Selection, Care and Use of Respirators

VALE

Welcome to this online course on the Selection, Care and Use of Respirators.

This course is a combination of two components, knowledge-based instruction (this module) and the associated quiz at the end of the course. You must obtain a minimum score of 80% on the quiz in this course to pass.

Enjoy the course!

Revision date:

Fit Testing

Use, Care, and Maintenance

Knowledge Check

Course Complete!

Welcome

This module focuses on the selection, care and use of Respirators for all Vale sites within Canada.

If you require a refresh on how to navigate online learning courses, please click the video below, otherwise you can continue with the course.

Expectations

Upon completion of this module, you will be given an opportunity to submit questions to obtain clarification of any content you are not sure of. By the end of this course, you will be able to:

1. Describe the respiratory system
2. Explain the respiratory protection legislation
3. Describe the types of respiratory protection, filters and cartridges
4. Outline the process for fit testing
5. Explain how to properly don, use and maintain respiratory equipment

Let's get started!

CONTINUE

Understanding the Legislation

In this section we will discuss CSA Z94.4, which is the standard for respirator selection across Canada as well as describe other regulations and standards that impact respirator selection and your responsibilities surrounding these regulations.

The Selection, Use and Care of Respirators

CSA Z94.4-11 is the standard for respirator selection, use and care across Canada. The standard covers the responsibilities of the user in section 5.2.

> Users shall use and care for respirators in accordance with the instruction and training received.

00:06

Respirator users shall:

1. Report to supervisor/responsible person when there is any condition that can impair their ability to safely use a respirator
2. If the respirator is tight fitting, ensure the seal is interference free, refrain from having object or material on them that would

interfere with the seal or the operation of the respirator

3 Check that the respirator is clean and in good operating condition prior to each use and at intervals that ensure that it continues to operate effectively

4 Perform user seal checks after each donning of a tight fitting respirator

5 Remove from service any respirator that they determine to be defective and report it to their supervisor or other responsible person

There are other regulations and standards that impact respirator selection, use and care. *Click each card below to learn more.*

00:07

NL Regulation 5/12, Sections 83/84/85/86

This regulation outlines the respirator protection program, protection, protection equipment as well as inspection and maintenance under the Occupational Health and Safety Regulations.

This Standard provides the minimum requirements for the purity of compressed breathing air supplied to the service outlet and for breathing air systems required to produce, store, and distribute such air.

The Long Harbour Operations (LHO) Respiratory Protection Standard (RPS) sets out the minimum requirements for the proper selection, use, and care of respirators, and for the administration of an effective RPS at LHO.

Voisey Bay Respiratory Protection Procedure

This program sets out the requirements for the selection, issue, use and care of respirators at Vale Labrador Operations. Its purpose is to protect workers from inhaling hazardous atmospheres when engineering or administrative control measures are not practical or adequate, while such controls are being instituted, or during shutdown for maintenance, repair, or emergency.

Your Responsibilities Summarized

Respiratory protection is critical in certain working conditions. Your responsibilities as outlined by the legislation are shown below.

Click every box after reading the statements to confirm you understand them.

- [ ] Wear the appropriate respirator when required
- [ ] Use the respirator in accordance with instructions and the training you have received
- [ ] Be clean shaven where the face piece seals to the skin
- [ ] Check the respirator is in good working condition

- [ ] Fit check the face to face piece seal immediately after donning
- [ ] Take all precautions to prevent damage to your respirator and report any damage or malfunction to your supervisor
- [ ] Clean the respirator after each use
- [ ] Return respirators when one is no longer used.

Now that we understand the legislation and responsibilities around respiratory protection, the rest of this course will provide the information you need to fulfil your responsibilities.

Have a Question?

This location can be a URL, another lesson, or an email address. You can type a description here.

SUBMIT A QUESTION

CONTINUE

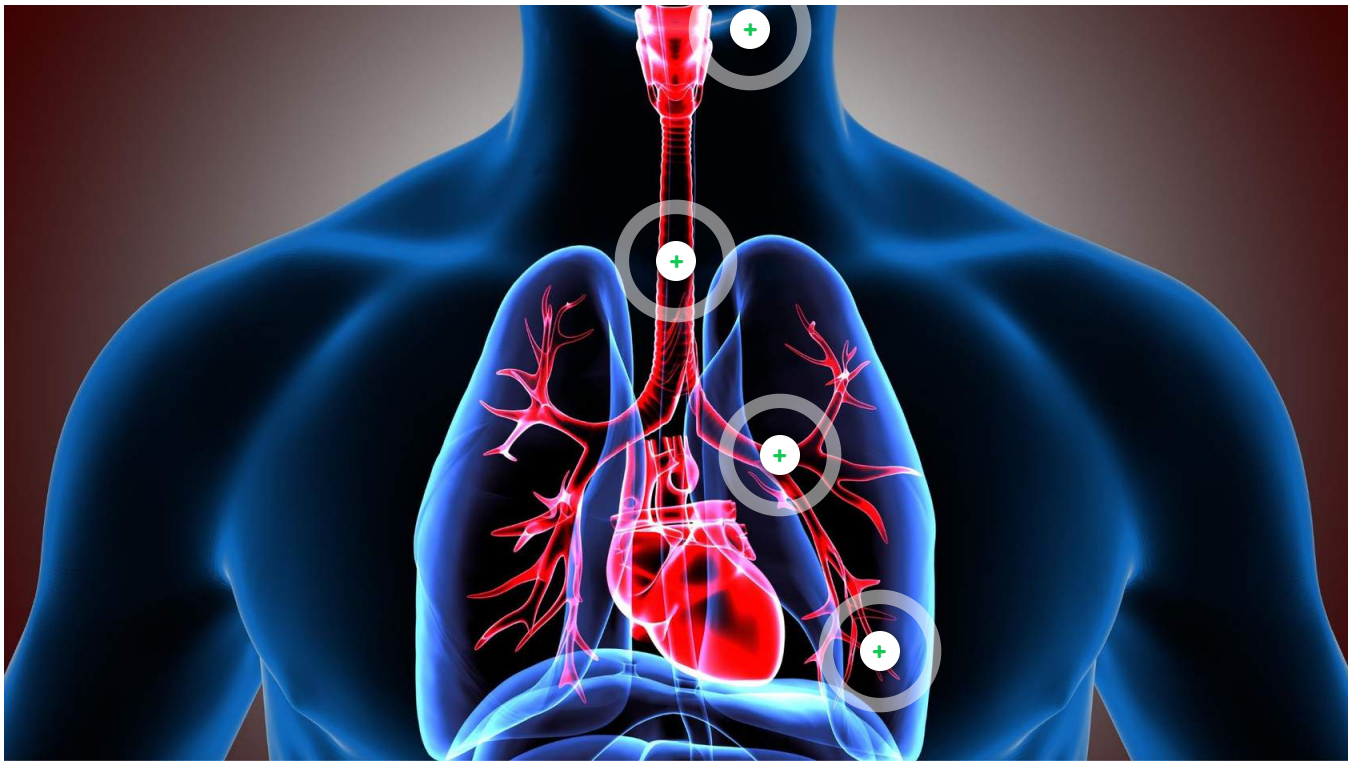
Introduction to the Respiratory System and Respiratory Hazards

In this section we will introduce you to the respiratory system and the hazards that may impact it. It is important that we understand our respiratory system in order to protect it.

The Respiratory System

Our respiratory system carries oxygen to the bloodstream and carries away carbon dioxide. It is important that we understand our respiratory system to understand how to protect it.

Click on the image below to understand more about how the respiratory system works.



The Upper Respiratory Tract

00:18

Comprising of the nasal cavity, Pharynx and Larynx the Upper Respiratory Tract is the top part of our respiratory system where we inhale air.

Air passes through the nose where it is warmed and humidified and tiny hairs and mucus filter dust.

It then passes down the throat into the trachea.

The Trachea

00:05

Part of the lower respiratory system, the trachea divides into two bronchi.

Bronchi

00:04

Each bronchus leads to a lung where it subdivides into brochioles.

Alveoli

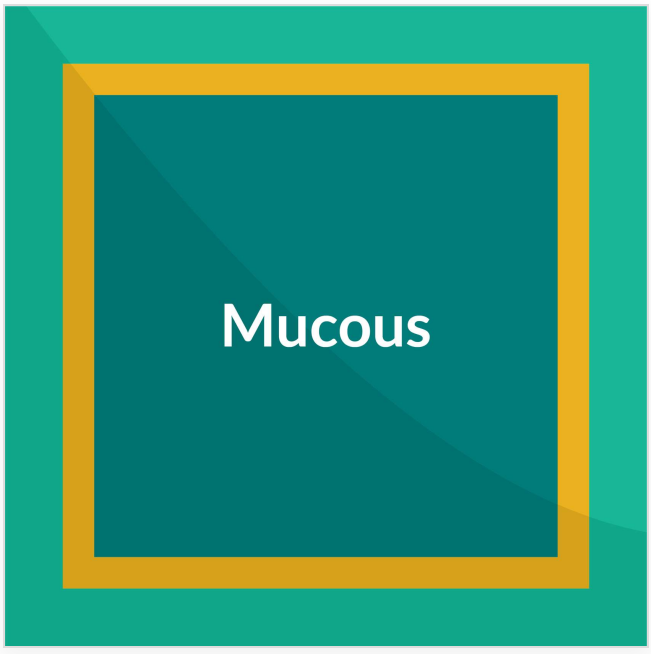
00:21

The bronchioles end in globular air sacs called alveoli.

