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FILTER BAGS

35

YEARS OF
MANUFACTURING
EXCELLENCE



DOLAR GOLD[®]
BELTS AND FANS PVT. LTD.

ISO 9001:2008
CRISIL RATED SE-2A





EXPERTISE

We have been in the filtration industry for more than 3 decades. Being market leaders in airslide fabrics, we are now expanding into Bag Filter and Cages.

With a state - of - the - art automated production line, to avoid human interference and a team of quality control and production experts with more than 15 years of experience, we look to provide the best products to provide maximum life and optimum performance.

VISION

Our Filter Bag section is a wholly-owned subsidiary of Dolar Gold Belts and Fans Pvt. Ltd . It is located in the state of West Bengal, India, covering an area of 165,000. Square feet with more than 110 employees and achieves an annual output value of 3 million USD.

The main business scope: Filter fabrics , bags and cages include manufacturing, technical development and technical services of the above products.

Our vision is to be India's one stop solution for all filtration products. To provide innovation and quality to achieve customer satisfaction.

WHERE VISION MEETS EXPERTISE



QUALITY

Our raw materials are imported or resourced from the top most fabric manufacturers in India.

Different fabrics are important for different purposes. These depend on the chemicals mixed in the airflow, along with temperature resistance, flow rate and other factors. It is very important to understand that having the right filter bag for the right purpose, provides optimum performance and long life.

LABORATORY

- Bursting Strength
- Air Permeability
- Thickness and weight
- Tensile Strength and Temperature Resistance
- Fitting check - using cellplate

FABRICS IN USE:

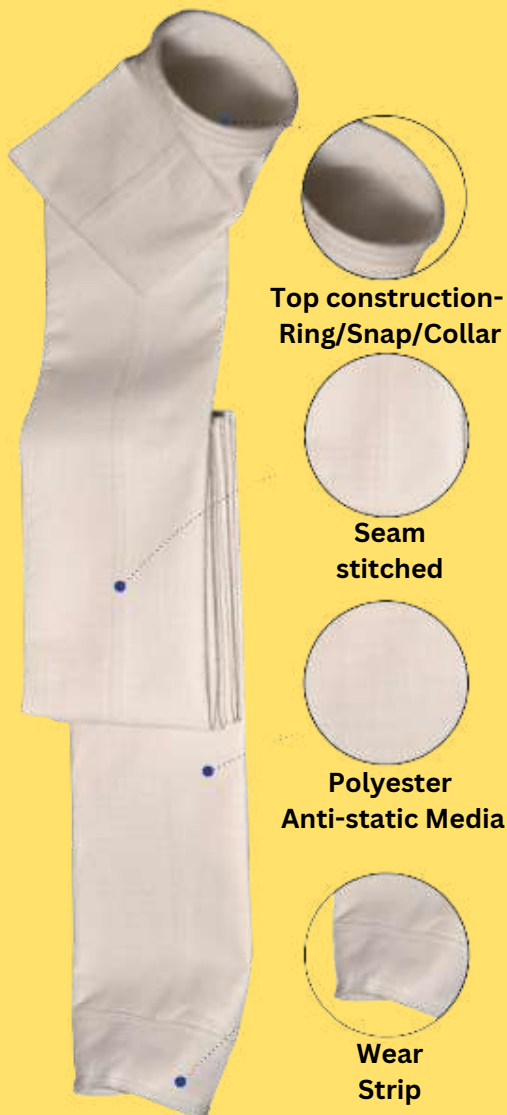
- 1) Non-woven polyester needlefelt
- 2) Non-woven needlefelt polypropylene
- 3) Aramid/Nomex/Taijinconex
- 4) Homopolymer Polyacrylonitrile
- 5) PTFE
- 6) P84/Polyamide
- 7) Ryton/Polyphenylene Sulphide
- 8) Fibreglass

TECHNICALS

MEDIA	TEMPERATURE RESISTANCE	ACID	ALKALI	HYDROLISIS	SOLVENTS
POLYESTER NEEDLE-FELT with scrim	CONTINUOUS - 140 °C PEAK - 150 °C	GOOD	POOR	POOR	GOOD
META- ARAMID/NOMEX /TAIJINCONEX	CONTINUOUS - 180 °C SURGE - 200 °C	POOR	VERY GOOD	POOR	FAIR
HOMO-POLYMER POLYACRYLO- NITRILE	CONTINUOUS - 140 °C PEAK - 150 °C	GOOD	FAIR	GOOD	GOOD
POLYACRYLIC	CONTINUOUS - 110 °C PEAK - 120 °C	VERY GOOD	FAIR	GOOD	GOOD
POLY- TETRAFLUORO ETHYLENE (PTFE)	CONTINUOUS - 260°C	VERY GOOD	VERY GOOD	VERY GOOD	VERY GOOD
POLYPROPYLENE NEEDLE-FELT with scrim	CONTINUOUS - 90°C	GOOD	GOOD	GOOD	GOOD
P84/POLYAMID E	CONTINUOUS - 235°C	FAIR	FAIR	FAIR	GOOD
PPS/Ryton	CONTINUOUS - 190 °C SURGE - 220 °C	VERY GOOD	VERY GOOD	VERY GOOD	FAIR
FIBREGLASS	CONTINUOUS - 260°C SURGE - 275°C	GOOD	FAIR	GOOD	GOOD



