

# How to Perform a Fit Test

## Oregon-OSHA Requirements

Source: *The Air You Breathe: OR-OSHA's Respiratory Protection Guide for Agricultural Employers*

Before you begin the test:

- This test can be used only for respirators with P100 series filters or high-efficiency (HE) particulate air filters.
- The employee should wear chemical-resistant goggles during the test so the smoke doesn't irritate his/her eyes. Make sure the eye protection is placed so that it doesn't interfere with the respirator fit.
- The test may not be performed if there is any hair (including beard stubble) that comes between the skin and sealing surface or that interferes with the valves inside the respirator.
- Any clothing item, such as a hat, that interferes with the respirator fit must be removed before the test.

You will need the following to perform this test:

- A well-ventilated area.
- An irritant smoke kit that includes irritant smoke tubes, aspirator bulb, and a smoke tube opener.
- A variety of facepiece sizes and styles for the employee to choose. They must choose the one that provides the best fit.
- A mirror for the employee to use to evaluate fit and position of the respirator.

The following is an example of a qualitative fit test that uses irritant smoke as the test agent:

### Step 1: Confirm sensitive to irritant smoke

With the respirator off, squeeze the bulb so that it produces a very small amount of irritant smoke and have the employee sniff it lightly. The smoke should cause the employee to cough.

### Step 2: Put on the respirator

Have the employee put on the respirator, position it, and set the strap tension without help. The employee should wear the respirator for at least 5 minutes to ensure that it's comfortable before beginning the test.

### Step 3: Perform a positive and negative seal check

A seal check determines if the facepiece is working properly under positive and negative pressure. The employee must do the following to check positive and negative pressure:

#### Positive Pressure Check

- A. Block the exhalation valve by covering it with the palm of your hand.
- B. Exhale gently into the facepiece, creating a slight positive pressure.
- C. If you can feel air leaking under the facepiece, reposition the facepiece and repeat steps A and B until you have an effective seal.



#### Negative Pressure Check

- A. Block the inlet openings of the cartridges or canisters with the palms of your hands.
- B. Inhale gently so that the facepiece collapses, creating a slight negative pressure.
- C. Hold your breath for about 10 seconds. The seal is effective if the facepiece stays collapsed.
- D. If the facepiece expands or you can feel air leaking under the facepiece, reposition it and repeat steps A, B and C until you have an effective seal.



#### Step 4: Perform the irritant smoke test

Both the person being fit tested and the person conducting the fit test should wear chemical-resistant goggles during this step so that the smoke doesn't irritate their eyes.

##### General Procedure:

Keeping the smoke tube 12 inches away from the mask and downwind from the fit tester, squeeze the bulb every 20 seconds, making slow passes around the outside edge of the mask.

Perform the general procedure while the person being tested does the following:

- Breathes normally for 1 minute.
- Breathes deeply for 1 minute.
- Moves his or her head side-to-side, slowly for 1 minute.
- Moves his or her head up and down, slowly for 1 minute.
- Talks (or reads aloud, or counts out loud to 100) for 1 minute.
- Grimaces, moving his or her face muscles by smiling or frowning for 15 seconds.
- Bends over from the waist and then back up again, slowly for 1 minute.
- Breathes normally for 1 minute.

Those who detect smoke at any time during this test must reposition or tighten the respirator or select another one and begin the test again at Step 3. Otherwise, the respirator may not be adjusted until the end of Step 4.



#### Step 5: Confirm sensitivity to irritant smoke

Have the employee remove the respirator and repeat Step 1: With the respirator off, squeeze the bulb so that it produces a very small amount of irritant smoke and have the employee sniff it lightly. The smoke should cause the employee to cough.