

Test Report

No. 1130-PZA-20 Part 1
Rev. 0

Contact person: Arafat Rahman

phone: +49 911 655-3036

fax: +49 911 655-3033

e-mail: arafat.rahman@dincertco.de

Accredited by the Deutsche
Akkreditierungsstelle GmbH (DAkkS)
D-PL-11125-01

Customer**Jinhua Wanhang PPE Co., Ltd.**
Tangya Industrial Zone
Jindong District
Jinhua
321032 ZHEJIANG
CHINA

Test report contains	Main part and 1 annex
Number of pages	6
Product	Goggle with oculars without filtering action
Arrival of samples	2020-03-23
Period of testing	2020-04-09 to 2020-04-17
Reference Standard	DIN EN 166 : 2002-04
Remarks	None

This test report relates to the mentioned test samples. Without the permission of the DIN CERTCO test centre Nürnberg this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any certification mark.

Nürnberg, 2020-04-17

Compiled by:



Arafat Rahman, M. Sc.
- Test Engineer -

Reviewed by:



Dr. Andreas Winbauer
- Head of Testing Laboratory -

Test objects, tests and results

Based on the tables as written in the standard DIN EN 166, the main part assigns the test samples to the named tests. Each individual test result is documented in the annexes according to the named standards.

Signs and symbols:

- + meet the requirements
- ***do not meet the requirements***
- / not tested or not applicable
- Ab interruption of the testing sequence

The uncertainty of optical measurements corresponds to the required one in DIN EN 167.

Unless stated otherwise, the measurements were carried out in the main viewing point of the samples and, in the case of lenses with corrective power, at the applicable reference point.

Samples and summary of all test results

Type:	Goggle with oculars without filtering action, type "WHSG-001"
Test mark:	11301-PZA-20

Number of delivered parts: 30

Number of test samples: 14



Test-sequence	Requirements	according to		Tests according to		Sample 0130-1 to 0130-14
		DIN EN	Clause	DIN EN	Clause	
1	User information	166	10	166	10	+
2	Design and manufacturing requirements	166	6	166	6	+
3	Lateral protection	166	7.2.8	168	19	+
4	Field of vision	166	7.1.1	168	18	+
5	Quality of material and surface	166	7.1.3	167	5	+
6	Diffusion of light	166	7.1.2.3	167	4	+
7	Spherical refractive power and astigmatic refractive power	166	7.1.2.1	167	3	+
8	Prismatic refractive power	166	7.1.2.1	167	3	+
9	Transmittance	166	7.1.2.2	167	6	+
10	Stability at an elevated temperature	166	7.1.5.1	168	5	+
11	Resistance to UV radiation	166	7.1.5.2	168	6	+
12	Increased robustness	-5°C	7.1.4.2	168	3	+
		+55°C				+
13	Protection against high-speed particles (45 m/s)	166	7.2.2	168	9	+
14	Resistance to ignition	166	7.1.7	168	7	+
15	Resistance to corrosion	166	7.1.6	168	8	/*

Individual results of each test sample see annex 1

*No metal parts.

Marking:

Frame:	None
Oculars:	None

ANNEX 1

Type:	Goggle with oculars without filtering action, type "WHSG-001"
Test mark:	11301-PZA-20

Description of the type

Condition of the test item at delivery:	Undamaged	
Frame:	Material:	Plastics
	Colour:	Untinted, white
Oculars:	Material:	Plastics
	Colour:	Untinted
	Centre thickness:	1.0 mm
	Dimension:	154 mm x 73 mm
User information:	Available and complete	
Design and manufacturing requirements:	Fulfill the requirements	

Quality of material and surface, diffusion of light, refractive powers, transmittance, lateral protection and field of vision

Test↓	Sample →		0130-1	0130-2	0130-3	0130-4	0130-5	0130-6
Quality of material and surface			+	+	+	/	/	/
Reduced luminance coefficient	R	cd/m ² lx	/	/	/	0.05	0.11	0.13
	L							
Spherical power	R	dpt	0.00	0.00	0.00	/	/	/
	L							
Astigmatic power	R	dpt	0.01	0.01	0.01	/	/	/
	L							
Difference in prismatic effect horizontal		cm/m	0.10 Base out	0.10 Base out	0.08 Base out	/	//	
Difference in prismatic effect vertical		cm/m	0.03	0.03	0.03	/	/	/
Optical class			1	1	1	/	/	/
Luminous transmittance τ _{v1} based on CIE source A	R	%	/	/	/	90.6	90.9	90.9
	L							
Lateral protection			+	+	+	/	/	/
Field of vision			+	+	+	/	/	/

Type:	Goggle with oculars without filtering action, type "WHSG-001"
Test mark:	11301-PZA-20

Resistance to UV radiation and stability at an elevated temperature

Test↓			Sample →		0130-1	0130-2	0130-3	0130-4	0130-5	0130-6
					Elevated temperature			Ultraviolet radiation		
Reduced luminance coefficient	R	$\frac{\text{cd/m}^2}{\text{lx}}$	/	/	/	/	0.29	0.41	/	
	L		/	/	/	/	/	/	0.27	
Luminous transmittance τ_{v2} based on CIE source A	R	%	/	/	/	/	90.6	90.5	/	
	L		/	/	/	/	/	/	90.8	
Relative change of luminous transmittance $\Delta\tau_v / \tau_{v1}$		%	/	/	/	0.5	0.5	0.5	0.1	
Spherical power	R	dpt	0.00	/	0.00	/	/	/	/	
	L		/	0.00	/	/	/	/	/	
Astigmatic power	R	dpt	0.00	/	0.00	/	/	/	/	
	L		/	0.00	/	/	/	/	/	
Stability at an elevated temperature			+	+	+	/	/	/	/	

Increased robustness

Sample	Temperature [°C]	Impact point	Comments
0130-7	+ 55°C	1, 4	+, +
0130-8	+ 55°C	2, 3	+, +
0130-9	+ 55°C	1	+
0130-10	+ 55°C	2	+
0130-11	- 5°C	1, 4	+, +
0130-12	- 5°C	2, 3	+, +
0130-13	- 5°C	1	+
0130-14	- 5°C	2	+

Impact point 1: left eye frontal
Impact point 2: right eye frontal

Impact point 3: left eye side
Impact point 4: right eye side

Type:	Goggle with oculars without filtering action, type "WHSG-001"
Test mark:	11301-PZA-20

Protection against high-speed particles

Ambient temperature: (23±5)° C bullet speed: 45 m/s

Sample	Impact point	Comments
0130-7	2, 3	+, +
0130-8	1, 4	+, +
0130-9	2	+
0130-10	1	+
0130-11	2, 3	+, +
0130-12	1, 4	+, +
0130-13	2	+
0130-14	1	+

Impact point 1: left eye frontal
Impact point 2: right eye frontal

Impact point 3: left eye side
Impact point 4: right eye side

Resistance to ignition

Test ↓	Sample →	0130-7	0130-8	0130-9
Resistance to ignition		+	+	+