



中国认可
国际互认
检测
TESTING
CNAS L11197

TEST REPORT



Product name:	Filtering Half Mask
Model and specification:	AD-T001
Applicant:	Universal Certification and Surveillance Service Trade Ltd.Co.
Factory:	AnDum Protective Equipment Technology (Changzhou) Co., Ltd.
Inspection type:	Entrusted testing

Test report

Applicant	Universal Certification and Surveillance Service Trade Ltd.Co.		
Address of applicant	Necip Fazıl Bulvarı Keyap Sitesi E2 Blok No:44/84 Yukarı Dudullu Ümraniye/İSTANBUL - TURKEY		
Factory	AnDum Protective Equipment Technology (Changzhou) Co., Ltd.		
Address of factory	No. 216, Qianjie, Hengshanqiao Town, Changzhou Economic Zone, Changzhou City, Jiangsu Province, China.		
Product name	Filtering Half Mask	Classification	FFP2
Model and Specification	AD-T001	Trade Mark	/
Quantity	100 pcs	Sample source	Provide by applicant
Receiving date of sample	2020-11-02	Date(s) of test	2020-11-02~ 2020-11-06
Testing reference	EN 149:2001+A1:2009 <i>Respiratory protective devices—Filtering half masks to protect against particles—requirements, testing, marking</i>		
Test conclusion	The tested items meet the requirements of testing reference(See continuation pages for details).		
Chief Tester	 Date:	Guangdong Tsaint Hi-tech Co.,Ltd. (Seal)	
Reviewer	 Date:		
Approver	Date:		
Notes: 1.Possible abbreviations: Pass=Meet Requirement, Fail=Below Requirement, N/A= Not Applicable, N/T = Not tested, A.R.=As received, M.S.=Mechanical strength, T.C. = Temperature conditioned, S.W.=Simulated wearing treatment, F.C. = Flow conditioned, C.D.= Cleaning and Disinfecting. 2.Sample description: Single shift use only.			

Test results and conclusions

Clause	Test Items	Technical requirements	Result	Conclusion
7.3	Visual inspection	The visual inspection shall also include the marking and the information supplied by the manufacturer.	As requested by the client, marking and information supplied by the manufacturer was not inspected.	N/T
7.4	Packaging	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.	Meet the requirements.	Pass
7.5	Material	See attached Table 1 for details.		Pass
7.6	Cleaning and disinfecting	If the particle filtering half mask is designed to be re-usable, the materials used shall withstand the cleaning and disinfecting agents and procedures to be specified by the manufacturer. 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.	Single shift use only and this item is not applicable.	N/A
7.7	Practical performance	See attached Table 2 for details.		Pass
7.8	Finish of parts	Parts of the device likely to come into contact with the wearer shall have no sharp edges or burrs.	No sharp edges or burrs.	Pass
7.9.1	Total inward leakage	See attached Table 3 for details.		Pass
7.9.2	Penetration of filter material	See attached Table 4 for details.		Pass
7.10	Compatibility with skin	See attached Table 5 for details.		Pass
7.11	Flammability	See attached Table 6 for details.		Pass
7.12	Carbon dioxide content of the inhalation air	See attached Table 7 for details.		Pass
7.13	Head harness	See attached Table 8 for details.		Pass
7.14	Field of vision	The field of vision is acceptable if determined so in practical performance tests.	Field of vision is acceptable, see the test results of practical performance.	Pass
7.15	Exhalation valve(s)	Not Applicable.		N/A
7.16	Breathing resistance	See attached Table 9 for details.		Pass
7.17	Clogging	For single shift use devices, the clogging test is an optional test. For re-usable devices the test is mandatory.	Single shift use only and this item is not tested.	N/T
7.18	Demountable parts	All demountable parts (if fitted) shall be readily connected and secured, where possible by hand.	Meet the requirements.	Pass

Table 1 Material

Technical requirements:		
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. After undergoing the conditioning described in 8.3.1 (simulated wearing treatment) none of the particle filtering half masks shall have suffered mechanical failure of the facepiece or straps. When conditioned in accordance with 8.3.1 (simulated wearing treatment) and 8.3.2 (temperature conditioning) the particle filtering half mask shall not 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.		
Result:		
S.W.	01#	No mechanical failure or collapse after conditioning.
	02#	No mechanical failure or collapse after conditioning.
	03#	No mechanical failure or collapse after conditioning.
T.C.	17#	No mechanical failure or collapse after conditioning.
	18#	No mechanical failure or collapse after conditioning.
	19#	No mechanical failure or collapse after conditioning.
Verdict		Pass

