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国际互认
检测
TESTING
CNAS L7901

检验检测报告

TEST REPORT



STFWT20208738

产品名称

Product Name

叠型口罩

委托单位

Trust Unit

山东铭孚防护用品有限公司

生产单位

Manufacturer

山东铭孚防护用品有限公司

检验检测类别

Test Category

委托送样检验



江苏省特种安全防护产品质量监督检验中心
JIANGSU QUALITY SUPERVISION AND INSPECTION CENTER FOR SPECIAL SAFETY PROTECTION PRODUCTS

检 验 检 测 报 告

Test Report

STFWT20208738

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产品名称 Product Name	叠型口罩	规格型号 Specification Type	—
		商 标 Trademark	卫铭孚 (WEIMINGFU)
委托单位 Trust Unit	山东铭孚防护用品有限公司	电 话 Tel	65686811
生产单位 Manufacturer	山东铭孚防护用品有限公司	样品等级 Sample Grade	KN95
样品数量 Sample Quantity	50 只	送样日期 Sample Receiving Date	2020-04-09
检验检测类别 Test Category	委托送样检验	批号/货号 Serial Number	2020-3-31
样品状态 Samples Conditions	符合检测要求		
检验检测及判定依据 Document and Decide Accordance	GB 2626-2006 《呼吸防护用品 自吸过滤式防颗粒物呼吸器》		
检验检测结论 Test Conclusion	<p>样品经检验, 过滤效率项目和泄漏性项目符合 GB 2626-2006 标准规定的 KN95 级要求, 判该样品本次检验合格。</p> <p>签发日期: 2020-04-30 SignatiumDate</p>		
备 注 Remarks	<p>本报告检验结论仅对所检项目得出, 不代表未经检验的项目或功能符合要求。</p> <p>本报告仅对来样负责。</p>		

批 准:
Approver

陈 敏

审 核:
Examiner

吴 亮 亮

主 检:
Major tester

熊 永 伟

检 验 检 测 结 果
Testing Results

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序号 Serial	检验检测项目 Test Items	单位 Unit	技术要求 Requirement	检验检测结果 Results			单项评价 Individual Judgment	
1	过滤效率/% (NaCl 颗粒物)	—	KN90: ≥90.0 KN95: ≥95.0 KN100: ≥99.97	试样编号		实测值	合格	
				未预 处理	1 [#]	初始		95.2
						加载		95.6
					2 [#]	初始		95.8
						加载		95.5
					3 [#]	初始		95.3
						加载		95.1
					4 [#]	初始		95.6
						加载		95.3
					5 [#]	初始		95.8
						加载		95.1
					6 [#]	初始		95.5
						加载		95.2
				7 [#]	初始	95.8		
					加载	95.6		
				8 [#]	初始	95.1		
					加载	95.3		
				9 [#]	初始	95.5		
					加载	95.2		
				10 [#]	初始	95.6		
					加载	95.8		
				温度湿 度处理	11 [#]	初始		95.5
						加载		95.3
					12 [#]	初始		95.1
						加载		95.6
					13 [#]	初始		95.3
						加载		95.8
					14 [#]	初始		95.1
						加载		95.5
					15 [#]	初始		95.2
加载	95.8							

检 验 检 测 结 果 Testing Results

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序号 Serial	检验检测项目 Test Items	单位 Unit	技术要求 Requirement		检验检测结果 Results		单项评价 Individual Judgment	
2	泄漏性/% (随弃式面罩的 TIL)	——	滤料 级别	以每个动作的 TIL 为评价基础时 (即 10 人×5 个动作), 50 个动作中至少有 46 个动作的 TIL	未 预 处 理	31 [#]	有 47 个动作的 TIL 小于 11	合格
						32 [#]	有 47 个动作的 TIL 小于 11	
						33 [#]	有 47 个动作的 TIL 小于 11	
						34 [#]	有 47 个动作的 TIL 小于 11	
			KN95	<11	温 度 湿 度 处 理	35 [#]	有 47 个动作的 TIL 小于 11	
						36 [#]	有 47 个动作的 TIL 小于 11	
						37 [#]	有 47 个动作的 TIL 小于 11	
						38 [#]	有 47 个动作的 TIL 小于 11	
						39 [#]	有 47 个动作的 TIL 小于 11	
						40 [#]	有 47 个动作的 TIL 小于 11	
			滤料 级别	以人的总体 TIL 为评价基础时, 10 个受试者中至少有 8 个人的总体 TIL	未 预 处 理	31 [#]	有 9 个人的 TIL 小于 8	
						32 [#]	有 9 个人的 TIL 小于 8	
						33 [#]	有 9 个人的 TIL 小于 8	
						34 [#]	有 9 个人的 TIL 小于 8	
KN95	<8	温 度 湿 度 处 理	35 [#]	有 9 个人的 TIL 小于 8				
			36 [#]	有 9 个人的 TIL 小于 8				
			37 [#]	有 9 个人的 TIL 小于 8				
			38 [#]	有 9 个人的 TIL 小于 8				
			39 [#]	有 9 个人的 TIL 小于 8				
			40 [#]	有 9 个人的 TIL 小于 8				

