

Contractors exposed to particulates by using the wrong filters for their dust masks

WHAT HAPPENED

During a meeting at a cement plant on dust levels and RPE, samples of the dust masks worn by the employees and contractors were requested.

A contractor brought in the half face and full face masks that were being used on the site in a very high dust level area. On examination, it was found that the replaceable filters being used were 'gas' filters that gave protection against certain gases but absolutely no protection against particulates.



LEARNING POINTS / ACTIONS TAKEN

- Employees and contractors using face masks should understand the protection provided by different types of filters
- Please ensure that filters used in dust masks are appropriate for the level of protection required
- To ensure that any mask (and filter) is working effectively all wearers should undergo face fit testing.
- It should be noted that face fit testing may not be conducted if there is any hair growth between the skin and the facepiece sealing surface such as stubble, beard, mustache, sideburns or low hairline which cross the respirator sealing surface.
- Contact your local SHE Advisor or appropriate safety advisor if unsure or needing assistance

Information on filter coding

All filter cartridges have ID information printed on them that allows you to identify the filter and the protection they offer. Filters use letters, numbers and colour coding to define the protection they offer. Dust mask filters for protection against particulates are marked with a 'P' and are colour coded 'WHITE'. They also have a number representing the protection they offer (1 for low efficiency, 2 for medium efficiency, 3 for high efficiency). This number refers to the Assigned Protect Factor (APF), with:

P1 offering an APF of 4,

P2 offering an APF of 10

P3 offering an APF of 20.

The APF indicates how much protection that particular filter is capable of providing. Eg. A filter with an APF of 10 will reduce the wearer's exposure by at least a factor of 10 if used properly (ie The wearer will only breathe in one-tenth or less of the amount of substance present in the air).

Please note that full face masks and air flow masks are available that offer an APF of 40.

The table below shows the colour, letter and number coding for each type of filter.



Filter types				
Colour code	Type	For use against	Class	Other information
White	P	Particulates	1	European standard EN 143
			2	
			3	
Brown	A	Organic gases and vapours, boiling point above 65 °C	1	European standard EN 14307
			2	
			3	
Grey	B	Inorganic gases and vapours	1	European standard EN 14307 Do not use against carbon monoxide
			2	
			3	
Yellow	E	SO ₂ and other acid gases	1	European standard EN 14307
			2	
			3	
Green	K	Ammonia and its organic derivatives	1	European standard EN 14307
			2	
			3	
Red & white	Hg P3	Mercury	-	European standard EN 14307 Includes P3 particulate filter Maximum use time 60 hours No class number
Blue & white	MD P3	Oxides of nitrogen	-	European standard EN 14307 Includes P3 particulate filter Single use only No class number
Brown	AX	Organic gases and vapours, boiling point at or below 65 °C	-	European standard EN 14307 Single use only No class number
Violet	SX	Substance as specified by the manufacturer	-	European standard EN 14307

LOCATION:
ACTIVITY:
SUB ACTIVITY:

CEMENT PLANT
OCCUPATIONAL HEALTH
AIR AND DUST

ALERT STATUS: Normal
DATE ISSUED: 23/05/2019 16:23:12
INCIDENT No: 01484