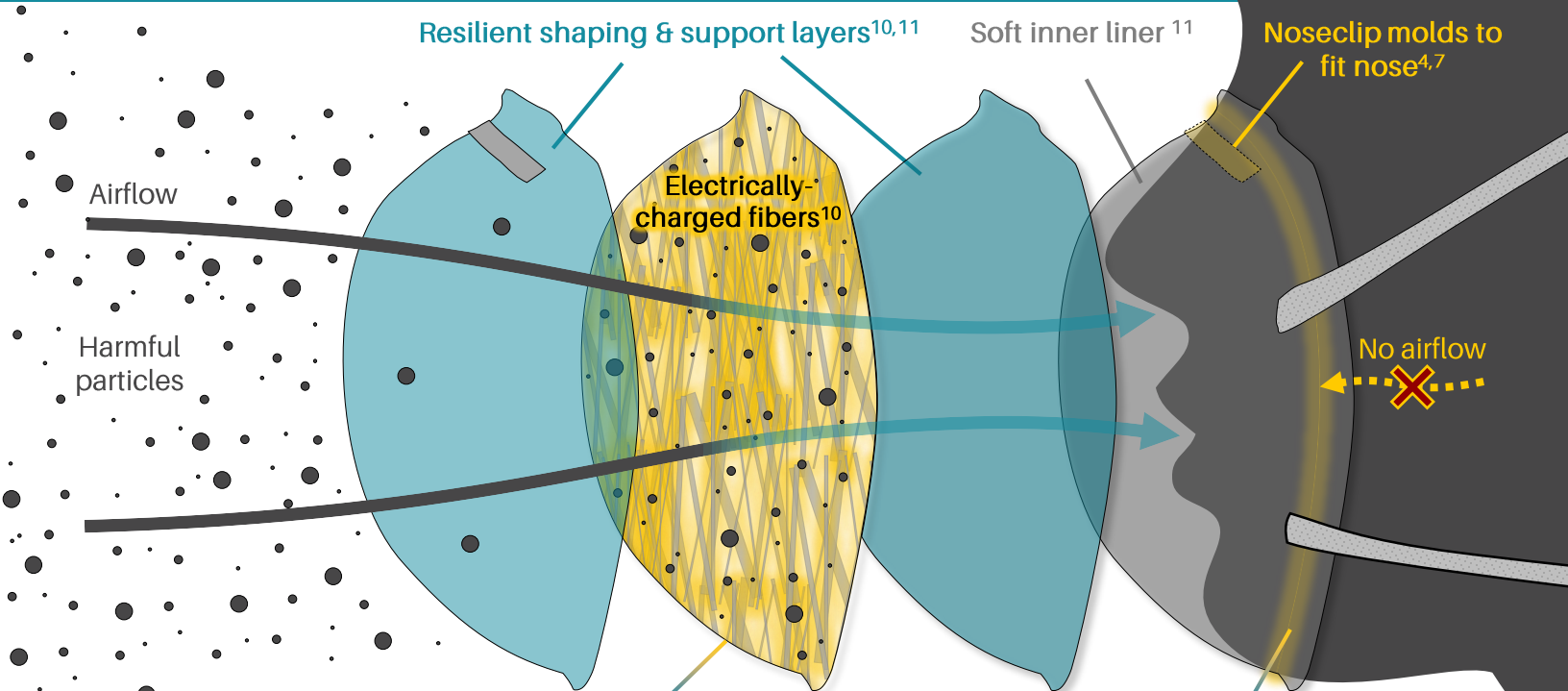


# What is an N95 Respirator?

An N95 respirator is a filtering facepiece respirator (FFR) that filters out at least 95% of airborne particles free of oil<sup>1,2,3</sup>.



## KEY FUNCTIONAL FEATURES

Primary filtration is provided by a layer of nonwoven electrically-charged melt-blown polypropylene fibers<sup>10,11</sup>.

Electric charge on fibers enables high filtration efficiency and low resistance to breathing (low pressure drop)<sup>10</sup>.

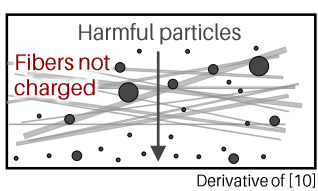


Proper seal forces air through filtration layer<sup>4,5,6,7</sup>.

- Procedures to ensure proper seal:
  - [Fit testing \(yearly\)](#)<sup>6</sup>
  - [Don/doff procedure](#)<sup>5</sup>
  - [Seal-checking procedure \(every don\)](#)<sup>7</sup>

## CAUTION!

Filtration efficiency can be reduced by physical damage to filter or static charge degradation<sup>10</sup>.



Inadequate seal allows harmful particles to leak around respirator edges<sup>4,6,8,9</sup>.

- Inadequate seal may occur due to:
  - [Poor fit to user's face](#)<sup>6</sup>
  - [Structural degradation \(straps, noseclip\)](#)<sup>8</sup>
  - [Facial hair along sealing region](#)<sup>9</sup>

SUPPORTING RESEARCH [1] [https://www.cdc.gov/niosh/npptl/topics/respirators/disp\\_part/n95list1.html](https://www.cdc.gov/niosh/npptl/topics/respirators/disp_part/n95list1.html); [2] <http://multimedia.3m.com/mws/media/1751190/1860-1860s-particulate-respirator-and-surgical-mask.pdf>; [3] <https://www.cdc.gov/niosh/npptl/topics/respirators/pt84abs2.html>; [4] <https://blogs.cdc.gov/niosh-science-blog/2020/03/16/n95-preparedness/>; [5] <https://www.cdc.gov/niosh/docs/2010-133/pdfs/2010-133.pdf>; [6] <https://www.cdc.gov/niosh/docs/2018-129/pdfs/2018-129.pdf>; [7] <https://www.cdc.gov/niosh/docs/2018-130/pdfs/2018-130.pdf>; [8] <https://www.cdc.gov/coronavirus/2019-ncov/hcp/respirators-strategy/index.html>; [9] <https://blogs.cdc.gov/niosh-science-blog/2017/11/02/noshave/>; [10] Lei Liao, Wang Xiao, Mervin Zhao, Xuanze Yu, Haotian Wang, Qiqi Wang, Steven Chu, Yi Cui, Can N95 respirators be reused after disinfection? And for how many times?, Preprint, [DOI](#), SEM image adapted from and fiber-particle schematics (filtration layer and CAUTION! section) derivative of [10] used under [CC-BY-NC 4.0 International license](#); [11] [US patent 4807619](#), James F. Dyrud, Harvey J. Berg, Alice C. Murray, "Resilient shape-retaining fibrous filtration face mask".



The Content provided by N95DECON is for INFORMATIONAL PURPOSES ONLY and DOES NOT CONSTITUTE THE PROVIDING OF MEDICAL ADVICE and IS NOT INTENDED TO BE A SUBSTITUTE FOR INDEPENDENT PROFESSIONAL MEDICAL JUDGMENT, ADVICE, DIAGNOSIS, OR TREATMENT. Use or reliance on any Content provided by N95DECON is SOLELY AT YOUR OWN RISK. A link to the full N95DECON disclaimer can be found at <https://www.n95decon.org/disclaimer>.