



RPE Face Fit

Using a disk cutter to cut roof tiles, a chase in brickwork or paving slabs can produce very high levels of silica-containing dust. Effective control of this dust is vital to prevent the operative contracting, or being susceptible to, the lung disease silicosis.

Utilising dust prevention like water or on-tool extraction are actively encouraged and recommended but unfortunately are not 100% effective, and therefore, a significant residual risk remains. For this reason, RPE is still required for numerous tasks **in addition** to the control at source.

In most instances, either a disposable or a half mask with changeable filters should be used which have an Assigned Protection Factor (APF) of 20. This APF means that for every 20 particles of dust outside the mask, one will get through.

Disposable masks meeting the APF of 20 are marked FFP3. The changeable filters used in combination with a reusable mask are marked P3, examples of which can be seen below:



Does the mask fit the wearer?

When wearing a mask, any weak point will let dust through. The most likely place is between the seal of the mask and the face of the wearer. To prevent this, you need to check that the mask fits the wearer, as people come in different shapes and sizes, so facial differences will mean that one kind of RPE is unlikely to fit all. The differences are even more significant between men, women, and people of different ethnicity. If the RPE does not fit... **it will not protect the wearer!**

Who can conduct the fit test?

Fit testing needs to be conducted by a competent person. Regulation 7 of the Management of Health and Safety at Work Regulations 1999 and regulation 12(4) of the Control of Substances Hazardous to Health Regulations 2002 (COSHH), both state that tight-fitting RPE should be fit-tested by a competent person upon initial selection.

The **HSE fit testing guidance**¹ sets out the competency needed to carry out a face fit test. Competency in these areas is vital in-order to conduct an effective fit-test.

The British Safety Industry Federation (BSIF), with support from HSE, developed a competence scheme for fit testers. The Fit2Fit scheme is based on the 14 areas of competency set out by HSE. Details of fit testers who have demonstrated their competency through achieving the Fit2Fit Accreditation are listed on the BSIF scheme's website at www.fit2fit.org

Types of Face Fit Tests

There are two basic types of RPE fit testing which are qualitative and quantitative:

Qualitative fit testing (QLFT)

This is a pass/fail test based on the wearer's subjective assessment of any leakage through the face seal region by detecting the introduction of bitter- or sweet-tasting aerosol as a test agent. QLFT methods are suitable for disposable and reusable half masks; they are not suitable for full-face masks. Although this type of test is based on subjective detection and response by the wearer of the RPE, it is crucial that it is administered by a fit-tester competent in using this method.

Quantitative fit testing (QNFT)

This test provides a numerical measure of how well a facepiece seals against a wearer's face; this is called a fit factor. These tests give an objective measure of face fit. QNFT methods are suitable for disposable and reusable half masks and full-face masks.

Will I need to consider re-tests?

A fit test should be repeated if the wearer:

- Loses or gains weight
- Undergoes any substantial dental work, or
- Develops any facial changes around the face seal area.

Be aware!

If a new make or model of face mask is issued, then a new fit test is required by the wearer.

Additionally, a change in head-worn PPE, for example, helmets and goggles, may require a re-test.

It is good practice to have a system in place to ensure that repeat fit testing is carried out on a regular basis.

Wearing RPE correctly

Fit testing is only a record that the mask fitted the wearer at that particular time. To be effective it needs to be put on correctly every time. This means both of the straps worn correctly, any nose clip correctly fastened. Tight-fitting RPE will only provide effective protection if the wearer is clean-shaven. Stubble acts as stilts which pushes the mask away from the face. This creates gaps which the dust can get through because of how small it is; therefore, the user must be clean-shaven when using RPE.



Further information

¹ Guidance on respiratory protective equipment (RPE) fit testing:

<https://www.hse.gov.uk/pubns/indg479.pdf>

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