Respiration takes place in the alveoli. The alveoli are where the lungs and the blood exchange oxygen and carbon dioxide during the process of breathing in and breathing out. Oxygen breathed in from the air passes through the alveoli and into the blood and travels to the tissues throughout the body.

> The system has several mechanisms by which it filters air. *Click each card below to learn about each.*

Tiny hairs and mucous in the nose trap the largest particles.



Mucous secreted in the trachea and bronchi all trap particles . "Hairs" called cilia then beat in an upward direction sweeping foreign particles up to the back of the mouth where they are expelled or swallowed.

Particles that make it into the alveolar region are attacked by white blood cells called macrophages which envelop and eat invaders into the lung. However not all particles can be 'digested' by macrophages. The smallest of particles may pass into the circulatory system allowing them to access organs and tissues.

Respiratory Hazards

There are many hazards that impact the respiratory system. Dirty, contaminated air presents the greatest challenge to the respiratory system.

Watch the video below to learn more about Particle Hazards.

Oxygen deficiency is another form of a respiratory hazard. Air is normally 21% O_2 and a minimum of 20% O_2 is required. Deficiency can develop in tanks, sewers and pipelines. Depletion can occur due to reaction (rot, burning, rust) or because the oxygen is replaced by other gases.

00:19

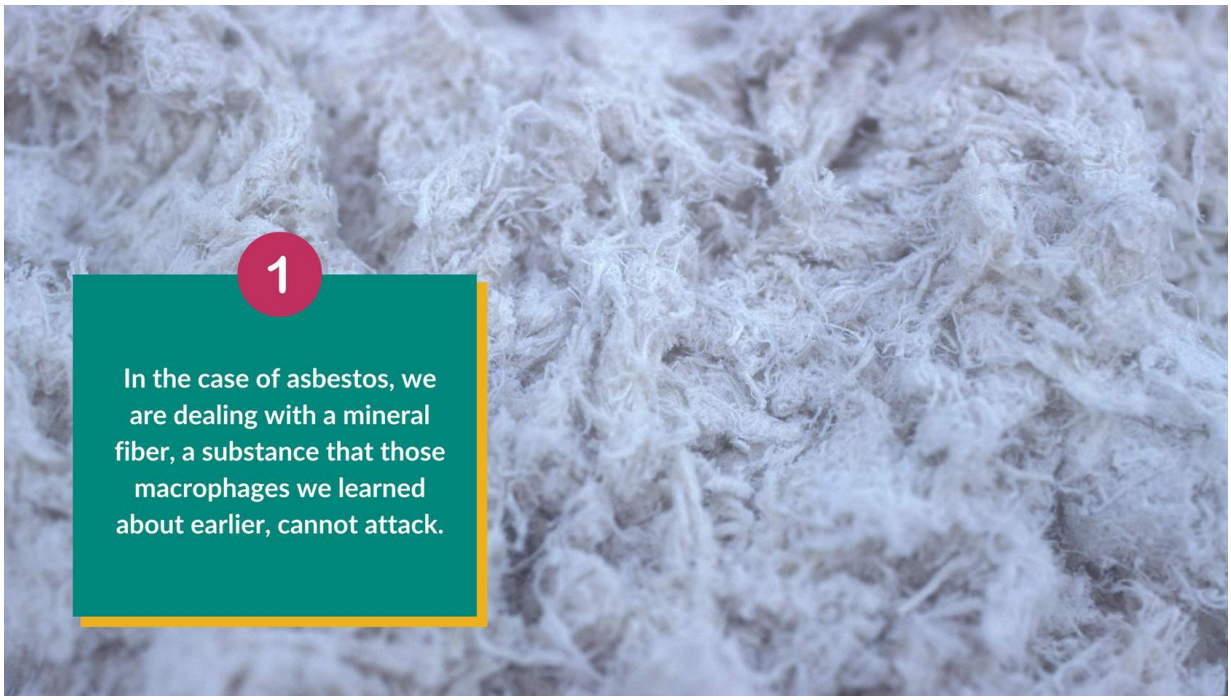
Most chemicals have an IDLH (Immediately Dangerous to Life and Health) level where air purifying respirators cannot be worn. For example Nitrogen Dioxide (NO_2) has an IDLH of 20ppm (parts per million). The only alternative is an air supplying respirator.

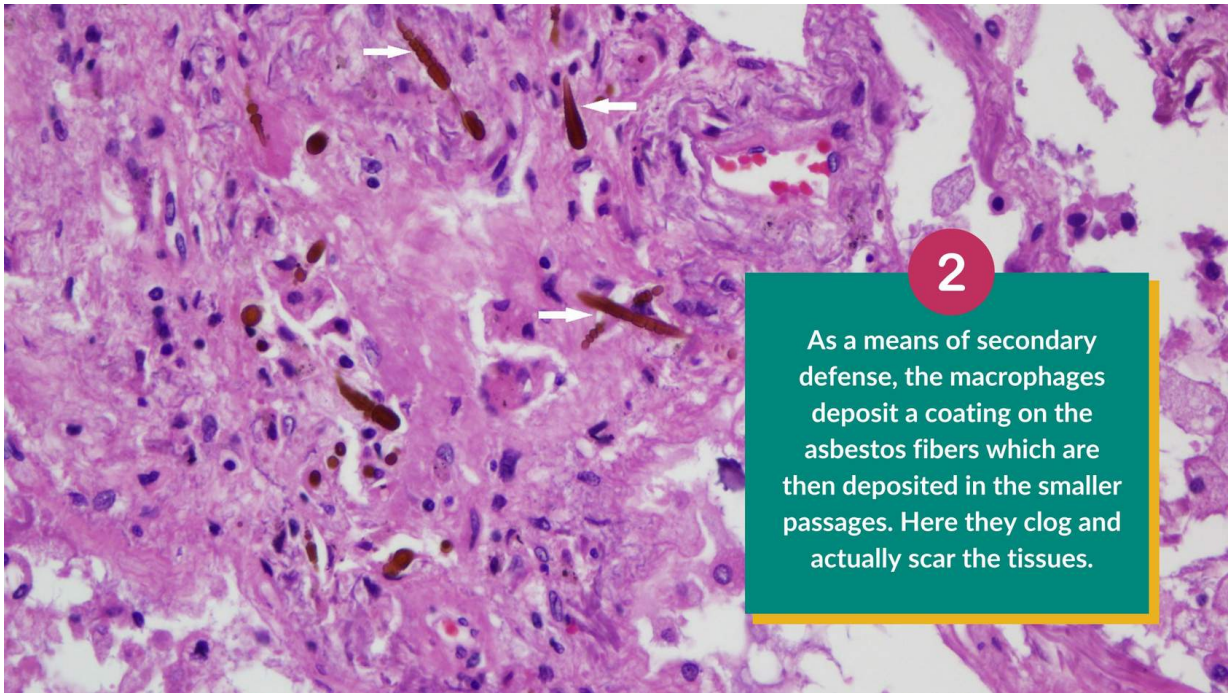
00:16

Remember, the proper respirator helps prevent illness and disease from dirty, contaminated air.

These types of hazards can affect, and in some cases permanently damage, the respiratory system.

Click the arrows below to learn what happens when asbestos is breathed in through the lungs.





As we can see, there are many hazards that can negatively impact and damage our respiratory systems. Now we've learned about the respiratory system and the need for protection, let's see what you remember.

True or False? Respiratory protection is not always necessary as the respiratory system has mechanisms to filter air.

- ◯ True

- ◯ False

SUBMIT

Which of the following are examples of respiratory hazards? Select all that apply.

- ☐ Nickel Dust
- ☐ Lead Dust
- ☐ Oil Mist
- ☐ Asbestos
- ☐ Welding Fumes

SUBMIT

Clearly, respiratory protection is critical in certain working conditions. Let's look at the way we measure contamination and levels of protection.

Have a Question?

Submit your question here using Valeforms. Be sure to include your first and last names and your contact information.

SUBMIT A QUESTION

CONTINUE

Measuring Contamination and Protection

Now we understand more about the hazards that we can face, it's important to understand how we measure those hazards and what that means for the protection we use.

Understanding Levels of Contamination and the Limits of Protection

There are 3 key concepts we will look at in this section:

1. Threshold Limit Values (TLV)
2. Odour Thresholds
3. Assigned Protection Factor

Let's look at Threshold Limit Values first.

Threshold Limit Values

The threshold limit value (TLV) for chemical substances measures the concentration in the air. Its units are in parts per million (ppm) for gases and vapours and in milligrams per cubic meter (mg/m^3) for particulates. There are three types of TLVs for chemical substances:

Click each card to learn more.

Time weighted average (TLV-TWA): on the basis of an 8h/day, 40h/week work schedule.

Short term exposure limit (TLV-STEL): spot exposure for a duration of 15 minutes, that cannot be repeated more than 4 times per day with at least 60 minutes between exposure periods.

Ceiling limit (TLV-C): absolute exposure limit that should not be exceeded at any time.

Assigned Protection Factor

The assigned protection factor (APF) of a respirator reflects the level of protection that a properly functioning respirator would be expected to provide.

