

# Required Procedures for Respiratory Protection Program

Chapter 296-842 WAC

## Rule

Table 16  
Ambient Aerosol Condensation Nuclei Counter (Portacount™)  
Test Procedure

**Important:**

- This is a quantitative (QNFT) fit-test procedure.
- This method uses a particle counting instrument that measures and compares the particle concentration both inside and outside the respirator facepiece while the employee performs a series of test exercises.
- Particles in the ambient air are used as the test aerosol.

**Test Preparations**

1. Obtain a test instrument such as a Portacount™.
2. Have probed respirators available for each respirator model and size the employer uses, **or** have a sampling adapter available if the employee's actual or chosen respirator will be tested.

**Note:**

- A probed respirator has a special fitting installed on the facepiece designed to connect with the end of the test instrument's plastic sampling tube so that air samples can be taken inside the facepiece. Probed respirators can be obtained from the respirator manufacturer, or distributor, **and** can only be used for fit testing purposes.
- Contact TSI Inc., **or** the respirator's manufacturer to obtain probed respirators or facepiece sampling adapters.

3. Follow the test instrument manufacturer's instructions for test preparation, including particle, zero, and system checks. Make sure the instrument's pass **or** fail criterion is programmed to the following **minimum** performance levels:
  - For half-facepiece respirators, an overall minimum fit factor of 100 as a passing level.
  - For full-facepiece respirators, an overall minimum fit factor of 500 as a passing level.
4. Have high efficiency particulate air (HEPA) filters, **or** other respirator filters available that are capable of preventing significant penetration by particles generated by the test instrument such as, P100 or N95 series filters.
  - If you will use a sampling adapter instead of probed respirators be sure to have the correct type for the respirators chosen.



# Required Procedures for Respiratory Protection Program

Chapter 296-842 WAC

## Rule

Table 16 (Continued) Ambient Aerosol Condensation Nuclei Counter (Portacount™) Test Procedure	
Test	
5.	Properly attach the sampling line to the facepiece probe or sampling adapter.
6.	<p>Have the employee attach respirator filters, put on, properly adjust, and wear the respirator 5 minutes <b>before</b> the fit test. During this time you and the employee must evaluate the respirator's general fit by checking:</p> <ul style="list-style-type: none"><li>• Proper chin placement</li><li>• Properly tightened straps (do <b>not</b> over tighten)</li><li>• Acceptable fit across the nose bridge</li><li>• Respirator size. It must span the distance from nose to chin</li><li>• To see if the respirator stays in position</li></ul> <p><b>Note:</b> Wearing the respirator for 5 minutes permits the employee to make certain the respirator is comfortable <b>and</b> allows for purging of ambient particles trapped inside the facepiece.</p>
7.	<p>Have the employee perform a seal check. Make sure the sampling line is crimped to avoid leakage during the seal check. If <b>no</b> leakage is detected proceed to Step 8. If leakage is detected:</p> <ul style="list-style-type: none"><li>• Determine the cause <b>and</b></li><li>• If leakage is due to a poorly fitting facepiece have the employee:<ul style="list-style-type: none"><li>- Choose another respirator size or model <b>and</b></li><li>- Start again at Step 6.</li></ul></li></ul>
8.	<p>Start the fit test cycle.</p> <ul style="list-style-type: none"><li>• Follow the manufacturer's instructions for operating the test instrument.</li><li>• Have the employee perform the appropriate fit test exercises in Table 19.<ul style="list-style-type: none"><li>- The test instrument will automatically stop and calculate the overall fit factor. Use this result to determine whether or not the test is passed.<ul style="list-style-type: none"><li>• The test has been <b>passed</b> if the overall fit factor is at least 100 for a half facepiece, <b>or</b> 500 for a full facepiece.</li><li>• The test has <b>failed</b> if the overall fit factor is below 100 for a half facepiece or 500 for a full facepiece.</li></ul></li></ul></li></ul> <p><b>Note:</b> If the test has failed, have the employee select another respirator model or size following Table 11 <b>and</b> repeat this procedure.</p>

Required  
Procedures

