NPPTL COVID-19 Response: International Respirator Assessment

Manufacturer: Shenzhen Crawford Technology Co., Ltd.
Model Tested: XO-01
Date Tested: July 28, 2020

These findings pertain to the Shenzhen Crawford Technology Co., Ltd., model XO-01. The packaging for this product indicates that it meets GB2626-2006 (the Chinese standard for Respiratory Protective Equipment – Non-Powered Air-Purifying Particle Respirator).

Ten respirators were submitted 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 85.80% and 44.30%, respectively. All ten 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 respirators 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:** July 28, 2020  
**Report Prepared:** July 28, 2020  
**Manufacturer:** Shenzhen Crawford Technology Co., Ltd.  
**Item Tested:** XO-01  
**Country of Certification:** China (GB2626-2006)

<table>
<thead>
<tr>
<th>Filter</th>
<th>Flow Rate (Lpm)</th>
<th>Initial Filter Resistance (mmH₂O)</th>
<th>Initial Percent Leakage (%)</th>
<th>Maximum Percent Leakage (%)</th>
<th>Filter Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>85</td>
<td>5.4</td>
<td>25.6</td>
<td>25.6</td>
<td>74.40</td>
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<tr>
<td>2</td>
<td>85</td>
<td>9.4</td>
<td>55.7</td>
<td>55.7</td>
<td>44.30</td>
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<tr>
<td>3</td>
<td>85</td>
<td>3.2</td>
<td>23.1</td>
<td>30.9</td>
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<td>4</td>
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<td>35.7</td>
<td>41.4</td>
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<tr>
<td>5</td>
<td>85</td>
<td>3.8</td>
<td>45.2</td>
<td>50.2</td>
<td>49.80</td>
</tr>
<tr>
<td>6</td>
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<td>6.7</td>
<td>38.7</td>
<td>38.7</td>
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<tr>
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<td>85</td>
<td>2.6</td>
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<tr>
<td>10</td>
<td>85</td>
<td>5.4</td>
<td>14.2</td>
<td>14.2</td>
<td>85.80</td>
</tr>
</tbody>
</table>

Minimum Filter Efficiency: 44.30  
Maximum Filter Efficiency: 85.80

- 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.
KN95 FACE MASK

NON MEDICAL

10 PCS
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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.

Model: XO-01
Executive Company: Crawford Technology (HK) CO., Ltd
Manufacture: Shenzhen Crawford Technology Co., Ltd
Executive Standard: GB2626-2006
Production date: 2020.04.14
Valid until: 2023.04.14

CRAWFORD TECHNOLOGY (HK) CO., LTD
Add: Hongdehua Industrial Park, Kang Qiao Road No.128, Buji, Longgang District, Shenzhen, Place of origin: Made in China
☎+86(0755)83512732 @ www.hkcrawford.com

The picture is only for reference, please make the object as the standard.
NPPTL COVID-19 Response: International Respirator Assessment

Note:
• The product is valid for 3 years; please use it within the validity period.
• Disposable only; destroyed after use.
• The package is broken; no use.
NPPTL COVID-19 Response: International Respirator Assessment

产品名称:一次性民用KN95口罩
Product name: Disposable KN95 Respirator

产品型号: XQ–01 数量:5个
Model: XQ–01 Quantity:5 Pcs

产品尺寸:15.5 x 10.5cm
Specification: 15.5*10.5cm

执行标准: GB2626–2006
Executive Standard: GB2626–2006

生产批号: MK2020041
Production batch No.: MK2020041

生产日期: 2020.04.14
Production date: 2020.04.14

有效期: 36 Month Valid until: 36 Month

执行监制: 香港克劳福德科技有限公司
Executive Company: Crawford Technology (HK) Co., Ltd.

制造商: 深圳市克劳福德科技有限公司
Manufacturer: Shenzhen Crawford Technology Co., Ltd.

地址: 深圳市龙岗区龙德辉工业园C1栋2楼
Add: 2nd floor, C1 building, HongDeHui Industrial park, Longgang district, Shenzhen

主要成分: 无纺布(53%), 熔喷布(19%), 热风棉(28%)
Main materials: Non-woven fabric(53%), Meltblown fabric(19%), Hot-air cotton(28%)

产地: 中国 Place of origin: Made in China
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