

All-Rounders in Filter Production

The filter industry has been experiencing a boom for several years now. Cars, ventilation systems, air purifiers for the removal of pollutants and germs from ambient air... filters are used everywhere, in all shapes and sizes. Jowat is well-versed in catering to the requirements of different types of filters while also helping to ensure user safety.

Wherever they are used, all air filters perform the same function: keeping the ambient air clear of unwanted foreign particles, contaminants and germs. The difference is in the details. For instance, filters in air purifiers for indoor use protect primarily against fine dust, pollen, bacteria and other volatile media, such as odors and gaseous substances like benzene and ozone. In industrial facilities, on the other hand, coarse dust and gases need to be filtered out so people don't breathe them in, as they can be damaging to their health. The larger the volume of the space that needs purifying and the more substanc-

»The filter industry is gaining in importance. And with it, so are optimized adhesive solutions.«

Michael Dressler,
Product Manager

es in the air, the higher the required filter capacity. The high filtration level that, for many years, was used mainly in clean rooms and industrial applications has gained new significance as a result of its effectiveness against the novel coronavirus, and is now becoming more common in everyday applications. Stricter occupational health and safety measures, a desire for healthier living spaces, the need to reduce the risk of infection—all these requirements, and many more besides, mean that the demand for Class H14 to U17 HEPA and ULPA filters will increase significantly over the next few years.

Hard to believe: Filter media such as these can contain several kilograms of adhesive.

What does HEPA/ULPA mean?

- > HEPA stands for 'High-Efficiency Particulate Air' filter. HEPA filters are found in many everyday items, such as air purifiers and vacuum cleaners.
- > ULPA (Ultra-Low Penetration Air) filter is the term used to designate a class of filter that is only used in facilities such as research labs and hospitals, and needs to comply with the strictest of hygiene requirements.

A Non-Hazardous All-Rounder

What is the most effective way to build a filter medium that is able to provide a filter capacity of up to 100,000 cubic meter in a small space? For this purpose, non-woven and needle felt filter media are given upgrades such as a polytetrafluorethylene-based membrane and anti-static properties, and made resistant to both oil and water. Folding and pleating the filter medium significantly increases its surface—and thus its filter capacity. This production step requires not just the utmost care, but also an outstanding bonding solution that guarantees both fine application and reliable adhesion, right from the start. In these conditions, there is absolutely no scope for cutting corners when it comes to the adhesive's performance. The new Jowatherm-Reaktant® MR 614.50 is the perfect choice for this application and many more involved in the manufacture of filter media. A true all-rounder, it

isn't just used for pleating—it is also suitable when coating the filter medium, facilitating low application quantities and outstanding results both for active carbon binding and when bonding multi-layered filter media. The combined use of this versatile adhesive can make production processes much simpler.

Target: Innovation

Due to its monomer-reduced formulation, the PUR hot melt with hazard-free labelling is easier to use than similar products. Unlike many reactive adhesives,



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Michael Dressler's main area of focus is bonding solutions for the manufacture and joining of filter media.

MR formulations are not subject to hazard labelling and the resulting training requirements that will soon come into effect. Another benefit provided by these new alternatives is that they can be processed at low temperatures of 100–120°C, which not only saves energy but also improves safety during the bonding process. This adhesive has a lot to offer—especially when you consider how important the industry is going to become over the next few years.

In light of the filter industry's increasing relevance in all areas of our society, bonding solutions that are suitable for applications in this sector will likewise have an important role to play. Jowat is always on hand to support its customers in the filter industry with innovative adhesives and expertise—which is why it also has new developments for optimizing the coating, pleating and frame bonding processes in the pipeline for the next few years. ●



With adhesive solutions such as Jowatherm-Reaktant® MR 614.50, Jowat is catering to the growing filter production market.