

PM-Tec

The fine dust filter medium with an ePTFE membrane

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BWF Envirotec.
Leaders in industrial filtration.

BWF Envirotec is the world's leading manufacturer of filter media for industrial dedusting. We utilize 40 years of industry experience in order to optimize our customers' dedusting processes. In doing so, we guarantee compliance with the statutory fine dust limit values, minimize energy consumption of filtration systems and extended service life.

Our applications engineers determine individual conditions of use and ensure an optimum filtration solution through a customized offer.

Service benefits such as training, filter bag installation, leakage tests, filter medium monitoring and preventive maintenance of filtration systems complete our all-inclusive package for industrial filtration.

More than 40 years of experience
More than 900 standard products
Locations in Germany, China, the USA, Italy, India, Turkey, Russia, the Czech Republic and Australia
ISO 9001, ISO 14001, BS OHSAS 18001

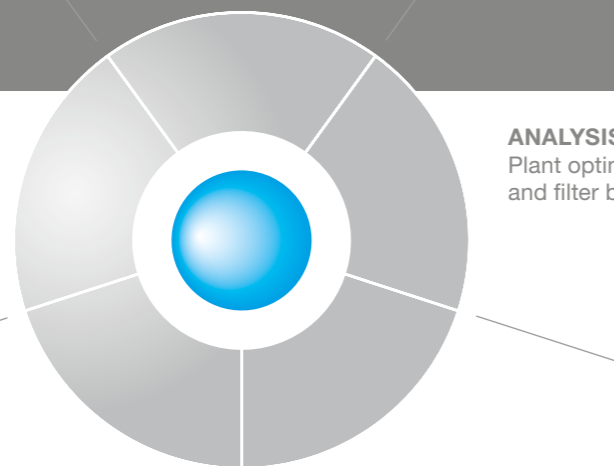
CONSULTANCY
 More than 7000 applications retrievable at a mouse click

SERVICE
 Training, inspection, maintenance and filter bag installation

ANALYSIS
 Plant optimization and filter bag testing

SALES
 More than 900 standard products readily available

DEVELOPMENT
 A research department like a professional institute

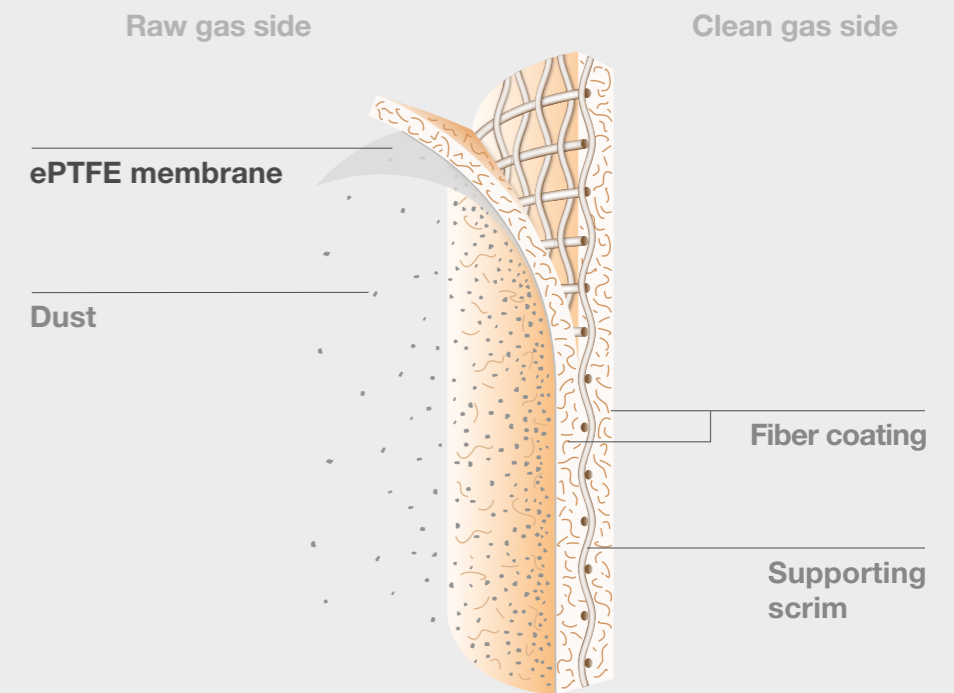


PM-Tec.
The high-efficiency filter medium for fine dust.

