

# 3M Filters for Reusable Respirators




# INTRODUCTION



This presentation is to help you understand what the different types of 3M filters are, how they work, how to achieve protection and when to change your 3M filters to ensure that you are well protected.

# Content

- 
- What types of 3M Filters are there for reusable respirators ?
  - How do 3M Filters work?
  - Achieving Protection
  - Why and when to change the filters

# What Types of 3M Filters are there for reusable respirators ?

## Which Filter Should I Use?

Depending on the filter you select, your 3M respirator can protect against particulates, gases and vapours or a combination of the two. To select the most appropriate filter for a particular chemical or hazard, please:-

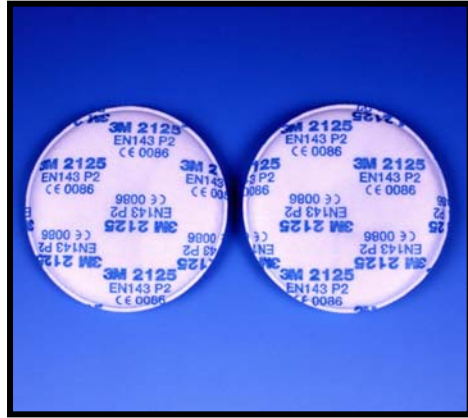
Visit the 3M online Filter Selector at [www.3m.com/uk/ohes](http://www.3m.com/uk/ohes), click on the link to 3M Respirator Product Selector, select the nature and level of hazardous substance you wish to protect against and a list of suggested filters will be generated.

For further help and assistance, call the 3M Health and Safety Helpline on (UK) 0870 60 800 60 (Ireland) 1 800 320 500

Full limitations of use are in the user instructions. These should be read and understood before using the respirator.



# Particulate Filters



Protects only against particulates i.e. dust, mists and fumes, aerosols, fibres, mould, bacteria and so on.

3 classes for varying levels of exposure:  
P1= Low, P2 = Moderate, P3= Higher



# Particulate Filters





Diagram of electrostatic filter

## 3M Advanced Electret filter

- Captures the particles
- Very low breathing resistance & high filter efficiency

Particulate filters are unsuitable for gases, vapours and odours.

# For Particulate Protection Only:-

Product Code	Protection Provided			Product Information
	P2 R (up to 10 x WEL)*	P3 R (Half face, up to 20 x WEL, Full Face up to 40 x WEL).	Nuisance level Organic Vapour and Acid Gas	
2125	X			<ul style="list-style-type: none"> <li>- Extremely lightweight</li> <li>- Low breathing resistance</li> <li>- Low profile gives unobstructed field of vision</li> </ul> 
2128	X		X	
2135		X		
2138		X	X	
6035		X		<ul style="list-style-type: none"> <li>- Filter in a lightweight plastic case</li> <li>- Ideal for wet, dirty or high heat conditions</li> </ul> 
6038		X	X	

\*WEL = Workplace Exposure Limit



# Gas & Vapour Cartridge Filters



Protects only against certain gases and vapours.  
There are different types of gas & vapour cartridge filters for different kinds of gases.



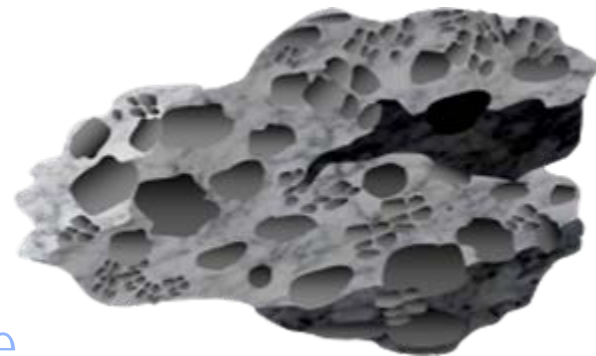
# Gas filtration: The main ingredient...

## Charcoal

Many gases can be filtered out by the charcoal

The chemical to be filtered must have good warning properties (taste and smell)

Gases attach to the large surface area inside the charcoal








Charcoal

Breakthrough occurs when all available surface area is used up and then the user will be able to taste or smell the chemical

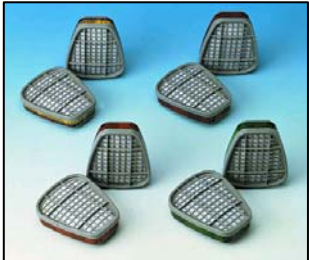
# 3M Gas and Vapour Cartridge Filters



A	Organic Vapours (bp>65°C)	
B	Inorganic Vapours	
E	Acid Gases	
K	Ammonia	
Hg	Mercury	
AX	Organic Compounds with low boiling points	



# For Gas & Vapour Protection Only:-

	<u>Protection Provided</u>					<u>Product Information</u>
	<u>Organic Vapour</u>		<u>Inorganic Vapour</u>	<u>Acid Gas</u>	<u>Ammonia</u>	
<u>Product Code</u>	A1	A2	B	E	K	
6051	X					 <p>-Lightweight for optimal weight distribution</p> <p>-Unique low profile trapezoidal shape gives unobstructed field of vision</p>
6054					X	
6057	X		X	X		
6059	X		X	X	X	
6075	X	+ formaldehyde				
6055		X				

## For Both Particulate and Gas & Vapour Protection:-



Combine Filters  
with  
501 retainer

Protect against both particulates and gases. 3M gas and vapour filters can be combined with P1, P2 or P3 particulate filters.

