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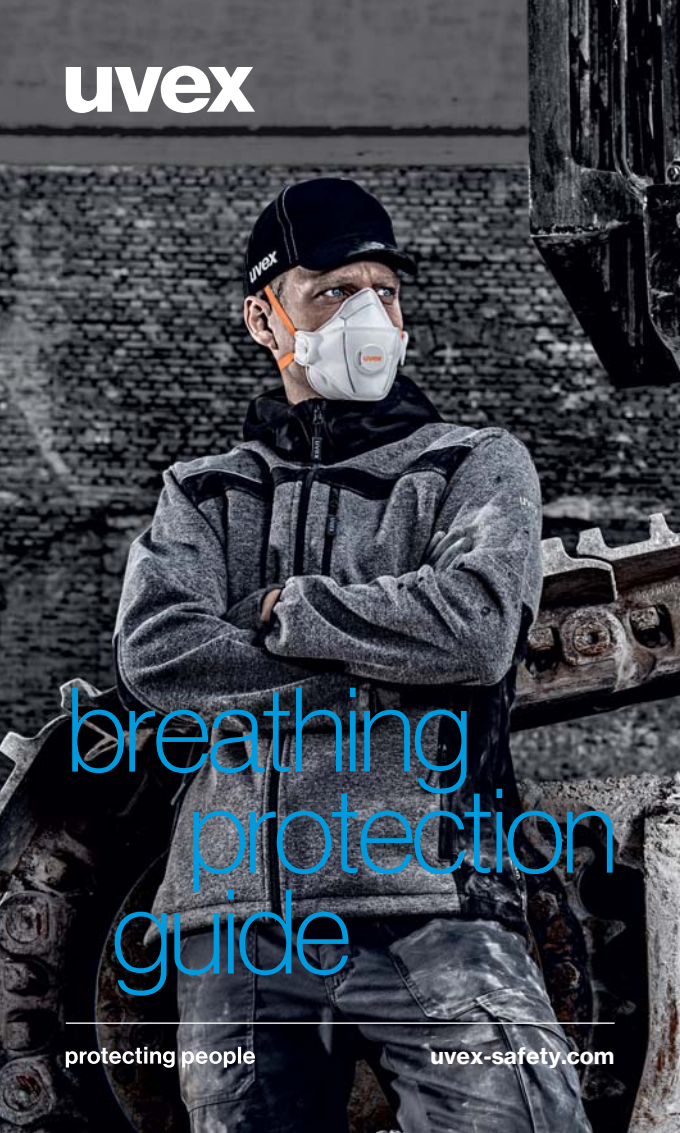

breathing protection guide

protecting people

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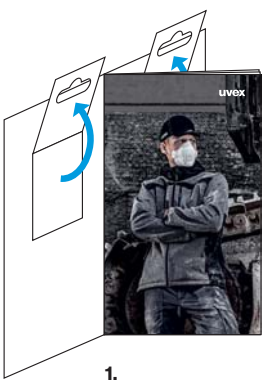
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Legal notice

uvex assumes no liability for any damage that may result from the use of this respiratory protection guide, and particularly not for damage to health as a result of using the respiratory protection recommended by the guide. This respiratory protection guide cannot replace a risk assessment or purchase advice.
All the applications and recommendations described are examples and set out the minimum requirements for the respiratory protective device being used. The wearer of the respirator is responsible for checking the suitability of the product before use. If in doubt, please contact your occupational health and safety officer.
The purpose of this guide is primarily to offer basic information about particle-filtering respiratory protection and uvex products.

Definition of respiratory protection

Respiratory protection is the generic term for items of personal protective equipment (PPE) that protect the wearer against respiratory and hazardous substances. Respiratory protection is generally used in the field of occupational safety. Different respiratory devices are used depending on the degree of risk and the nature of the harmful substance.

Respiratory protective devices are divided into **filtering devices and breathing apparatus**. Filtering devices filter harmful substances from the ambient air, whereas breathing apparatus supplies the wearer with oxygen independently of the ambient air.
Filtering devices are further subdivided into respirators that filter out particles and devices that can filter gases and vapour. Which filter to use depends on the application. It is also possible to combine particle filters and gas filters.

