

NPPTL COVID-19 Response: International Respirator Assessment

Manufacturer: Shenzhen Crawford Technology Co., Ltd.

Model Tested: XO-01 or XO-03

Date Tested: May 22, 2020

These findings pertain to the Shenzhen Crawford Technology Co., Ltd., model XO-01 or XO-03. The packaging for this product indicates model XO-01, however, the certificate paper indicates XO-03. The packaging for this product indicates that it meets GB2626-2006 (the Chinese standard for Respiratory Protective Equipment – Non-Powered Air-Purifying Particle Respirator) and EN149:2001+A1:2009 (the European standard for Respiratory Protective Devices – Filtering Half Masks to Protect Against Particles – Requirements, Testing, Marking).

Nineteen respirators were submitted for evaluation. The respirators were sampled into groups of ten for evaluation. The samples were tested using a modified version of NIOSH Standard Test Procedure (STP) TEB-APR-STP-0059. This modified assessment plan can be found [here](#).

No certificate of approval was provided with the samples received; therefore, the authenticity of the claims cannot be validated.

The maximum and minimum filter efficiency was 44.20% and 14.60%, respectively. All nineteen respirators measured less than 95%.

While the above-listed product classification has similar performance requirements to NIOSH-approved devices, NIOSH does not have knowledge about the sustained manufacturer quality system and product quality control for these products. NIOSH also does not have knowledge about the product's handling and exposures after leaving its manufacturer's control.

In addition, this product is an ear loop design. Currently, there are no NIOSH-approved products with ear loops; NIOSH-approved N95s have head bands. Furthermore, limited assessment of ear loop designs, indicate difficulty achieving a proper fit. While filter efficiency shows how well the filter media performs, users must ensure a proper fit is achieved.

This assessment is not a part of the NIOSH respirator approval process and will in no way lead to or preclude NIOSH approval through the official approval process. This assessment was developed as an assessment of the filter efficiency for those respirator's represented as certified by an international certification authority, other than NIOSH, to support the availability of respiratory protection to US healthcare workers due to the respirator shortage associated with COVID-19. Only particulate filter efficiency was assessed.

The results provided in this letter are specific to the subset of samples that were provided to NPPTL for evaluation.

These results will be used to update the CDC guidance for [Crisis Capacity Strategies \(during known shortages\)](#).

Evaluation of International Respirators

Test: Modified TEB-APR-STP-0059

Date Tested: May 22, 2020

Report Prepared: May 22, 2020

Manufacturer: Shenzhen Crawford Technology Co., Ltd.

Item Tested: XO-01 or XO-03 (Sample Group 1 of 2)

Country of Certification: China (GB2626-2006, EN149:2001+A1:2009)

Pictures have been added to the end of this report.

Filter	Flow Rate (Lpm)	Initial Filter Resistance (mmH ₂ O)	Initial Percent Leakage (%)	Maximum Percent Leakage (%)	Filter Efficiency
1	85	3.4	79.3	85.4	14.60
2	85	3.4	73.2	76.5	23.50
3	85	4.7	81.2	84.0	16.00
4	85	3.2	78.9	83.3	16.70
5	85	4.4	54.6	55.8	44.20
6	85	4.1	81.3	84.8	15.20
7	85	3.5	71.7	77.3	22.70
8	85	3.8	70.5	74.9	25.10
9	85	4.3	80.0	83.9	16.10
10	85	3.8	76.5	82.7	17.30
Minimum Filter Efficiency: 14.60			Maximum Filter Efficiency: 44.20		

- The test method utilized in this assessment is not the NIOSH standard test procedure that is used for certification of respirators. Respirators assessed to this modified test plan do not meet the requirements of STP-0059, and therefore cannot be considered equivalent to N95 respirators that were tested to STP-0059.
- Respirators tested may not be representative of all respirators with the same certification mark. NIOSH has no control over suppliers and distributors of respirators certified by other national or international parties.
- This assessment is not a confirmation that it conforms with any or all of its specifications in accordance with its certification mark.
- This assessment was not a part of the NIOSH approval program. These results do not imply nor preclude a future approval through the NIOSH respirator approval program.

NPPTL COVID-19 Response: International Respirator Assessment

Test: Modified TEB-APR-STP-0059

Date Tested: May 22, 2020

Report Prepared: May 22, 2020

Manufacturer: ShenZhen Crawford Technology Co., Ltd.