Table 2 Practical performance

Technical requirements:			
Where practical performance tests show the apparatus has imperfections related to wearer's acceptance, the test house shall provide full details of those parts of the practical performance tests which revealed these imperfections.			
Result:			
A.R.	34#	Head harness	Comfortable
		Fastenings	Safe and reliable
		Field of vision	Acceptable
		Others	/
	35#	Head harness	Comfortable
		Fastenings	Safe and reliable
		Field of vision	Acceptable
		Others	/
Verdict		Pass	

Table 3 Total inward leakage

Technical requirements:												
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 <input type="checkbox"/> 25 % for FFP1; <input checked="" type="checkbox"/> 11 % for FFP2; <input type="checkbox"/> 5 % for FFP3; And in addition, at least 8 out of the 10 individual wearer arithmetic means for the total inward leakage shall be not greater than <input type="checkbox"/> 22 % for FFP1; <input checked="" type="checkbox"/> 8 % for FFP2; <input type="checkbox"/> 2 % for FFP3.												
Result:												
Exercises	E1 (%)	E2 (%)	E3 (%)	E4 (%)	E5 (%)	TIL (%)	Subject	Face Length (mm)	Face Width (mm)	Face Depth (mm)	Mouth Width (mm)	
A.R.	36#	3.0	2.9	2.8	2.0	2.3	2.6	Luo	128	149	116	54
	37#	5.0	5.8	5.1	4.0	5.1	5.0	Chen	124	135	110	49
	38#	5.2	6.7	5.8	6.1	6.2	6.0	Liang	119	147	115	58
	39#	4.9	5.4	6.1	6.5	4.2	5.4	Chen	115	139	119	55
	40#	4.2	5.3	5.9	6.6	5.4	5.5	Yuan	107	125	110	52
T.C.	20#	4.8	6.8	6.4	5.7	4.5	5.6	He	110	130	100	60
	21#	6.5	7.1	6.8	7.7	6.6	6.9	Yang	115	127	124	53
	22#	4.3	5.9	6.1	6.4	4.7	5.5	Jiang	119	126	116	59
	23#	4.2	5.2	5.0	5.5	4.6	4.9	Feng	120	145	119	54
	24#	5.6	5.4	5.8	6.4	6.0	5.8	Zeng	109	123	115	52
Verdict	Pass											

Table 4 Penetration of filter material

Technical requirements: <input type="checkbox"/> FFP1: ≤ 20 %; <input checked="" type="checkbox"/> FFP2: ≤ 6 %; <input type="checkbox"/> FFP3: ≤ 1 %										
Result (%)	Sodium chloride	A.R.			S.W.			M.S.+T.C.		
		41#	42#	43#	04#	05#	06#	11#	12#	13#
		0.1	0.2	0.1	0.2	0.2	0.3	0.3	0.5	0.6
	Paraffin oil	A.R.			S.W.			M.S.+T.C.		
		44#	45#	46#	07#	08#	09#	14#	15#	16#
0.3		0.2	0.3	0.5	0.6	0.4	0.7	0.5	0.8	
Verdict	Pass									

Table 5 Compatibility with skin

Technical requirements: Materials that may come into contact with the wearer's skin shall not be known to be likely to cause irritation or any other adverse effect to health.		
Result:		
A.R.	36#	No irritation or any other adverse effect to health.
	37#	No irritation or any other adverse effect to health.
	38#	No irritation or any other adverse effect to health.
	39#	No irritation or any other adverse effect to health.
	40#	No irritation or any other adverse effect to health.
T.C.	20#	No irritation or any other adverse effect to health.
	21#	No irritation or any other adverse effect to health.
	22#	No irritation or any other adverse effect to health.
	23#	No irritation or any other adverse effect to health.
	24#	No irritation or any other adverse effect to health.
Verdict	Pass	

Table 6 Flammability

Technical requirements: When tested, the particle filtering half mask shall not burn or not to continue to burn for more than 5 s after removal from the flame.		
Result:		
A.R.	47#	Burn for 0s.
	48#	Burn for 0s.
T.C.	25#	Burn for 0s.
	26#	Burn for 0s.
Verdict	Pass	

Table 7 Carbon dioxide content of the inhalation air

Technical requirements: The carbon dioxide content of the inhalation air (dead space) shall not exceed an average of 1,0 % (by volume).			
Result(%):			
A.R.49#	A.R.50#	A.R.51#	Average value:
0.52	0.57	0.54	0.54
Verdict	Pass		

Table 8 Head harness

Technical requirements: The head harness shall be designed so that the particle filtering half mask can be donned and removed easily. The head harness shall be adjustable or self-adjusting and shall be sufficiently robust to hold the particle filtering half mask firmly in position and be capable of maintaining total inward leakage requirements for the device.		
Result:		
A.R.	36#	Meet the requirements.
	37#	Meet the requirements.
	38#	Meet the requirements.
	39#	Meet the requirements.
	40#	Meet the requirements.
T.C.	20#	Meet the requirements.
	21#	Meet the requirements.
	22#	Meet the requirements.
	23#	Meet the requirements.
	24#	Meet the requirements.
Verdict	Pass	