If the harmful substance is known and there is sufficient oxygen in the ambient air (in Germany at least 17% by volume), filtering respiratory protective devices can be used. If not, apparatus such as airline breathing apparatus or self-contained breathing apparatus must be used.
Please note that selecting and using the correct type of respiratory protection requires a detailed analysis of the workplace and the hazardous substances used there. It cannot be based solely on the information provided here. Legal regulations and provisions must be observed.

How does a particle-filtering respirator work?

Particle-filtering respirators provide protection against particles but not against gases or vapours.

These masks are usually made entirely of multiple layers of filter material and may be fitted with an exhalation valve. The various layers each serve a different purpose, from improving the look and feel of the respirator to providing shape retention, tear resistance and, of course, filtration.

One of the most important aspects of comfort when wearing a respirator is the breathing resistance, which refers to the resistance that the wearer feels when breathing in and out – the higher the resistance, the harder the wearer's lungs have to work. To keep the breathing resistance low, the filter material must be air-permeable on one side while still filtering particles on the other. This is why the filter material is electrostatically charged. This ensures that small particles that would normally be small enough to pass through the filter material stick to it instead.

Particle-filtering masks are approved in Europe in accordance with **EN149:2001+A1:2009 – Filtering half-masks to protect against particles**.

EN149:2001+A1:2009

All uvex respirators have been tested and approved in accordance with **EN149:2001+A1:2009**. This standard sets out a wide range of requirements for particle-filtering respirators, with the aim of providing the user with the highest level of protection and comfort.

The key tests defined in EN149 are:

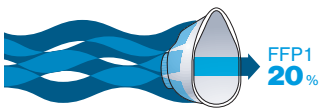
- measuring inhalation and exhalation resistance
- testing the exhalation valve
- visual inspection (marking, instructions for use)
- determining the filtering efficiency (protection class)
- leakage/practical performance test
- optional: carrying out the dolomite dust test

EN149 divides half-masks into three protection classes according to their filtering efficiency, leakage and breathing resistance: **FFP1**, **FFP2** and **FFP3**.
FFP stands for "Filtering face piece".

EN149:2001+A1:2009
Protection classes FFP1, FFP2, FFP3

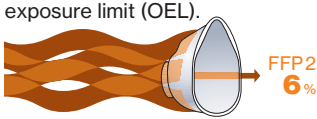
FFP1

FFP1 masks have a filtering capacity of at least 80% and filter up to four times the occupational exposure limit (OEL). These masks are suitable for particles that are neither toxic nor fibrogenic.



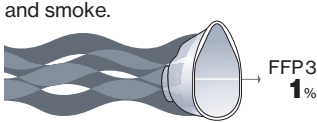
FFP2

FFP2 masks are suitable for smoke, particles and dusts that are noxious or harmful to health. They filter at least 94% of particles and can be used at up to ten times the occupational exposure limit (OEL).



FFP3

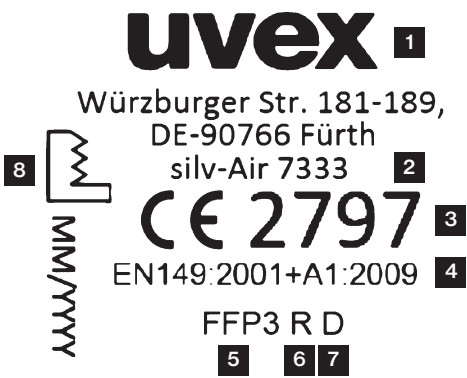
With a filtering efficiency of at least 99%, FFP3 masks constitute the highest level of protection. They filter up to 30 times the occupational exposure limit (OEL) and are suitable for protecting against hazardous fine particles, dusts and smoke.



EN149:2001+A1:2009 marking

On uvex respirators you will find at least the following information:

1. uvex logo including address
2. Model name/model number
3. CE marking followed by a four-digit number (notified body)
4. EN149:2001+A1:2009 standard
5. Protection class FFP1, FFP2 or FFP3
6. "R" or "NR" mark
7. Optional: "D" mark
8. The date of manufacture preceded by a factory symbol



Depending on the model, there may be additional information and standards (e.g. for China, Russia) on the mask.