As you can see from the table below, different acceptable levels of hazards trigger different respiratory protection requirements. For example, an APF of 10 for a respirator means that a user could work in an environment of no more than ten times the TLV. We will look at the different types of respirators in the next section.

00:25

Acceptable level						Air-purifying options	APF	Atmosphere-supplying options
0	1	2	3	4	5			
					5	No air-purifying option available	10000	SCBA (pressure-demand) full-facepiece SCBA (pressure-demand) tight-fitting hood Multi-functional SCBA/airline
				4 to 5		Powered air-purifying full-facepiece Powered air-purifying helmet/hood with SWPF study	1000	Airline (continuous-flow) full-facepiece Airline (pressure-demand) full-facepiece Airline (continuous-flow) helmet/hood with SWPF study
			3 to 5			Powered air-purifying half-facepiece Air-purifying (negative-pressure) full-facepiece	50	Airline (pressure-demand) half-facepiece Airline (continuous-flow) half-facepiece
		2 to 5				Powered air-purifying loose-fitting facepiece/visor Powered air-purifying helmet/hood without SWPF study	25	Airline (continuous-flow) loose-fitting facepiece/visor Airline (continuous-flow) helmet/hood without SWPF study
	1 to 5					Air-purifying (negative-pressure) half-facepiece (including filtering facepieces)	10	No atmosphere-supplying option available
						No respiratory protection required	<1	No respiratory protection required

Odour Threshold

The Odour Threshold is the lowest concentration at which a chemical can be detected by smell. It is important to understand that for some gases and vapours, odour can be detected at concentrations well below the Threshold Limit Value (TLV), while the opposite is true for others. Essentially, you cannot judge hazard by smell, it depends entirely on the chemical.

Click on the markers on the table below to understand more.

Chemical Name	Odour Threshold	TLV
Toluene	0.16-37 PPM	50 PPM
n-hexane	65-248 PPM	50 PPM
Carbon Monoxide	100 000 PPM	25 PPM

Chemical Name	Odour Threshold	TLV
Toluene	0.16-37 PPM	50 PPM
n-hexane	65-248 PPM	50 PPM
Carbon Monoxide	100 000 PPM	25 PPM

Toluene

00:09

As you can see here for Toluene, the odour threshold is below the TLV, so you would smell Toluene BEFORE it reached the critical concentration limit.

Chemical Name	Odour Threshold	TLV
Toluene	0.16-37 PPM	50 PPM
n-hexane	65-248 PPM	50 PPM
Carbon Monoxide	100 000 PPM	25 PPM

n-hexane

00:09

With n-hexane, the TLV is actually below the odour threshold, so you would reach critical contamination limits before you would smell the chemical.

Chemical Name	Odour Threshold	TLV
Toluene	0.16-37 PPM	50 PPM
n-hexane	65-248 PPM	50 PPM
Carbon Monoxide	100 000 PPM	25 PPM

Carbon Monoxide

00:13

With a TLV of only 25ppm but a odour threshold of 100,000 there is no odour warning that you have reached critical contamination levels. This is the reason they call Carbon Monoxide the silent killer.

Now that we have learned about measures of contamination and protection, let's see what you remember.

True or False? Being able to smell a chemical contaminant means you are in imminent danger.

- True

False

SUBMIT

Let's move on now to look at the different types of respirator that provide protection.

Have a Question?

Submit your question here using Valeforms. Be sure to include your first and last names and your contact information.

SUBMIT A QUESTION

CONTINUE

Types of Respiratory Protection

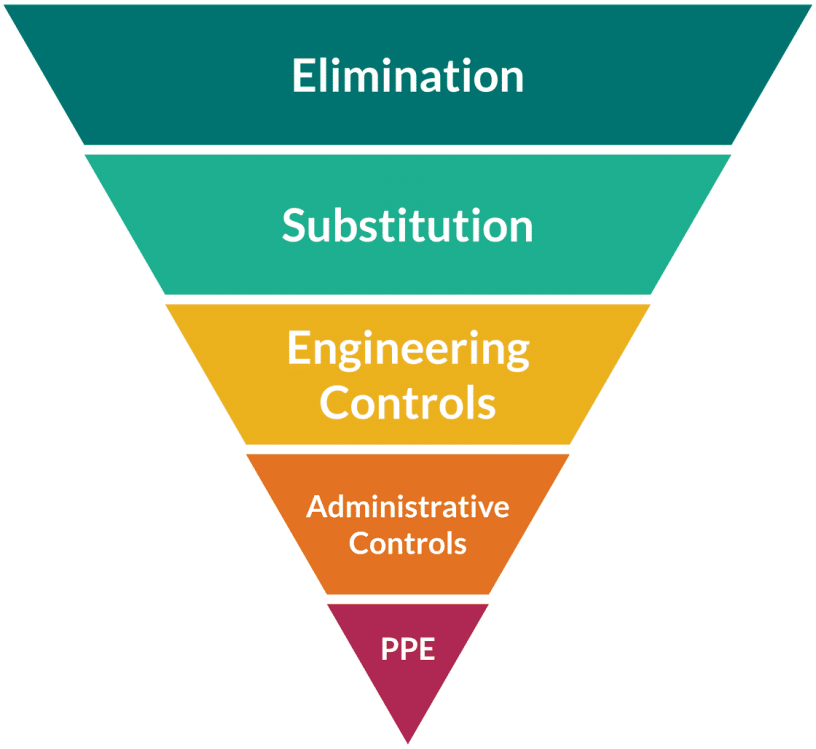
In this section we will discuss the various types of Respiratory Protection that are available to you.

What is a Respirator?

A respirator is an item of personal protective equipment (PPE) that is worn over the mouth and nose. It is designed to protect the user from inhaling the hazardous substances we learned about in the last sections.

When used correctly, respirators prevent the inhalation of chemical and dust in the air through the use of appropriate cartridges or filters.

00:07



Using a Respirator

Workers should use respirators for protection from contaminants in the air only if other hazard control methods are not practical or possible. Respirators should not be the first choice for respiratory protection in workplaces.

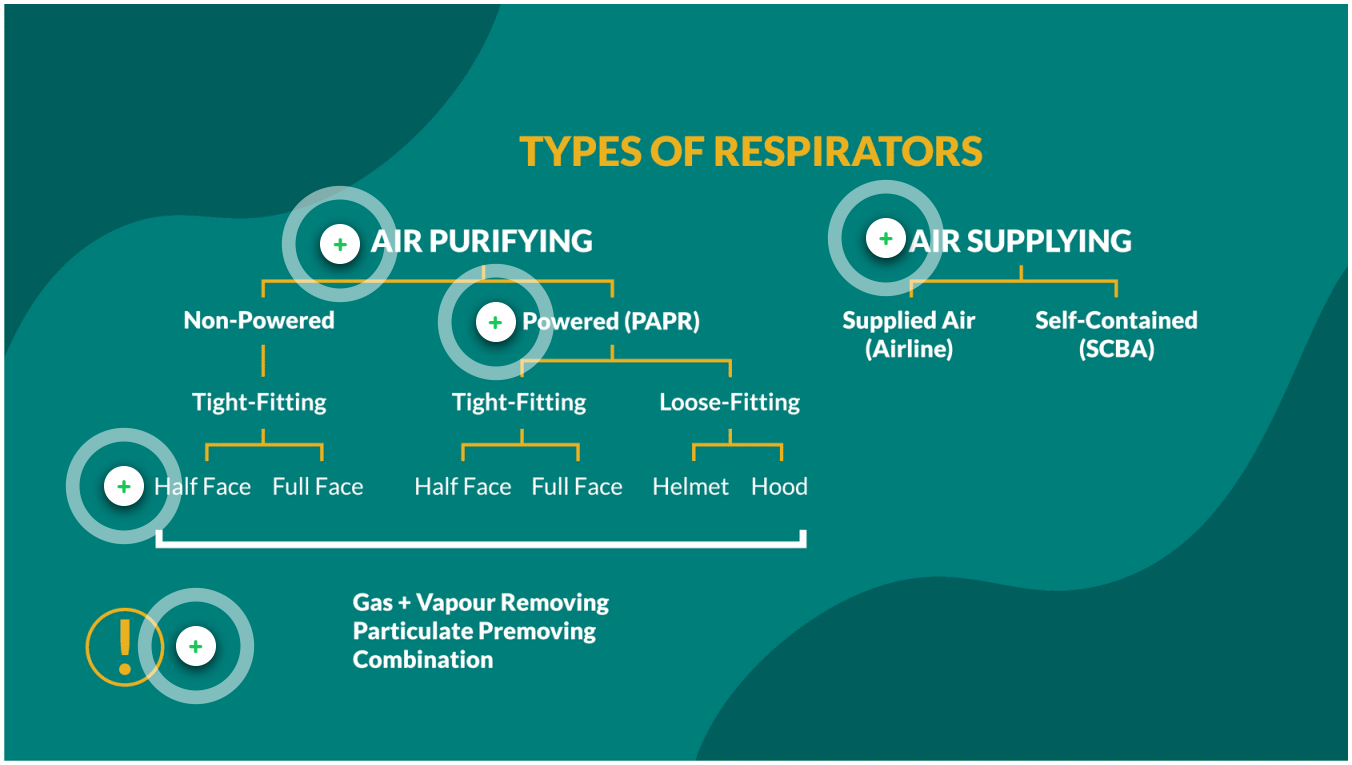
Respirators should only be used *(Check each box to demonstrate your understanding of each point)*:

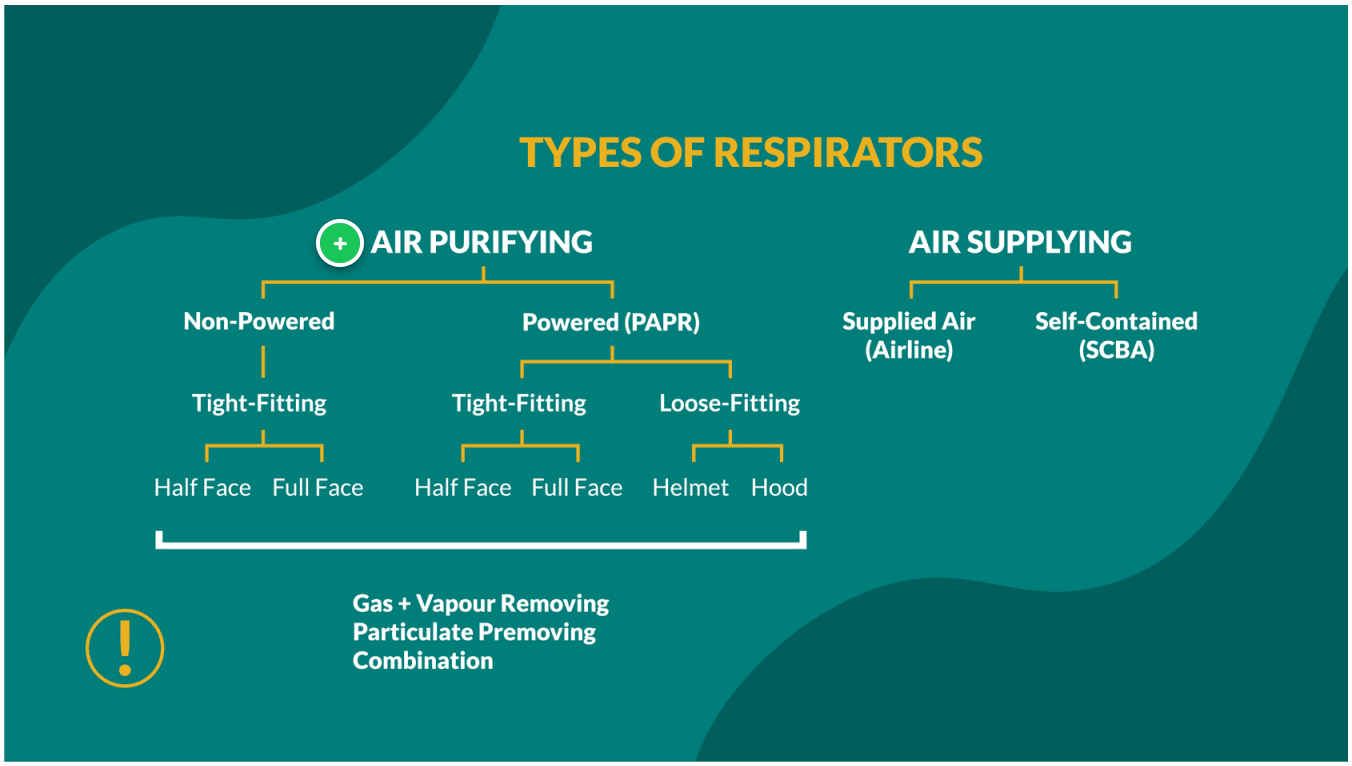
- [ ] When engineering or administrative controls are not possible.
- [ ] While engineering controls are being installed or repaired.
- [ ] When emergencies or other temporary situations arise.

Types of Respirator

There are different types of respirator to be used in different situations as shown below. This interaction will also help you to better understand each type of respirator.

Click each marker to learn more about the different types of respirators.



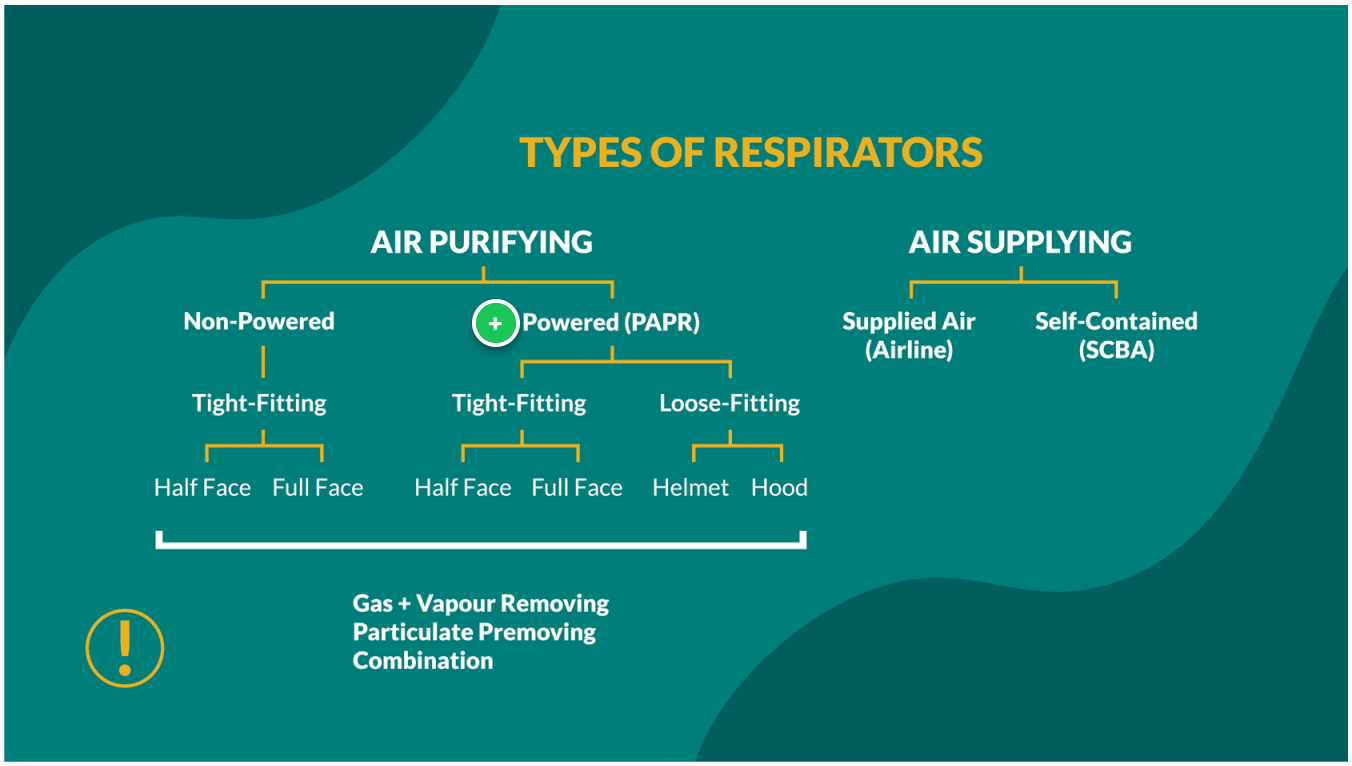


Air Purifying (APR)

00:18

There are two types of air purifying respirators. non powered (APR) and powered (PAPR). Both of which can be full face or half face.

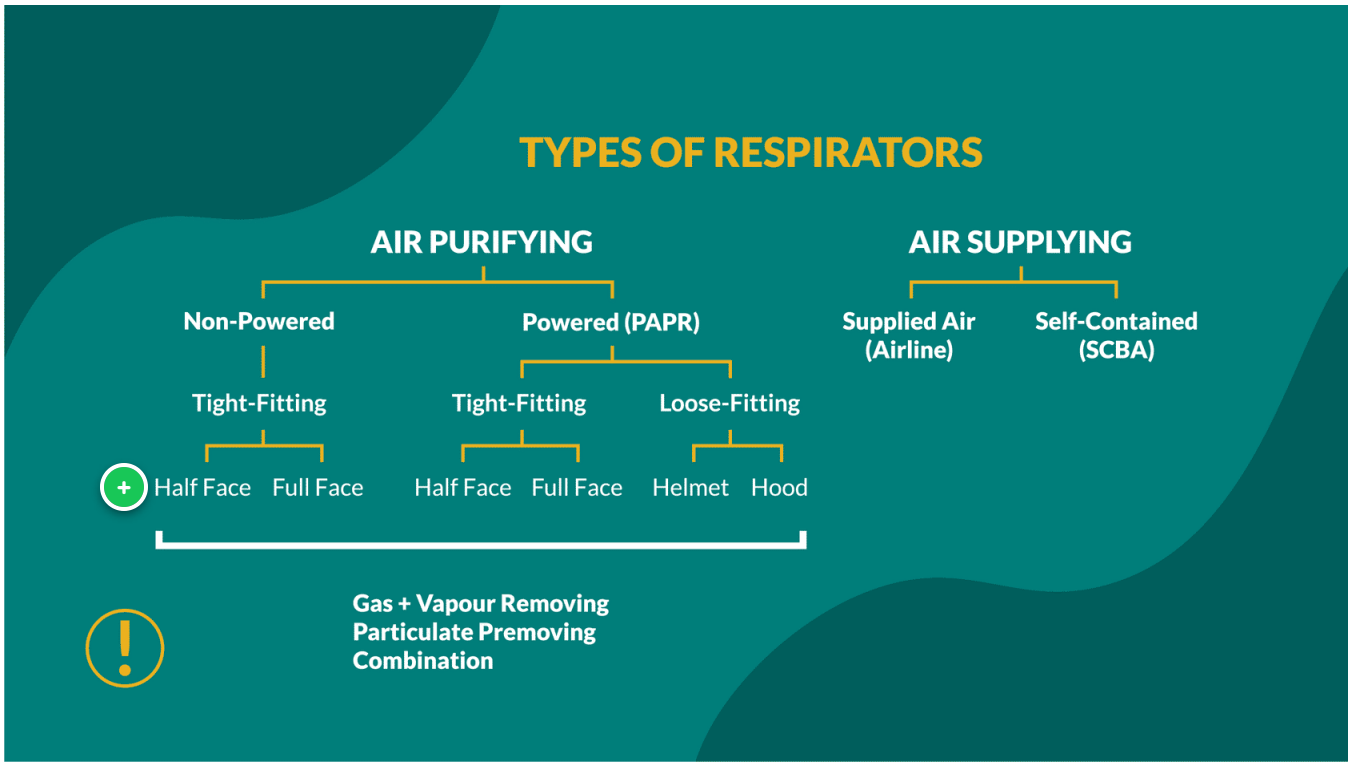
Air purifying respirators (APR) remove specific contaminants by passing ambient air through an air purifying element such as a filter, cartridge or canister.



