



TEST REPORT

Commissioned by: Sanctuary Systems LLC

Factory: Sanctuary Systems LLC

Name of Sample: Non-Medical Disposable Respirator 3D

Type, Specification: KN953D1

Testing Purpose: Commission

Testing Lab: Precise Testing & Certification
(Guangdong) Co., Ltd. (PTC)

Address: Building 1, No. 6, Tongxin Road,
Dongcheng Street, Dongguan, Guangdong

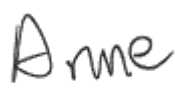




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| | | | |
|--|---|---|--|
| Name of sample | Non-Medical Disposable Respirator 3D | Type,Specification | KN953D1 |
| | | Trade Mark | Breatheze |
| Grade of sample | / | Sample No. | / |
| Testing purpose | Commission | Batch No. | / |
| Quantity of sample | 125pcs | Package | Sealed |
| Sample Received Date | Nov. 25, 2022 | Completed Date | Dec. 06, 2022 |
| Testing Environment | As requirement of testing standard | | |
| Commissioned by& Address | Sanctuary Systems LLC 701 S Wilson St, Box# 692, Fremont, NC USA | | |
| Name & Address of Factory | Sanctuary Systems LLC 701 S Wilson St, Box# 692, Fremont, NC USA | | |
| Testing Reference | GB 2626-2019 Respiratory protection - Non-powered air-purifying particle respirator. | | |
| Testing Item | General requirements, Visual inspection, Filter efficiency, Inhalation resistance, Exhalation resistance, Dead Space, Vision, Headband, Strength of the connection , Flammability, Practical performance, Leakage property, Air tightness | | |
| Remark | Test results are attached as below | | |
| Note | None | | |
| Prepared by: Anne  | | Checked by: May Chan  | Approved by: Miya  |

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| No. | Test Item/unit | Test Method | Requirement | Test Result | Conclusion |
|-----|------------------------|-----------------------------------|--|-------------|------------|
| 1 | General requirements ☆ | GB 2626-2019 Clause 6.1 & 6.16 | <p>Check in accordance with 6.1 and evaluate in 6.16. The material and structural design of the respirator shall meet the following requirements:</p> <p>a) The material shall meet the following requirements:</p> <p>1) Materials that are in direct contact with the face shall be harmless to the skin;</p> <p>2) The filter material shall be harmless to the human body;</p> <p>3) The material used shall have sufficient strength; in normal use, it shall not be damaged and deformed that affects the use effect;</p> <p>4) No obvious tenderness or tingling sensation when wearing it.</p> | Comply | Pass |
| | | | <p>b) The structural design shall meet the following requirements:</p> <p>1) It shall not be easy to cause structural damage; the design, composition, installation of components shall not pose any danger to the user;</p> <p>2) The design of the head harness shall be elastic material or adjustable,</p> | Comply | Pass |

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| | | | <p>for easy wearing and removal. It shall be able to firmly fit the facepiece on the face; there shall be no obvious compression or tenderness when wearing. The head harness of replaceable half facepiece and full facepiece shall be designed to be replaceable;</p> <p>3) If the facepieces of the same size and the same style have different wearing methods, they shall be tested as different products;</p> <p>Note 1: Different wearing methods of the same style facepiece will affect the tightness of the facepiece.</p> <p>4) It shall not significantly affect the visual field;</p> <p>5) When wearing, the lenses of the full facepiece shall not affect the vision, such as fogging;</p> <p>6) Respirators which use replaceable filter elements, inhalation valves, exhalation valves, head harness shall be designed for easy replacement; meanwhile it allows the wearer to check the airtightness of the facepiece and face at any time and conveniently, to make user</p> | | |
|--|--|--|---|--|--|

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| | | | <p>face-seal check;</p> <p>Note 2: See Appendix G of GB/T 18664-2002 for user face-seal check method.</p> <p>7) The breathing hose shall not restrict the movement of the head or the wearer; it shall not affect the tightness of the facepiece; it shall not restrict or block the airflow;</p> <p>8) The front side of the exhalation valve shall be protected. The exhalation valve protection device can be a dedicated component, or it can be protected by other components on the facepiece;</p> <p>9) The structure of the disposable facepiece shall ensure close fit with the face; meanwhile it shall not deform during normal use;</p> <p>10) The parts of the replaceable facepiece (except the filter element) shall be washable.</p> | | |
| 2 | Visual inspection | GB 2626-2019 Clause 6.1 & 6.2 | <p>The surface of the sample shall neither be damaged, deformed, nor have other obvious defects. The material and structure of the component shall be able to withstand normal use conditions and the temperature, humidity and mechanical shock that may be encountered. After the temperature and humidity</p> | Comply | Pass |

