

Why use fine dust filters for radiators?



To answer this question you have to learn more about fine dust itself

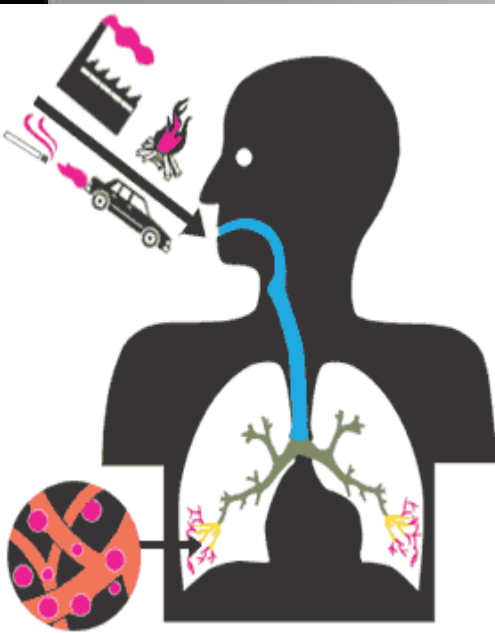
- In the language of the scientists fine dust is called „PM 10“ as the diameter of these particles is less than 10 micrometer (0,01 mm). Due to its low weight fine dust can be swirled through the air over several days and often over hundreds of kilometers away before it settles. Insofar not only major cities are affected by this. According to the Federal Environment Ministry in Germany every year 205.000 tons of fine dust are emitted into the atmosphere. Mainly responsible for this situation are traffic, house fires, agriculture, industry and incineration plants.



How dangerous is fine dust?



- As fine dust is so tiny it cannot be filtered by throat and nose; also most filters in domestic ventilation systems may only absorb larger particles. As per GFS research center for environment and health in Munich, approximately half of the particles is even smaller than 1 micrometer, thus the particles may enter through the lungs into the blood circulation and may be transported in all organs and also into the brain. In our body the particles are noticed as foreign substances and cause oxidative stress which may cause cancer in the worst case.



What are the consequences?

According to studies of WHO, in Germany the life expectancy is reduced on average by 10,2 months due to fine dust pollution. The European Union assumes 300.000 fatalities per year (among them 13.000 children) in the EU, including 70.000 in Germany.

Where do you face a greater risk: inside or outside?



