The right protection for different faces.
Fit testing: To ensure proper fit of mask to the face

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In contrast, the quantitative fit test delivers more objective results, which can be measured. One procedure measures the number of particles in the mask interior as well as in the ambient air, using a particle counter. The measured values are then proportionally compared. Another method generates a controlled negative pressure inside the facepiece then measures leakage rate. The result of these tests is called a fit factor.

Similar to the qualitative fit test, exercises (movement, breathing and talking) are completed during the quantitative fit test in order to simulate a realistic use of the respiratory equipment. If the required fit factor is not obtained, the subject may need to select another mask size or even another mask model that may be more appropriate. Quantitative fit testing makes it possible to document all results for each test person.
Legal requirements regulating fit testing.

Regular fit testing is a requirement in some countries such as the USA, Canada, Australia or Great Britain. Depending on the regional regulations, wearers of respiratory equipment are required to complete a fit test, using their respiratory equipment, every one or two years. To date, there is no specific regulation applicable to fit testing in Germany although a seal check is prescribed by EN 529.

The goal of a fit test, however, is not to merely comply with regulations but to provide the maximum protection possible and to provide the user with an insurance that what he/she is wearing truly fits. Regular fit tests in combination with proper donning of the mask offer the optimum safety possible for all applications involving the wearing of respiratory equipment!
Fit and protect:  
Fit testing matters.

When it comes to respiratory protection equipment, your health is top priority. Dräger masks and filters effectively protect against particles and gases in the ambient air. However, it is important to note that only an appropriately fitting mask can provide a high-level of protection; thus, when inappropriate or poor fitting respiratory equipment is used while working, this merely gives the user a false sense of security and could have severe effects on the user's health. Different factors may affect the proper fit of the mask on the face:

- Incorrect donning of the mask
- Facial hair
- Talking, sneezing, laughing, certain types of movements...
- Mask body and face do not match (e.g. due to wrong size or mask design)

Each head is unique.

This makes proper mask selection critical.

It is very important to select the correct respiratory protection device that offers maximum protection for every single user. Fit testing ensures a tight fit of the respiratory mask under realistic operating conditions. During testing, various movements of daily tasks are simulated, while the mask is checked for leaks using different techniques.
At this point, any mismatch between the mask body and user’s face is detected prior to hazardous effects on the user’s health. This is the only way to ensure that the selected mask will effectively fit the user.

**Fit testing increases user safety**

In combination with fit testing, proper training also plays an important role. For instance, mask inspection, correct donning, and performing a seal check significantly enhances achieving a safe tight fit. A successful fit test only verifies that the appropriate respiratory mask is selected and that the user knows how to correctly don the mask. The fit factor achieved from testing indicates how well the selected mask fits/seals at time of test.
Two methods – one goal: Proper protection

There are two methods of fit testing: Qualitative fit testing and Quantitative fit testing.

A Qualitative fit test checks the fit of a respirator by means of using a test substance that the subject can taste or smell. First, a sensitivity test would be performed to ensure the subject recognizes the agent. Then, the respirator with appropriate cartridges would be donned and a hood is placed over the subjects head to create a local atmosphere. The agent is then sprayed into hood while the subject indicates whether or not they detect it. If no detection of the agent is indicated during testing, subject successfully passed.

The test includes a range of prescribed exercises to be completed, such as breathing normally, breathing deeply, rotating, rearing and bowing the head, bending and talking. This simulates a typical sequence of movements during tasks involved when wearing the respiratory equipment. The qualitative fit test can be used for testing any half or full face masks.