Powered (PAPR)

00:13

The APR uses a blower to force the ambient air through the air purifying element to the inlet covering. PAPRs typically include a full face piece, blower and battery. The face piece is either tight fitting or loose fitting like a helmet or hood.

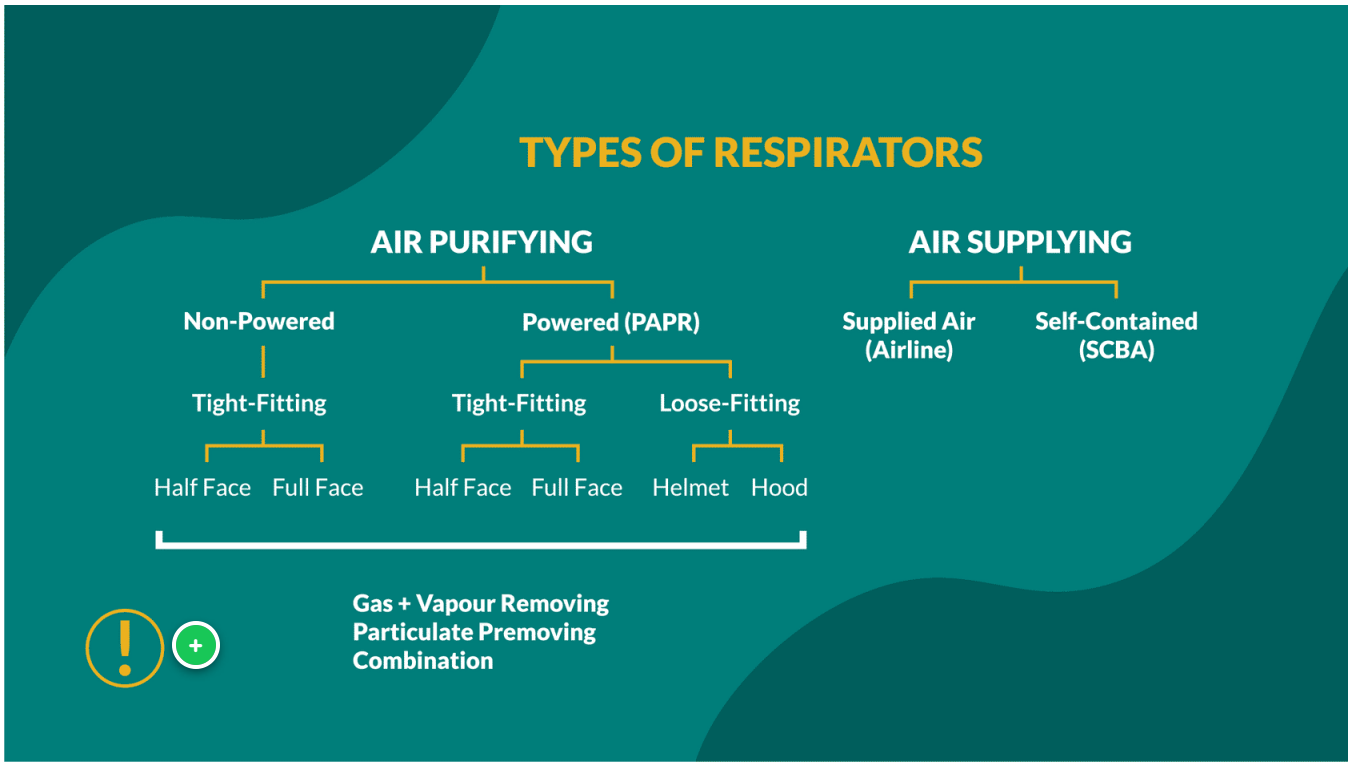


Half Face and Full Face Respirators

00:25

Half face and full face respirators give different levels of protection. Half-face cartridge respirators only provide protection at 10 times above the chemical or dust TLV. For example, the Ammonia permissible limit is 25 parts per million. The Respirator for Ammonia protects to 250 parts per million.

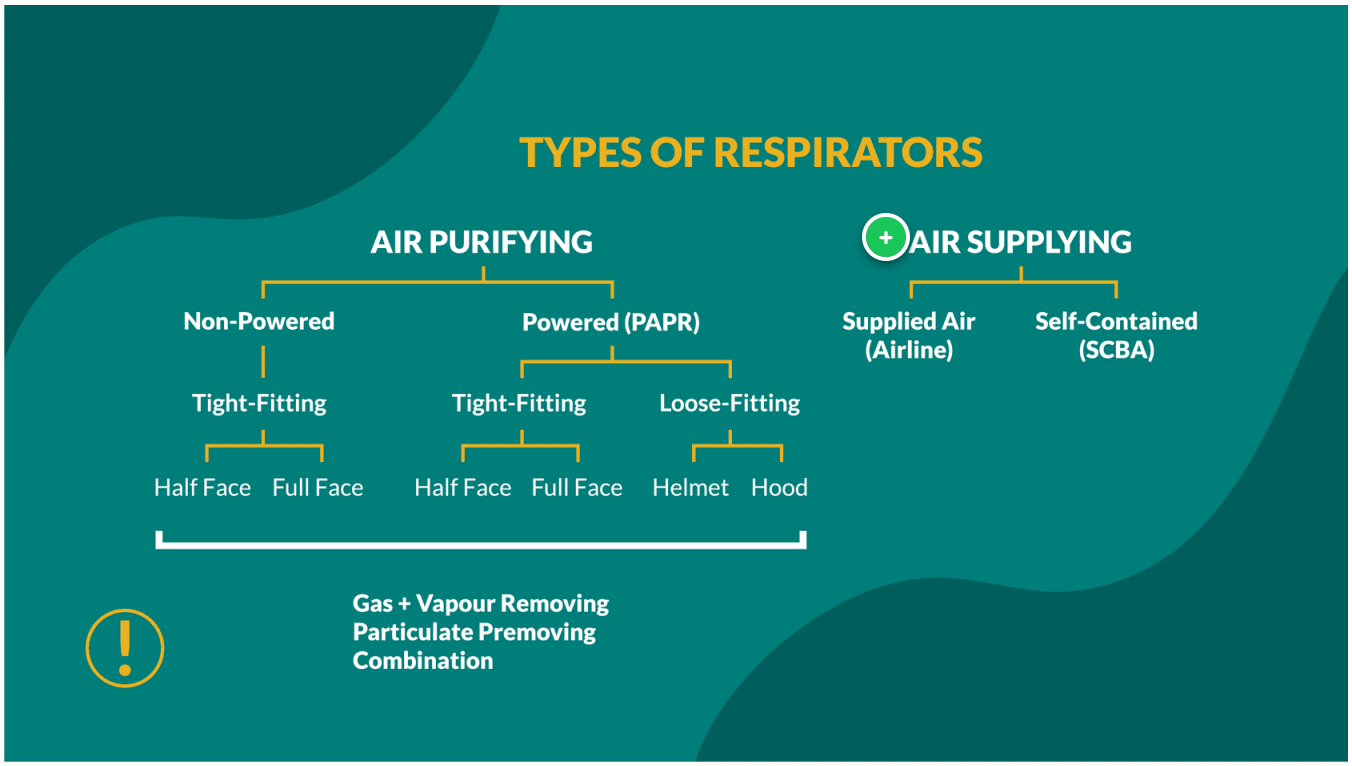
Full face respirators provide protection to 50x the TLV. They can also provide eye protection for chemical irritants.



Important Notes on Air Purifying Respirators

00:35

- APRs and PAPRs are not for use in unknown, oxygen deficient or oxygen enriched atmospheres such as confined spaces as they do not account for these issues.
- They are also not for use in IDLH situations as cartridge or filter based respirators are too prone to leaking to use at levels above IDLH.
- They should also not be used when the concentration of a contaminant exceeds the protection factor multiplied by the Threshold Limit Value.
- In all these situations, an Air Supplying Respirator (SAR) must be worn.
- APRs and PAPRs also do NOT protect against skin absorption.



