droplets. No account shall be taken of any such colouration up to a distance of 6 mm inside the edges of the eye-protector;	model 501: Pass model 502: Pass model 503: Pass
	b) face-shields cover the eye-region rectangle of the appropriate head-form as described in clause 10.2.2.2 of EN 168:2001 as assessed in accordance with 10.2 of EN 168:2001. Not applicable to style of eye-protector. **Not applicable to style of eye-protector.** Note:- Area of coverage for faceshields assessed using non-standard test equipment.	N/A
7.2.8	**Lateral Protection** Testing shall be in accordance with clause 19 of EN 168:2001.	model 501: Pass model 502: Pass model 503: Pass
Results table	**Actual test results** *See Table A - BS EN 166 2002*	

Glossary of Terms.

PASS: Complies. Tested by BSI engineers at BSI laboratories.
PASS1: Complies. Witnessed by BSI engineers in manufacturers laboratory.
PASS2: Complies. Tests carried out by third party lab; results accepted by BSI.
PASS*: Report resulted in uncertainty and states that Compliance is more probable than non-compliance.
FAIL: Non compliance – Product does not meet the requirements of this clause.
FAIL*: Report resulted in uncertainty and states that Non-compliance is more probable than compliance.
N/A: Not applicable to design under consideration.
N/T: Not tested due to similarity to previously tested item; reference earlier test report.

Conditions of Issue.

This Test Report is issued subject to the conditions stated in current issue of 'BSI Terms of Service'. The results contained herein apply only to the particular sample(s) tested and to the specific tests carried out, as detailed in this Test Report. The issuing of this Test Report does not indicate any measure of Approval, Certification, Supervision, Control or Surveillance by BSI of any product. No extract, abridgement or abstraction from a Test Report may be published or used to advertise a product without the written consent of BSI, who reserve the absolute right to agree or reject all or any of the details of any items or publicity for which consent may be sought.

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Supporting Data – Test Results

Table A - BS EN 166 2002

Test Results.

CLAUSE 7.1.2.1.2 OPTICAL REQUIREMENTS (Oculars Without Corrective Effect)
Mounted and unmounted oculars covering both eyes
Requirements

Optical Class	Spherical Refractive Power (1)	Astigmatic Refractive Power (1)	Difference in Prismatic Refractive Power (2)		
			Horizontal		Vertical
			Base Out	Base In	
1	± 0.06	0.06	0.75	0.25	0.25
2	± 0.12	0.12	1.00	0.25	0.25
3	+ 0.12	0.25	1.00	0.25	0.25
	- 0.25	0.25	1.00	0.25	0.25

Measurements of Spherical and Astigmatic Power and Difference in Prismatic Refractive Power
Measurements made by the method specified in EN 167:2001 Clause 3.2

model 501:

Sample Left (L) Right (R)		Spherical and Astigmatic Power (1)		Resultant Spherical (1)	Resultant Astigmatic (1)	Difference in Prismatic Refractive Power (2)		
						Horizontal		Vertical
		D_1	D_2	$\frac{D_1 + D_2}{2}$	$(D_1 - 0.D_2)$	Base	Power	Power
1	L	-0.05	0.0	-0.025	0.05			
	R	-0.05	+0.01	-0.02	0.06	Out	0.0	0.05
2	L	-0.02	-0.05	-0.035	0.03			
	R	+0.02	-0.04	-0.01	0.06	Out	0.0	0.05
3	L	-0.02	0.0	-0.01	0.02			
	R	-0.02	+0.01	-0.005	0.03	Out	0.0	0.05

D_1 = horizontal bars readings D_2 = vertical bars readings

Optical Class: 1
(1) Dioptres per metre.
(2) Prism dioptres cm per metre.

CLAUSE 7.1.2.1.2 OPTICAL REQUIREMENTS (Oculars Without Corrective Effect)
Mounted and unmounted oculars covering both eyes
Requirements

Optical Class	Spherical Refractive Power (1)	Astigmatic Refractive Power (1)	Difference in Prismatic Refractive Power (2)		
			Horizontal		Vertical
			Base Out	Base In	
1	± 0.06	0.06	0.75	0.25	0.25
2	± 0.12	0.12	1.00	0.25	0.25
3	+ 0.12	0.25	1.00	0.25	0.25
	- 0.25	0.25	1.00	0.25	0.25

Measurements of Spherical and Astigmatic Power and Difference in Prismatic Refractive Power
Measurements made by the method specified in EN 167:2001 Clause 3.2

model 502:

Sample Left (L) Right (R)		Spherical and Astigmatic Power (1)		Resultant Spherical (1)	Resultant Astigmatic (1)	Difference in Prismatic Refractive Power (2)		
						Horizontal		Vertical
		D_1	D_2	$\frac{D_1 + D_2}{2}$	$(D_1 - 0.D_2)$	Base	Power	Power
1	L	0.0	+0.01	+0.005	0.01			
	R	0.0	+0.01	+0.005	0.01	Out	0.15	0.05
2	L	-0.01	+0.01	0.0	0.02			
	R	-0.01	+0.01	0.0	0.02	Out	0.15	0.05
3	L	0.0	-0.01	-0.005	0.01			
	R	0.0	-0.01	-0.005	0.01	Out	0.15	0.05

D_1 = horizontal bars readings D_2 = vertical bars readings

Optical Class: 1
(1) Dioptres per metre.
(2) Prism dioptres cm per metre.