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| | | | pretreatment and mechanical strength pretreatment according to the method of 6.2, the components shall not fall off, be damaged or deformed. | | | |
| 3 | Filter efficiency (%) | GB 2626-2019 Clause 6.3 | KN90: ≥90.0% KN95: ≥95.0% KN100: ≥99.97% | As received (NaCl) | 100.00 | KN95 Pass |
| | | | | | 100.00 | |
| | | | | | 100.00 | |
| | | | | | 100.00 | |
| | | | | | 100.00 | |
| | | | | | 100.00 | |
| | | | | | 99.90 | |
| | | | | | 100.00 | |
| | | | | | 100.00 | |
| | | | | | 100.00 | |
| | | | | | 100.00 | |
| | | | | | 100.00 | |
| | | | | Temperature & humidity Treatment (NaCl) | 100.00 | |
| | | | | | 100.00 | |
| 4 | Inhalation resistance (Pa) | GB 2626-2019 Clause 6.5 | See Annex 1 | As received | 142.91 | KN95 Pass |
| | | | | | 143.92 | |
| | | | | Treatment | 133.88 | |
| | | | | | 134.67 | |

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| 5 | Exhalation resistance (Pa) | GB 2626-2019 Clause 6.6 | See Annex 1 | As received | 113.00 | KN95 Pass |
| | | | | | 115.87 | |
| | | | | Treatment | 111.93 | |
| | | | | | 105.92 | |
| 6 | Dead Space (%) | GB 2626-2019 Clause 6.9 | ≤ 1% | 0.42% | | Pass |
| 7 | Vision | GB 2890-2009 Clause 6.8 | Below view field :≥35° | 63° | | Pass |
| | | | Double-eye view field:≥65% | 72% | | |
| 8 | Headband [☆] | GB 2626-2019 Clause 6.11 | Disposable facepiece: 10Ncontinuous10s No slippage or breakage | As received | Comply | Pass |
| | | | | Treatment | Comply | |
| 9 | Strength of the connection | GB 2626-2019 Clause 6.12 | Each head harness, buckle and other adjustment parts of the respirator shall not slip or break when it is subjected to the tensile force: Disposable facepiece: 10 N for 10 s Replaceable half facepiece: 50 N for 10 s | Not Applicable | | Not Applicable |
| 10 | Flammability | GB 2626-2019 Clause 6.15 | If the product is not flame-retardant, there should be a textual description of "This product is not suitable for the open flame operation (such as welding, casting, etc)" If the product is not flame-retardant, it should be tested according to the requirements of flammability After removed from the flame, the continued burning time of the components exposed to the flame should be no more than 5 seconds | As received | No Burn | Pass |
| | | | | | No Burn | |
| | | | | Treatment | No Burn | |
| | | | | | No Burn | |

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| 11 | Practical performance [☆] | GB 2626-2019 Clause 6.16 | Perform test in accordance with the method of 6.16. Under the conditions of simulated use, the performance which is hard to be evaluated by the use of other testing methods, such as the performance specified in 5.1b) and 5.11, the subject will provide subjective evaluation. If the respirator fails the test, the laboratory shall describe the test method in detail, so that other laboratories can repeat the test process. | Comply | Pass |
| 12 | Leakage property (%) | GB 2626-2019 Clause 6.4 | See annex 2 | See annex 2-A | KN95 Pass |
| 13 | Air tightness | GB 2626-2019 Clause 6.14 | Under the specified testing conditions, the pressure change in each full facepiece within 60 s shall not be greater than 100 Pa. | Not Applicable | Not Applicable |

Note: ☆=The standard for this test item is not covered by CNAS accredited testing scope of PTC.

