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CNAS L10118



国检检测
CHINA COMPONENTS TEST

Test Report

Report No.: [2020] WSZ FHL NO.8528

Product Name Filtering half mask

Applicant CHANGZHOU AOYANG TEXTILE CO., LTD.

Manufacturer CHANGZHOU AOYANG TEXTILE CO., LTD.

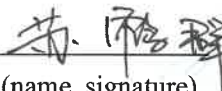
Test Type Entrusted inspection

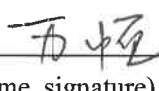
Jiangsu Guojian Testing Technology Co., Ltd.
3/F., Unit D, Xingye Building, Taihu International Tech-Park, Wuxi, Jiangsu, China

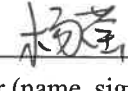


Test Report

Product name	Filtering half mask	Model name	AY-1003-01
		Brand	AOYANG
Laboratory/ Add.	Jiangsu Guojian Testing Technology Co., Ltd./ 3/F., Unit D, Xingye Building, Taihu International Tech-Park, Wuxi, Jiangsu, China		
Applicant/ Add./Tel	CHANGZHOU AOYANG TEXTILE CO., LTD./SANBANGKOU, HENGSHANQIAO TOWN, WUJIN DISTRIC, CHANGZHOU, JIANGSU/18221036365		
Manufacturer/ Add./Tel	CHANGZHOU AOYANG TEXTILE CO., LTD./SANBANGKOU, HENGSHANQIAO TOWN, WUJIN DISTRIC, CHANGZHOU, JIANGSU/—		
Sample classification	FFP3 NR	Sample number	GW8528-2020
Sample quantity	70 pcs	Date of receipt of sample	03/11/2020
Test type	Entrusted inspection	Article/Batch/Style number	20201029
Date (s) of performance of tests	03/11/2020~11/11/2020	Testing location	Same as the Laboratory
Sample state	Meeting the requirements of testing	Sample description	Refer to page 3
Test standard(s)	EN 149:2001+A1:2009 Respiratory protective devices - Filtering half masks to protect against particles - Requirements, testing, marking		
Test items	Packaging, material, finish of parts, carbon dioxide content of the inhalation air, penetration of filter material, breathing resistance, total inward leakage, demountable parts, exhalation valve(s), the marking of packaging, the marking of mask, information to be supplied by the manufacturer		
Test conclusion	The samples upon testing don't comply with FFP3 NR classification requirements according to the standard EN 149:2001+A1:2009. The details of test results see on Pages 3-11. Date of issue: 11/11/2020		
Note	APPLUS+ ID number: 20/32302288 1.C2 Sampling is done by Applus+inspector; 2. According to the requirement of the Module C2 (SPC CE-062_EN M3 PPE) of Applus+, the test item(s) of the sample is according to the standard EN149:2001+A1:2009. The test results presented in this report relate only to the submitted sample as received.		

Su Hequn 
Approver (name, signature)

Wan Heng 
Reviewer (name, signature)

Yang Ying 
Chief Tester (name, signature)

Sample description:	White
Test item particulars:	
Type of use	<input type="checkbox"/> re-useable particle filtering half mask <input checked="" type="checkbox"/> single shift only particle filtering half mask
Classes of devices.....	<input type="checkbox"/> FFP1 <input type="checkbox"/> FFP2 <input checked="" type="checkbox"/> FFP3
Exhalation valve(s).....	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Inhalation valve(s).....	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Designed to protect against both solid & liquid aerosols.:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Possible test case verdicts:	
- Test case does not be required to the test object.....:	NRq (Not required)
- Test case does not apply to the test object.....:	N/A (Not Applicable)
- Test object does meet the requirement.....:	P (Pass)
- Test object does not meet the requirement.....:	F (Fail)
General remarks:	
The test results presented in this report relate only to the submitted sample as received. This report shall not be reproduced, except in full, without the written approval of the issuing Laboratory can provide assurance that parts of a report are not taken out of context. Determination of the test results includes consideration of measurement uncertainty from the test equipment and methods. Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.	
Environmental condition of the testing in this report:	
1) Unless otherwise specified, the ambient temperature for testing shall be 25 °C;	
2) T.C. Temperature conditioned:	
a) for 24 h to a dry atmosphere of 70 °C; b) for 24 h to a temperature of -30 °C;	
and return to room temperature 25 °C for 4 h between exposures and prior to subsequent testing.	

