

# Better Fit Better Protection

## The Importance of N95 Respirator Fit and Seal

Your N95 respirator may feel comfortable when you put it on, but without proper fit testing, you can't be sure if it is sealing around the edges and not leaking. If it leaks, it is not able to properly protect you.



A poor fitting N95 will allow particulate to enter through voids or gaps between the N95 and the users face.

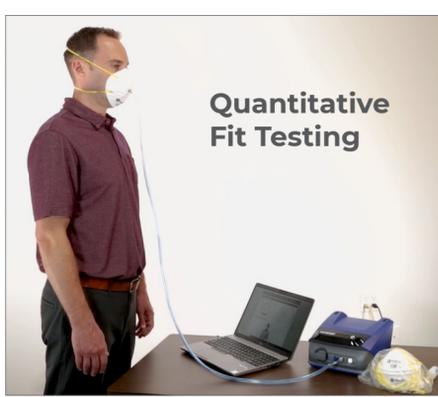


Look for an N95 respirator that has been tested to meet the ASTM F3407 Respirator Fit Capability (RFC) Standard to increase the probability that it will fit the widest range of your workforce's faces when you do fit testing.



### Q. What is the ASTM F3407 Respirator Fit Capability (RFC) Standard?

A. The ASTM RFC Standard tests the capability of a respirator to fit a wide range of faces in the US workforce. The RFC Standard outlines Fit Capability Testing on a 25-person group of volunteers, using the NIOSH Bivariate Panel as the requirement for the various face sizes to be tested. The testing collects data of the amount of airborne particles outside the respirator versus the amount inside the respirator, which measures how well a respirator seals against leaks.



Quantitative Fit Testing



Tall and Narrow



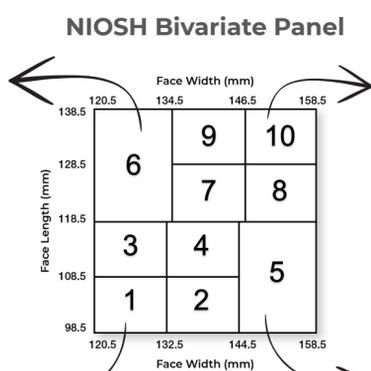
Tall and Wide



Short and Narrow



Short and Wide



### Q. What is a Fit Factor Score?

A. A Fit Factor Score is the ratio of the amount of airborne particles outside of the tested respirator versus the amount inside. A Fit Factor Score of 100 means roughly a 100-to-1 ratio, or inversely, a 1% leakage. The test instruments will return scores anywhere from 1 (100% leakage) to 200+ (1/2% leakage). An individual Fit Factor Score is measured for every exercise in a fit test procedure, and the average of all those individual scores is the overall Fit Factor score for that person for the respirator tested.

**Fit Factor Score**  
**100:1**  
**= 1% Leakage**

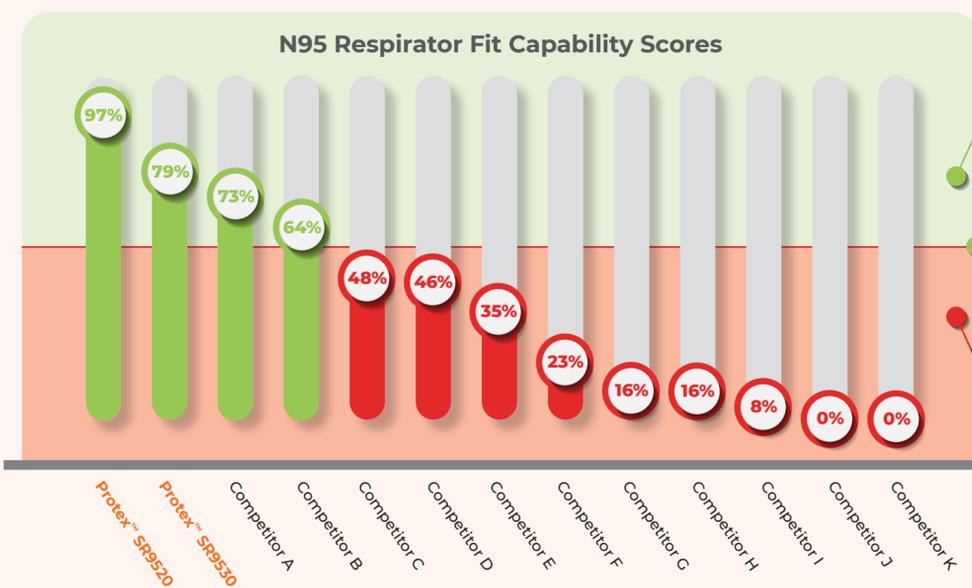
### Q. What is a Fit Capability Score?

A. A Fit Capability Score is the outcome score of the ASTM F3407 standard across the 25-person panel tested with a particular model respirator. It is a percentage of the 25 test panelists who had greater than a 100 overall Fit Factor score on their fit tests conducted to the RFC Standard. At least 13 of the 25 panelists need to achieve a Fit Factor Score of 100 or more for the respirator model tested for that model to meet the standard, just slightly more than 50%.

**Fit Capability Score**  
**13 of 25**  
**= 52% Fit Capability Score**

### Q. How well do disposable N95 models in the market do when tested against the ASTM F3407 RFC Standard?

A. Respirators passing the RFC Standard test method are expected to have better fitting characteristics. To see where the Protex™ N95 models stacked up, a comparison study of in-market filtering facepiece respirators was conducted using the ASTM F3407-20 RFC Standard to evaluate overall fit capabilities. The results might surprise you.



- N95 respirators with a fit capability score greater than 50% stand a better chance of fitting a wide range of faces in the US workforce
- A 50% minimum fit capability score is required to pass the ASTM F3407 RFC Standard
- N95 respirators scoring less than 50% are unlikely to fit a wide range of faces in the US workforce and can leak around the edges

Review the Complete N95 Respirator Fit Capability Study



## 5 Key Takeaways

- Not all N95 respirators tested fit and seal to the users face
- Fit capability is essential to understanding respirator performance
- Testing shows that fit performance varies dramatically across N95 models tested
- Most N95s tested did not meet the fit capability standard which calls for a minimum fit capability of 50%
- The Protex™ SR9520 Fit Capability score was an 97% and by far and away the best fitting N95 tested



## Protex™ N95 Respirators are Designed to Fit

Shawmut took fit and protection to a new level with the innovative Protex™ N95 respirator solution. The custom-designed cup and components produced an N95 respirator with unparalleled fit capability based on the ASTM F3407 Respirator Fit Capability (RFC) standard.

Shawmut listened to the experts and created an N95 that meets and exceeds full panel testing while offering the most comfort, fit, seal and protection. Protex™ N95s meet the ASTM F3407-20 Standard and are the only commercial N95s to claim this today. Protex™ N95s achieve passing fit scores on 97% of subjects tested, far exceeding the ASTM standard.

The result is a single product line that can fit the vast majority of users and will simplify fit testing for companies who have employee respiratory programs.

Shawmut Protex™ N95s meet ASTM F3407-20 Standards



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