

**MIRKA**

# **Dust-free your health:**

Business  
benefits from  
occupational  
health



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## **Dust-free revolution**

Mirka is the pioneer of dust-free sanding solutions: we really know dust. In this guide we share our insights on how dust-free solutions affect occupational health, employee satisfaction and the effectiveness of your business.





# Occupational exposure to dust

Exposure to dust poses many hazards to the health and safety of millions of workers. Dust in the workplace may also contaminate or reduce the quality of products and affect worksite productivity. Workers repeatedly exposed to dust take it home on their work clothes, hair and skin to potentially reach their loved ones.

**But it's all preventable.** The best way to reduce the risk of dust exposure is to go directly to the source and eliminate it.

Examples of hazardous dust sources:

- ⚠️ machining operations: sawing, routing and sanding
- ⚠️ using compressed air to blow dust off surfaces

**Nothing is more important than your health. Remember work safety.**

## Healthy employees – benefits for the business

Healthy employees who work in a clean and ergonomic environment are more likely to do their job in an efficient way. **Healthy employees require fewer days off, which saves companies money.**

Recognizing environmental hazards and associated severe health risks is the first step in improving the working conditions, health, efficiency and work motivation of your employees.







# Dust and you

**Dust is one of the basic health and occupational hazard factors.**

Sanding paint and filler material creates a lot of fine dust that is easily inhaled and can cause skin, eye and upper respiratory tract irritation.

The smaller the particle, the more likely it will penetrate deeply into the lungs.

## Other possible health effects:

- ❗ Rash and other skin conditions
- ❗ Irritation and redness of eyes
- ❗ Soreness in the nose and throat
- ❗ Asthma and bronchitis
- ❗ Stomach irritation
- ❗ Increased cancer risk in nasal cavities, sinuses and ethmoid area



# Types of dust

Various different industrial processes create dust. It can also mix with anything from pollen to skin cells to harmful pollution particles, depending of the industry.

**Wood Dust** is generated in wood processing. Sanding, grinding, drilling and cutting all release dust into the air, forming a layer once it settles.

**Metal Dust** is typically formed by grinding and sanding metal surfaces.

**Fiberglass Dust** is composed of tiny glass-like particles, produced when fiberglass is trimmed, chopped, sanded, sawed or cut.





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# Statistics

Particles found in the air, such as dust:



**10 microns**

Small enough to be inhaled



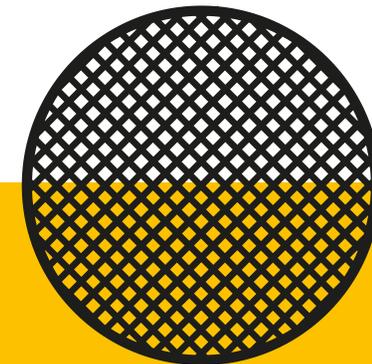
**2.5 microns**

Small enough to reach deepest parts of lungs

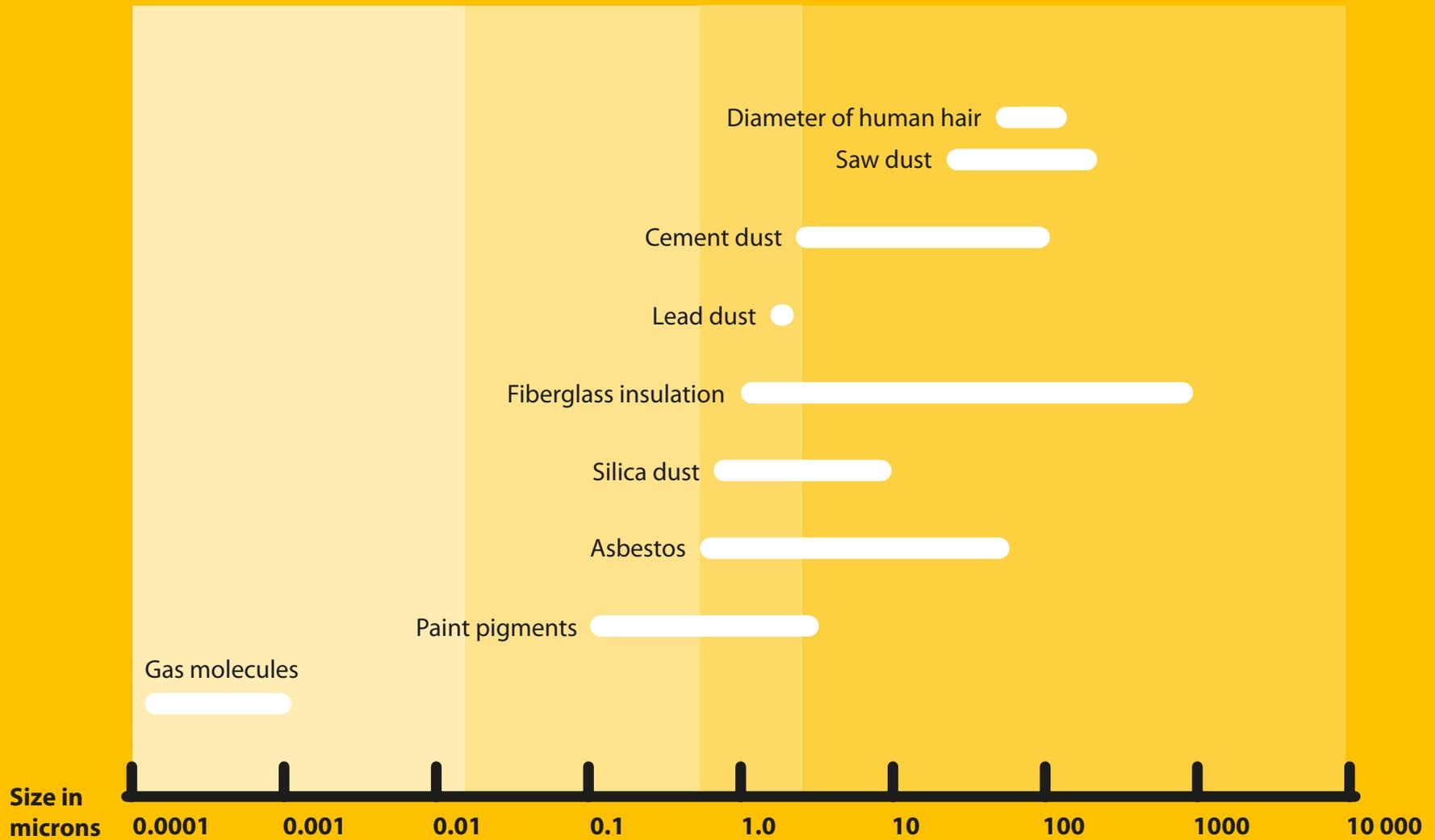
Mirka Dust-free solutions are

**99.97%**

effective at removing particles smaller than 0.3µm in size.\*



# Relative size of common dust particles







## Customer testimonial

### Kauhavan Puutyö

For over 30 years, Kauhavan Puutyö has been proudly manufacturing and reconstructing workbenches for schools, industrial factories and hardware stores.

“

We use a lot of hard wood such as Finnish birch which tends to produce more harmful fine dust. That is why it is essential to do everything we can to help keep our workplace dust-free. We have been using Mirka products since the very beginning and have noticed the difference in the level of dust.

No flying dust ensures that we meet the legislation for occupational safety, allowing us to work more efficiently with better end results. Besides, a dust-free environment is good for your health.”

”

# Dust measuring is important

**There are several methods for identifying sources of dust, and the part of the work cycle which releases it.**

## **Direct-reading instruments**

A direct-reading instrument measures the dust concentration over a period of time by drawing dusty air into an enclosed chamber and measuring the intensity of scattered light with a laser. Direct-reading instruments can be used for quick screening of environments or to identify dust sources.

## **Stationary sampling**

Stationary samples are not meant for measuring personal exposure, but rather dust at a particular place. Stationary samples can help identify sources of dust exposure and potentially harmful working areas for workers who are exposed to dusty environments for extended periods of time.

## **Visual techniques**

The spread of smoke from special smoke tubes can be used to demonstrate how dust disperses from a source.

## **The dust lamp**

Another visual way to test for dust is to position a “dust lamp” so that the dust scatters the light, revealing fine dust that is usually invisible to the naked eye. If the lamp is correctly positioned it is possible to observe the movement of dust in relation to an exhaust system or the worker’s breathing zone.

## **Video imaging**

Visualization techniques with video imaging are done by combining the signal from a video camera with the output from a direct-reading instrument. This results in a continuous measurement of dust concentrations with a very fast response. Video exposure monitoring is an effective technique for discovering or confirming emission sources, and for establishing their relative importance.

**It is also useful to talk with workers. They can often provide important information about dust sources and how they spread.**







## Clean air is essential

**The quality of the air we breathe is very important to our well-being.** Air pollution poses a major threat to health all around the world.

According to a new study from a team of leading environmental engineers and public health researchers, **air pollution reduces global life expectancy by more than one year.\***

**International air quality standards have been set to protect public health.** Air quality is slowly improving, but there is still lots of work to do.

\*<https://pubs.acs.org/doi/10.1021/acs.estlett.8b00360>

# Myths and facts about dust

**Myth:** *Dust is not harmful if the surfaces are cleaned often enough!*

**Truth:** The most dangerous dust is so-called invisible dust that can stay airborne for a long time, building up in the lungs.

**Myth:** *All the dust is the same!*

**Truth:** There are differences between types of dust. For example, paint residue can be highly toxic and dust from hard wood is extremely harmful IF inhaled for long periods of time.

**Myth:** *Dust-free tools remove the need for protective gear.*

**Truth:** Even though Mirka's dust-free solution removes almost all dust from the air, protective gear should always be used to protect your health.