S.No. (Cl.No.)	Test item		Unit	Technical requirements	Test result	Single item decision
1 (7.4)	Packaging	Visual inspection	—	Particle filtering half masks shall be offered for sale packaged in such a way that they are protected against mechanical damage and contamination before use.	Particle filtering half masks packaged and protected against mechanical damage and contamination.	Pass
2 (7.5)	Material	Visual inspection	—	Materials used shall be suitable to withstand handling and wear over the period for which the particle filtering half mask is designed to be used.	Materials were suitable withstand handling and wear.	Pass
			—	After undergoing S.W., none of the particle filtering half masks shall have suffered mechanical failure of the facepiece or straps.	Sample 1: neither facepiece nor straps have mechanical failure Sample 2: neither facepiece nor straps have mechanical failure Sample 3: neither facepiece nor straps have mechanical failure	
			—	After undergoing S.W. and T.C., none of the particle filtering half masks shall not collapse.	Sample 4: no collapse Sample 5: no collapse Sample 6: no collapse	
			—	Any material from the filter media released by the air flow through the filter shall not constitute a hazard or nuisance for the wearer.	Not constitute a hazard or nuisance for the wearer	
			—	Particle filtering half mask designed to be re-usable, the materials used shall withstand the cleaning and disinfecting agents and procedures to be specified by the manufacturer. Testing shall be done in accordance with 8.4 and 8.5.	<input type="checkbox"/> Fulfil the requirements after testing, or <input checked="" type="checkbox"/> The Particle filtering half mask is NOT re-usable according to information supplied by manufacturer	
3 (7.6)	Cleaning and disinfecting		—	With reference to 7.9.2, after cleaning and disinfecting the re-usable particle filtering half mask shall satisfy the penetration requirement of the relevant class. Testing shall be done in accordance with 8.11.	<input type="checkbox"/> Tests results refer to S. No. 7(7.9.2), or <input checked="" type="checkbox"/> The Particle filtering half mask is NOT re-usable according to information supplied by manufacturer	N/A
			—			

S.No. (CLNo.)	Test item		Unit	Technical requirements	Test result				Single item decision
4 (7.8)	Finish of parts	Visual inspection	—	Parts of the device likely to come into contact with the wearer shall have no sharp edges or burrs.	Parts of the device have no sharp edges and burrs				Pass
5 (7.9.2)	Leakage— Penetration of filter material	Sodium chloride	—	$\leq 1\%$	A.R. ¹⁾	0.2%	0.1%	0.2%	Pass
					S.W. ¹⁾	0.1%	0.2%	0.2%	
					M.S+ T.C. ²⁾	0.3%	0.2%	0.3%	
		Paraffin oil	—	$\leq 1\%$	A.R. ¹⁾	0.3%	0.4%	0.3%	Pass
					S.W. ¹⁾	0.4%	0.3%	0.4%	
					M.S+ T.C. ²⁾	0.6%	0.5%	0.6%	
¹⁾ average penetration over a time of 30s, beginning 3 min after the start of the test reported ²⁾ max. penetration during exposure test reported; Note: The penetration of the filter of the particle filtering half mask shall meet the requirements below: Maximum penetration of sodium chloride aerosol test 95 l/min max. FFP1: 20%, FFP2: 6%, FFP3: 1% Maximum penetration of paraffin oil aerosol test 95 l/min max. FFP1: 20%, FFP2: 6%, FFP3: 1%									
6 (7.12)	Carbon dioxide content of the inhalation air	—	The carbon dioxide content of the inhalation air (dead space) shall not exceed an average of 1.0 % (by volume). Remark: 3 half masks (S1, S2 and S3) A.R. tested.	Sample 1	0.5016%			Pass	
				Sample 2	0.5023%				
				Sample 3	0.5019%				
				average	0.50%				

S.No. (CLNo.)	Test item	Unit	Technical requirements	Test result	Single item decision		
7 (7.15)	Exhalation valve(s)	Visual inspection	A particle filtering half mask may have one or more exhalation valve(s), which shall function correctly in all orientations.	A.R.	All of 5 pieces can function correctly in all orientations.	Pass	
				T.C.	All of 5 pieces can function correctly in all orientations.		
			—	If an exhalation valve is provided it shall be protected against or be resistant to dirt and mechanical damage, and may be shrouded or may include any other device that may be necessary for the particle filtering half mask to comply with 7.9.	A.R.		All of 5 pieces are protected against dirt and mechanical damage.
					T.C.		All of 5 pieces are protected against dirt and mechanical damage.
		Flow conditioning	—	Exhalation valve(s), if fitted, shall continue to operate correctly after a continuous exhalation flow of 300 l/min over a period of 30 s.	A.R.		Exhalation valve can operate correctly after a continuous exhalation flow of 300 l/min over a period of 30 s.
					T.C.		Both two samples can operate correctly after a continuous exhalation flow of 300 l/min over a period of 30 s.
		Strength of attachment of exhalation valve housing	—	When the exhalation valve housing is attached to the faceblank, it shall withstand axially a tensile force of 10 N applied for 10 s.	A.R.		The housing can withstand axially a tensile force of 10 N applied for 10 s.
					M.S.		The housing can withstand axially a tensile force of 10 N applied for 10 s.
					T.C.		The housing can withstand axially a tensile force of 10 N applied for 10 s.
		8 (7.18)	Demountable parts	—	All demountable parts (if fitted) shall be readily connected and secured, where possible by hand.		All demountable parts are readily connected and secured