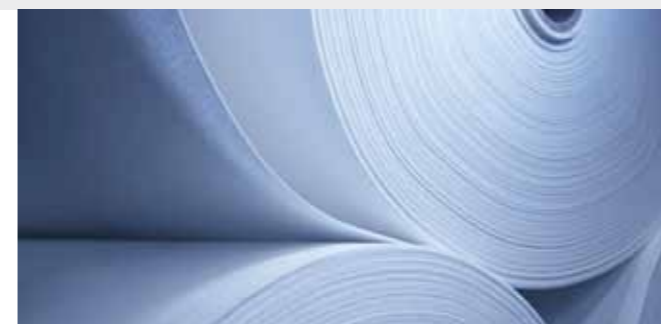
PM-Tec filter media is BWF Envirotec's solution to fulfill the increasingly strict fine dust requirements. They guarantee a minimal dust emission level, therefore near "zero emissions" are possible.

Due to the laminated ePTFE membrane on the raw gas side, PM-Tec filter media separates fine dust in the submicron range on the surface. They are characterized by low residual dust emission, easy cleaning and low pressure loss. Filtration efficiency is increased in this manner.

All types of needlona® needle felts or different fiberglass fabrics are used as the substrate.



Structure of a PM-Tec filter medium with needlona® needle felt as the substrate

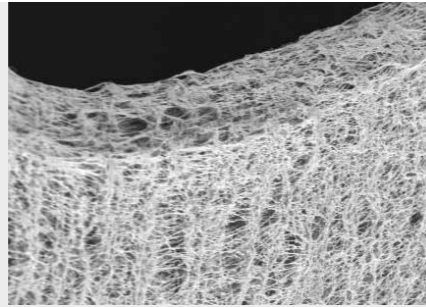
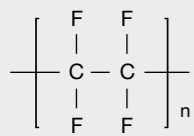


PM-Tec material from the roll

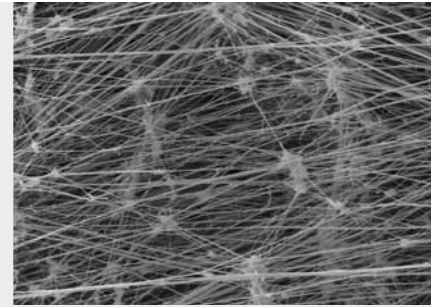


PM-Tec made-up filter media

ePTFE membrane – a high tech product with excellent characteristics.



Cross-section of an ePTFE membrane under 1000 x magnification



Surface image of an ePTFE membrane under 6000 x magnification

The gossamer-thin membrane is only a few µm thick of the PM-Tec filter media and made of expanded polytetrafluoroethylene (ePTFE), a specially processed form of polytetrafluoroethylene. The PTFE elements are oriented during the manufacturing process; as a result, improved strength and cold flow properties are achieved. Fluoride is the element with the greatest electronegativity and the chemical bond with carbon is extremely stable. Therefore, it is almost impossible for corrosive substances to break down the bond and chemically react with PTFE.

The specific characteristics of ePTFE have major benefits in fine dust filtration:

- minute pores owing to a microporous structure
- extremely low surface tension prevents adhesions
- permanent temperature resistance up to 260 °C, temperature peak up to 288 °C
- water-repellent
- chemically resistant

ePTFE membrane for optimum filtration results

The ePTFE membrane in the PM-Tec product line possess unique properties which allow reliable and effective filtration. In addition to a uniform pore size, optimum orientation and fineness of the fibrils make PM-Tec a superlative filter medium.