Air Supplying

00:06

Air supplying respirators (SAR) supply clean air from a compressed air tank or through an air line.

Cartridges and Filters

Cartridges and filters are part of the respirator and are used subject to the type of contamination hazard. *Click through the information below to learn about each.*

Filters and Cartridges

Step 1

Contaminants

00:36

Filters are used for dusts, mists, fumes, aerosols and fibers. Cartridges are used for gas and vapour and rely on absorbent material to soak up the gas or vapour molecules. In cartridges, typically the sorbent material is carbon grain which has been specifically treated.

Both cartridges and filters are colour coded. Filters are pink/purple and filter particles ONLY. Combination cartridges may filter dust or chemicals. Chemical cartridges trap different types of chemicals but NOT dust. Cartridges are colour coded subject to the cartridge type.

Step 2

Cartridge Types

00:14

	Cartridge Type	Colour
6001	Organic Vapour	Black
6002	Acid Gases	White
6003	Organic Vapour/Acid Gases	Yellow
6004	Ammonia / Methylamine	Green
6005	Formaldehyde	Olive Green
6006	Multi-Gas and Vapour	Olive Green
6009	Mercury Vapour / Chlorine Gas	Orange

Cartridges are colour coded according to the contaminant protection it provides. Below are some commonly used cartridges. Cartridges must be changed regularly either according to schedule, or if they become difficult to breathe through.

Step 3

Filter Classifications

00:22

42 CFR 84 Filter Classifications			
Minimum Efficiency	N Class No Oil	R Class Oil Resistant	P Class Oil Proof
95%	**N95**	**R95**	**P95**
99%	**N99**	**R99**	**P99**
100%	**N100**	**R100**	**P100**

There are three main categories of filter: N (No Oil) which you can use when there is no threat of oil contamination. R (Oil Resistant) which is used where oil is possible but not likely, and P (Oil Proof) when oil is likely to be present.

For example, for asbestos abatement a P100 is used.

Step 4

Combination Filters

00:16

Combination filters protect against both particles and gases. Different combination particulate/cartridge filters are used depending on the gas or vapour present.

Disposable OV half face APRs do not protect against levels above the TLV.

Summary

00:04

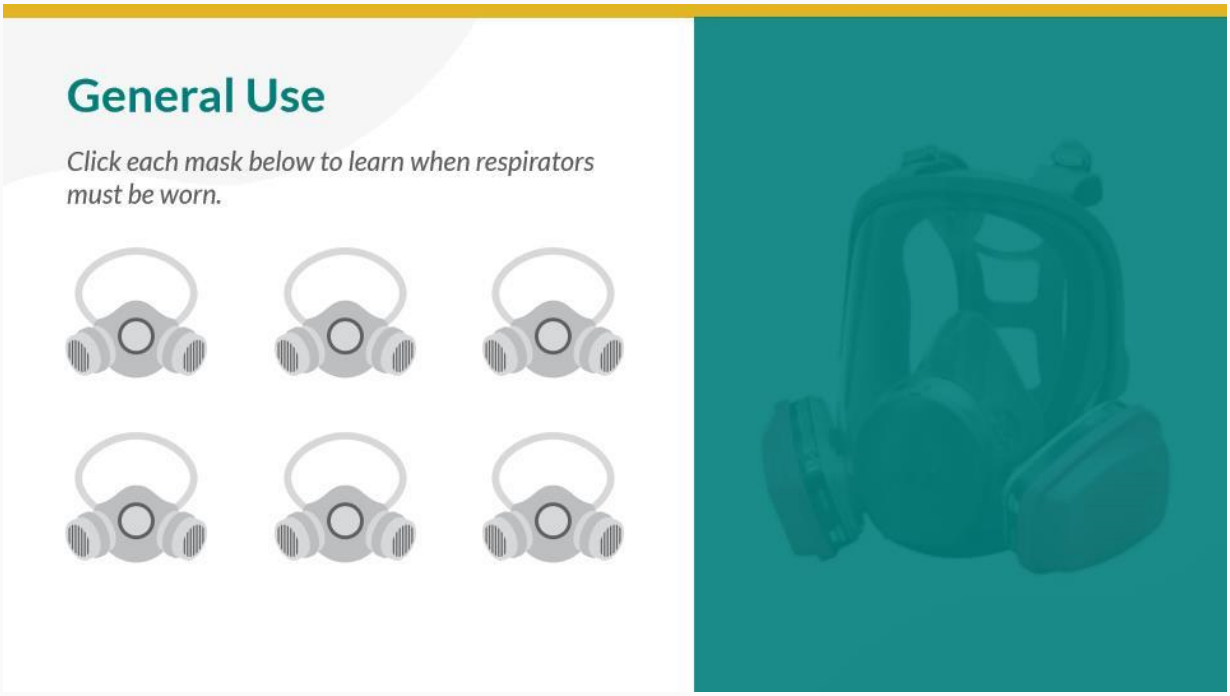
Ensuring the right protection against respiratory hazards is key.

Remember, the wrong filter or cartridge will not protect you from the dust or chemicals in the air. Use the right

protection.

Using a Respirator Underground

All Vale Employees must have a CSA approved respirator if they are working on Vale property and may be exposed to hazardous atmospheres. *Click play below to learn more about the use of respirators undergound.*



Now that you've learned about the different types of respirators, see if you can match the type of filter or cartridge to its use.

≡ Risk of dust in the environment	APR with appropriate filter/cartridge
≡ Chemical contaminant that may irritate eyes example	Hood APR
≡ IDLH breached	SAR

SUBMIT

Replacing Filters and Cartridges

Part of ensuring the appropriate care and maintenance of respirators is the replacement of the cartridges and filters they use.

Stop & Think

What might be some of the triggers for replacing a cartridge or filter?

What did you come up with? *Review the table below to understand when you replace a cartridge or filter and compare the list to your own thoughts.*

Replace Filters	Replace Cartridges
• When it becomes difficult to breathe comfortably • When the filter becomes dirty or physically damaged • In accordance with your company's established filter change schedule • After every use against infectious contaminants	• When it becomes difficult to breath comfortably • When the filter becomes dirty or physically damaged • In accordance with your company's change schedule • When the expiry date stamped on the sealed packet has elapsed • Once opened, after 6 months have elapsed (even if not used). The carbon will absorb contaminants from the general environment. • When contaminants can be detected by smell or taste

Replace Filters	Replace Cartridges
	• Replace after every use against infectious contaminants

Now we've learned about replacing cartridges and filters, let's see what you have learned.

Which of these are times when you would replace a filter? Select all the apply.

- [ ] When it becomes difficult to breathe
- [ ] When the filter becomes dirty or physically damaged
- [ ] When you feel like it
- [ ] In accordance with your company's established filter change schedule

- [ ] After every use against infectious contaminants

SUBMIT

Let's move on now to learn about fit tests.

Have a Question?

This location can be a URL, another lesson, or an email address. You can type a description here.

SUBMIT A QUESTION

CONTINUE

Fit Testing

In this section we will discuss fit testing, why it is important and some considerations to follow.

Fit Test

The use of a qualitative or quantitative method to evaluate the fit of a specific make, model and size of respirator on an individual.

Why Do We Fit Test?

Humans come in many shapes and sizes, as do respirators. A fit test is used to assess whether a specific type, model and size of respirator can adequately fit a specific individual. If the respirator-user fit is not checked, an unsatisfactory seal may unknowingly exist. This could allow excessive leakage of airborne contaminants into the wearer's breathing zone.

Another equally important reason for fit testing is to ensure that an individual knows how to properly don and wear the respirator. The proper size respirator will provide little protection if it is not worn correctly. This is why it is extremely important that training accompanies the fit test.

00:41

Below you can see some of the factors affecting facial fit.

Moustache is too thick and too long

Moustache is too thick and too long, runs down and around the mouth, will interfere with a sealing surface

Hair is in sealing region and under chin

Moustache is too thick and too long

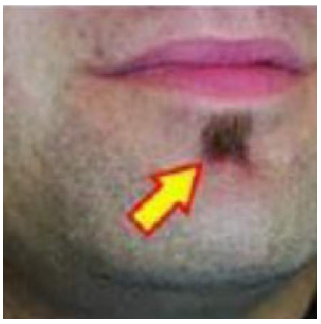
Facial Considerations

Different types of facial hair can impact the seal of a respirator differently. It is important to understand what is acceptable and what will impact a seal. Clearly, being clean shaven is the most obvious way to ensure no issues, but there are other styles that are acceptable shown below.

Clean shaven

This is the amount of facial hair that will allow a good seal

Moustache that does not interfere with sealing surface



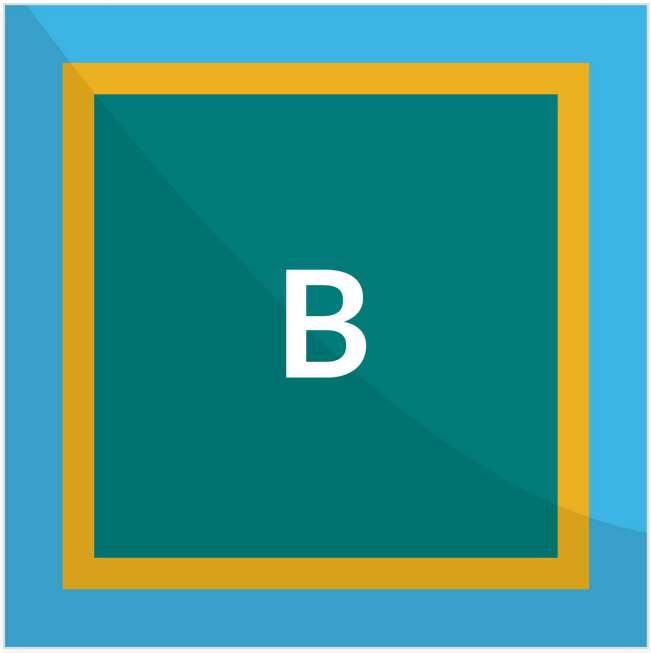
Soul patch that will not interfere with sealing surface

When Do We Fit Test?

