

# Quantitative Versus Qualitative Fit Tests

## Quantitative Testing: Required by NFPA, OSHA and MiOSHA for ANYONE using

### Full Face or 1/2 Face Mask

- **Objective result, no input required from subject.**
- **Totally mechanical and computerized process.**
- **Digital and numerical result.**
- **No chemicals to sniff, not dependent on sense of smell. Instant printed output.**

### Qualitative Testing: May be used for 1/2 Mask and N-95

- Subjective result, dependent on human perception.
- Maximum Fit Factor of 100
- Non-mechanical testing process...
- Pass/Fail result, not quantifiable.
- Lacking sense of smell, test is useless.
- Tests can be falsely reported positive or negative.

#### What Does OSHA Say?

All respirators that rely on a mask-to-face seal need to be annually checked with either qualitative or quantitative methods to determine whether the mask provides an acceptable fit to a wearer. The qualitative fit test procedures rely on a subjective sensation (taste, irritation, smell) of the respirator wearer to a particular test agent while the quantitative use measuring instruments to measure face seal leakage. The relative workplace exposure level determines what constitutes an acceptable fit and which fit test procedure is required. For negative pressure air purifying respirators, users may rely on either a qualitative or a quantitative fit test procedure for exposure levels less than 10 times (Fit Factor of 100 Maximum) the occupational exposure limit. Exposure levels greater than 10 times the occupational exposure limit (Fit Factor of over 500) must utilize a quantitative fit test procedure for these respirators. Fit testing of tight-fitting atmosphere-supplying respirators and tight-fitting powered air-purifying respirators shall be accomplished by performing quantitative or qualitative fit testing in the negative pressure mode.

<http://www.osha.gov/SLTC/etools/respiratory/oshfiles/fittesting1.html>

Which Test Will You Bet Your Employees Life On?