CLAUSE 7.1.2.1.2 OPTICAL REQUIREMENTS (Oculars Without Corrective Effect)
Mounted and unmounted oculars covering both eyes
Requirements

Optical Class	Spherical Refractive Power (1)	Astigmatic Refractive Power (1)	Difference in Prismatic Refractive Power (2)		
			Horizontal		Vertical
			Base Out	Base In	
1	± 0.06	0.06	0.75	0.25	0.25
2	± 0.12	0.12	1.00	0.25	0.25
3	+ 0.12	0.25	1.00	0.25	0.25
	- 0.25	0.25	1.00	0.25	0.25

Measurements of Spherical and Astigmatic Power and Difference in Prismatic Refractive Power
Measurements made by the method specified in EN 167:2001 Clause 3.2

model 503:

Sample Left (L) Right (R)		Spherical and Astigmatic Power (1)		Resultant Spherical (1)	Resultant Astigmatic (1)	Difference in Prismatic Refractive Power (2)		
						Horizontal		Vertical
		D_1	D_2	$\frac{D_1 + D_2}{2}$	$(D_1 - 0.D_2)$	Base	Power	Power
1	L	-0.03	-0.05	-0.04	0.02			
	R	-0.03	-0.06	-0.045	0.03	Out	0.35	0.0
2	L	-0.04	-0.08	-0.06	0.04			
	R	-0.04	-0.08	-0.060	0.04	Out	0.40	0.05
3	L	-0.03	-0.06	-0.045	0.03			
	R	-0.03	-0.06	-0.045	0.03	Out	0.40	0.05

D_1 = horizontal bars readings D_2 = vertical bars readings

Optical Class: 1
(1) Dioptres per metre.
(2) Prism dioptres cm per metre.

7.2.4 Protection Against Droplets and Splashes of Liquid model 501:

Requirement	
Eye protectors for use against droplets (goggles) and splashes of liquids (faceshields) shall be tested in accordance with the methods specified in Clause 12 of BS EN 168:2001	Pass

7.2.4 Protection Against Droplets and Splashes of Liquid model 502:

Requirement	
Eye protectors for use against droplets (goggles) and splashes of liquids (faceshields) shall be tested in accordance with the methods specified in Clause 12 of BS EN 168:2001	Pass

7.2.4 Protection Against Droplets and Splashes of Liquid model 503:

Requirement	
Eye protectors for use against droplets (goggles) and splashes of liquids (faceshields) shall be tested in accordance with the methods specified in Clause 12 of BS EN 168:2001	Pass

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7.2.8 Lateral Protection model 501:

Requirement	
Sample Nos: 4-6 (1) When assessed, the eye protector covered the lateral protection region on the headform in accordance with Clause 19 of EN 168:2001.	Pass

(1) Adjusted by BSI as required to provide best fit on headform.

7.2.8 Lateral Protection model 502:

Requirement	
Sample Nos: 4-6 (1) When assessed, the eye protector covered the lateral protection region on the headform in accordance with Clause 19 of EN 168:2001.	Pass

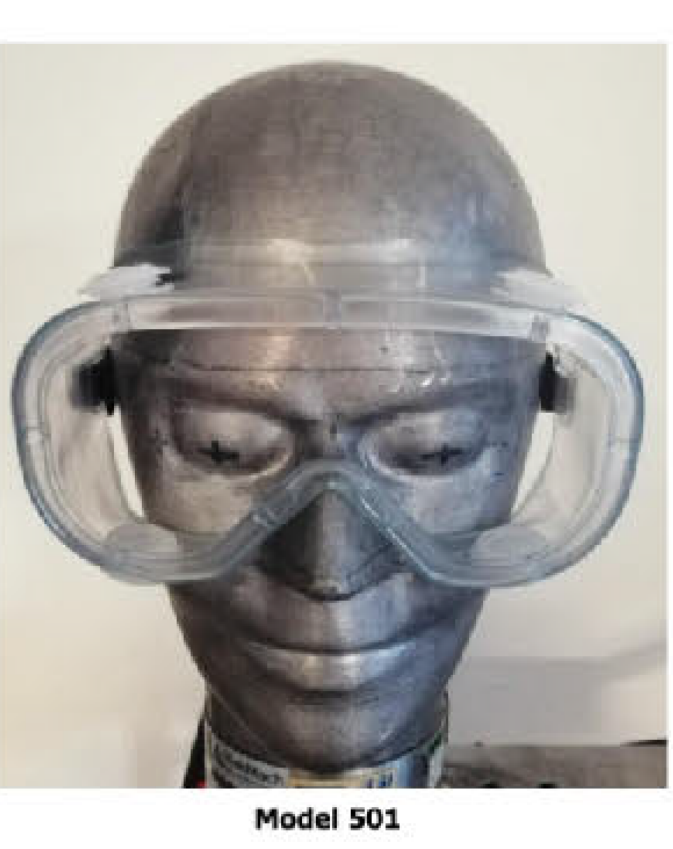
(1) Adjusted by BSI as required to provide best fit on headform.

