

# Test Report

**Applicant:** Wenzhou Leikang Medical Technology Co.,Ltd  
**Address:** Room 401, 4th floor, Building No.21, Wenzhou National University  
Science Park, No.89 Fengfang Rd. Economic Development Zone, Ouhai  
District, Wenzhou, Zhejiang Province, China

**The following sample(s) was/were submitted and identified on behalf of the client as:**

Product name: Filtering half mask  
Model: LK-088、LK-088-1、LK-088-2、LK-088-3、LK-088-5、LK-088-6  
Trade mark: LEIKANG  
Manufacturer: Wenzhou Leikang Medical Technology Co.,Ltd  
Address: Room 401, 4th floor, Building No.21, Wenzhou National University  
SciencePark, No.89 Fengfang Rd. Economic Development Zone, Ouhai  
District, Wenzhou, Zhejiang Province, China  
Classification: FFP2 NR  
Sample quantity: 420 Pcs  
C2 Sampling done by APPLUS+with IDnumber : 22/32300194  
Sample Received Date: Jan.04,2022  
Testing Period: Jan.04,2022~ Jan.11,2022

**Test Requirement:**

According to the requirement of the Module C2 (SPC CE-062\_EN M6 PPE ) of Applus+, the test item(s) of the sample is according to the standard EN 149:2001+A1:2009.

**Test Result(s):** Please refer to the following page(s)

**Test Method:** Please refer to the following page(s)

Compiled by: \_\_\_\_\_

Reviewed by: \_\_\_\_\_

Approved by: \_\_\_\_\_

Date: \_\_\_\_\_

2022-01-13

**Sample list**

Sample No.	Model	Description
1#	LK-088-6	Green mask
2#	LK-088-6	Green mask
3#	LK-088-6	Green mask
4#	LK-088-6	Green mask
5#	LK-088-6	Green mask
6#	LK-088-6	Green mask
7#	LK-088-6	Green mask
8#	LK-088-6	Green mask
9#	LK-088-6	Green mask
10#	LK-088-6	Green mask
11#	LK-088-3	Gray mask
12#	LK-088-3	Gray mask
13#	LK-088-1	White mask
14#	LK-088-1	White mask
15#	LK-088-1	White mask
16#	LK-088-1	Black mask
17#	LK-088-1	Black mask
18#	LK-088	Black mask
19#	LK-088	White mask
20#	LK-088	White mask
21#	LK-088	White mask
22#	LK-088	Black mask
23#	LK-088	Black mask
24#	LK-088	Black mask
25#	LK-088、LK-088-1	White mask
26#	LK-088、LK-088-1	White mask
27#	LK-088、LK-088-1	White mask
28#	LK-088、LK-088-1	Black mask
29#	LK-088、LK-088-1	Black mask
30#	LK-088、LK-088-1	Black mask
31#	LK-006	Royal blue mask

32#	LK-006	Royal blue mask
33#	LK-006	Royal blue mask
34#	LK-006	Royal blue mask
35#	LK-088-5	Purple mask
36#	LK-088-5	Purple mask
37#	LK-088-5	Purple mask

**Key**

Pass	Requirement satisfied.
NRq	The clauses were not required.
Fail	Requirement not satisfied. Refer to the "Result details" section for more information.
N.A.	Requirement not applicable.

Test	Uncertainty
Total inward leakage	6.40 %
Penetration of filter material (NaCl)	1.60 %
Penetration of filter material (Paraffin Oil)	1.78 %
Carbon dioxide content of the inhalation air	5.34 %

\* Assessment relates only to those specimens which were tested and subjects in this report.