Item Tested: XO-01 or XO-03 (Sample Group 2 of 2)

Country of Certification: China (GB2626-2006, EN149:2001+A1:2009)

Filter	Flow Rate (Lpm)	Initial Filter Resistance (mmH ₂ O)	Initial Percent Leakage (%)	Maximum Percent Leakage (%)	Filter Efficiency
11	85	4.6	61.3	64.9	35.10
12	85	4.3	71.7	76.7	23.30
13	85	3.6	76.5	80.5	19.50
14	85	3.9	69.8	73.0	27.00
15	85	4.4	75.1	77.3	22.70
16	85	3.9	66.2	73.4	26.60
17	85	4.0	70.6	76.4	23.60
18	85	3.5	81.4	84.4	15.60
19	85	4.2	77.7	80.5	19.50
20	85	-	-	-	-
Minimum Filter Efficiency: 15.60			Maximum Filter Efficiency: 35.10		

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- Respirators tested may not be representative of all respirators with the same certification mark. NIOSH has no control over suppliers and distributors of respirators certified by other national or international parties.
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KN95 FACE MASK

High-Concentration anion and antibacterial



1. Open the mask smoothly
2. Face to face of the mask without a nose clip so that the nose clip is above the mask
3. Pull the belt behind the ear
4. The middle part of the nose clip, press inward from the middle to both sides according to the strip shape of the nose beam until it is completely pressed into the shape of the nose beam, only one hand pinch of the mask pen clip may affect the tightness of the mask
5. Before entering the work area ,must check the tightness of the mask and face

Model:XO-01
Executive Company: Crawford Technology (HK)Co.,ltd
Manufacturer:shenzhen Crawford Technology Co., LTD
Executive Standard:GB2626-2006
EN149:2001+A1:2009
Production date:2020.04.14
Valid until:2023.04.14

ATTENTIONS :

1. Wash your hands according to the rules before wearing the mask, and avoid touching the inside of the mask when wearing it.
2. The mask must be replaced in time if it is dirty, deformed, damaged, or has an unusual smell.
3. The masks should be stored separately to avoid contact with each other and identify the users of the masks.
4. masks can not be disinfected with disinfectants, heating and other methods

CRAWFORD TECHNOLOGY (HK) CO.,LTD

Add:Hongdehui Industrial Park,Kang Qiao Road No128,Buji,Longgang District,Shenzhen
Standard:EN149:2001+A1:2009 Standard:GB/2626-2006 Place of origin:Made in China

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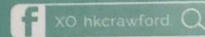
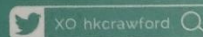
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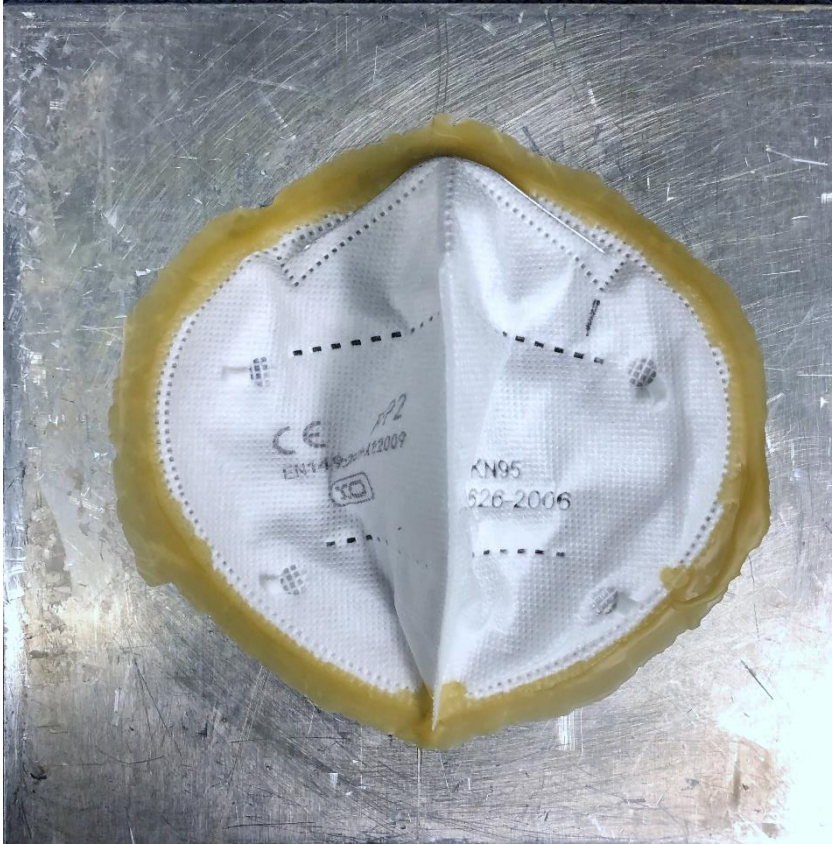




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