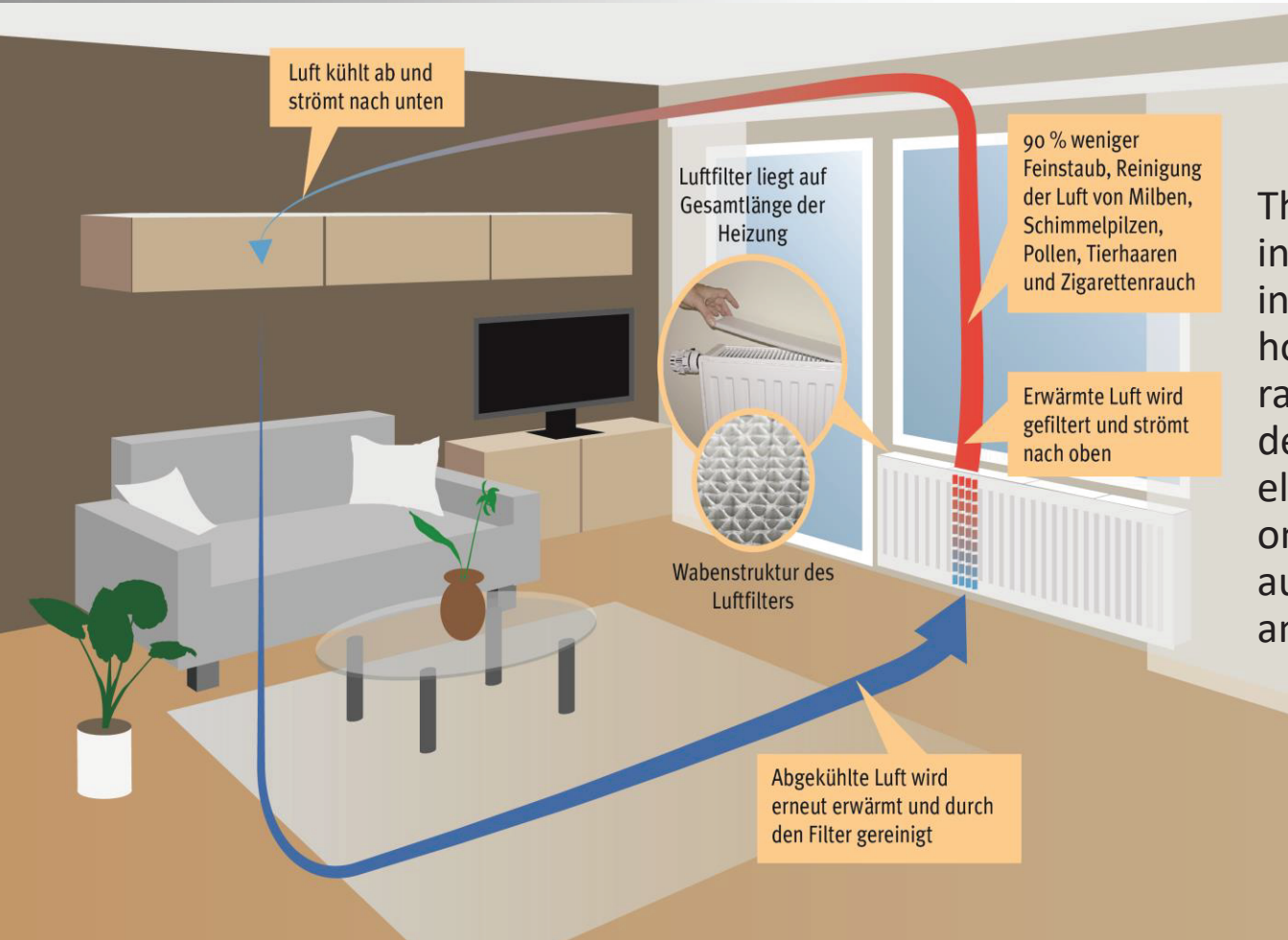
Since 1.1.2005, in Europe there is a limit value for fine dust of 50 micrograms per cubic meter air; outdoors this limit may be exceeded for maximum 35 days a year. It is a mistake to believe that the highest values are measured on main roads. A study commissioned by the German Allergy and Asthma Association in North-Rhine Westphalia revealed that in every third household the concentration was more than 50 micrograms per cubic meter air. A survey in 40 schools in Berlin even indicated that in almost all classrooms the limit value of 50 micrograms/m³ air has been exceeded. In some smoker apartments and offices the values were even more than 1000 micrograms per cubic meter. Prof. Dr. Braungart (Environment Institute, Hamburg) considers the pollution of the indoor air in some rooms even 5 times higher than the pollution of the outer air, even on roads with high levels of traffic.

Are children particularly at risk?



- Unfortunately, yes. German and Dutch studies revealed that the risk of infection with small children increased by 25% if they are exposed to a high fine dust concentration. Furthermore a study of the Helmholtz Institut in Munich indicated that an insuline resistance (preliminary stage to diabetes type 2) occur the more frequently in children, if the air in the surrounding environment is polluted with fine dust and nitrogen oxide. Furthermore previous studies have shown that an increased fine dust pollution may increase the number of children suffering from asthmatic bronchitis and allergies.

How can you protect yourself?



The main season of fine dust is in winter as there will be more incineration in industry, household and traffic. Turn your radiator into an air-cleaning-device while placing electrostatically charged filters on it. The rising air flows automatically through the filter and will be cleaned.

Products

Starter set:

The starter set includes 3 magnetic frames and 3 electrostatically charged filters. The magnetic frame prevents the product from slipping on the radiator. The frames are re-usable and can be equipped anew with the refill kit for the next heating season.