3	呼吸阻力	Pa	每个样品的总吸气阻力应不大于 350, 总呼气阻力应不大于 250	试样编号		实测值	合 格	
				总 吸 气 阻 力	未 预 处 理	16 [#]		93.6
						17 [#]		92.1
					预 处 理	20 [#]		91.9
						21 [#]		92.4
				总 呼 气 阻 力	未 预 处 理	18 [#]		72.1
						19 [#]		71.4
					预 处 理	22 [#]		70.2
						23 [#]		71.5

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序号 Serial	检验检测项目 Test Items	单位 Unit	技术要求 Requirement	检验检测结果 Results	单项评价 Individual Judgment
4	视野	—	下方视野 $\geq 60^\circ$	62°	合 格
5	死腔	—	二氧化碳体积分数应不大于 1%	二氧化碳体积分数为 0.6%	合 格

样 品 图 片



——以下空白——

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GOOD PRODUCT DETAIL DISPLAY

PAY ATTENTION TO DETAIL, PAY ATTENTION TO QUALITY, REJECT INFERIOR QUALITY.



PURE ALUMINUM ADJUSTABLE NOSE CLIP

Soft and comfortable, it will not break after repeated bending adjustment, so that the nose bridge and the mask can get the best secure seal, avoiding the air leakage in the nose bridge.

ENVIRONMENTALLY FRIENDLY NEEDLE KNITTING BAND

Made of 100% new environmentally friendly materials, it is comfortable to wear, not allergic, elastic, and good welded. welded.



COMFORTABLE NOSE PAD

Reduce friction on the nose, increase wearing comfort, and increase the seal of the nose.



CERTIFICATE OF COMPLIANCE

Ref. No.: 20ITC0330473

Applicant: Shandong Mingfu Protection Product Co.,Ltd
Address: XINGYUAN STREET GAOMI CITY SHANDONG PROVINCE

Manufacturer: Shandong Mingfu Protection Product Co.,Ltd
Address: XINGYUAN STREET GAOMI CITY SHANDONG PROVINCE

Product designation: KN95 MASK

Model NO.: KN95, WG-001, TS-001

Brand Name : 卫铭孚, WEININGFU

Type: Particle filtering half mask

Intended purpose: Particle filtering half mask against non highly volatile liquid and solid particles Class of device: FFP2 NR
Max, application max. particle exposure one shift

Testing based on: EN149:2001+A1:2009
Related to CE directive(s): R2016/425(personal protective Equipment)

The type tested complies with the provisions laid down in the directive (EU)2016/425 Personal protective equipment (PPE).

The present certificate will become invalid at the latest on: 2025-03-19



Approved by/Date:

Johnd Liu Mar.31, 2020
Department Manager



Shenzhen ITC Product Testing Co., Ltd.

2nd Floor, Building A7, Xinxing Third Industrial Area, Fuhai Road, Fuyong Street Bao'an District, Shenzhen, China
Tel: (86)-0755-33138690 Fax: (86)-0755-23071003 <http://www.itclab.cn/>



PPE TEST REPORT

For

Shandong Mingfu Protection Product Co.,Ltd

Model: KN95

Prepared For : Shandong Mingfu Protection Product Co.,Ltd
XINGYUAN STREET GAOMI CITY SHANDONG PROVINCE

Prepared By : Shenzhen iTC Product Testing Co., Ltd.
2nd Floor, Building A7 , Xinhe XinxingThird Industrial Area, Fuhai
Road, Fuyong Street Bao'an District, Shenzhen, China

Report Number: 20ITC0330473M

Date of Test: Mar.23, 2020

Date of Report: Mar.31, 2020

TEST REPORT DECLARATION

Applicant : Shandong Mingfu Protection Product Co.,Ltd
 Address : XINGYUAN STREET GAOMI CITY SHANDONG PROVINCE
 Manufacturer : Shandong Mingfu Protection Product Co.,Ltd
 Address : XINGYUAN STREET GAOMI CITY SHANDONG PROVINCE
 EUT Description : KN95 MASK
 Model No. : KN95, WG-001, TS-001
 Brand Name : 卫铭孚, WEININGFU
 FFP Class: : FFP2
Test Result : Pass

Test Procedure Used:

EN149:2001+A1:2009

Related to CE directive(s): R2016/425(personal protective Equipment)

The results of this test report are only valid for the mentioned equipment under test. The test report with all its sub-reports, e.g. tables, photographs and drawings, is copyrighted. Unauthorized utilization, especially without permission of the test laboratory, is not allowed and punishable. For copying parts of the test report, a written permission by the test laboratory is needed.