S.No. (CLNo.)	Test item	Unit	Technical requirements	Test result	Single item decision
9 (9.1)	The marking of packaging	—	<p>The following information shall be clearly and durably marked on the smallest commercially available packaging or legible through it if the packaging is transparent:</p> <p>The name, trademark or other means of identification of the manufacturer or supplier.</p> <p>Type-identifying marking.</p> <p>Classification</p> <p>The number and year of publication of this European Standard.</p> <p>At least the year of end of shelf life.</p> <p>The sentence 'see information supplied by the manufacturer', at least in the official language(s) of the country of destination, or by using the pictogram as shown in Figure 12b</p> <p>The manufacturer's recommended conditions of storage (at least the temperature and humidity) or equivalent pictogram, as shown in Figures 12c and 12d</p>	The minimum sales package is marked in a clear and consistent manner and the content is complete.	Pass
10 (9.2)	The marking of mask	—	<p>Particle filtering half masks complying with this European Standard shall be clearly and durably marked with the following:</p> <p>The name, trademark or other means of identification of the manufacturer or supplier.</p> <p>Type-identifying marking.</p> <p>The number and year of publication of this European Standard</p> <p>Classification</p>	Masks are marked in a clear and consistent manner, and the content of the mark is complete.	Pass

S.No. (Cl.No.)	Test item	Unit	Technical requirement	Test result	Single item decision
11 (10)	Information to be supplied by the manufacturer	—	<p>Information supplied by the manufacturer shall accompany every smallest commercial available package.</p> <p>Information supplied by the manufacturer shall be at least in the official language(s) of the country of destination.</p> <p>The information supplied by the manufacturer shall contain all information necessary for trained and qualified persons on</p> <ul style="list-style-type: none"> —application/limitations; —checks prior to use; —donning, fitting; —use; —storage; —the meaning of any symbols/pictograms used of the equipment <p>The information shall be clear and comprehensible. If helpful, illustrations, part numbers, marking shall be added.</p> <p>Warning shall be given against problems likely to be encountered, for example:</p> <ul style="list-style-type: none"> —fit of particle filtering half mask (check prior to use) —it is unlikely that the requirements for leakage will be achieved if facial hair passes under the face seal; —air quality (contaminants, oxygen deficiency); —use of equipment in explosive atmosphere. <p>The information shall provide recommendations as to when the particle filterina half mask shall be discarded.</p> <p>For devices marked "NR", a warning shall be given that the particle filtering half mask shall not be used for more than one shift.</p>	<p>Warning wasn't given against problems likely to be encountered, for example:</p> <ul style="list-style-type: none"> —it is unlikely that the requirements for leakage will be achieved if facial hair passes under the face seal; —air quality (contaminants, oxygen deficiency); —use of equipment in explosive atmosphere. <p>The information doesn't provide recommendations as to when the particle filterina half mask shall be discarded.</p>	Fail

Table A- Leakage—Total Inward Leakage

S.No. (Cl.No.)	Test item	Unit	Technical requirements ¹⁾	Test result						Single item decision	
				Exercises	E1 (%)	E2 (%)	E3 (%)	E4 (%)	E5 (%)		TIL (%)
12 (7.9.1)	Leakage— Total inward leakage	—	At least 46 out of the 50 individual exercise results shall be not greater than 5% ; And in addition, at least 8 out of the 10 individual wearer arithmetic means for the total inward leakage shall be not greater than 2% .	A.R.	0.4	0.7	0.8	1.1	0.7	0.7	Pass
					0.6	0.9	1.1	1.3	0.8	0.9	
					1.3	1.9	2.1	2.3	1.6	1.8	
					0.9	1.3	1.9	2.0	1.2	1.5	
					0.8	1.2	1.6	1.8	1.1	1.3	
				T.C.	1.1	1.4	1.9	2.3	1.2	1.6	
					0.7	0.9	1.3	1.6	0.8	1.1	
					1.0	1.4	1.9	2.1	1.3	1.5	
					1.2	1.6	2.1	1.8	1.4	1.6	
					1.0	1.3	1.8	1.9	1.2	1.4	

Note 1:

at least 46 out of the 50 individual exercise results (i.e. 10 subjects x 5 exercises) for total inward leakage shall be not greater than 25 % for FFP1 11 % for FFP2 5 % for FFP3
in addition, at least 8 out of the 10 individual wearer arithmetic means for the total inward leakage shall be not greater than 22 % for FFP1 8 % for FFP2 2 % for FFP3.