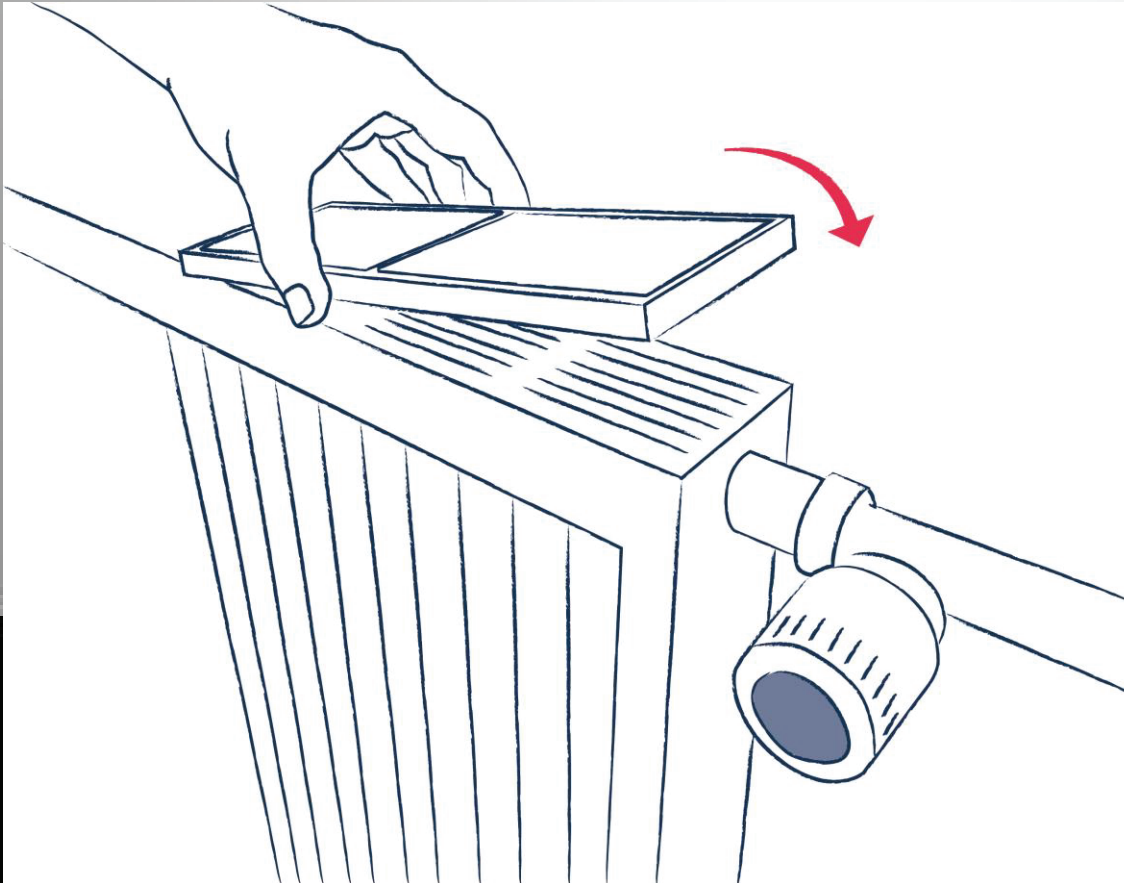
Refill kit:

The refill pack includes 3 filters. The patented filter medium is electrostatically charged and has an open honeycomb structure that enables the air to flow through. The individual filters have a dimension of 30 x 10 cm.



