

## It's important to know what type of particle you may be exposed to and select the right mask for the right job.

By just looking at a mask, it would be difficult to tell the difference between an N95 mask and mask with lower levels of protection. However, there are real differences between how they protect airways. What makes N95 masks so effective is that there is no direct path through the fibers that make up the filtration material.

The airflow and the particles it carries must turn and weave their way through the tortuous path of the filter media. Large particles (greater than around 0.6 Micron in diameter) are usually captured when the particle can't make the turn around a fiber due to its inertia and it impacts on a fiber.

The random movement of very small particles (around 0.1 Micron in diameter), because they are too small to be carried away in the airflow, cause them to come in contact with the mask's fibers and get trapped.

Surprisingly, it is not the largest or the smallest particles that are the hardest to trap but the particles that are greater than 0.1 Micron and less than 0.6 Micron. These particles are large enough to be picked up by the airflow yet small enough to travel with the airflow around most fibers.

Particles of 0.3 Microns are therefore considered to be the most difficult particles to trap and the object test size for the most stringent requirements for NIOSH certification of an N95 Respirator.



**ELECTRON MICROSCOPIC  
VIEW OF A N95 MASK**

