

Respirator Face-fit Testing:

Requirement to test

The requirement for RPE facepiece fit testing is described in the Approved Code of Practices (ACoPs) supporting:

- The Control of Substances Hazardous to Health Regulations 2002 (COSHH);
- The Control of Lead at Work Regulations 2002 (CLAW); and
- The Control of Asbestos at Work Regulations 2002 (CAW).

Enforcement (Guidance for Inspectors)

The enforcement issues referred to below are concerned with the fit testing of tight fitting facepieces, and whilst each case should be judged on its own merits, inspectors are advised to consider formal enforcement actions where the RPE is considered to be unsuitable which include the following situations: (obviously the suitability must be weighed against the risks involved):

1. where persons are wearing tight fitting facepieces and have not undergone and passed an appropriate fit test (see below);
2. where fit test results are not readily available;
3. where the results show that a particular mask did not fit the wearer and the wearer is continuing to use that type and size of facemask. Steps should have been taken to select a more appropriate facepiece and/or carry out retraining.

Points to note:

The ACoPs refer to both quantitative and qualitative fit testing. Qualitative fit testing is ONLY acceptable for filtering facepieces and half masks respirators (fit factor of 100). Qualitative fit testing is unsuitable for a device fitted with a full face mask (e.g. full face mask negative pressure respirators, power assisted respirators and breathing apparatus. The Information Document gives further details.

It is not necessary for employers to issue RPE to the wearers on a personal basis following fit testing. However, employers need to ensure that the make, model, type, material and size of facepiece that their employees wore, when successfully fit tested, is made available for use and is maintained in a clean and efficient state.

If an employee wears more than one type of tight fitting facepiece then each type of facepiece should be subjected to fit testing.

Where facepieces are issued on an individual basis it is recommended that the wearer is fit tested using their 'own' facepiece. Where this is not

practicable or pooled equipment is used then a test facepiece that exactly matches the wearer's `own' facepiece (model, size and material) should be used.

Where the employer's risk assessment clearly demonstrates that the RPE is being employed for `comfort' rather than as a control measure, then fit testing is not required.

What is facepiece fit testing?

It is a method for checking that a tight fitting facepiece matches the person's facial features and seals adequately to the wearer's face. It will also help to ensure that incorrectly fitting facepieces are not selected for use.

What is the reason for facepiece fit testing?

The performance of tight-fitting facepieces depends on achieving a good contact between the wearer's skin and the face seal of the facepiece. As people come in all sorts of shapes and sizes it is unlikely that one particular type, or size of RPE facepiece, will fit everyone. Inadequate fit will significantly reduce the protection provided to the wearer. Any reduction in protection can put the RPE wearer's life in danger or may lead to immediate or long-term ill health.

It is also useful for checking that a wearer can put on a respirator facepiece correctly. Correct fitting of the facepiece at all times is vital to prevent exposure.

A fit test is not a substitute for correct and careful day-to-day fitting of the facepiece. The latter should always include a pre-use fit check.

What is a tight-fitting facepiece?

These are filtering facepieces, half masks and full-face masks (see figs 1, 2 & 3). Visors, helmets, hoods and blouses are loose fitting devices (see figs 4, 5 & 6).

| | | |
|---|---|--|
|  |  |  |
| Fig. 1 Filtering facepiece (tight-fitting) | Fig. 2 Half mask (tight-fitting) | Fig.3 Full-face mask (tight-fitting) |

| | | |
|---|---|---|
|  |  |  |
| Fig. 4 Ventilated visor (loose-fitting) | Fig. 5 Ventilated helmet (loose-fitting) | Fig.6 Powered hood (loose-fitting) |

Do loose fitting facepieces require fit testing?

The performance of loose fitting facepieces relies on sufficient airflow through the facepiece and is less dependent on a tight fit to the wearer's face and therefore do not require fit testing. Nevertheless, a loose fitting facepiece requires the correct size to ensure the wearer achieves an adequate protection. Loose fitting facepieces are better suited to those wearing spectacles with side arms and people with facial hair in the region of the face seal of a tight fitting mask. In the vast majority of scenarios loose fitting alternatives to tight fitting masks are available and should be selected where necessary.

When should a fit test be carried out?

A fit test should be carried out:

- as part of the initial selection of the RPE;
- where an untested facepiece is already in use.