7.2.8 Lateral Protection model 503:

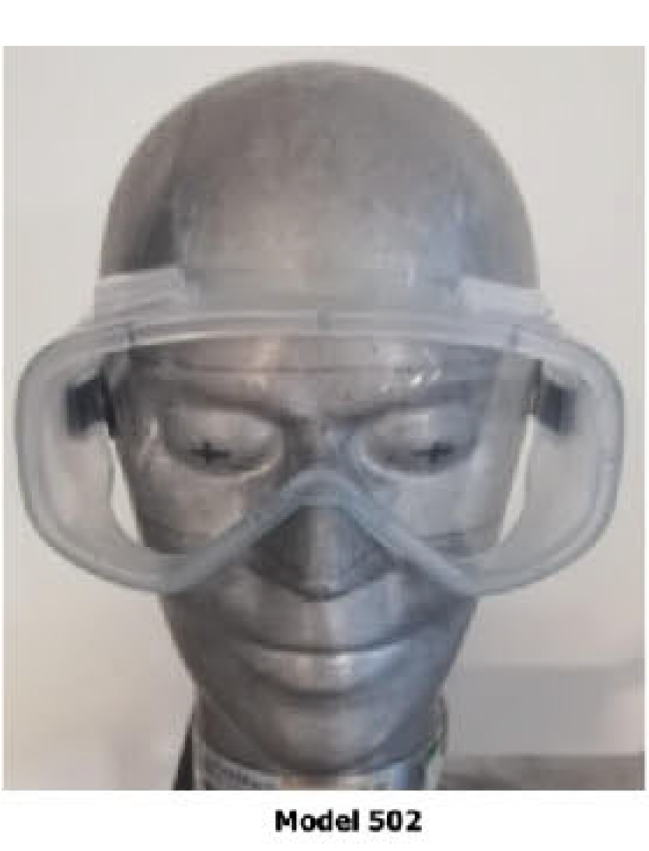
Requirement	
Sample Nos: 4-6 (1) When assessed, the eye protector covered the lateral protection region on the headform in accordance with Clause 19 of EN 168:2001.	Pass

(1) Adjusted by BSI as required to provide best fit on headform.

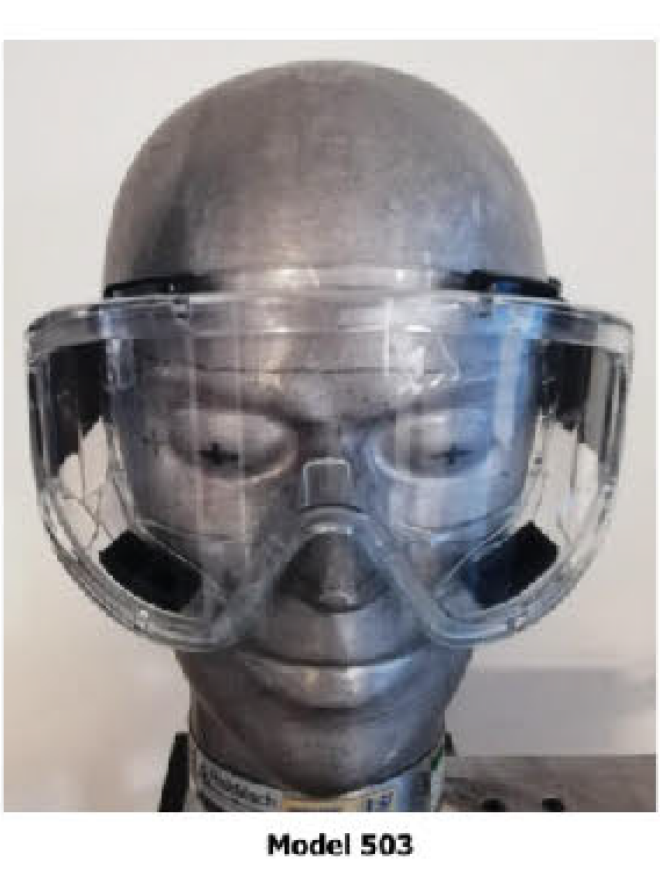
Photographs of models submitted:



Model 501



Model 502



Model 503

*** End of Report ***

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