**Test Result**

Respiratory Protective Devices — Filtering Half Masks to Protect against Particles — Requirements, Testing, Marking  
(EN 149:2001+A1:2009)

**Clause 7.6 Cleaning and Disinfecting**

(EN 149:2001+A1:2009, Clause 8.4 & 8.5 & 8.11)

Test Requirement	Results	Comment
<p>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.</p> <p>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.</p>	<p>Not applicable (Not designed to be re-usable)</p>	<p>N.A.</p>

**Clause 7.7 Practical Performance**

(EN 149:2001+A1:2009, Clause 8.4)

Test Requirement	Results	Comment
	Sample 11#~12#:	
<p>General:</p> <p>a) head harness comfort</p> <p>b) security of fastenings</p> <p>c) field of vision</p> <p>d) any other comments reported by the wearer on request.</p>	<p>No imperfections</p>	<p>Pass</p>
<p>Walking Test:</p> <p>The subjects wearing normal working clothes and wearing the particle filtering half mask shall walk at a regular rate of 6 km/h on a level course. The test shall be continuous, without removal of the particle filtering half mask, for a period of 10 min.</p>	<p>No imperfections</p>	
<p>Work Simulation Test:</p> <p>a) walking on the level with headroom of <math>(1.3 \pm 0.2)</math>m for 5min</p> <p>b) crawling on the level with headroom of <math>(0.7 \pm 0.05)</math>m for 5min</p> <p>c) filling a small basket (see Figure 1, approximate volume = 8 L) with chippings or other suitable material from a hopper which stands 1.5 m high and has an opening at the bottom to</p>	<p>No imperfections</p>	



allow the contents to be shovelled out and a further opening at the top where the basket full of chippings is returned.		
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**Clause 7.9.1 Total Inward Leakage**  
(EN 149:2001+A1:2009 Clause 8.5)

Test Requirement	Results	Comment
<p>For particle filtering half masks fitted in accordance with the manufacturer's information, 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:</p> <p style="padding-left: 40px;">25% for FFP1 11% for FFP2 5% for FFP3</p> <p>and, in addition, at least 8 out of the 10 individual wearer arithmetic means for the total inward leakage shall be not greater than:</p> <p style="padding-left: 40px;">22% for FFP1 8% for FFP2 2% for FFP3</p>	Detail refer to Appendix 1	Pass

**Appendix 1: Summarization of Test Data**

Subject	Sample	Condition	Normal Breathing (%)	Head Side/Side (%)	Head Up/Down (%)	Speak Loudly (%)	Normal Breathing (%)	Mean (%)
Huang	1#	A.R.	4.1	4.4	4.6	5.0	4.0	4.42
Zhou	2#	A.R.	3.7	4.0	4.3	4.5	3.7	4.04
Ma	3#	A.R.	2.5	2.7	2.9	3.0	3.1	2.84
Wu	4#	A.R.	4.0	4.2	4.4	4.7	3.9	4.24
Li	5#	A.R.	4.7	5.2	5.5	5.9	4.5	5.16
Wu	6#	T.C.	3.4	3.8	4.1	4.2	3.5	3.80
Zhai	7#	T.C.	4.3	4.5	4.7	4.9	4.1	4.50
Zheng	8#	T.C.	4.0	4.4	4.5	4.7	3.9	4.30
Huang	9#	T.C.	3.8	4.2	4.4	4.8	4.0	4.24
Wu	10#	T.C.	5.2	5.5	5.8	6.0	5.1	5.52

Facial Dimension:

Subject	Length of Face ( mm )	Width of Face ( mm )	Depth of Face ( mm )	Width of Mouth ( mm )
Huang	130	140	125	53
Zhou	100	148	125	55
Ma	120	158	110	50
Wu	110	148	121	44
Li	112	146	112	50
Wu	120	154	128	54
Zhai	135	165	125	53
Zheng	106	155	112	54
Huang	105	157	118	51
Wu	112	172	118	55

**Clause 7.9.2 Penetration of Filter Material**

(EN 149:2001+A1:2009, Clause 8.11)

Test Requirement			Results	Comment
The penetration of the filter of the particle filtering half mask shall meet the requirements of the following table.			Detail refer to Appendix 2	Pass
Classification	Maximum penetration of test aerosol(%)			
	Sodium chloride test 95 L/min	Paraffin oil test 95 L/min		
FFP1	20	20		
FFP2	6	6		
FFP3	1	1		

