

REFERENCE

viledon®

RENEWAL OF THE SUPPLY AIR FILTRATION OF A PAINT SHOP IN THE BMW FACTORY LEIPZIG

The goal of Freudenberg Filtration Technologies is to reduce energy consumption by minimizing the use of resources through ecologically sound and cost-effective filtration solutions. To prevent paint inclusions in painting processes, fine dust and particles need to be reliably filtered out of the supply air. Air filtration therefore, among other process steps, is very energy-intensive. To achieve this, together with our customer BMW, we developed an optimized air filter concept for the painting of metal car bodies and exterior components.

The situation

At the Leipzig plant, the aim was to identify previously unused potentials for energy saving and thereby optimize the existing setup. To reduce energy costs and, at the same time, permanently reduce the considerable levels of CO₂ emissions the equipment and processes have to be as efficient as possible.

The focus of these activities was directed at the energy-intensive air filtration process. In cooperation with Freudenberg Filtration Technologies, major optimization potentials were identified in supply air filtration and a suitable solution developed.

The Viledon® solution

For the development of an efficient supply air filtration system, the first step was to replace the first filter stage. The existing filter elements supplied by a competitor were replaced by Viledon® WinAir45 pocket filters. These are particularly suitable as pre-filters due to their good filter properties and low pressure drops. Test series and service life tests have already shown a significant efficiency increase. Annual savings of 700 MWh have been achieved, which equates to a CO₂ reduction of around 365 metric tons.



Viledon® WinAir45





Demand-optimized supply air filtration reliably prevents paint inclusions and thereby minimizes painting costs.

Customer benefits

The aim of the project – to exploit energy and CO₂ saving potentials in the paint shop – was achieved. Above all, the low pressure drops of the new pocket filters have led to lower energy costs. In the case of supply air filtration, this also means additional system control

reserves and a flexible air balance. The longer service life of the WinAir45 filter elements makes a further contribution to system availability and the optimization of operating costs.



KEY DATA	
Location	BMW Plant Leipzig (Germany)
Installation	Project start May 2017 Completion mid-2018
Filtration solution	1 st filter stage: 1087 Viledon® WinAir 45 pocket filters (G 4/ISO coarse 65%)
Savings performance	Energy savings: 700 MWh/year Emissions reduction (CO ₂): 365 metric tons/year

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