



Case study

50% less sick leave thanks to powerful air cleaning devices



Customer

Tillmann
Verpackungen
GmbH



Location

Mühlheim/Main
(DE)



Sector

Packaging,
wholesale



Dust reduction

Up to 79%

At a glance

“Thanks to the air cleaning devices from Zehnder Clean Air Solutions, sick leave taken due to colds and respiratory illnesses has been cut in half.”

Peter Tillmann, Owner and Managing Director

Challenges

Tillmann Verpackungen GmbH develops and produces a wide variety of packaging, from standard packaging to customer-specific special packaging. The centre of activities is a large hall in which corrugated board is processed. A huge amount of dust was created, causing cloudy air by at least the afternoon and requiring a significant amount of cleaning. This is because the dust deposits impaired the functionality of the machines, led to downtime and shortened the service life of the systems. In addition, staff also suffered from the stale air, which often led to respiratory issues. As people are the focus at Tillmann Verpackungen, it was important for the managers to find an effective solution for air cleaning in the production process.

About Tillmann Verpackungen GmbH

Tillmann Verpackungen GmbH develops and produces a wide range of packaging solutions. The family-run company specialises in delivering both standard packaging in large quantities, as well as producing sophisticated, bespoke packaging solutions tailored to the individual customer. What's more, Tillmann Verpackungen also operates as a packaging wholesaler, with products as diverse as corrugated cardboard solutions, filling material and pallets.

Benefits

No sooner had the air cleaning devices from Zehnder Clean Air Solutions been put into operation did visibility continue to stay clear throughout the afternoon. Since then, the amount of sick leave taken due to respiratory illnesses and colds has been cut in half. The amount of cleaning required has been reduced by roughly 15 hours per week. In addition, the dust build-up on the machines has been minimised, thus extending the service life of the machines. Maintenance and downtime have also been reduced. At the same time, the working environment has become significantly more presentable – as was positively reflected in the company's annual ISO 9001 certification audit.



High-quality bespoke packaging

One of the company's greatest assets is its site at Mühlheim am Main in Germany, which is strategically located close to Frankfurt Airport. Here, a dedicated team of over 80 staff works day in, day out serving customers across a range of industries. Big names in the automotive, cosmetics and food industries form part of the company's customer portfolio, as well as key players in the trade and haulage sectors.

Dust levels (not) to be sneezed at

The hub of Tillmann Verpackungen's activities is a 2000 m² factory, in which powerful machinery cuts and processes corrugated cardboard. Peter Tillmann, owner and CEO of the company, describes what conditions in the factory used to be like: “Cutting paper produces a huge amount of fine dust. This build-up of dust used to be extremely noticeable and the air in the factory was really cloudy by the afternoon.” Staff would also complain of dry air at work. The consequences of this dust pollution became especially evident when staff left the site at the end of the day: **when they showered, the water would turn black. Respiratory problems were also a common complaint.** These were all conditions which could no longer be allowed to continue at Tillmann Verpackungen. Peter Tillmann: “Our people and their health are always our number one priority.”

A further challenge was the intensive cleaning required as a result of the high dust level. **Staff had to clean the factory every day, with an external company also called in every Friday to carry out**

thorough cleaning. Despite all these efforts, the basic problem proved impossible to tackle, and, crucially, valuable resources were being wasted. However, the high level of dust not only impacted on employees – it also posed a threat to the work processes themselves. Modern production machines are fitted with extremely sensitive sensor technology, and dust deposits affect the way these sensors function. Particles can also clog the mechanical components of the machines, leading to machine downtime and non-production time, and reducing the service life of the equipment. It was a culmination of these significant factors that prompted Tillmann Verpackungen to go in search of a long-term solution.

A solution to eradicate the particle danger

Michael Baumann, Head of Production and Technical Operations Manager, explains: “We'd already looked at several different systems at trade fairs, but still hadn't found the right solution.” So when one of Zehnder's experts contacted the company, the timing could not have been better. He met with representatives from Tillmann Verpackungen and introduced them to Zehnder's industrial air cleaning systems. The system functionality alone was enough to pique the interests of the company's decision makers. The Zehnder equipment traps particles while they are still in the air, giving dust and other matter hardly any time to settle in the factory or on machines, or to irritate staff. Michael Baumann and Peter Tillmann were also impressed by Zehnder's logical suggestion to create a **concept specific to Tillmann** based on dust level readings at the trouble spots in the factory. The fair conditions were another strong argument. The contract with Zehnder allowed Tillmann Verpackungen to put the entire system through its paces with termination permitted up to an agreed date, meaning that the company was not tied down for years at a time. Testimonials from existing Zehnder customers also helped to seal the deal, as Baumann, who meticulously studied the website of the specialist for industrial air cleaning systems, asserts: **“If Zehnder's clean air is good enough for DB Schenker, then it's good enough for us.”**

The project could then begin. The Zehnder air cleaning systems were delivered, installed in the

factory and put into operation. Owner Tillmann is full of praise for the implementation of the project: “The entire process ran and continues to run without a hitch – from the initial contact with the field team and the installation of the systems right through to replacing the filters. An expert installer was on hand at every phase and every deadline was consistently met.” And all this without any negative impact on the work processes themselves. Only one additional measure was required: while Tillmann Verpackungen’s operations only require electricity during the daytime, the air cleaning systems operate around the clock. As a result, it was necessary to install a continuous power supply to keep the systems running.

79% less fine particulate matter, 50% less sick leave

The impact of the Zehnder equipment was evident to Tillmann Verpackungen staff right from the get-go. Employees can now see clearly throughout the whole day, and, most importantly, they are breathing in significantly lower levels of fine particles – with noticeable effects. Peter Tillmann: **“The amount of sick leave due to colds and respiratory illnesses has reduced by 50%.” The cleaning required has also significantly decreased, by approximately 15 hours per week.** Indeed, the services of the external cleaning company are no longer required. The dust build-up on machines has also been reduced, extending the service life of the equipment, reducing maintenance work and minimising downtime. In all, the entire working environment is significantly more presentable and much cleaner, as was remarked upon during the company’s annual ISO 9001 certification audit. The striking impact of the before/after effect is illustrated in an anecdote shared by Head of Production Baumann: “A former colleague came to visit us, and upon entering the factory, she immediately cried: ‘What’s going on here?! I can see everything!’” Finally, the dust level readings following the installation speak for themselves, in the factory, **the dust level has been reduced by up to 79%.**



Not a speck of dust to be seen

Encouraged by the resounding success experienced in the large factory, Peter Tillmann made the decision to implement Zehnder industrial air cleaning systems in the custom manufacturing area. Here, filters with corrugated cardboard jackets are carefully assembled by hand. These filters later go on to be used in coating lines for cars. Impressive reductions in the concentrations of particles have been recorded in this area too. Tillmann reports: **“Just for fun, we put a piece of white paper in this area, and even after three days, there still wasn’t a speck of dust to be seen on it!”** But what does the future hold? Tillmann Verpackungen is planning to further expand its custom manufacturing area, with the use of additional Zehnder equipment already in the pipeline.

Summary: By opting for air cleaning systems from Zehnder, Tillmann Verpackungen has taken important steps to protect the health and well-being of its employees, minimise equipment cleaning and maintenance costs, and increase the service life of the machines. What’s more, the company is on the right track when it comes to tapping into new business areas.