# Combining Particulate Filters

3M 5000 Series  
Particulate Filters



It is important that the text on the filter faces inwards when fitted to the gas and vapour filter.

1. Check whether any of 3M pre combined filters are applicable.

Product Code	Protection Provided	Product Information
6096	P3 particulate protection + mercury vapour	
6098	AXP3 particulate protection	For use with full face masks and single shifts only
6099	ABEK2P3 particulate protection	For use with full face masks only

2. If not, then choose your gas and vapour filter from the Gas & Vapour Protection table above

3. Choose a particulate pre-filter from the table below

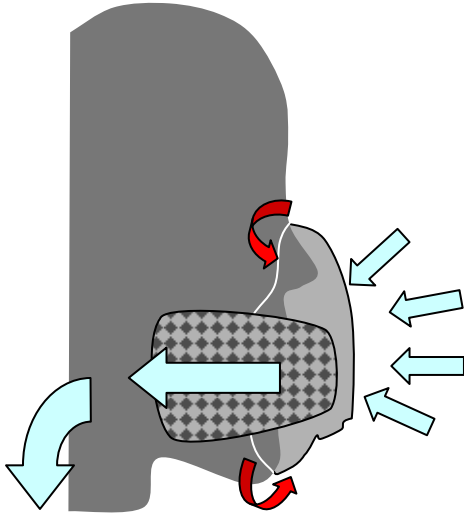
Product Code	Protection Provided			Product Information
	FFP1	FFP2	FFP3	
5911	X			-Extremely lightweight -Excellent field of vision
5925		X		
5935			X	



4. Use a 3M 501 retainer to clamp the two filters together




# Achieving Protection



To achieve a good fit:

- Users **MUST** be clean shaven
- Users must fit the respirator correctly and perform a pre-use fit check. Please refer to the User Instructions.
- Users should be Face Fit Tested – a COSHH requirement for respirators with tight fitting face seals



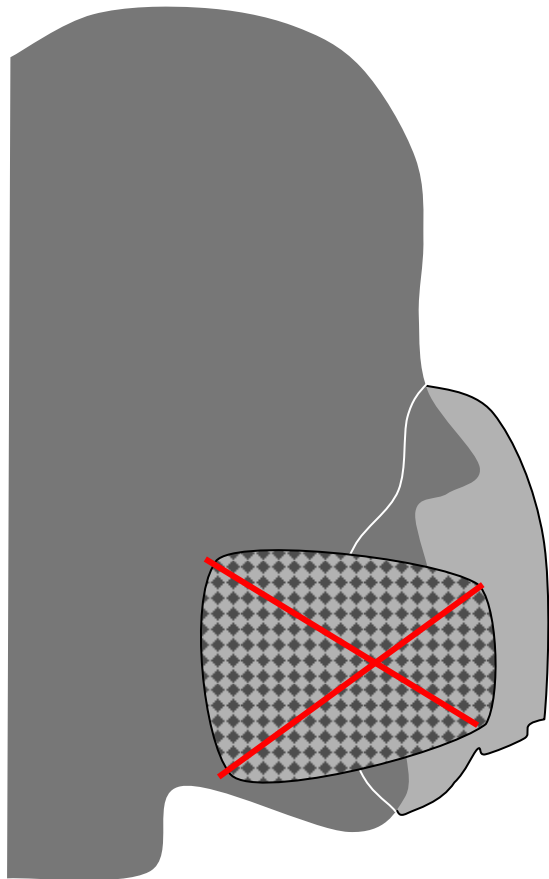


# Why and when do I need to replace my 3M Filters?



# Replacing of Particulate Filters

Why ?



## 3M Reusable Respirators



**Particulate filters...**  
**...they don't last forever!**

**If you're finding it hard to breathe through them - get a new pair!**  
**Do not attempt to clean them!**



3M Filters used on this site are:



\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

For further help and assistance, please call the 3M Health & Safety Helpline on:

(UK) **0870 60 800 60** (Ireland) **1 800 320 500**

or visit [www.3m.com/uk/ohes](http://www.3m.com/uk/ohes)



Particulate filters get clogged up and become harder to breathe through



## When ?

- Your company policy or procedures requests you to do so
- It becomes difficult to breathe through the filters comfortably
- The filters become damaged



# Replacing Gas and Vapour Cartridge Filters

## Why ?

Gas and vapour cartridge filters start to let contaminant through once their charcoal becomes saturated. This is called breakthrough.

Establishing a Company policy is best practice, don't routinely wait for breakthrough !

**3M Reusable Respirators**

**Gas & Vapour filters...  
...they don't last forever!**

**As soon as you taste or smell hazard - get a new pair!**

**3M Filters used on this site are:**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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**3M**

1. End of service life is indicated by the warning smell or taste of the contaminant inside the facemask (called "breakthrough"). However, it is advised not to continue work on such a mask or reuse but to change filters before breakthrough. Your company risk assessment and certain 3M filters may also specify different instructions on a more regular filter change schedule. Please read all manufacturer's instructions before use.

2. For substances with low warning properties (e.g. with little or no smell or taste e.g. isocyanate paints), supplied air respirators should be used rather than a mask and filters, since breakthrough cannot be detected with this type of substance.



## When ?

- The company policy or procedure requires it
- When contaminant can be detected by smell or taste (last resort)
- The filters become damaged
- When the expiry date stamped on the sealed packet has elapsed.



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