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Tel: 86-769-38808222 Fax: 86-769-38826111 [http:// www.ptc-testing.com](http://www.ptc-testing.com)



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Annex 1: limits of Inhalation/Exhalation Resistance

| Type of facepiece | KN90 and KP90 | KN95 and KP95 | KN100 and KP100 | Exhalation resistance / Pa |
|--|---------------|---------------|-----------------|-------------------------------|
| Disposable facepiece, without exhalation valve | ≤170 | ≤210 | ≤250 | Same as inhalation resistance |
| Disposable facepiece, with exhalation valve | ≤210 | ≤250 | ≤300 | ≤150 |
| Replaceable half facepiece and full facepiece including filter element | ≤250 | ≤300 | ≤350 | |

Annex 2: limits of Leakage

| | | | |
|----------------------------------|--|--|--|
| TIL of disposable facepieces | Grade of filter material | When using the TIL of each action (i.e. 10 people x 5 actions) as the basis for evaluation, the TIL of at least 46 of the 50 actions | When using the overall TIL as the basis for evaluation, the overall TIL of at least 8 persons of the 10 persons under test |
| | KN90 or KP90 | < 13% | < 10% |
| | KN95 or KP95 | < 11% | < 8% |
| | KN100 or KP100 | < 5% | < 2% |
| IL of replaceable half facepiece | Perform test in accordance with the method of 6.4. When using the IL of each action (i.e. 10 people x 5 actions) as the basis for evaluation, the IL of at least 46 of the 50 shall be less than 5%. When using the overall IL of person as the basis for evaluation, the overall IL of at least 8 persons of the 10 persons under test shall be less than 2%. | | |
| IL of full facepiece | Perform test in accordance with the method of 6.4. When the IL of each action is used as the basis for evaluation (i.e. 10 persons x 5 actions), the IL of each action shall be less than 0.05%. | | |

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Annex 2-A: Inward Leakage Test Data

| Subject | Sample No. | Condition | Walk (%) | Head left/right (%) | Head up/down (%) | Talk (%) | Walk (%) | Mean (%) |
|---------|------------|-----------|----------|---------------------|------------------|----------|----------|----------|
| Lv | 1 | A.R | 2.92 | 6.68 | 6.21 | 9.56 | 3.85 | 5.84 |
| Li | 2 | A.R | 3.44 | 8.76 | 5.49 | 8.55 | 3.08 | 5.86 |
| Zhong | 3 | A.R | 2.93 | 8.32 | 5.23 | 8.64 | 3.73 | 5.77 |
| Xu | 4 | A.R | 3.56 | 9.05 | 7.69 | 7.87 | 3.65 | 6.36 |
| Ma | 5 | A.R | 4.32 | 5.51 | 7.73 | 8.85 | 3.42 | 5.97 |
| Chen | 6 | T.C | 3.65 | 6.49 | 7.06 | 7.52 | 3.67 | 5.68 |
| Chen | 7 | T.C | 4.28 | 7.11 | 6.55 | 7.64 | 3.48 | 5.81 |
| Zhuo | 8 | T.C | 3.72 | 5.35 | 7.92 | 7.69 | 3.65 | 5.67 |
| Chen | 9 | T.C | 4.06 | 7.52 | 6.96 | 6.31 | 3.46 | 5.66 |
| Zhang | 10 | T.C | 3.59 | 6.83 | 5.79 | 6.15 | 3.52 | 5.18 |

Annex 2-B: Facial dimension

| Subject | Face Length | Face Width | Face Depth | Mouth Width |
|---------|-------------|------------|------------|-------------|
| Lv | 113 | 139 | 104 | 53 |
| Li | 120 | 135 | 112 | 55 |
| Zhong | 108 | 135 | 106 | 56 |
| Xu | 120 | 150 | 120 | 70 |
| Ma | 130 | 170 | 130 | 80 |
| Chen | 110 | 160 | 90 | 40 |
| Chen | 115 | 145 | 110 | 50 |
| Zhuo | 103 | 146 | 100 | 50 |
| Chen | 110 | 145 | 95 | 40 |
| Zhang | 144 | 141 | 101 | 54 |

