

arco[®]

Qualitative Face Fit Test Kit



Contents - Face Fit Test Hood, 2 x Nebulisers, Sensitivity Test Solution [A], Test Solution [B], DVD

Instructions for use - DVD / Hard Copy

Page

2	Introduction
3	Sensitivity Test
4	Fit Test
5	Test Exercises
6 - 7	Directions for Fit tester
8	Information for Test Subject
9	Fit Test Employee Record



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Qualitative Face Fit Test Kit Introduction

Why carry out face fit testing?

Over the years, awareness to Occupational Health has greatly improved. Misuse of Respiratory Protective Equipment (RPE) has been fairly commonplace. From facial hair interfering with the seal on the face to tearing off the bottom strap of the respirator, to burning holes in the filter, allowing the wearer to smoke through it, has been common practice.

Legislation, through the COSHH Approved Code of Practice (ACoP) has been put in place in an attempt to eliminate this abuse and improve awareness even further.

This Face Fit Test Kit has been developed using the structure as laid down in HSE 282/28 Document. The Health and Safety Executive (HSE) suggest that Qualitative Face Fit Testing should be conducted on all 'tight fitting' filtering face pieces and half mask respirators.

How does it work?

The nebuliser produces a mist measuring approximately 5 microns. If the wearer tastes the substance, the seal has been broken and the wearer must be re-tested.

Instructions for use

Precautions

- i) The test subject should not eat, drink (with the exception of plain water), smoke or chew gum for at least 30 minutes prior to being tested.
- ii) It is advisable to clearly mark the nebulisers to avoid them being switched during testing.
- iii) Fill both nebulisers prior to commencement of face fit test.
- iv) After use, wash nebulisers in clean water. Do not put unused solutions back into bottle.

Warning: Make sure that the correct solution is used during threshold screening.
Ensure that the nebuliser is not clogged.
Regular checks should be made ensuring that the nebuliser has not clogged.
If the nebuliser becomes clogged during the test, the test is invalid and the subject should be re-tested no less than thirty minutes later.

Limitations of Use

Only disposable respirators and negative pressure half masks can be tested using this type of Face Fit Test Kit.

Sensitivity Test



1. Pour a small quantity from bottle (A) into nebuliser, while holding the nebuliser in the horizontal position through the vapour tube. Do not fill above the black 'o' ring – overfilling will cause the nebuliser to leak.
2. Remove both plugs from nebuliser and insert nozzle into the hole in the visor of the hood. The nebuliser should be used in the upright position.
3. The test subject is required to don the hood without a respirator.
4. The visor of the screen should be positioned about six inches from the face.
5. The test subject should breathe with his/her mouth open and tongue extended.
6. Squeeze the bulb of the nebuliser up to 10 times. The bulb should fully collapse and allow full expansion before next squeeze is applied. If the test subject tastes the Bitrex®, their taste sensitivity has been established and the number 10 should be logged on the employee record. If after 10 squeezes, the test subject has been unable to taste the Bitrex®, a further 10 squeezes is required. If the test subject tastes the Bitrex® between 11 and 20 squeezes, the number 20 should be logged on the employee record. If after 20 squeezes the test subject cannot taste the Bitrex® a further 10 squeezes is required. If detected between 21-30 squeezes the number 30 should be logged on the employee record. If the test subject is unable to taste after 30 squeezes then an alternative fit test must be provided.
7. If the sensitivity test has been successfully conducted, the test subject should drink a glass of clear water to clear the palate.