**Myth:** *Any sanding paper works with dust-free power tools and extractors.*

**Truth:** Yes and no. It's possible to use any paper, but to get the full dust-free end result, net-like abrasives must be used.

**Myth:** *Dust-free equipment doesn't require maintenance.*

**Truth:** To maintain dust-free performance, filters, dust bags and abrasives for a dust-free solution should be replaced regularly.





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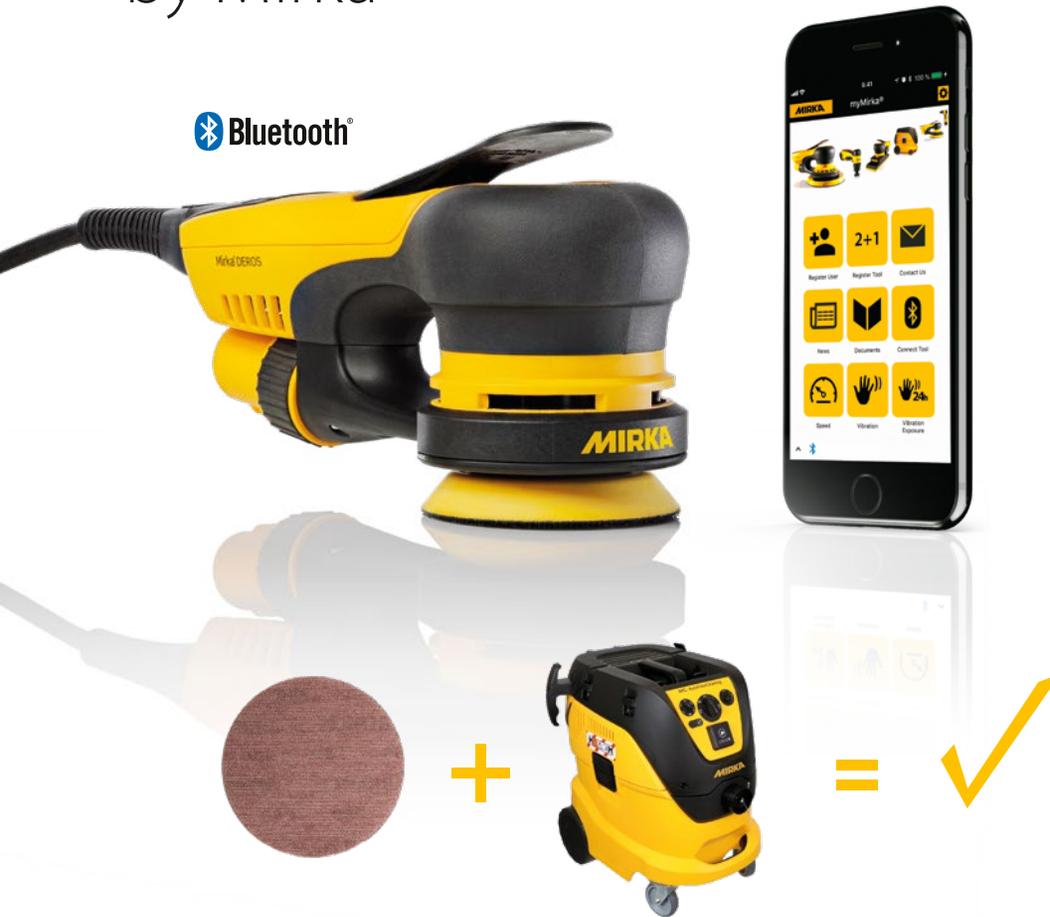
# Mirka is dedicated to a dust-free world

Mirka is the renowned pioneer of dust-free sanding solutions, and we have succeeded in what many others have attempted to do. We are the original developer of dust-free sanding, which has since become an industry standard. Mirka's dust-free solution is the combination of an ergonomic power tool and a completely symmetrical Abranet sanding net together with an efficient dust extractor.

Abranet contains thousands of holes, which means the maximum distance between each sanding particle and the closest dust extraction hole is no more than 0.5 mm. Since dust is continuously vacuumed out by the extractor, sanding is virtually dust-free. This contributes to a clean and healthy working environment, reducing the dust load from dangerous particles while improving work efficiency and motivation. By consistently keeping the abrasive and the sanding surface dust-free, the lifespan of the abrasive is extended, and problems such as dust pill formation and clogging are prevented.

**The bottom line is that dust-free sanding isn't just another costly investment. It is a matter of productivity, profitability and business development, with an emphasis on health and safety.**

# Digital and Dust-free solution by Mirka



Download the **myMirka app** to try out advanced features.  
Combine with **Abranet** and **Mirka Dust Extractor** to breathe easy  
in a dust-free environment.

## How to get in touch with us

We appreciate you taking the time to read  
this mini guide. If you have any questions  
or need further information, please feel free  
to contact us.

Find us at [www.mirka.com](http://www.mirka.com)

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Dedicated to the finish.