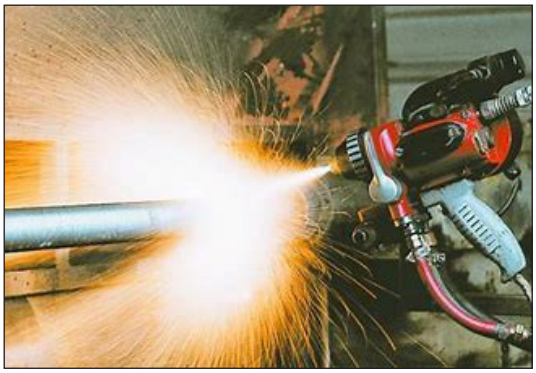
Filtration solutions for overspray created during thermal spraying



Standard for clean air

The appropriate extraction solution for any coating process



When coating component surfaces, an overspray of superfine and hazardous mist is generated, which must be reliably collected and extracted.

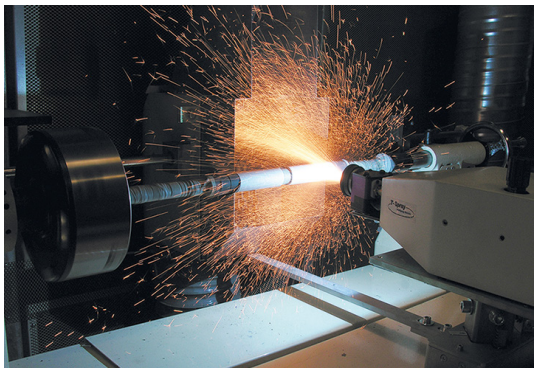
Reliable extraction of emissions

Thermal coating

Thermal spraying is a manual or automatic surface coating technology. A coating material is either applied in molten liquid form or with the application of a thermal energy directed at a component surface using flame or combustible carrier gases.



Manual coating



Automatic coating

The Task

To adequately capture overspray during thermal spraying, appropriate extraction methods are indispensable to ensure a uniform quality of the finished product. The resulting hazardous substances occur in various concentrations and should be handled according to their intrinsic qualities, temperature and velocity. Production process and product-specific parameters determine the manner in which the particles are captured and extracted, while occupational health and safety standards for personnel, and environmental protection regulations will determine the manner of separation.
Managing the overspray is frequently complex because of its ultra-fine, combustible, and potentially explosive characteristics, and can be harmful, or even toxic.

Customer advantages

Improved working conditions:

- superior operator protection from contamination
- an unimpeded view of the surface being treated
- prevention of accumulated deposits
- unobstructed work flow
- increased production
- environmental safeguards

The Solution

Keller Lufttechnik relies on many years of expertise in the extraction and separation of fine emissions. Extraction solutions offered by Keller Lufttechnik have proven successful in a wide range of applications. The modular compact design of the system's components enables customized combinations to provide an ideal solution for any requirement. Key to its advanced filtration technology are the long-life KLR-bran filter elements.

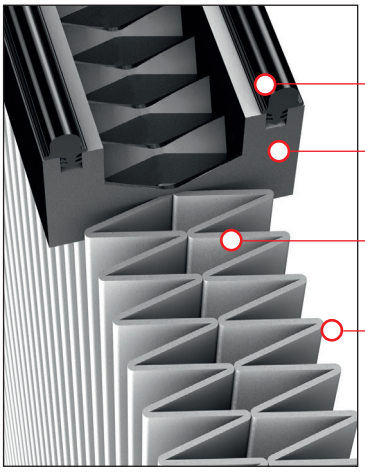


The filter plate technology has proven to be the ultimate extraction solution for thermal coating processes

High-performance filter elements

Keller relies on its KLR-Filter® in process technology

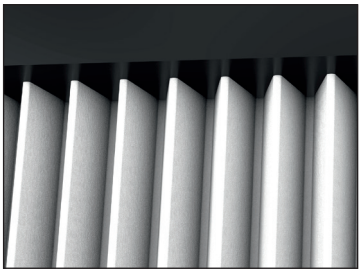
To fully exploit the main advantages of modern dry separation, Keller developed the KLR-Filter® with a maximum surface area of the individual filter cells. All materials contained are silicone-free!



Limestone powder as a pre-coating material for the filter

The limestone powder additive has proven particularly suitable for separating mist and particles from the thermal coating process:

- actively diminished fire risk
- reduced combustibility of the material
- advanced filtration quality



KLR-Filter® pre-coated with limestone

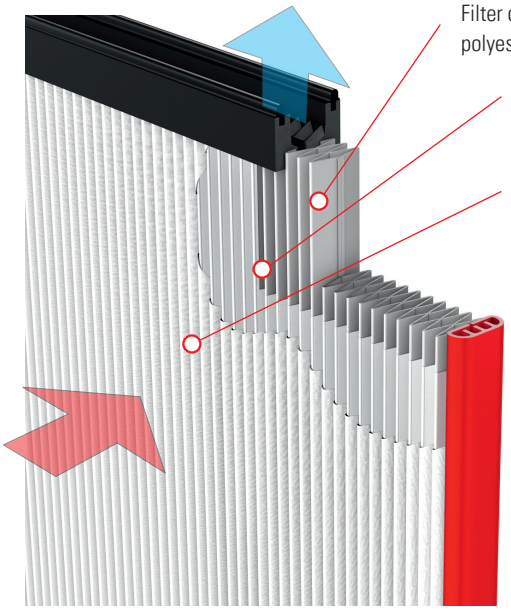
Optimum filter performance

Residual dust content < 0.1 mg/m³

The pleated configuration of the KLR-Filter® ensures maximum filter surface with a slim profile and superior stability that is flow and wear-optimized.

The membrane technology ensures reliability with high filtration efficiency due to its pure surface filtration.

> High filtration efficiency surpasses the E12 rating according to DIN EN 1822



Fire and explosion prevention measures

Fire and explosion protection

Keller Lufttechnik has extensive expertise in both fire and explosion prevention.

Metallic dusts are reactive to explosions

Metallic particles which are considered non-flammable in their solid form may prove to be combustible. The dimensions of most metal dust particles enable rapid heat absorption and potential ignition.



Explosion pressure relief via burst discs and the ProFlap non-return flap for uncoupling the exhaust air duct.

Minimizing fire risk inside filtration units and increasing plant efficiency

Fires inside dry filtration systems cannot be completely ruled out in certain applications. To keep the potential hazards and downtimes to a minimum, various fire detection measures can be undertaken.



Filter system equipped with fire detection and automatic extinguishing.

Comparing fire protection and explosion prevention

Fire protection differs from explosion prevention essentially in the reaction time available to limit damage. While in the event of an explosion the damage to personnel, equipment, and the environment is immediate, a fire usually allows more time to take shelter or to combat the source of the fire.

Solution

Each filtration system must be individually designed with regard to fire and explosion protection!

Supporting member of the association
Gemeinschaft Thermisches Spritzen e.V.

For many years, Keller Lufttechnik has been a member of the GTS Association, which disseminates technical data on thermal spraying and supports the exchange of expertise. This goal is achieved through educational events, and participation in trade fairs and conferences on thermal spraying.
www.gts-ev.de

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