

Respirator Fit-Testing Compliance Game Plan



Occupational Health and Safety ([OHS](#)) [regulations](#) require employers to conduct fit testing on all workers required to wear a respirator with a tight-fitting facepiece in accordance with CSA Z94.4 Selection, Use, and Care of Respirators (the most recent version of which is currently Z94.4-18 (R2023)). The point of fit testing is to verify that the respirator's fits properly and forms an effective seal against the worker's face that's tight enough to prevent [airborne contaminants](#) from leaking in. Here's an eight-step Game Plan to ensure compliance with fit-testing rules.

Step 1. Identify Which Respirators Require Fit Testing

The need for fit testing depends on how the respirator works, rather than what it's called. **General rule:** Fit testing on all tight-fitting respirators that rely on a seal between the facepiece and the user's face. That typically includes:

- Disposable filtering facepiece respirators, such as N95 respirators.
- Half-face elastomeric respirators.
- Full-face respirators.
- Self-contained breathing apparatus (SCBA) and other atmosphere-supplying respirators that use a tight-fitting facepiece.

Fit testing isn't required for loose-fitting respirators, such as a hood or helmet designed to provide protection without establishing a facial seal.

Step 2. Perform Fit Testing Before Worker Uses Tight-Fitting Respirator for First Time

Workers must be fit tested before they use a tight-fitting respirator at work. Only after the fit is confirmed effective should they be exposed to the hazardous conditions that the tight-fitting respirator is intended to guard against.

Step 3. Perform Fit Testing Even If Tight-Fitting Respirator Has a Filter

Having a good filter doesn't ensure effective respirator performance or eliminate the need for fit testing.

Example: An N95 filtering facepiece capable of filtering at least 95% of airborne particles won't protect a worker if the respirator doesn't seal properly allowing contaminated air to enter around the edges rather than passing through the filter. That's why you must perform fit testing on filtered respirators that rely on a tight fit.

Step 4. Use the Right Fit-Testing Methods

There are two basic types of fit testing:

i. Qualitative Fit Testing (QLFT)

A qualitative fit test is essentially a pass/fail test in which a user stands in an enclosure into which a nontoxic test agent like banana oil is introduced. If the user detects the agent, it means the facepiece is leaking and the test is a Fail and the worker must then be tested with another respirator make, size, or model. Because it's a subjective, non-numeric method, QLFT isn't appropriate for certain respirators, such as full-face respirators requiring quantitative testing.

ii. Quantitative Fit Testing (QNFT)

Quantitative fit testing uses an instrument to measure leakage into the respirator. The test involves the worker wearing the respirator while performing specified exercises, with the testing equipment measuring concentration of particles or test agent inside and outside the respirator. Unlike a qualitative test, QNFT produces an objective numerical result reflecting the effectiveness of the face seal.

Compliance Strategy: Which fit-testing method should you use for which respirator? **Answer:** Whichever method the respirator manufacturer's instructions recommend. If the instructions don't specify the testing method, check your jurisdiction's OHS regulations and/or CSA Z94.4 for the proper testing method required for the particular respirator type. Also be sure to follow any special testing methods required.

Step 5. Designate a Competent Person to Perform Fit Testing

The person who performs fit testing must be [competent](#), that is, have the knowledge, training, and experience necessary to manage the test process on their own. Simply following the instructions in a testing kit isn't enough. The tester must be

capable of:

- Carrying out the applicable fit-testing method effectively and compliantly.
- Accounting for any other PPE the worker will use while performing work for which the respirator is required.
- Interpreting the results and determining whether the worker is eligible to wear the respirator.
- Verifying that the worker can obtain an effective seal.
- Conducting any required sensitivity screening.
- Identifying problems with the testing equipment or procedure.
- For QNFT, properly calibrating and operating the equipment and recognizing when calibration is required.
- [Documenting the test and test results.](#)

Step 6. Require Tight-Fitting Respirator Users to Be Clean Shaven, If Necessary

Facial hair may interfere with the seal and undermine the respirator's effectiveness. So, see what, if anything, the respirator manufacturer's operating instructions say about facial hair. If in doubt, err on the side of caution by requiring users of tight-fitting respirators to be clean shaven before they get fit tested and to shave 12 to 24 hours before wearing the respirator thereafter. **Caveat:** Be prepared to make reasonable accommodations for workers who object to shaving on religious grounds but remember that the [duty to accommodate doesn't require you to place any person in danger](#).

Step 7. Provide for Retesting of Tight-Fitting Respirators

Fit testing should be repeated at regular intervals, based

your jurisdiction's OHS regulations and CSA Z94.4. Workers who use tight-fitting respirators should also undergo immediate fitness retesting in response to changes that could potentially affect the respirator's effectiveness, as well as indications that the respirator isn't providing the necessary protection. Retesting red flags to look out for:

- Changes to a different respirator make, model, style, or size not covered by the original fit test.
- Changes in PPE—introducing safety glasses, goggles, face shields, hard hats, hearing protection, or other equipment may interfere with a respirator or change how it sits on the face.
- Facial surgery, dental work, or other medical procedures that could affect fit.
- Changes to a worker's face, including scars or growth of facial hair that wasn't there when fit testing was performed.
- Significant changes to the user's body weight.
- Respiratory illnesses or exposures to other workers using the same tight-fitting respirator.
- Worker complaints that the respirator no longer fits properly or comfortably.

Step 8. Perform User Seal Checks in Combination with Not Instead of Fit Testing

Workers who use tight-fitting respirators must undergo fit testing **and** [perform pre-use seal checks](#). Don't confuse the procedures:

- **A fit test** must be performed as part of the respiratory protection program before a worker is allowed to use a tight-fitting respirator to verify that the particular respirator type, model, and size adequately fits and is

effective for that worker;

- **A user seal check**, by contrast, is performed by the worker each time the respirator is put on, in accordance with the manufacturer's instructions, to confirm that the respirator has been properly positioned and is sealing at that particular moment before the worker is actually exposed.

A successful fit test doesn't eliminate the need for a user seal check and vice-versa.

Takeaway

Keep in mind that fit testing is just one part of what should be a broader [respiratory protection program](#) that provides for [hazard assessment](#), atmospheric monitoring, [selection of respiratory protection equipment](#), deployment of ventilation and other engineering controls, [safe use procedures](#), [medical monitoring or surveillance of](#) respirator users, [respirator safety training](#), respirator [inspection](#), [cleaning](#), maintenance, [care](#), and storage, and recordkeeping.