Fit Test



1. A quantity of Solution (B) should then be poured into the second nebuliser – only a small amount is required, while holding the nebuliser in the horizontal position through the vapour tube. Do not fill above the black 'o' ring – overfilling will cause the nebuliser to leak.
2. The test subject should fit the respirator and check the seal using the manufacturers fitting instructions.
3. Other PPE required which may affect the seal of the respirator, should be worn during the test.
4. The test subject should then don the hood as indicated in the Sensitivity Test.
5. As in the Sensitivity Test, remove both plugs on the nebuliser and insert the nozzle into the hole in the hood. The nebuliser should be used in an upright position.
6. To ensure that the concentration of the Solution is adequate, use the amount of squeezes logged in the Sensitivity Test to carry out the test. Each of the seven exercises should last for one minute. i.e. If the Test Subject achieved a score of 10 in the Sensitivity Test, the bulb should be squeezed 10 times for each exercise, with half the required amount every 30 seconds.
7. The Test Subject should then perform the seven exercises and the results should be logged. Unless otherwise stated, the Test Subject should not speak. If anything other than indicated in test occurs, the test should be stopped and the Test Subject should wait for a minimum of one hour before being re-tested.
8. Prior to starting the first exercise, apply the number of squeezes of the test solution logged in the sensitivity test into the hood.

Test Exercises

Each exercise should be conducted for a duration of 1 minute.

The exercises are as follows:

- i) **NORMAL BREATHING** – the wearer should stand still and breathe normally without talking.
 - ii) **DEEP BREATHING** – the wearer should stand still and breathe deeply. Care should be taken during this exercise ensuring the wearer does not hyperventilate.
 - iii) **TURNING HEAD SIDE TO SIDE** – the wearer should turn their head slowly from side to side and breathe normally (approximately 15 – 20 times).
 - iv) **MOVING HEAD UP AND DOWN** – the wearer should move the head slowly up and down and breathe normally (approximately 15 – 20 times).
- BENDING OVER** - the wearer should stand and bend at the waist as if to touch their toes.
- vi) **TALKING** – the wearer should either count to 100 or recite a rehearsed piece of prose. The following passage can be used during this exercise:

Rainbow Passage

When the sunlight strikes raindrops in the air, they act like a prism and form a rainbow. The rainbow is a division of white light into many beautiful colours. These take the shape of a long round arch, with its path high above, and its two ends apparently beyond the horizon. There is, according to legend, a boiling pot of gold at one end. People look, but no one ever finds it. When a man looks for something beyond his reach, his friends say he is looking for the pot of gold at the end of the rainbow.

- vii) **NORMAL BREATHING** – the wearer should stand still and breathe normally without talking.

The test should be stopped if the wearer tastes the Bitrex® during any exercise and the wearer is required to wait a minimum of 30 minutes before the exercise is reconvened. A 'fail' should be recorded on the employee record and the test subject should make the necessary adjustments according to the manufacturers fitting instructions. A further Sensitivity Test is not required as it is already recorded.

If the Test Subject fails the exercise a second time the subject requires a different model and should be re-tested the same way.

If the test subject fails to detect the Bitrex® by the completion of the test, the test has been successful and a pass should be logged on the employee record.

Directions for the Fit Tester *(As instructed in HSE 282/28)*

1. Explain the purpose of the test to the test subject and ensure they understand the results of the test.
2. Check fit test equipment. Ensure that the nebuliser is not clogged.
3. Examine respirator prior to testing. Face pieces other than disposables, should be properly inspected and maintained in accordance with the manufacturer's instructions.
4. Instruct the wearer in the test exercises.
5. Ensure the wearer is medically fit to wear RPE.
6. The wearer should don the mask as directed by the manufacturer. If instruction is required it should be noted and logged.
7. The test should only be conducted after the wearer has worn the respirator for a minimum of 5 minutes prior to the test to allow the wearer to make any necessary adjustments. A mirror should be made available to assist the wearer.
8. When assisting in respirator selection, the wearer should be correctly instructed in the fitting according to the manufacturer's instructions. A mirror should be made available to assist the wearer.
9. A fit test should not be conducted if facial hair is apparent. i.e. stubble, beard, sideburns or moustache.
10. The wearer should be observed at all times through the test. If the wearer coughs or sneezes during the test, the test will more than likely require to be repeated.
11. If the test fails, you must determine the appropriate action to take.
 - a) Was the face piece properly fitted? Do they require additional training?
 - b) Was hair trapped inside the face piece?
 - c) Did they smoke, eat or drink prior to the test without informing you?
 - d) Is there something unusual about the persons face features, which would make fitting difficult?
 - e) Should a different model be made available?