When should a repeat fit test be conducted?

A repeat fit test should be conducted in the following circumstances:

1. Where the wearer:
 - a. Loses or gains weight;
 - b. Undergoes any substantial dental work;
 - c. Develops any facial changes (scars, moles, etc) around the face seal area; or
2. If the employers health and safety policy requires it.

What should be done if a wearer uses more than one type of tight fitting facepiece?

If an employee wears more than one type of tight fitting facepiece then each type of facepiece should be subjected to fit testing.

Does fit testing mean that each employee now has to have his or her own face piece?

No. However, you need to ensure that the make, model, type, and size of facepiece that your employees wear are the same as those worn when successfully fit tested.

Who 'owns' the fit test results?

You as the employer are responsible for meeting the cost of fit testing, but the results should be made available to the employee as well.

Does fit testing replace maintenance, examination and testing of the RPE?

No. Fit testing does not assess the quality of maintenance of the RPE and its component parts. Further guidance on the examination and testing of RPE is covered in HSG53

Is a pre-use fit check the same as the facepiece fit test?

No. A pre-use fit check is required each time the facepiece is worn and before entering the hazardous environment. It is needed to determine if the facepiece has been correctly fitted before a contaminated work area is entered. The RPE manufacturer will provide instructions on how to carry out a pre-use fit check. Some users may use other pre-use fit check methods that are more stringent.

What can be done if an employee has trouble passing the fit test for a facepiece?

Some manufacturers make different sizes of facepieces. They also vary in size from manufacturer to manufacturer. The wearer may obtain a better fit by trying a respirator of a different size or model, or made by another manufacturer. If it is still not possible to obtain an adequate face fit then another type of respirator that doesn't rely on a tight face seal, such as a hood type, should be selected.

If the facepiece has already been worn for protection against hazardous substances, (e.g. asbestos fibres), by a person failing the fit test, then there is the possibility that exposure has occurred. In such cases the employer may wish to seek medical advice and an annotation to the individual's personal health record should be made.

Why do facepieces used with positive pressure breathing apparatus require fit testing? Isn't the leakage always outwards?

Fit testing a full-face mask that is used with a positive pressure breathing apparatus is necessary because the consequences of facepiece leakage can be extremely serious since these types of devices are more likely to be used

in extremely hazardous environments; even brief leaks can cause serious exposure. Studies have shown that during heavy exertion, it is possible for the facepiece pressure to become momentarily negative in relation to the outside atmosphere.

Wearers also may believe that they can afford to take less care when donning their facepiece when using a breathing apparatus that appears to be highly protective; they may ignore face seal checks and correct strap tensioning because they are relying on airflow to overcome any leaks. Fit testing demonstrates to wearers the need to don the facepiece properly. Unnecessary leaks will reduce the useful working duration of the device. This can have serious consequences for the wearer, and in cases of rescue work, for those being rescued.

Do I need to fit test disposable facepieces that are worn for `comfort' purposes?

No. If the employer's risk assessment clearly demonstrates that the respirator is being used for `comfort' rather than as a control measure, then fit testing is not required.

Information for the facepiece wearer

What is a fit test?

The person carrying out the fit test will explain to you what a fit test is and why it is carried out.

What will be required from me when I have a fit test?

Depending on the fit test method used, you may be asked to refrain from smoking for at least one and a half hours prior to the fit test. You may also be asked not to drink or eat immediately (15 minutes) before the fit test.

A fit test should not be conducted if you have any facial hair growth in the area where the facepiece seal meets your face. This is because a reliable face seal can only be achieved if you are clean-shaven in the area where the facepiece seal touches your face. You will therefore be asked to be clean-shaven (in the area where the facepiece seal meets your face) for the fit test. You should remember that the same rule applies when you wear your facepiece on a day-to-day basis at work. If you are unable to be clean-shaven (in the region of the face seal of a tight fitting mask) for an unavoidable reason (e.g. where a beard is worn for religious reasons), then your employer should provide you with a suitable loose fitting facepiece that does not require you to be clean shaven, or make alternative arrangements so that the risk to your health is either prevented or adequately controlled. Loose fitting facepieces do not require fit testing described in this document. If you wear spectacles with side arms you will not be able to wear a tight fitting full-face mask. In this circumstance, your employer should provide you with a suitable loose fitting device.