Table A-1- Test subjects—Facial dimension

Test Subject No.	Length of face (mm)	Width of face (mm)	Depth of face (mm)	Width of mouth (mm)
1	120	130	109	59
2	122	140	115	65
3	119	160	139	55
4	112	122	119	63
5	110	130	118	60
6	115	119	110	59
7	112	123	113	55
8	103	130	100	50
9	118	139	130	63
10	120	135	125	50

Table B- Breathing Resistance

S.No. (Cl.No)	Test item		Unit	Technical requirements ¹⁾	Test result					Single item decision		
					Exercises	Facing directly ahead	Facing vertically upwards	Facing vertically downwards	Lying on the left side		Lying on the right side	
13 (7.16)	Breathing resistance	Inhalation 30 L/min	mbar	≤ 1.0	A.R.	0.7	0.8	0.7	0.7	0.8	Pass	
						0.7	0.7	0.8	0.7	0.8		
						0.7	0.7	0.7	0.7	0.8		
					S.W.	0.7	0.7	0.8	0.7	0.7		
						0.7	0.7	0.7	0.7	0.7		
						0.7	0.7	0.8	0.7	0.8		
		T.C.			0.7	0.7	0.8	0.7	0.7			
					0.7	0.7	0.8	0.7	0.8			
					0.8	0.8	0.8	0.7	0.7			
		F.C.			0.8	0.7	0.8	0.7	0.7			
					0.7	0.7	0.7	0.8	0.7			
					0.7	0.7	0.8	0.7	0.7			
	Breathing resistance	Inhalation 95 L/min		mbar	≤ 3.0	A.R.	1.9	1.9	2.0	1.9	1.9	Pass
							1.9	1.9	1.9	2.0	1.9	
							1.9	1.9	2.0	1.9	2.0	
						S.W.	1.9	1.9	2.0	2.0	2.0	
							2.0	2.0	2.1	2.0	2.0	
							1.9	1.9	1.9	1.9	1.9	
		T.C.				1.9	1.9	2.0	1.9	1.9		
						1.9	2.0	1.9	2.0	2.0		
						1.9	1.9	2.0	1.9	2.0		
		F.C.				1.9	1.9	2.0	2.0	2.0		
						2.0	2.0	2.1	2.0	2.0		
						1.9	1.9	2.0	2.0	1.9		
Breathing resistance	Exhalation 160 L/min	mbar	≤ 3.0		A.R.	2.2	2.1	2.2	2.2	2.2	Pass	
						2.2	2.2	2.3	2.2	2.2		
						2.2	2.1	2.2	2.2	2.2		
					S.W.	2.2	2.1	2.2	2.1	2.2		
						2.2	2.2	2.2	2.1	2.2		
						2.2	2.2	2.2	2.2	2.1		
	T.C.				2.2	2.1	2.2	2.1	2.2			
					2.2	2.1	2.2	2.2	2.2			
					2.2	2.2	2.2	2.1	2.2			
	F.C.				2.2	2.2	2.2	2.1	2.2			
					2.1	2.1	2.2	2.2	2.1			
					2.2	2.1	2.2	2.2	2.2			

Note 1: Limitation may need be changed according to classification, refer to Table 2 — Breathing resistance of EN 149:2001 +A1:2009 for the Technical requirements.

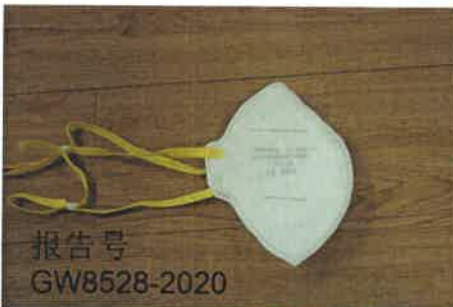
Abbreviations :

A.R. As received	M.S. Mechanical strength	S.W. Simulated wearing treatment
T.C. Temperature conditioned	F.C. Flow conditioned	C.D. Cleaning and Disinfecting

Annex A- Estimates of the uncertainty of measurement

Test item	Uncertainty
Total inward leakage	2.98%
Penetration of filter material	1.00%
Carbon dioxide content of the inhalation air	0.93%
Breathing resistance	1.90%

Annex B- Sample Photo



The end