

## Toolbox talk - Quantitative fit testing performed:

The Occupational Safety and Health Administration (OSHA) has included the acceptance of respirator fit test protocols in its regulations at 29 CFR 1910.134. The OSHA-accepted fit test protocols can be found at 29 CFR 1910.134 appendixes A. The American National Standards Institute's ANSI Z88.10, Respirator Fit Testing Methods provides the step-by-step explanations for conducting the ANSI - accepted fit tests. There are several methods with significantly different protocols for conducting **Quantitative fit testing (QNFT)**. While the OSHA regulations and ANSI Z88.10 provide the procedures that must be used to conduct each of the accepted protocols, a general description of the most common methods used in the protocols are provided below for the convenience of the reader.



In order to do these measurements, a small sampling tube is positioned to sample the air within the face piece of the respirator and attached to a fit testing instrument able to calculate the percentage of particles leaking into the face piece.

1. First, the wearer dons one of the respirator models/sizes provided by the employer that is expected to provide a good fit , in accordance with the manufacturer's instructions
2. The wearer completes a user seal check to confirm that the respirator is properly seated on his/her face
3. A fit testing adaptor is affixed to the respirator and the respirator is attached to a fit testing instrument through a small sampling tube positioned within the face piece
4. The fit test operator then instructs the wearer to go through a series of prescribed exercises while the attached fit testing instrument measures the ratio of particles both inside and outside of the respirator. From this data, a fit factor for the tested wearer is calculated which will determine whether or not the model, brand, and size of the respirator is suitable (passable) to be used regularly by that wearer.