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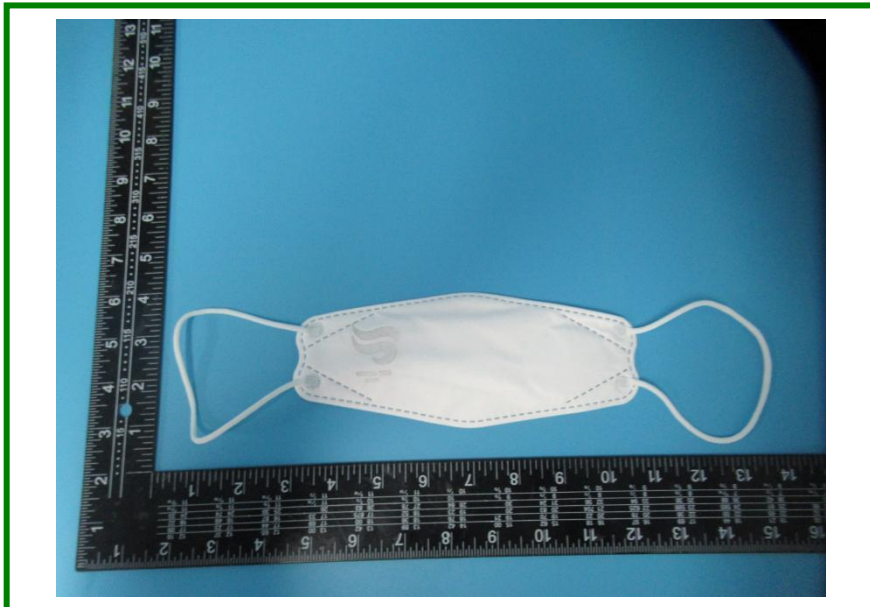
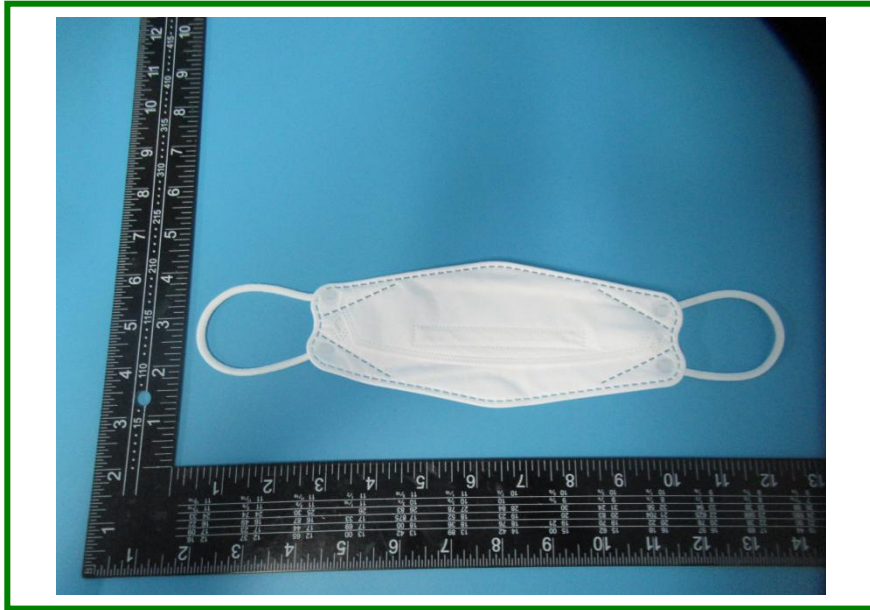
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Photo(s) of sample:



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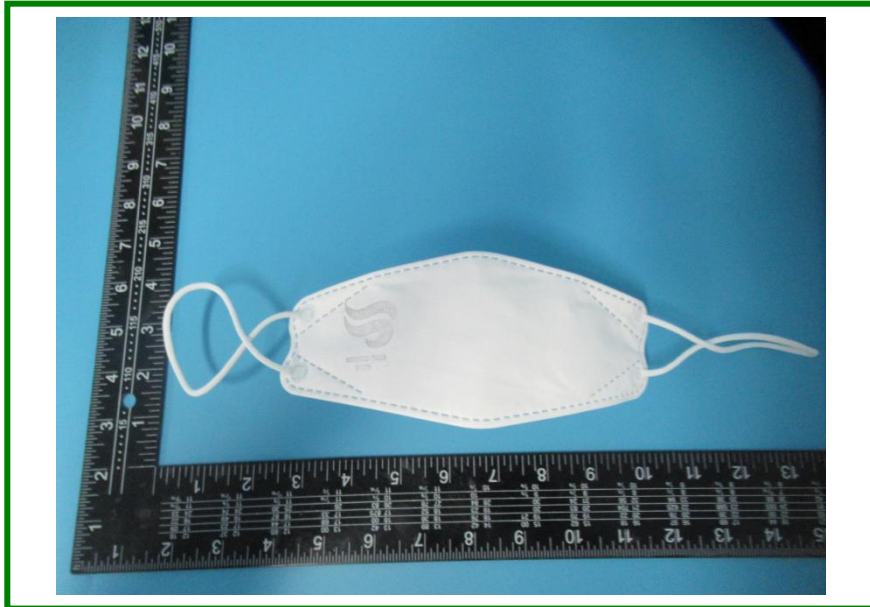


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