EN149:2001+A1:2009 marking

"D" mark:

This mark indicates that the mask has met an additional requirement of EN149: the dolomite dust clogging test. This test determines whether the mask still has good breathing resistance even after being loaded with dolomite dust. widerstand erreicht. The "D" mark therefore indicates the quality of the filter material used in the mask. It ensures that the mask can be worn for long periods even in the presence of high dust concentrations.
All uvex respirators fulfil the requirements of the dolomite dust test.

"NR" mark

The "NR" mark stands for "not reusable". Masks marked "NR" should not be used for more than eight hours, i.e. for one work shift.

"R" mark:

The "R" mark stands for "reusable" ("R" = "reusable"). This indicates whether the mask can be cleaned and consequently used/worn in a second work shift. If the mask can be cleaned, it is given the "R" mark; if not, it is given the "NR" mark.
uvex advises against using masks marked "R" for more than two work shifts. You can find out more about this on page 16.

Usage period, cleaning, storage

Usage period

Disposable respirators are primarily designed to be worn for a single shift, i.e. a period of eight hours. **When carrying out specific activities involving toxic hazardous substances, however, these masks can only be used once**. This means that a new mask should be used each time the mask is removed (e.g. when working with carcinogenic substances). **Furthermore, for hygiene reasons, disposable respirators should be used by a one person only and for no more than one day** – only masks marked "R" can be cleaned hygienically with uvex cleaning spray and then used for another work shift.

Why is the usage period limited?

When a mask is used, it gradually becomes loaded with particles, meaning that the filter material gets clogged over time. The breathing resistance noticeably increases as a result, as does the strain on the wearer. In environments where the particle concentration is very high, masks may therefore need to be replaced several times a day.
As a general rule: If the breathing resistance has noticeably increased, the wearer becomes unwell or the mask is severely contaminated or damaged, the wearer must leave the hazardous area and replace the mask immediately.

Cleaning

To clean masks with the "R" mark, spray the inside of the mask after use with uvex cleaning spray from a distance of approximately 30†cm. The mask should then be allowed to dry completely and checked for suitability before the next use.
Please read and observe the additional information in the instructions for use that accompany the product.

Storage and service life

Respirators must be stored in their original packaging and protected against chemical substances, moisture, direct sunlight and dirt.
Provided that masks are stored in the appropriate conditions, **they have a maximum service life of three to five years** depending on the type of mask. Their service life is limited because the electrostatic charge gradually fades over time. Both the date of manufacture and use-by date can be found on the product packaging. Please observe the storage conditions, which are also specified there.
The respirator should be disposed of after use in accordance with local regulations.

Choosing the right mask

Choosing the right respiratory protective device is a process that requires the utmost care and is essential to ensure the safety of the respective wearer.
To select the correct filtering respirator, a risk assessment should be carried out at the workplace before using the protective device. This assessment will determine and evaluate the type of hazard along with its scope, duration and likelihood of occurrence.
This includes **determining the type, composition and concentration of the hazardous substances**.
The assessment will then make it possible to establish what protective measures are necessary, e.g. which protection class is required.
The assessment should also ascertain whether other PPE such as safety gloves or eye protection is needed.

Please note the following points for use:

- The following pages provide an overview of respirator usage in domestic applications. Please note, however, that this information is without obligation and constitutes the minimum requirements.
- While using filtering devices, do not enter tanks, confined spaces or areas in which the oxygen content is not known (in Germany at least 17% by volume is specified).
- If a half-mask with gas filters is required for the workspace, please note that the uvex respirator models do not offer adequate protection.
- Respirators are not suitable for people with beards, sideburns or deep scars near the sealing lines as these prevent a secure fit. Please contact your safety officer for a custom solution.
- For a respirator to offer effective protection, it must fit securely. This is why uvex offers a wide range of masks for different face types.

All uvex respiratory protection products can be found at:

Application overview

Activities
Woodworking
Softwood: Sanding and cutting
Hardwood (oak, beech, tropical): Sanding and cutting
Sanding/brushing off paint
Sanding/brushing off paint (paints containing chrome)
Water-soluble paints containing copper/chrome/arsenic
Construction and associated industries
Cement work, plastering, tile laying, roofing
Masonry: cutting, drilling, demolition
Asbestos: short periods of work
Roof insulation, glass and mineral fibres
Putty/filler: sanding
Welding
Welding stainless steel and aluminium
Brazing
Metalworking
Metal: drilling, grinding, milling, cutting
High-alloy steels/stainless steel: drilling, grinding, milling, cutting
Disposal/cleaning work
Waste sorting and disposal
Disposal of medical waste
Sweeping floors
Radioactive contaminated dusts
Agriculture
Animal diseases/treatment of infected animals
Handling mould spores
Handling hay, cereals, flour
Medicine/care/health
Allergies, pollen, house dust, animal fur
Bacteria, viruses, infections, legionella