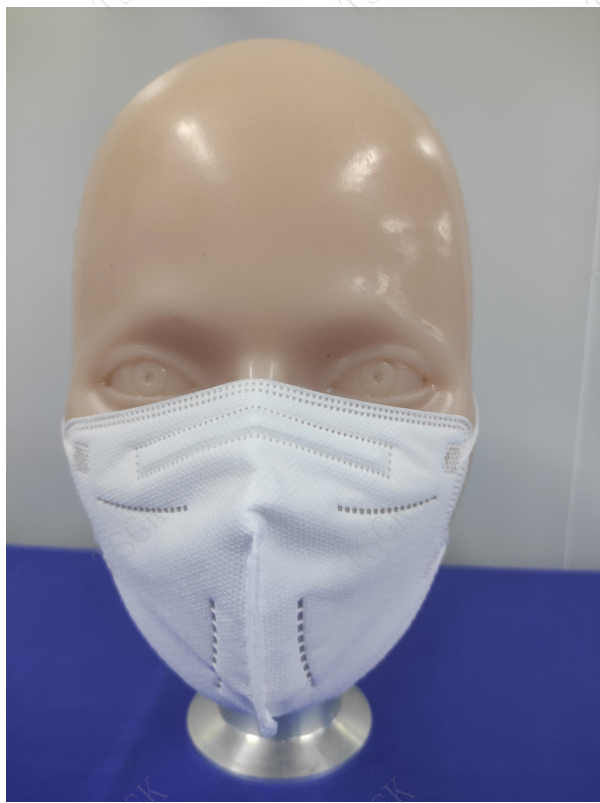
Table 9 Breathing resistance

Technical requirements:																	
Classification		Maximum permitted resistance (mbar)															
		Inhalation										Exhalation					
		30 L/min					95 L/min					160 L/min					
<input type="checkbox"/>	FFP1	0.6					2.1					3.0					
<input checked="" type="checkbox"/>	FFP2	0.7					2.4					3.0					
<input type="checkbox"/>	FFP3	1.0					3.0					3.0					
Result(mbar):																	
A.R.	Flow rate		53#					54#					55#				
			A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
	Inhalation	30 L/min	0.6	0.5	0.6	0.5	0.6	0.6	0.5	0.5	0.5	0.6	0.6	0.5	0.6	0.5	0.6
		95 L/min	2.2	2.2	2.1	2.2	2.1	2.3	2.2	2.1	2.2	2.2	2.2	2.2	2.3	2.2	2.3
Exhalation	160 L/min	2.1	2.1	2.2	2.1	2.2	2.1	2.2	2.1	2.1	2.2	2.1	2.2	2.1	2.2	2.1	
S.W.	Flow rate		01#					02#					03#				
			A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
	Inhalation	30 L/min	0.5	0.6	0.5	0.5	0.6	0.5	0.6	0.5	0.5	0.6	0.5	0.6	0.5	0.6	0.5
		95 L/min	2.2	2.2	2.1	2.1	2.2	2.2	2.3	2.2	2.1	2.1	2.2	2.1	2.2	2.1	2.1
Exhalation	160 L/min	2.1	2.2	2.1	2.2	2.1	2.1	2.1	2.0	2.0	2.1	2.1	2.2	2.1	2.2	2.0	

T.C.	Flow rate		30#					31#					32#				
			A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
Inhalation	30 L/min		0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.6	0.5	0.6	0.6	0.5	0.6	0.5	0.5
	95 L/min		2.1	2.1	2.0	2.1	2.0	2.1	2.0	2.0	2.1	2.2	2.2	2.1	2.1	2.2	2.1
Exhalation	160 L/min		2.0	2.1	2.0	1.9	2.0	2.1	2.0	2.1	2.0	2.1	2.1	2.0	2.0	2.1	2.1
Positions: A: facing directly ahead; B: facing vertically upwards; C: facing vertically downwards; D: lying on the left side; E: lying on the right side.																	
Verdict		Pass															

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Photo(s) of samples



-----End of test report-----

Declaration

- 1.The test report is invalid without the signatures of Chief Tester, Reviewer and Approver.
- 2.The test report is invalid without the official testing stamp of TSGK.
- 3.The test results presented in this report relate only to the object tested.
- 4.This report cannot be partially copied without permission.
- 5.The test report is invalid if altered.
- 6.Objections to the test report must be submitted to TSGK within 15 days.

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