You should be able to fit the facepiece in the manner in which you have been trained, and without assistance from the fit tester. You should know how to carry out a pre-use fit check of the facepiece.

During the fit test you will be asked to perform simple exercises. The person conducting the fit test should explain the reasons for carrying out these exercises. If you have any medical condition that may prevent you from performing these exercises then you should bring this to the attention of the fit tester and your employer.

If you normally wear protective goggles or hard hat, etc when you wear your facepiece you may be asked to wear these also during the fit test.

Can I be fit tested in the facepiece I usually wear?

The fit test will be carried out using the facepiece you normally wear or intend to wear, or one identical to it. If you are to be fit tested in your own facepiece then you or your employer should make sure that the facepiece is clean and maintained in accordance with the manufacturer's instruction. Note: It is not the job of the fit test provider. They have been advised by HSE not to carry out a fit testing on a facepiece that is not maintained in accordance with the manufacturer's instructions.

What if I normally wear more than one type of respirator?

If you need to wear more than one type of tight-fitting facepiece for your job, e.g. a filtering facepiece and a full-face mask respirator, then you should be fit tested for each type of facepiece.

What will I be told at the end of the fit test?

When you have completed the fit test you will be told if you have obtained a pass or a fail. A pass means that the facepiece is suitable for you. You or your employer will be issued with a fit test report, which should be retained. If you have not been given a copy of the report, you can ask for a copy from your employer. A failed fit test may indicate that the facepiece does not fit you properly.

What will happen if I fail a fit test?

The fit tester should ask you to refit the facepiece and repeat the fit test. If a better fit is not obtained you may be asked to try on a different size or type of facepiece and repeat the fit test. You should not use a facepiece that does not fit you properly. The fit tester should inform your employer. Your employer should ensure that you are provided with a facepiece that fits you properly.

How often should I have a fit test?

If you need to change to another type of facepiece; you lose or gain weight; undergo any substantial dental work or develop facial imperfections (scars, moles, etc) around the facepiece area. Your employer may also have a policy that you have a fit test every year or two years for example.

Will I be able to move employment without having to have another fit test?

If you change your employer but still continue to wear the same facepiece or same facepiece model and size you should not have to be retested, you should take your pass test certificate with you. Your new employer, however, may wish for you to have another fit test.

Who should pay for the fit test?

Your employer is responsible for your health and safety whilst at work and therefore they are responsible for the cost of the fit test. In essence this means your School / Management Unit.

References

- L5: The Control of Substances Hazardous to Health Regulations 2002 Approved Code of Practice and Guidance 2002. 4th edition HSE Books ISBN 07176 253 46
- L132: The Control of Lead at Work Regulations 2002 Approved Code of Practice and Guidance 2002, 4th edition, HSE Books ISBN 0 7176 256 56
- L27: Work with asbestos which does not normally require a licence (Fourth edition). Control of Asbestos at Work Regulations 2002 Approved Code of Practice and guidance, 4th edition, HSE Books 2002 ISBN 0 7176 2562 1
- L28: Work with asbestos insulation, asbestos coating and asbestos insulating board (Fourth edition). Control of Asbestos at Work Regulations 2002 Approved Code of Practice and guidance, 4th edition, HSE Books 2002 ISBN 0 7176 2562 X
- HSG53: The selection, use and maintenance of respiratory protective equipment - a practical guide HSE Books ISBN 0 7176 1537 5
- BS 4275:1997: Guide to implementing an effective respiratory protective device programme
- The Personal Protective Equipment Regulations 2002 SI 2002/1144 HMSO 2002 ISBN 0 11 039830 0
- BS EN12942:2001: Respiratory protective devices: Power assisted filtering devices incorporating full-face facepieces, half facepieces or quarter facepieces - Requirements, testing, marking.
- BS EN149:1992: Specification for filtering half facepieces to protect against particles
- BS EN 136:1998: Respiratory protective devices: Full face facepiece - Requirements, testing, markings
- BS EN140:1998: Respiratory protective devices: Half facepieces and quarter facepieces - Requirements, testing, markings
- (HMSO Tel: 0870 600 5522)
- (BSI Customer Service Tel: 020 8996 9001)