There are 4 trigger points for when we fit test. *Click on the cards to reveal more.*

A

After an employee has completed a medical evaluation and before being allowed to wear any respirator with a tight fitting face piece.



When a different respirator face piece is used.

When there are physical changes in the employees physical condition that could affect fit (e.g. getting dentures or losing weight).

At least every two years as standard.

How Do We Fit Test?

In fit testing you first try on different sizes and types of respirators. After a comfortable respirator is selected, we then conduct the actual fit test.

We test fit using a quantitative method. We use a machine called a PortaCount which measures the current levels of dust particles present, measures the concentration of particles within the mask and produces a ratio of these two amounts called the fit factor. The higher the fit factor, the higher the protection.

We then ensure correct sizing, make sure the mask fits and seals appropriately, train the wearer in proper use and document the fit factor result.

00:33

Let's see what you remember about fit testing.

True or False: Different types of facial hair can impact the seal of a respirator differently.

- ◯ True
- ◯ False

SUBMIT

True or False: If the respirator-user fit is not checked, an unsatisfactory seal may unknowingly exist.

- ◯ True

- [ ] False

SUBMIT

When do we fit test?

- [ ] After an employee has completed a medical evaluation
- [ ] When a different respirator face piece is used
- [ ] When there are physical changes in the employees physical condition
- [ ] At least every two years
- [ ] All of the above

SUBMIT

Let's look finally at use and maintenance or respirators.

Have a Question?

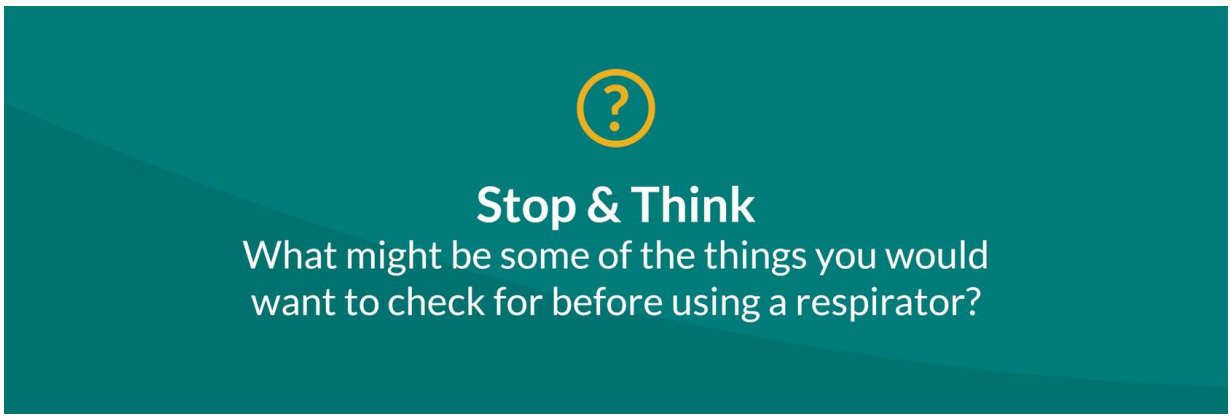
Submit your question here using Valeforms. Be sure to include your first and last names and your contact information.

SUBMIT A QUESTION

CONTINUE

Use, Care, and Maintenance

We will now discuss the use, care and maintenance of a respirator.



Below are some of the items we inspect.

- [ ] Look for cracks, tears, holes, dirt, and fatiguing.
- [ ] Bend and flex the respirator. Look for distortion.

- [ ] Check the inhalation/exhalation valves for damage and debris.
- [ ] Check the hose.
- [ ] Check for missing filter gaskets.
- [ ] Check the filter, cartridge or canister.

Cleaning and Maintaining

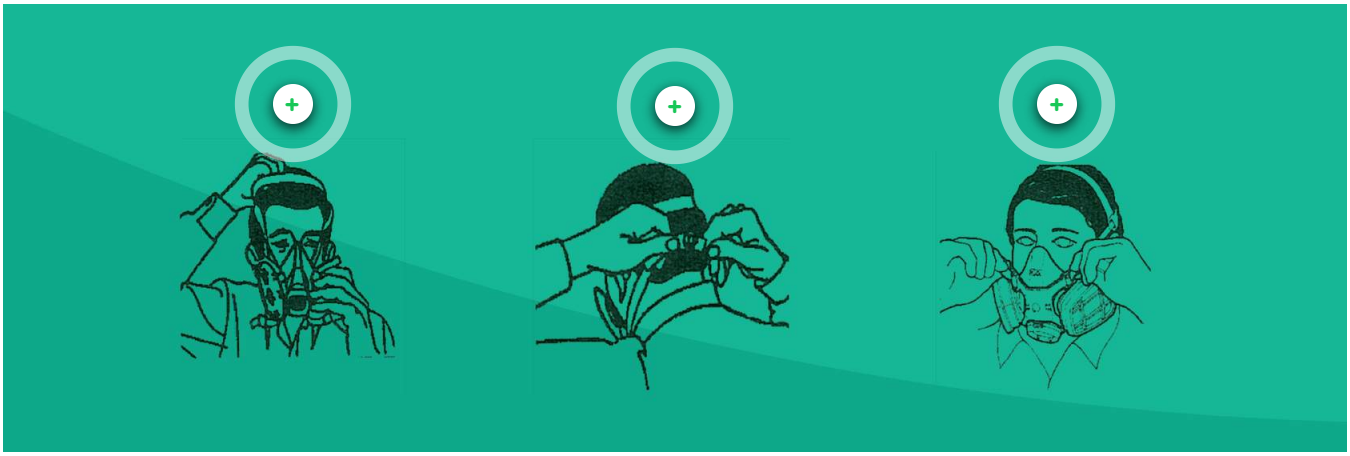
In order for respirators to work efficiently and protect the user, they must be cleaned and maintained on a regular basis. Clean your respirator before every use with manufacturer cleaning wipes or mild detergent and warm water. Follow the manufacturers cleaning procedures. Some sites have respirator cleaning stations with instructions on how to clean your respirator. Follow the guidelines at your location. **Do NOT:**

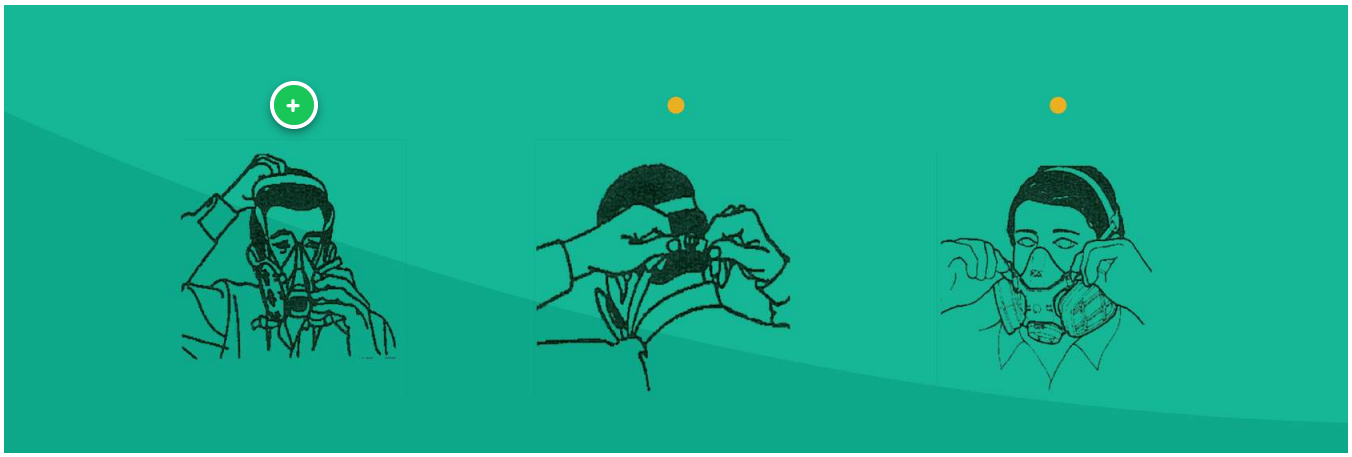
- Immerse batteries, motors or breathing tubes.
- Clean with solvents.
- Clean with anything containing lanolin.
- Attempt to clean cartridges, filters or canisters.
- Store the respirator wet.

When sanitizing or disinfecting, use 1mL of bleach to 1L of water at 43 degrees centigrade.