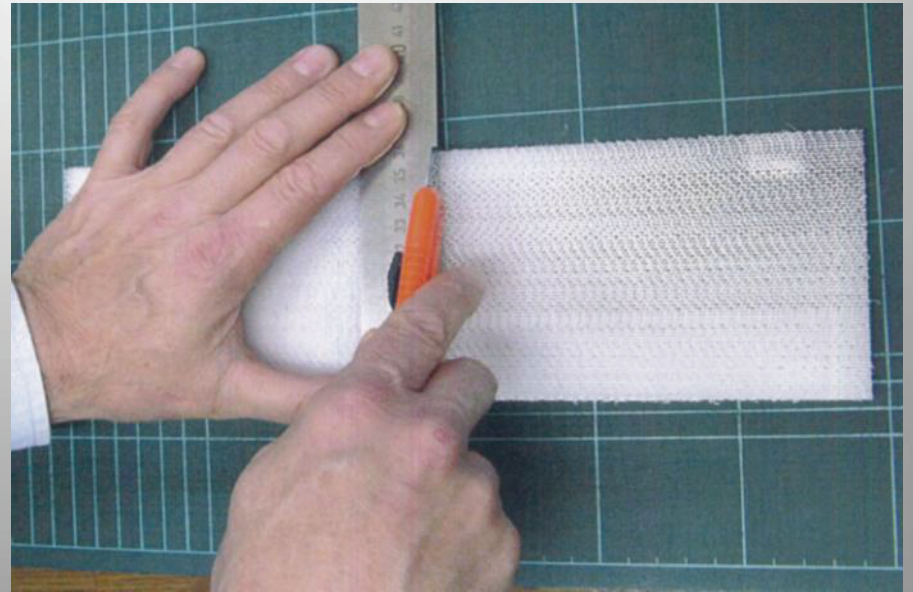
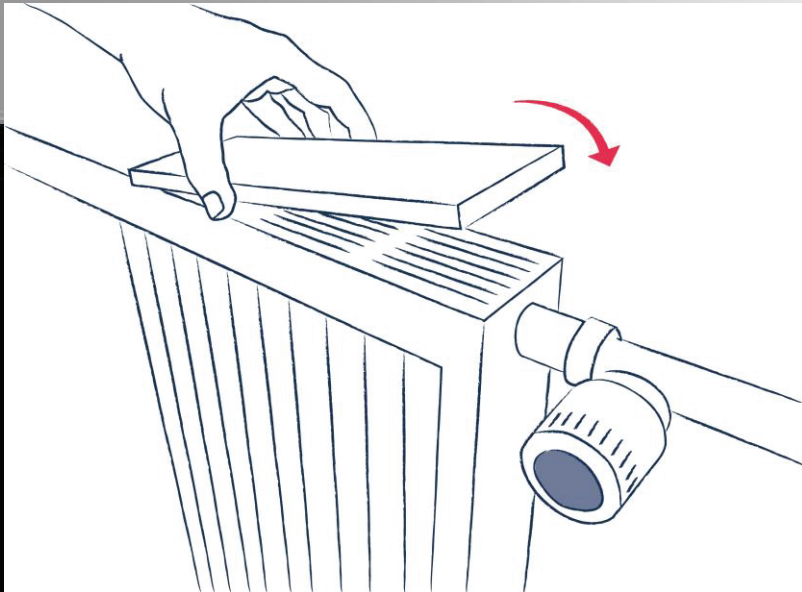
How to use the product?

Place the filter frames in a flush way side by side on the radiator – ready. There are three magnets in the frame that prevent the product from slipping.



How to place the product?

- The product can also be positioned without frame. Place the filter pieces in a flush way on the radiator – ready. Alternatively the product can also be cut to size with a sharp knife and can then be placed below the cover strip of the radiator.

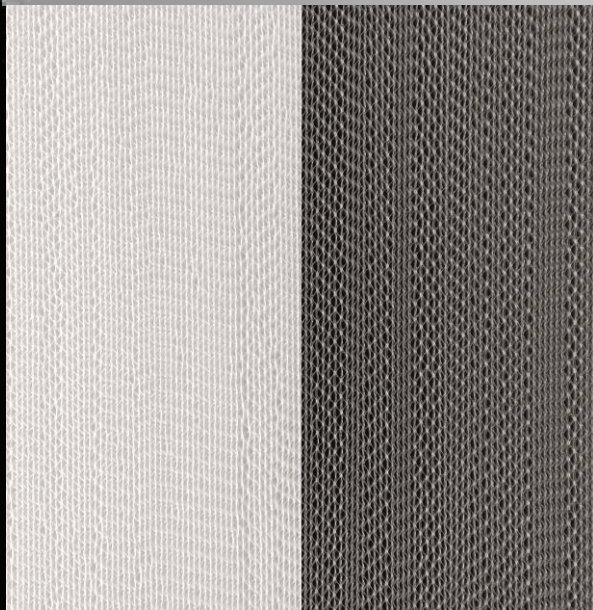


Efficiency of the product

The heated air rises in the radiator and „flows“ automatically through the filter. The patented electrostatically charged filter medium attracts particles like a magnet and binds them.

The independent SLG Prüf- und Zertifizierungsinstitut confirms a filtration efficiency of up to 90%!