The test results of this report relate only to the tested sample identified in this report.

Test Engineer Amanda Chen

Reviewed by Apple Huang

Approved by John Liu



Property	Method	Principle / Requirements	Result
Classification	EN 149:2001+A1:2009 Clause 5	Particle filtering half masks are classified according to their filtering efficiency and their maximum total inward leakage. There are three classes of devices: FFP1, FFP2 and FFP3.	Pass. FFP2.
Designation	EN 149:2001+A1:2009 Clause 6	Particle filtering half masks meeting the requirements of this European Standard shall be designated in the following manner: Particle filtering half mask EN 149, year of publication, classification, option (where "D" is an option for a non re-useable particle filtering half mask and mandatory for re-useable particle filtering half mask).	Pass.
Nominal values and tolerances	EN 149:2001+A1:2009 Clause 7.2	Unless otherwise specified, the values stated in this European Standard are expressed as nominal values. Except for temperature limits, values which are not stated as maxima or minima shall be subject to a tolerance of $\pm 5\%$. Unless otherwise specified, the ambient temperature for testing shall be $(16 - 32)^\circ\text{C}$, and the temperature limits shall be subject to an accuracy of $\pm 1^\circ\text{C}$.	Pass. $+5^\circ\text{C}$ to $+38^\circ\text{C}$.
Visual inspection	EN 149:2001+A1:2009 Clause 7.3	The visual inspection shall also include the marking and the information supplied by the manufacturer.	Pass
Packaging	EN 149:2001+A1:2009 Clause 7.4& Clause 8.2	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. The visual inspection is carried out where appropriate by the test house prior to laboratory or practical performance tests.	Pass

Material	EN 149:2001+A1:2009 Clause 7.5& Clause 8.3	A breathing machine is adjusted to 25 cycles/min and 2,0 l/stroke. The particle filtering half mask is mounted on a Sheffield dummy head. For testing, a saturator is incorporated in the exhalation line between the breathing machine and the dummy head, the saturator being set at a temperature in excess of 37 °C to allow for the cooling of the air before it reaches the mouth of the dummy head. The air shall be saturated at $(37 \pm 2) ^\circ\text{C}$ at the mouth of the dummy head. In order to prevent excess water spilling out of the dummy's mouth and contaminating the particle filtering half mask the head shall be inclined so that the water runs away from the mouth and is collected in a trap.	Pass. Melt blown filter
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Property	Method	Principle / Requirements	Result
		<p>Expose the particle filtering half masks to the following thermal cycle:</p> <p>a) for 24 h to a dry atmosphere of $(70 \pm 3) ^\circ\text{C}$;</p> <p>b) for 24 h to a temperature of $(-30 \pm 3) ^\circ\text{C}$; and allow to return to room temperature for at least 4 h between exposures and prior to subsequent testing.</p> <p>The conditioning shall be carried out in a manner which ensures that no thermal shock occurs.</p>	
Cleaning and disinfecting	EN 149:2001+A1:2009 Clause 7.6& Clause 8.4& Clause 8.5	<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. Testing shall be done in accordance with 8.4 and 8.5.</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>Testing shall be done in accordance with 8.11.</p>	Pass

