

RESPIRATORY PROTECTION EXPLANATION OF STANDARDS

THE RIGHT CHOICE: WITH THE CORRECT PSE YOU PROTECT YOUR EMPLOYEES AGAINST RESPIRATORY AND ENVIRONMENTAL TOXINS. THE CHOICE OF PRODUCTS THAT RELIABLY PREVENT THE RISKS OF WORK-RELATED ILLNESSES DEPENDS ON THE HAZARD AND NATURE OF THE POLLUTANTS IN YOUR WORKING ENVIRONMENT.



Pollutants? Warning – danger!

Prevention at the workplace means recognising risks and taking appropriate precautions to prevent them. In many business sectors employees are exposed to airborne hazards and pollutants. Is your company in the road construction or mining industries or do you work in the wood and metal construction sectors? Air pollution is multifaceted; fumes discharged from machines and engines, gases and chemical substances in production facilities or chemical-biological processes are some of the most serious pollutants in company plants.

In such cases the workplace of your employees is where they are exposed to risks, as the inhalation of hazardous substances can cause lasting physical damage. In such cases it is important to recognise dangers! Particles such as fine dust, gases or fumes enter the bloodstream with the air we breathe and are responsible for occupational illnesses such as asthma, asbestosis and cancer.

EN 149 Respiratory protective devices – filtering half masks for protection against particles

So-called particle masks (also particle-filtering half masks, non-woven fabric masks) are usually designed for one shift and provide protection against dust and aqueous or oily aerosols (mists), but not against gases or fumes.

FFP CLASSIFICATION (FILTERING FACE PIECE)

Type	Filter efficiency (% of all solid and liquid particles)	Protection factor
FFP 1	80%	Low (4): Protection against harmful particles up to 4 times the maximum workplace concentration
FFP 2	94%	Medium (10): Protection against harmful particles up to 10 times the maximum workplace concentration
FFP 3	98%	High (30): Protection against harmful particles up to 30 times the maximum workplace concentration



STOP! LIMITED USABILITY!

When the respirator is used for a prolonged period of time, the breathing resistance increases. This means that the exposure to the wearer also increases. Why is that? The mask filter type is responsible for the protective effect. During use, the filters in the respirator become filled with particles and as a result the filter material gradually becomes clogged – breathing resistance increases. For this reason it may be necessary to replace the mask several times a day in workplaces with particularly high particle concentrations. Wet particle filters also usually lose their protective effect.

Act quickly – in practical terms this means leaving the workplace immediately and replacing the mask if the breathing resistance increases or you feel uncomfortable or unwell. Either way the mask must be replaced if it is damaged or heavily soiled.

EN 140 Respiratory protective devices – Half masks and quarter masks

Half masks enclose the nose and mouth.

EN 136 Respiratory protective devices – Full face masks

Full face masks cover the entire face. They have a greater protective effect than half masks and fit closer to the face. Full face masks also protect the eyes.

EN 143 Respiratory protective devices – particle filters

Particle filters provide protection against viruses, spores and microorganisms as well as smoke, dust and mist. They are available in three protection categories: P1, P2 and P3. The higher the class, the higher the filtering efficiency and therefore the protective effect.

EN 14387 Respiratory protective devices – gas filters and combined filters

Pollutants can occur in various forms, such as aerosols (particles or droplets), gases or vapours. Depending on the form, you may need to provide protection against one or a combination of these types.

Aerosols (particles): Dust, fibres, smoke, microorganisms (e.g. viruses, bacteria, fungi and their spores) as well as mist

Gaseous substances: Gases or vapours



Reliable information: Filter colour coding

You can easily distinguish between the different filter types by the corresponding colour coding: Each colour is associated with a special property. Particle filters, for example, are marked with a white ring, the other colours stand for various gases and vapours.

FILTER COLOUR CODE

Colour code	Filter type	Main field of protection	Important information
	AX	Gases and vapours of organic compounds, boiling point ≤ 65 °C	Erlaubt ist ausschliesslich die Verwendung ab Fabrik bzw. im Anlieferungszustand. Nicht zulässig sind die Wiederverwendung und der Einsatz gegen Gasgemische.
	A	Gases and vapours of organic compounds, boiling point > 65 °C	
	B	Inorganic gases and vapours, e.g. chlorine, hydrogen sulphide, hydrogen cyanide (hydrocyanic acid)	
	E	Sulphur dioxide, hydrogen chloride	
	K	Ammonium hydroxide and organic ammonia derivatives	
	CO	Carbon monoxide	Erlaubt ist eine Einzelverwendung. Nach dem Einsatz zu entsorgen. Beachten Sie die Anweisungen nach lokalen Richtlinien.
	Hg	Mercury vapour	Erlaubt ist ein Einsatz von maximal 50 Stunden gemäss EN 14387.
	NO	Nitrous gases including nitrogen monoxide	Erlaubt ist eine Einzelverwendung. Nach dem Einsatz zu entsorgen.
	P	Particles	

The table shows the colour coding of the filters as stipulated in EN 14387. This will help you select the correct type of filter required for use to provide protection against your pollutant

The following filter types can each provide three levels of protection:

«A», «B», «E», «K» and «P»

In this categorisation, «1» stands for low protection and «3» for high protection.

A1B2E2K1 P3

- Example: A filter marked «A1B2E2K1 P3» provides
- Medium protection against type B and E pollutants
 - Low protection against type A and K pollutants
 - As well as high protection against particles.