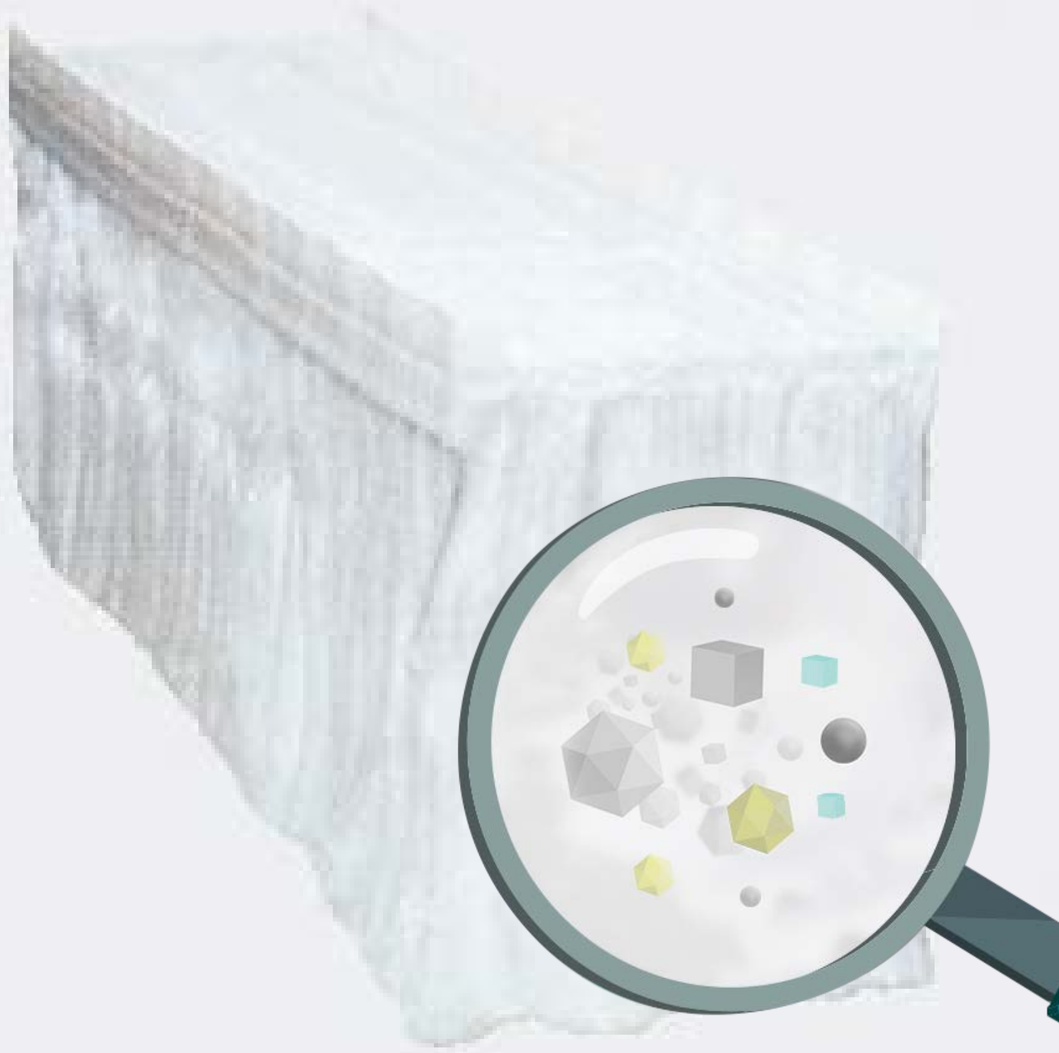
Our filters in focus

When you opt for filters from Zehnder, you can be sure that they will do their job properly and give you the clean air you expect. This has been consistently demonstrated through filter analysis. Read on to find out more.