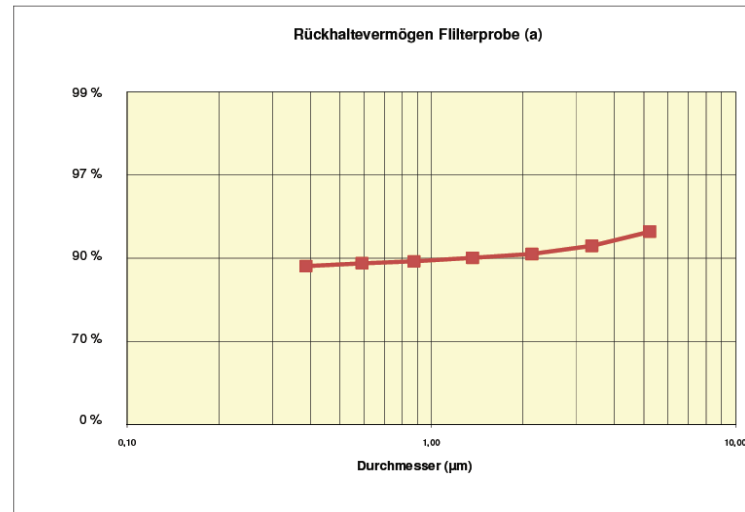
Filter new/used



Test report 1903-11-WW-11-PB003

Ergebnisse:

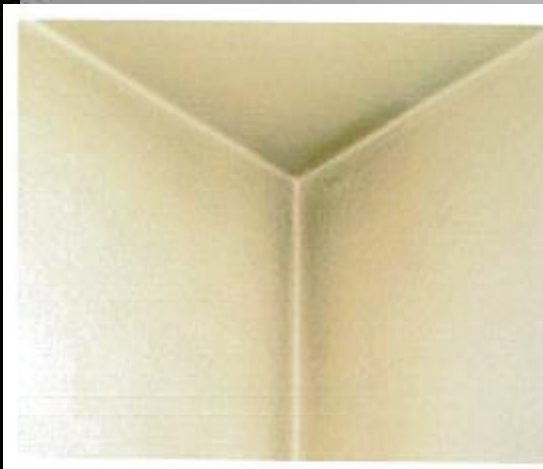
1. Bestimmung des Staub-Rückhaltevermögens in Anlehnung an IEC 60312-1:2010 an Filterproben (a), Auflagefilter PP 500 * 300 * 10 mm³.
Gesamte bestaubte Luft zum Filter hin geführt.



What does the filter effect further?



Especially with regard to new houses and after renovations, in winter often the phenomenon „fogging“ arises. This relates to a „blackening“ of walls whose reasons have not yet been completely identified. This effect may be reduced by the filters and thus you can save renovations costs.



Moreover these filters prevent curtains and valuable paintings from soiling.

Frequently asked questions

Does the filter prevent the airflow and consequently reduce the heating power?

No, due to the open honeycomb structure of the filter there is no significant obstruction.



Are these filters also suitable for allergy sufferers?



Also larger particles such as allergens (pollen, mite faeces, mould spores, animal hair etc.) will be filtered. These gather amongst others in the so-called house dust nests. One teaspoon of house dust contains f. ex. 250.000 pellets of mite excrements that may provoke an allergy for house dust allergy sufferers.



Due to their construction (strait convection distances) panel radiators are susceptible to soiling. When the heating will be turned up to the beginning of the heating season, it will all be emitted again and again into the air. Therefore these filters are especially suitable for allergy sufferers.

- Radiators are of different lengths – is the filter suitable for every length?



In Germany 80-85% of the radiators are standard double radiators with a width of 10 cm and a length of 60 – 90 cm. Our filter elements are 10 cm wide and 30 cm long, i. e. most of them go with standard radiators.

If it does not suit you can either use a cut filter piece without frame in order to fill this gap or you can shorten a frame by means of a coping saw.

As an alternative you can use an additional frame with filter and allow the filters to overlap at both edges – then also the air rising beside the heating will be filtered.

What to do if there are radiators of 16 cm width?



Radiators are mounted to the wall with a distance of 4 cm. Place two filters side by side and push them against the wall.

Advantage: The air which is rising behind the radiator will be filtered as well.



Life-time of the filter

- Depending on dust pollution the filter efficiency is 3 – 6 months
- The filter should be changed at the latest by the end of the heating season

Is the filter washable?

- No, even in the dishwasher no cleaning will be obtained