In any case the test should be repeated.

It is important that the results of the test are discussed with the wearer. If the wearer achieves a good fit, they should be encouraged to fit the respirator the same way at all times. If the wearer fails the test, you must be aware of the sensitivity of the fail. The employer may wish to seek medical advice.

Once any Test Subject has passed a Qualitative Face Fit Test, the employer must log the pass on the employee record and keep the record of the pass for a minimum of 5 years.

The Test Subject is only required to be retested if they:

- a) significantly gain or lose weight;
- b) undergo any substantial dental treatment;
- c) develop any facial changes (scars etc or anything else which may affect the seal)

If an employee is required to use more than one type of respirator applicable to this test procedure in their duties, each type of respirator must be tested.

12. When informing the wearer of the fit test results, i.e. a pass or a fail, it is advisable that the results are not given to the wearer without explanation. It can result in the wearer being over-confident in the device causing them to be less careful when they don the RPE in the workplace.
13. The assessor should also be aware of the sensitive nature of reporting a fail, especially if the wearer has been wearing the device in a sensitive area such as asbestos or similar hazardous areas for a period of time. A procedure for consultation should be in place prior to fit testing being carried out. The information should be logged on the individual's health records and arrangements may be considered for medical advice.

Information for the Test Subject

(As instructed in HSE 282/28)

1. The person carrying out the test will explain to you what a fit test is and why you are being fit tested.
2. You will be asked to refrain from smoking for at least one hour prior to the fit test. You will also be asked not to drink or eat for at least 15 minutes prior to the test.
3. You are required to be clean-shaven for this type of test. A good face seal can only be achieved on a clean-shaven face. This rule also applies to the normal work place. If you are unable to be clean-shaven for an unavoidable reason, then your employer should either consider a loose fitting device or make alternative arrangements so that the risks to your health is either prevented or adequately controlled.
4. You should be able to fit the respirator the way you have been trained and without the aid of the assessor. You should also know how to perform a pre-use fit check.
5. During the fit test you will be asked to perform certain exercises. These are designed to emulate your normal working environment. You should also wear any other PPE normally worn near the breathing zone, which may affect the seal of the respirator. You should inform the assessor of any medical conditions you might have which would prevent you from carrying out the exercises.
6. You are required to be fit tested on your own respirator. If the respirator is disposable, then the same make and size is required to be tested. If, during the course of your work, you are required to use more than one type of respirator, both types are required to be tested.
7. At the end of the test you will be informed of whether your respirator passed or failed. A pass means that the type provided is suitable for your use and you may ask for a copy of the report, which you should retain. If you change your employer, you may take the copy of the report with you. This would mean that you would not require to be re-tested on that device, providing your face features had not substantially altered, i.e. no extensive dental treatment had been carried out or your weight had not significantly altered either up or down. A fail indicates that your face piece does not fit you properly. You will be asked to be re-tested and wait for at least ½ hour before you can be re-tested. You will be asked to carry out the same procedure you were asked to carry out prior to the initial test. You may drink plain water. If the test still fails, you are required to be tested on a respirator meeting the same standard as the respirator you normally wear or the same respirator type of a different size.
8. Your employer is responsible for the cost of the face fit test.

Respirator Qualitative Face Fit Test Employee Record

Test Date:

Employers name and address:	<u>Respirator details</u>
	Make:
	Model no:
	Hazard:
Employee:	Task:
Name of assessor:	

Results of Test:	<i>(circle as appropriate)</i>		
	<input type="checkbox"/> PASS	<input type="checkbox"/> FAIL	
Sensitivity Test Level :	<input type="checkbox"/> 10	<input type="checkbox"/> 20	<input type="checkbox"/> 30
Was proper fit training provided?			

Assessor's signature	Test subject signature
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