

Personal Protective Equipment (PPE) and Masks for First Responders

With the national shortage for personal protective equipment, first responders are having to make decisions about protecting themselves and the public as they continue to provide public safety services to our communities. KLC is providing some of the following tips related to the use of masks.

- **N95 masks or other respirators, if available, should not be mandatory for employees to wear.**

KLC currently does not recommend *requiring* the use of N95 masks. If the employer makes it mandatory to wear the N95 masks, the employer must perform fit tests and medical exams according to OSHA regulations. This creates a huge liability and cost for the city to take on if it requires employees to wear the masks.

However, if the employer simply makes the masks available, you would only need to provide the employee with Appendix D linked here: <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.134AppD>.

Additional resources are found here:

- <https://www.osha.gov/laws-regs/standardinterpretations/1996-03-04-0>
- <https://www.osha.gov/memos/2020-03-14/temporary-enforcement-guidance-healthcare-respiratory-protection-annual-fit>

- **Homemade masks should only be considered as a last resort if traditional PPE masks are not available.**

In 2013, a study from Cambridge concluded homemade masks were one-half as effective as surgical masks. The study concluded that homemade masks “should only be considered as a last resort to prevent droplet transmission from infected individuals.” The conclusion went on to state the homemade mask, “would be better than no protection.” The study abstract is located here: <https://www.ncbi.nlm.nih.gov/pubmed/24229526>.

- **What should a city do if traditional PPE masks are not available?**

KLC does not recommend using the homemade masks unless there are no other options. However, KLC recognizes the desire to provide as much protection to our first responders who are continuing to respond to calls. If employees, or local groups, are willing and able to make and provide homemade masks, the following method seems to be a viable option.

Using the findings from the Cambridge study, which indicated doubling up on material can provide an additional 14% in efficacy, the following guide to making masks was developed:

[How to Make Face Mask with Filter Pocket and Adjustable Wire: Sewing Tutorial](#)

We have decided to go with two layers of 100% cotton (at least 200 thread count) for the outer cover and a piece of TrueHepa filter as the insert. We are cutting up TrueHepa-rated air conditioner filters from hardware stores for inserts. We cut a piece that will fit in the mask

pocket and insert it. We think the inner filter is not washable, but it can be removed, thrown away, the mask washed, and the filter replaced. We don't get a good air seal around the face (like an N95).