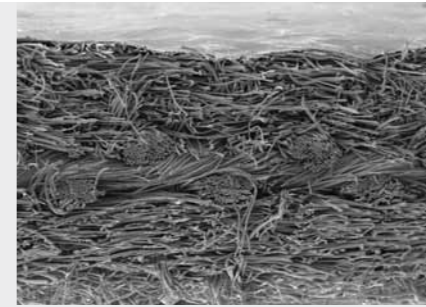
Applications of PM-Tec filter media

- Cement industry
- Waste incineration plants
- Chemical and pharmaceutical industry
- Metal-processing industry
- Power plants
- Plastics processing industry
- Pigment processing industry



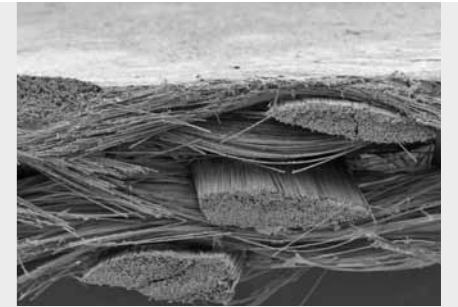
PM-Tec: the benefits. Interaction of substrate, ePTFE membrane and process know-how.

PM-Tec is a combination of best-in-class substrate, a tried and trusted ePTFE membrane and extensive process know-how. On this basis, BWF Envirotec produces the highest quality filter medium for fine dust filtration.



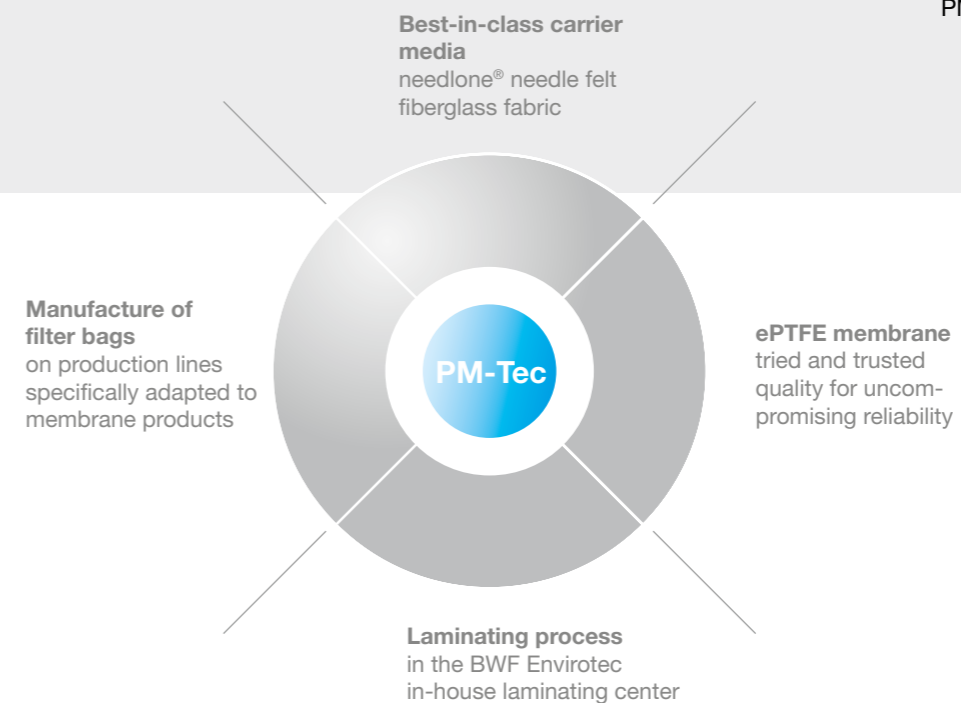
needlona® needle felt substrate

needlona® filter media are produced according to maximum quality standards, using a state-of-the-art machine fleet and ongoing online air permeability controls. needlona® needle felt as the substrate guarantees additional safety in applications with high stresses or long service lives. The most demanding emission requirements can be fulfilled by appropriate sewing and sealing technology for the filter media during the manufacturing process.