Practical performance	EN 149:2001+A1:2009 Clause 7.7& Clause 8.4	<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>Work simulation test</p> <p>The individual activities shall be arranged so that sufficient time is left for the comments prescribed.</p> <p>a) walking on the level with headroom of $(1,3 \pm 0,2)$ m for 5 min;</p> <p>b) crawling on the level with headroom of $(0,70 \pm 0,05)$ m for 5 min;</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 allow the contents to be shovelled out and a further opening at the top where the basket full of chippings is returned.</p> <p>The subject shall stoop or kneel as he wishes and fill the basket with chippings. He shall then lift the basket and empty the contents back into the hopper. This shall be done 20 times in 10 min.</p>	<p>Pass.</p> <p>The particle filtering half mask could undergo practical performance tests under realistic conditions.</p>
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Property	Method	Principle / Requirements	Result														
Finish of parts	EN 149:2001+A1:2009 Clause 7.8& Clause 8.2	Parts of the device likely to come into contact with the wearer shall have no sharp edges or burrs. Testing shall be done in accordance with 8.2.	Pass. No sharp edges and burrs.														
Total inward leakage	EN 149:2001+A1:2009 Clause 7.9.1& Clause 8.5	1)walking for 2 min without head movement or talking; 2) turning head from side to side (approx. 15 times), as if inspecting the walls of a tunnel for 2 min; 3) moving the head up and down (approx. 15 times), as if inspecting the roof and floor for 2 min; 4) reciting the alphabet or an agreed text out loud as if communicating with a colleague for 2 min; 5)walking for 2 min without head movement or talking. The leakage P shall be calculated from measurements made over the last 100 s of each of the exercise periods to avoid carry over of results from one exercise to the other. $P(\%) = \frac{C_2}{C_1} \times \left(\frac{t_{IN} + t_{EX}}{t_{IN}} \right) \times 100$ where C ₁ is the challenge concentration C ₂ is the measured mean concentration in the breathing zone of the test subject t _{IN} is the total duration of inhalation t _{EX} is the total duration of exhalation	Pass. Total inward leakage is 9%.														
Penetration of filter material	EN 149:2001+A1:2009 Clause 7.9.2	The device shall be mounted in a leaktight manner on a suitable adaptor and subjected to the test(s), ensuring that components of the device that could affect filter penetration values such as valves and harness attachment points are exposed to the challenge aerosol. Testing of penetration, exposure and storage shall be done in accordance with EN 13274-7. The penetration of the filter of the particle filtering half mask shall meet the requirements of Table 1. <table><caption>Table 1 — Penetration of filter material</caption><tr><th rowspan="2">Classification</th><th colspan="2">Maximum penetration of test aerosol (%)</th></tr><tr><th>Sodium chloride test 95 l/min % max.</th><th>Paraffin oil test 95 l/min % max.</th></tr><tr><td>FFP1</td><td>20</td><td>20</td></tr><tr><td>FFP2</td><td>6</td><td>6</td></tr><tr><td>FFP3</td><td>1</td><td>1</td></tr></table>	Classification	Maximum penetration of test aerosol (%)		Sodium chloride test 95 l/min % max.	Paraffin oil test 95 l/min % max.	FFP1	20	20	FFP2	6	6	FFP3	1	1	Pass The penetration of paraffin oil test is 4%. The penetration of sodium chloride test is 3.3%
Classification	Maximum penetration of test aerosol (%)																
	Sodium chloride test 95 l/min % max.	Paraffin oil test 95 l/min % max.															
FFP1	20	20															
FFP2	6	6															
FFP3	1	1															
Compatibility with skin	EN 149:2001+A1:2009 Clause 7.10r	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.	Pass. Inner and out layer: Nonwoven pet fabric														

Property	Method	Principle / Requirements	Result
Flammability	EN 149:2001+A1:2009 Clause 7.11& Clause 8.6	<p>The facepiece is put on a metallic dummy head which is motorized such that it describes a horizontal circle with a linear speed, measured at the tip of the nose, of (60 ± 5) mm/s.</p> <p>The head is arranged to pass over a propane burner the position of which can be adjusted. By means of a suitable gauge, the distance between the top of the burner, and the lowest part of the facepiece (when positioned directly over the burner) shall be set to (20 ± 2) mm.</p> <p>With the head turned away from the area adjacent to the burner, the propane gas is turned on, the pressure adjusted to between 0,2 bar and 0,3 bar and the gas ignited. By means of a needle valve and fine adjustments to the supply pressure, the flame height shall be set to (40 ± 4) mm. This is measured with a suitable gauge. The temperature of the flame measured at a height of (20 ± 2) mm above the burner tip by means of a 1,5 mm diameter mineral insulated thermocouple probe, shall be (800 ± 50) °C.</p> <p>The head is set in motion and the effect of passing the facepiece once through the flame shall be noted.</p> <p>The test shall be repeated to enable an assessment to be made of all materials on the exterior of the device. Any one component shall be passed through the flame once only.</p>	<p>Pass.</p> <p>The particle filtering half mask does not to continue to burn for more than 5 s after removal from the flame.</p>