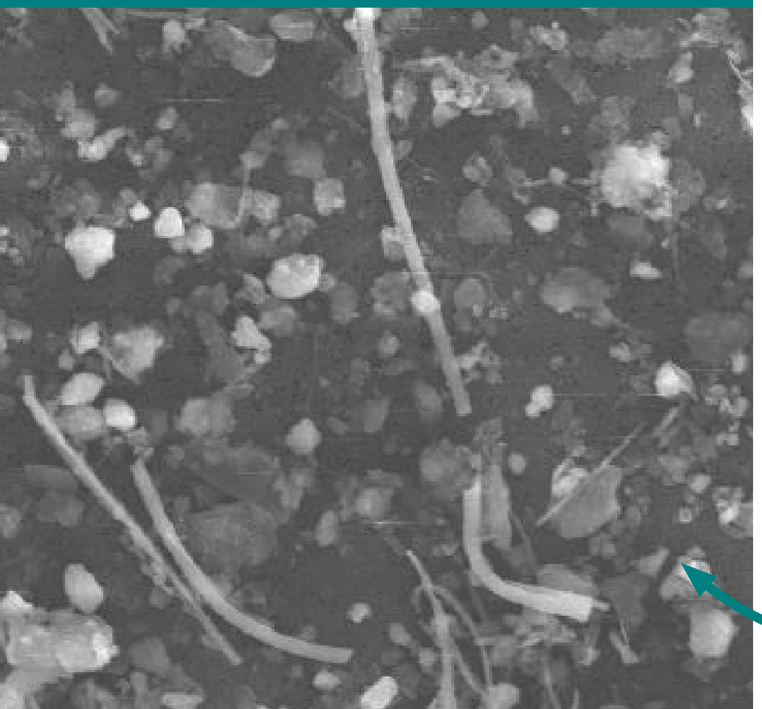
The issue explained

High-quality filters that keep the air clean

Filters from Zehnder undergo regular, strict testing to ensure that they meet high standards, so you can be confident that your employees are always breathing clean air. We analyse not only the amount of airborne pollution particles captured by our air filters, but also the type.



What happens during a filter analysis?



Particles under an electron microscope

The results of regularly measuring filter performance keep our customers satisfied. Perhaps you'll soon be one of them?

First, we send a used filter to a special lab for analysis. One of the methods used to evaluate the filter's performance is exposing it to an ultrasound treatment in ethanol. This separates out the particles, which are then filtered out of the ethanol before being examined with an electron microscope.

This method means we can accurately identify various substances that have been captured by the filter. The example below is the result of a filter analysis carried out for a crane manufacturer. The numbers in the table relate to a small section [~ 1 cm^2] of a single filter. When we carry out the analysis we differentiate between organic (naturally occurring) and inorganic particles, as well as larger fibres. The table shows not only the various types of particles but also how often they occur in every 100 particles.

It's important to note that it's not only work processes or human movements that produce a lot of dust; wear and tear of buildings and equipment have the same effect.

Information like this is very revealing, and also demonstrates to our customers that we deliver what they expect from us: **clean air and the peace of mind of knowing that your team are not breathing in anything that could cause them harm.**

Results

Dust is produced everywhere, all of the time. The challenge is to trap it effectively. As the table below demonstrates, this is exactly what we do.

Type	Amount [%]	Main components	Other components	Size [µm]	Comments
Inorganic					
	5	Ca, O, C	(Si, Fe, Mn, Zn)	3 - 5	e.g. construction dust
	5	Si, O	Al, K	3 - 5	e.g. silicate minerals
	< 5	Si, O		3	e.g. quartz
	55	Fe, O	(Mn, Zn, Si, Cr)	2 - 10	e.g. rust, metal alloys
	< 5	Zn, O		2 - 5	e.g. zinc oxide
	< 5	Ni, O	Fe	3	e.g. metal alloys
	< 5	Ti, O, C	Fe, Si, Cl	4 - 11	e.g. paints
	15	C, O, Si	Al, Na, Mg, Ca, Fe, Mn, Zn	3 - 10	e.g. plastics, paints, rubber
Organic					
	5	C, O		4 - 9	e.g. plastics
	< 5	C, F	O, Al, K	11	e.g. Teflon
Fibres					
	< 5	C, O		132	e.g. textile fibres

#startwithcleanair

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