Fiberglass fabric substrate

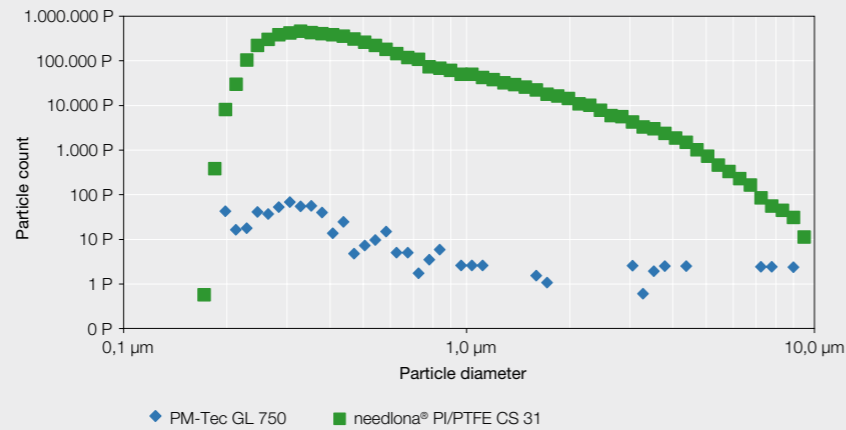
Fiberglass fabric as the substrate is an economically effective alternative for many applications. When fiberglass fabric is used as the substrate, a specially adapted PTFE impregnation ensures an extended service life of the filter medium. This reduces additional mechanical stress that occurs during the cleaning process. The service life of the fiberglass fabric is thereby extended and therefore also that of the filter bag. Extensive MIT folding endurance tests in our R&D competence center prove the excellent characteristics and long service life of PM-Tec fiberglass fabric.



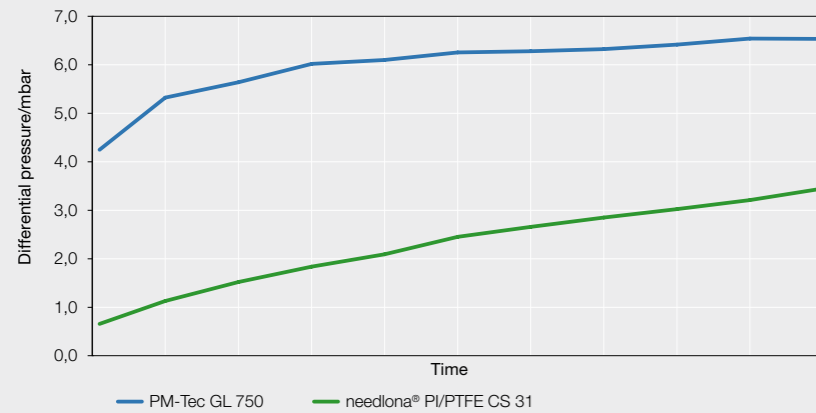
PM-Tec: first-rate performances in filtration, resistance and productivity.

Advantages of PM-Tec filter media at a glance

- separation of very fine dust particles already on the surface
- no penetration of the dust into the substrate
- excellent cleaning properties through a smooth, anti-adhesive surface
- minimal emission level, zero emission is almost possible
- constant differential pressure behavior
- constant gas volumetric flow
- long service lives and high productivity



Particle count distribution in the clean gas needlona® and PM-Tec

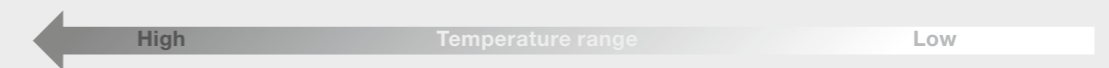


Differential pressure behavior needlona® and PM-Tec

**Technical data.
PM-Tec filter media with an ePTFE membrane.**



Product designation	GL 750	PTFE/PTFE 750	PPS/PPS 550	PE/PE 550
PM-Tec				
TAN*	8203	8202	8259	8238
Composition				
Coating	–	Polytetrafluorethylene	Polyphenylene sulfide	Polyester
Fabric	Fiberglass fabric with PTFE impregnation	Polytetrafluorethylene	Polyphenylene sulfide	Polyester
Basis weight [g/m²]	750	750	550	550
Thickness [mm]	1,0	1,3	2,2	2,2
Density [g/cm³]	0,75	0,57	0,25	0,25
Air permeability				
[mm/s @ 200 Pa]	33–67	42–58	33–67	33–67
l/[dm ² min]@200 Pa	20–40	25–35	20–40	20–40
Temperature resistance				
Duration** [°C]	≤ 260	250	190	150
Peak [°C]	≤ 288	280	200	150



*) Technical article number
 **) Depending on the process conditions, the constant temperature resistance is to be set lower if necessary.



Extract from our PM-Tec product portfolio

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