

## TIRE INDUSTRY

### Odour control for Mixing & Batch-off processes

During [Mixing & Batch-off processes](#) odours occur to a large extent that have to be treated in an application and customer specific manner.

#### REQUIREMENTS

Our customer, a well-known international tire manufacturer from Germany, was faced with a problem. Several production processes generate odours emitting a large airflow with a typical rubber smell. These emissions caused problems in the wide area of the factory, particularly expressed in complaints from residents. As a result stricter terms and controls to reduce these production odours have been imposed by local authorities.

As specialist in cleaning exhaust air Riedel was assigned to implement a system to reduce these odour emissions. The customer's goal was a reduction from 1,000 below 500 OU/m<sup>3</sup> in the exhaust air of the Mixing and Batch-off processes. In terms of treating such a large airflow of 200,000 m<sup>3</sup>/h, the biggest challenge was the limited available space for installation. In addition, the system should not increase the differential pressure of the existing ventilation design.

#### CHALLENGES



treating a large airflow without generating pressure loss



reducing odours below 500 OU/m<sup>3</sup>



designing a system for a pipe diameter of 2.20 m



adapting to a very limited space



Based on these requirements and challenges Riedel was supposed to develop a customized, high performing solution that is space-saving and flexible to react on production changes.

## APPROACH

In the initial phase, the project team gathered all pertinent operational data, official regulations, and specific local conditions. This information provided a foundation for further actions.

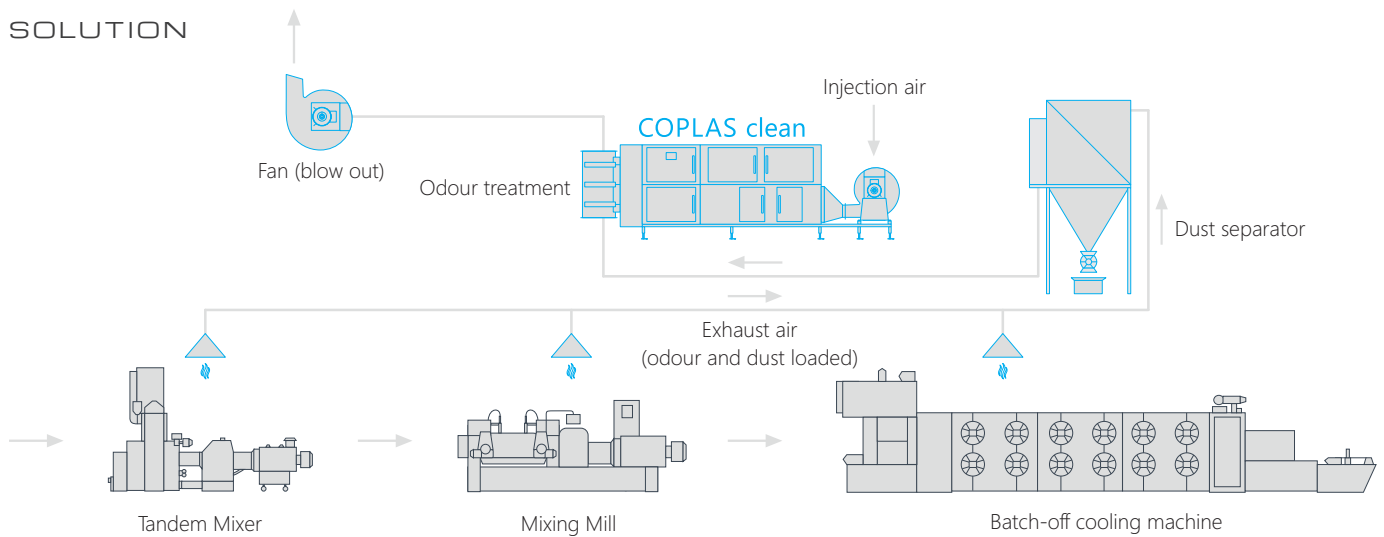
Next, the customization process took place on-site utilizing the COPLAS clean mobile unit. This involved treating small sections of the exhaust air at various power settings. The purpose of this step was to determine the most effective configuration for odour reduction.

To ensure accurate assessment, an independent and certified odour laboratory was involved throughout the process. They collected odour samples both before and after the treatment. These samples were then analyzed on-site by a trained panel of experts.

The analysis conducted by the panelists allowed for the measurement of the reduction rate of odours. Additionally, they determined the power input required by the system to achieve the desired odor reduction.









## SOLUTION



## COPLAS clean

Based on the results of the customizing, a complete system was designed and installed on the roof of the tire manufacturer. Due to the compact design and the injection principle of our COPLAS clean system, the customer's existing infrastructure did not have to be changed. Acceptance measurements confirmed the results of the customizing, so that the customer now fulfills the official requirements. Further COPLAS clean systems have been implemented in the area of curing.

## BENEFITS

-  high odour reduction to fulfill official requirements
-  maintenance-friendly design to ease and reduce maintenance efforts
-  control system to adjust performance in 1% steps according to specific needs
-  modular and compact for an easy and space-saving solution
-  integrated fan to avoid pressure losses and to ensure performance
-  cold plasma technology without use of water or chemicals and generation of waste