Donning

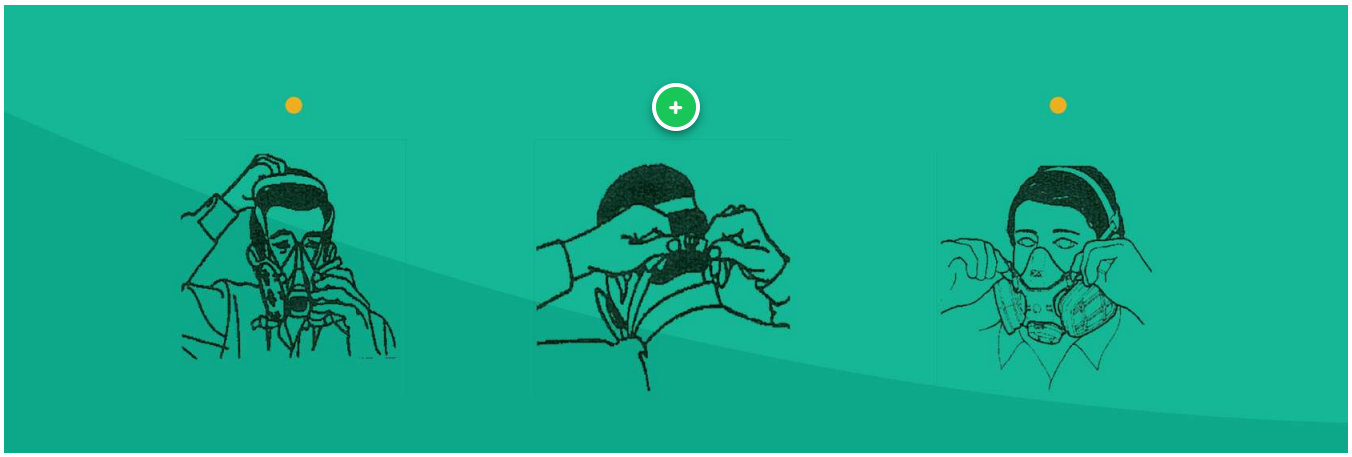
Click on the markers below to see the steps to correctly don your respirator.





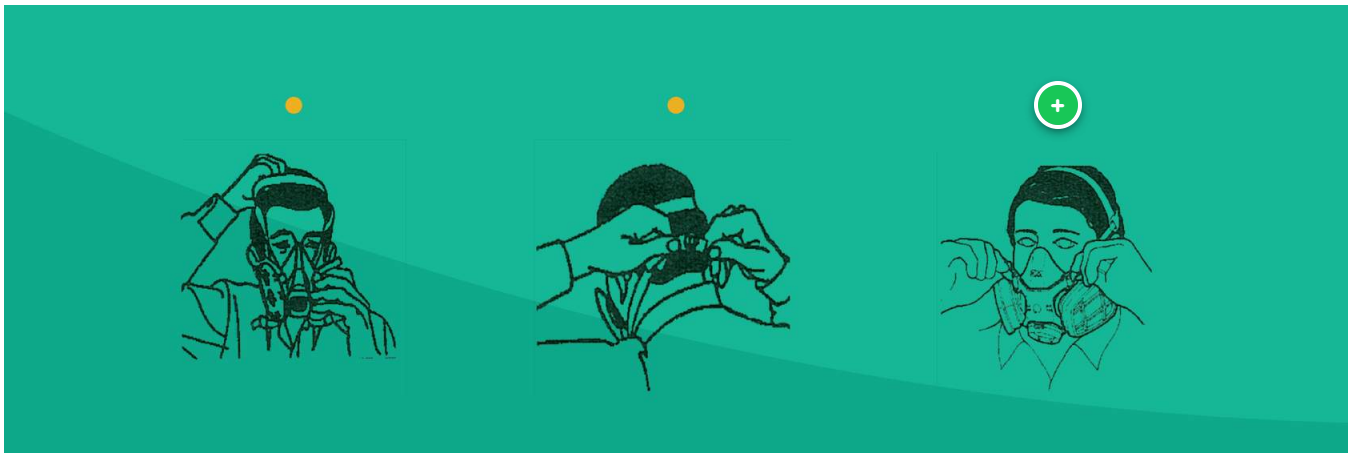
Step 1

Place the respirator over your nose and mouth with bottom straps unfastened.



Step 2

Pull the top strap over your head, placing the head cradle on the crown of your head.
Hook the bottom straps together behind your neck.



Step 3

Adjust strap tension to achieve a secure fit.

Only put on your respirator in an area with uncontaminated air. Make sure to remove your eyewear and hard hat before putting on a respirator and replace them after the respirator is fitted. Once your respirator is in place, make sure you wear all the straps at all times.

00:16

Remember, it is important to only put on your respirator in an area with uncontaminated air.

Seal Checks

Once we have donned the respirator, we need to perform a seal check. There are two parts to the check: Negative User Seal Check and Positive User Seal Check. *Click the arrows below to learn more.*

With the intake port(s) blocked, the wearer inhales gently and holds. The respirator should collapse slightly on the wearer's face.
No leakage around the face seal should be noted while maintaining a negative pressure inside the respirator for several seconds.

Completing a Negative Seal Check

With the exhaust port(s) covered, the wearer exhales gently to generate a slight positive pressure within the face piece.
No leakage outward around the seal should be noted.

Completing a Positive Seal Check

Maintenance and Storage

There are key steps to consider for the maintenance and storage of a respirator. *Click the boxes to confirm you understand each step.*

- [ ] Complete a visual inspection of the respirator including inhalation and exhalation valves to ensure they are free of debris.
- [ ] Look for any damage such as cracks, scratches, tears, holes, or missing components. Do not try to replace components or make adjustments beyond manufacturer's recommendations.
- [ ] Store your respirator to protect it from dust, sunlight, heat, extreme cold, excessive moisture, and damaging chemicals. Do not store it with tools.
- [ ] Store in a plastic bag. Please note, respirators and cartridges are to be stored in separate bags as per manufacturers instructions.
- [ ] Position so the face piece, hoses and straps are not stretched.
- [ ] Store your respirator in a safe place (cabinet, locker) when it is not in use.

Now that you've learned about use, care and maintenance, let's see what you remember. Sort the following into things you should do and shouldn't do with a respirator.

Do

Store in a plastic bag

Store your respirator in a safe place when it is not in use

Perform a seal check before every use

Complete a visual inspection of the respirator before every use

Do NOT

Immerse batteries, motors or breathing tubes

Store the respirator wet

Attempt to clean cartridges, filters or canisters

Let's move on to complete the final knowledge check quiz for this course.

Have a Question?

Submit your question here using Valeforms. Be sure to include your first and last names and your contact information.

SUBMIT A QUESTION

CONTINUE

Knowledge Check

Before we conclude this module, let's test your understanding with a few knowledge check questions.

You must receive 80% to pass. You have unlimited tries.

Question

01/10

What kind of cartridge or filter is needed for dust?

- A large one
- A chemical cartridge
- A particulate filter
- Any kind will work on dust

Question

02/10

When should a particulate filter be changed?

- Every time you use it
- When it's hard to breathe through
- When you remember
- On a regular basis depending on the chemical

Question

03/10

True or False? You can wear a respirator over a beard.

- ◯ True
- ◯ False

Question

04/10

When is a half face or full face cartridge respirator not protective enough?

- In the case of a large chemical spill
- When oxygen concentration is less than 19.5%
- When you have an IDLH environment
- All of the above
- None of the above

Question

05/10

What does it mean if you can smell a chemical while using your respirator? Select all that apply.

- [ ] The cartridge is used up
- [ ] The respirator doesn't fit properly
- [ ] The exhalation valve is missing
- [ ] You have a good sense of smell

Question

06/10

True or False: APRs and PAPRs should not be used when the concentration of a contaminant exceeds the protection factor multiplied by the Threshold Limit Value.

- ◯ True
- ◯ False

Question

07/10

True or False: The assigned protection factor (APF) of a respirator reflects the level of protection that a properly functioning respirator would be expected to provide.

- ◯ True
- ◯ False

Question

08/10

When inspecting your respirator before use, some things you may check can include:

- ◯ Look for cracks, tears, holes, dirt, and fatiguing
- ◯ Check the inhalation/exhalation valves for damage and debris
- ◯ Check for missing filter gaskets
- ◯ Check the filter, cartridge or canister
- ◯ All of the above

Question

09/10

True or False: When performing a seal check no leakage around the face seal should be noted.

- ◯ True
- ◯ False

Question

10/10

How should you store your respirator?

- ○ Store in a plastic bag in a safe place
- ○ Store it in a place where it is protected from dust, sunlight, heat, extreme cold, moisture, and damaging chemicals
- ○ Position it so the face piece, hoses and straps are not stretched
- ○ All of the above

Course Complete!

You have successfully completed this course on the selection, care and use of respirators.

By now you should be able to:

1. Describe the respiratory system
2. Explain the respiratory protection legislation
3. Describe the types of respiratory protection, filters and cartridges
4. Outline the process for fit testing
5. Explain how to properly don, use and maintain respiratory equipment

Remember, the proper respirator helps prevent illness and disease from dirty, contaminated air. It is important to use respirators properly.

Well done for completing the course! You are now ready to exit.

Have a Question?

Submit your question here using Valeforms. Be sure to include your first and last names and your contact information.

SUBMIT A QUESTION

Thank you for completing the Vale Online Module Training.

Complete Your Module Validation

PLEASE CLICK HERE