Carbon dioxide content of the inhalation air	EN 149:2001+A1:2009 Clause 7.12& Clause 8.7	<p>For this test the particle filtering half mask shall be fitted securely in a leak-tight manner but without deformation to a Sheffield dummy head (see Figure 6).</p> <p>Air shall be supplied to it from a breathing machine adjusted to 25 cycles/min and 2,0 l/stroke and the exhaled air shall have a carbon dioxide content of 5 % by volume.</p> <p>The CO₂ is fed into the breathing machine via a control valve, a flowmeter, a compensating bag and two non-return valves. Immediately before the solenoid valve a small quantity of exhaled air is preferably continuously withdrawn through a sampling line and then fed into the exhaled air via a CO₂ analyser.</p> <p>To measure the CO₂ content of the inhaled air, 5 % of the stroke volume of the inhalation</p>	<p>Pass.</p> <p>The carbon dioxide content of the inhalation air (dead space) does not exceed an average of 1,0 %</p>
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Property	Method	Principle / Requirements	Result
		phase of the breathing machine is drawn off at the marked place by an auxiliary lung and fed to a CO ₂ analyser. The total dead space of the gas path (excluding the breathing machine) of the test installation should not exceed 2000 ml. Measure the carbon dioxide content of the inhaled air and record continuously.	
Head harness	EN 149:2001+A1:2009 Clause 7.13	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.	Pass
Field of vision	EN 149:2001+A1:2009 Clause 7.14	The field of vision is acceptable if determined so in practical performance tests.	Not applicable
Exhalation valve(s)	EN 149:2001+A1:2009 Clause 7.15	A particle filtering half mask may have one or more exhalation valve(s), which shall function correctly in all orientations. 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. When the exhalation valve housing is attached to the faceblank, it shall withstand axially a tensile force of 10 N applied for 10 s.	Pass.
Breathing resistance	EN 149:2001+A1:2009 Clause 7.16& Clause 8.9	Seal the particle filtering half mask on the Sheffield dummy head. Measure the exhalation resistance at the opening for mouth of the dummy head using the adapter shown in Figure 6 and a breathing machine adjusted to 25 cycles/min and 2.0 l/stroke or a continuous flow 160 l/min. Use a suitable pressure transducer. Measure the exhalation resistance with the dummy head successively placed in 5 defined positions: facing directly ahead facing vertically upwards - facing vertically downwards - lying on the left side - lying on the right side Test the inhalation resistance at 30 l/min and 95 l/min continuous flow. The breathing resistances apply to valved and	Pass. Inhalation resistance at 31 l/min:<0.7mba r. Inhalation resistance at 90 l/min:<2.4mba r. Exhalation resistance at 160 l/min:<3.1mbar.

Property	Method	Principle / Requirements	Result																						
		<p>valveless particle filtering half masks and shall meet the requirements of Table 2.</p> <p>Table 2 — Breathing resistance</p> <table> <tr> <th rowspan="3">Classification</th><th colspan="3">Maximum permitted resistance (mbar)</th></tr> <tr> <th colspan="2">inhalation</th><th>exhalation</th></tr> <tr> <th>30 l/min</th><th>95 l/min</th><th>160 l/min</th></tr> <tr> <td>FFP1</td><td>0,6</td><td>2,1</td><td>3,0</td></tr> <tr> <td>FFP2</td><td>0,7</td><td>2,4</td><td>3,0</td></tr> <tr> <td>FFP3</td><td>1,0</td><td>3,0</td><td>3,0</td></tr> </table>	Classification	Maximum permitted resistance (mbar)			inhalation		exhalation	30 l/min	95 l/min	160 l/min	FFP1	0,6	2,1	3,0	FFP2	0,7	2,4	3,0	FFP3	1,0	3,0	3,0	
Classification	Maximum permitted resistance (mbar)																								
	inhalation			exhalation																					
	30 l/min	95 l/min	160 l/min																						
FFP1	0,6	2,1	3,0																						
FFP2	0,7	2,4	3,0																						
FFP3	1,0	3,0	3,0																						
Clogging	EN 149:2001+A1:2009 Clause 7.17& Clause 8.10	<p>Convey dust from the distributor to the dust chamber where it is dispersed into the air stream of 60 m /h.</p> <p>Fit the sample particle filtering half mask in a leaktight manner to a dummy head or a suitable filter holder located in the dust chamber. Connect the breathing machine and humidifier to the sample and operate for the specified testing time.</p> <p>The concentration of dust in the test chamber may be measured by drawing air at 2 l/min through a sampling probe equipped with a pre-weighed, high efficiency filter (open face, diameter 37 mm) located near the test sample, as shown in Figure 10.</p> <p>Calculate the dust concentration from the weight of dust collected, the flow rate through the filter and the time of collection.</p>	Not applicable																						
Demountable parts	EN 149:2001+A1:2009 Clause 7.18	All demountable parts (if fitted) shall be readily connected and secured, where possible by hand.	Not applicable																						