MASK PROTECTION EFFICIENCY

Highly Effective
N95 / KN95
Fits tightly with minimal leakage.
around edges. Offers the best
protection by filtering at least
95 percent of small particles.

Effective
Surgical
Fits over mouth and nose.
Helps prevent spread of large
respiratory droplets when
wearer coughs or sneezes.

Minimally / Ineffective
Cloth / DIY
Fits loosely and does not
contain any filter. Minimal
effectiveness against viruses.

Wearing a mask has become part of the new way of life amidst the COVID-19 pandemic, especially for businesses and workers that have direct and frequent contact with the public. While any mask is better than no mask, knowing your different types of masks and their effectiveness at protecting against viruses can be the difference to remaining safe and healthy.

Testing of Mask/Material Protection Efficiency

Mask Type	ASTM Level	% of Particles Filtered	
N95 / KN95 Mask	ASTM Level 3	95% +	Highly Effective
Surgical Mask	ASTM Level 2	80% +	Effective
3-layer Hanes 100% Cotton T-shirt*	Not ASTM safety rated	28% —	Minimally Effective
Folded Bandana*	Not ASTM safety rated	10% —	Ineffective

* Testing results reported by particle-testing equipment company, TSI, using the same machine that N95 mask makers employ to certify that their respirator masks meet OSHA standards. *See Business Insider for the full article and results:*
https://www.businessinsider.com/the-materials-that-filter-particles-best-in-homemade-masks-testing-2020-4

Fit is as critical as material choice. If the mask is not snug around the nose, cheeks and chin, and unfiltered air leaks in from around the mask, the material doesn't matter.

Filtering must be balanced with breathability. If a material's filtering is suffocating, it will be harder to breathe through and more unfiltered air will likely be sucked in from around the mask's edges.

Be careful using unconventional material, such as furnace filters, vacuum cleaner bags and blue shop towels, as experts caution that breathing in tiny fibers of these commercial materials could be unsafe.