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Hazardous substances	Protection class		
	FFP1	FFP2	FFP3
fine particles, sawdust	■	□	
fine particles, sawdust	■	■	□
fine paint particles	■	□	
fine paint particles	■	■	□
fine paint particles	■	■	□
cement/plaster/tile/brick dust	■	□	
	■	□	
fibres	■	■	□
dust and fibres	■	□	
dust	■	□	
metal and aluminium oxide fumes	■	■	□
fumes	■	■	□
metal dust	■	□	
metal dust	■	■	□
dust, fungi	■	□	
bacteria, spores	■	■	□
dust (non-toxic)	□	■	
dust	■	■	□
bacteria, viruses	■	■	□
spores	■	■	□
dust	□	■	
dust, particles, spores	■	□	
bacteria, viruses	■	■	□

Quick overview of product features

Exhalation valve

The 360° exhalation valve considerably reduces the breathing resistance and build-up of heat and moisture inside the mask.
uvex respirators are available with or without a valve.

Comfortable sealing lip

The soft sealing lip gives the mask a secure, comfortable and pressure-free fit.
Different materials and designs are used depending on the model.

Comfortable nose clip

The high-quality nose clip makes it possible to adjust the mask to the face and thereby avoid leaks.

Metal-free

uvex offers some masks in a metal-free design. The masks are designed to fit perfectly even without a nose clip or other attachments.

Headband attachment

On some uvex respirator models, the headband can be adjusted to meet the individual needs of the wearer.

Carbon

Special models have an activated carbon layer to reduce unpleasant odours.

3D nose area

Pre-formed respirators offer a comfortable and secure fit with low leakage while preventing spectacles from fogging.

Individually packed

All uvex flat-fold masks are packaged individually and therefore meet the highest hygiene requirements.

High-performance climate management

Special models with an integrated inhalation valve and an enlarged filter surface ensure particularly low breathing resistance and provide a cooling effect ó for maximum wearer comfort.

"NR" mark

These masks are not reusable and must be disposed of after a work shift.

"R" mark

These masks are reusable and can also be used for a second work shift.

"D" mark

This mask has passed the additional dolomite dust test and is therefore very breathable – even in extremely dusty environments and during prolonged use.

Combining spectacles and masks

uvex has been the world market leader in industrial eye protection for many years. We have built on this expertise in the development of our highly functional uvex silv-Air respirators.
With the aim of perfectly combining both products, product development for eye and respiratory protection is closely coordinated. **Eye and respiratory protection are regarded as a single unit so they can offer the best possible protection**.

The result of this combined expertise is the three-dimensional shape of the uvex silv-Air respirators.
This ensures that the safety spectacles fit perfectly and securely with no slipping or wobbling – the secure hold guarantees optimum eye protection.

Find the perfect combination:


uvex
CE 2797

Brief answers to important questions

Why is it so important to wear respiratory protection?

Inhaling hazardous substances can cause long-term damage to the respiratory organs and the entire body. Often the consequences are not detected until much later, by which time they are usually irreversible.
Substances that offer no warning, such as a certain smell or taste, are particularly dangerous.

I have a beard: Can I wear a particle-filtering mask?

Unfortunately, in this case it is not possible to achieve a sufficiently secure fit, which is why it is important to shave before wearing a respirator.

What does OEL mean?
OEL = occupational exposure limit. This is the average concentration of a substance in the breathable air at the workplace up to which no harm (chronic or acute) is to be expected if the employee works there for eight hours a day, five days a week. The OEL has replaced the threshold limit value (TLV) and the technical standard concentration (TSC).

How do I put on a mask correctly? What do I need to be aware of?

You can find helpful instruction videos on the uvex YouTube channel:

Where can I find more information about respiratory protection?

You will find lots of information on the use of respiratory protective devices in the German Social Accident Insurance (DGUV) standard 112–190 (prepared for Germany).

Product information can be found at:

or at

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