**Appendix 2: Summarization of Test Data**

Penetration of filter material

Aerosol	Condition	Sample No.	Penetration (%)		Assessment
			Average in 30s after 3 min	Max. during exposure	
Sodium chloride test	A.R.	13#	1.13	/	Pass
		14#	1.15	/	
		15#	1.40	/	
	S.W.	19#	1.51	/	
		20#	1.54	/	
		21#	1.52	/	
	M.S. + T.C.	25#	/	2.23	
		26#	/	2.36	
		27#	/	2.43	
	Paraffin oil test	A.R.	16#	2.87	
17#			2.77	/	
18#			2.54	/	
S.W.		22#	3.18	/	
		23#	3.22	/	
		24#	3.11	/	
M.S. + T.C.		28#	/	4.37	
		29#	/	4.79	
		30#	/	4.35	
Flow rate of test aerosol: 95.0 L/min					

**Clause 7.10 Compatibility with Skin**

(EN 149:2001+A1:2009, Clause 8.4 & 8.5)

Test Requirement	Results	Comment
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.	No irritation or any other adverse effect to health.	Pass

**Clause 7.11 Flammability**

(EN 149:2001+A1:2009, Clause 8.6)

Test Requirement	Results	Comment
The material used shall not present a danger for the wearer and shall not be of highly flammable nature when tested, the particle filtering half mask shall not burn or not to continue on burn for more than 5 s after removal from the flame.	Detail refer to Appendix 3	Pass

**Appendix 3: Summarization of Test Data**

Flammability

Condition	Sample No.	Result	Assessment
A.R.	31#	Flammable, burn for no more than 5 s	Pass
	32#	Flammable, burn for no more than 5 s	
T.C.	33#	Flammable, burn for no more than 5 s	
	34#	Flammable, burn for no more than 5 s	

**Clause 7.12 Carbon Dioxide Content of The Inhalation Air**

(EN 149:2001+A1:2009, Clause 8.7)

Test Requirement	Results	Comment
The carbon dioxide content of the inhalation air (dead space) shall not exceed an average of 1,0 % (by volume).	Detail refer to Appendix 4	Pass

**Appendix 4: Summarization of Test Data**

Carbon Dioxide Content of The Inhalation Air

Condition	Sample No.	Result	Assessment
A.R.	35#	0.63%	Pass
	36#	0.64%	
	37#	0.65%	
		Mean value 0.64%	

**Clause 7.13 Head Harness**

(EN 149:2001+A1:2009, Clause 8.4 & 8.5)

Test Requirement	Results	Comment
The head harness shall be designed so that the particle filtering half mask can be donned and removed easily.	Comply	Pass
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.	Comply	

**Clause 7.14 Field of Vision**

(EN 149:2001+A1:2009, Clause 8.4)

Test Requirement	Results	Comment
The field of vision is acceptable if determined so in practical performance.	Comply	Pass



Sample photo(s):



Fig.1 ( LK-088)



Fig.2 ( LK-088)



Fig.3 ( LK-088)



Fig.4( LK-088)



Fig.5 ( LK-088)



Fig.6 ( LK-088)



Fig.7 (LK-088-1)



Fig.8 (LK-088-1)



Fig.9 (LK-088-1)



Fig.10 (LK-088-1)



Fig.11 (LK-088-1)



Fig.12 (LK-088-1)





Fig.13 (LK-088-2)



Fig.14 (LK-088-2)



Fig.15 (LK-088-2)



Fig.16 (LK-088-2)



Fig.17(LK-088-2)



Fig.18(LK-088-2)



Fig.19(LK-088-3)



Fig.20(LK-088-3)



Fig.21(LK-088-3)



Fig.22(LK-088-3)



Fig.23(LK-088-3)



Fig.24(LK-088-3)





Fig.25(LK-088-5)



Fig.26(LK-088-5)



Fig.27(LK-088-5)



Fig.28(LK-088-5)



Fig.29(LK-088-5)



Fig.30(LK-088-5)





Fig.31(LK-088-6)



Fig.32(LK-088-6)



Fig.33(LK-088-6)



Fig.34(LK-088-6)



Fig.35(LK-088-6)



Fig.36(LK-088-6)

\*\*\*\*End of Report\*\*\*\*

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