FILTER BAG DESIGN



FILTER BAG DETAILS

FILTER BAGS

Filter bags are bags stitched out of filter fabrics with a defined air permeability and are used for the purpose of filtering out pollutants or recovery of metal oxides and other solid particles suspended in a gas prior to discharge into the atmosphere.

3 aspects of manufacturing a filter bag are:

1) Properties:

Physical Properties

Thermal Properties

Chemical Properties

2) The BAG TYPE

3) The QUALITY OF THE STITCH AND THE THREAD

MECHANISM OF DUST COLLECTION

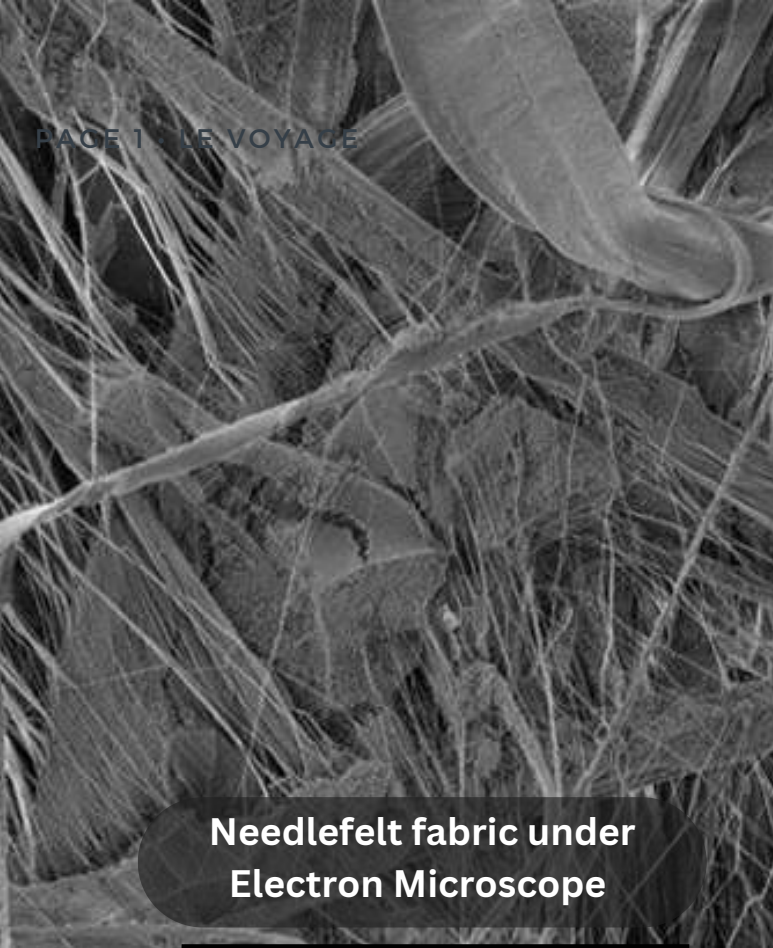
-Gravitational

-Diffusion (Brownian motion)

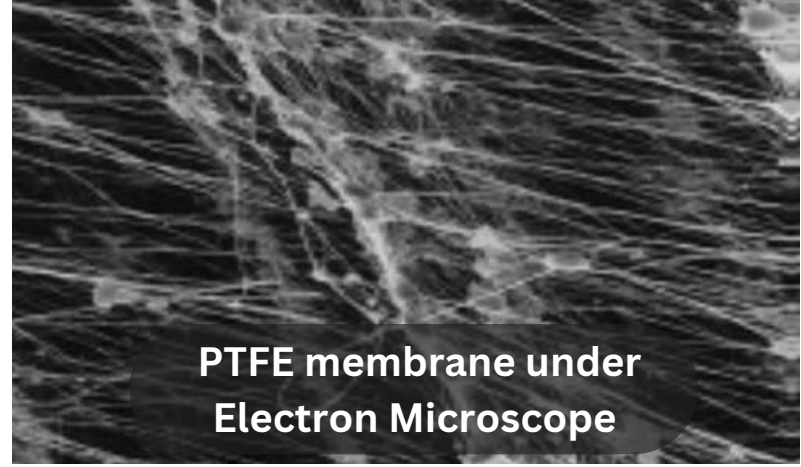
-Impaction,

-Interception

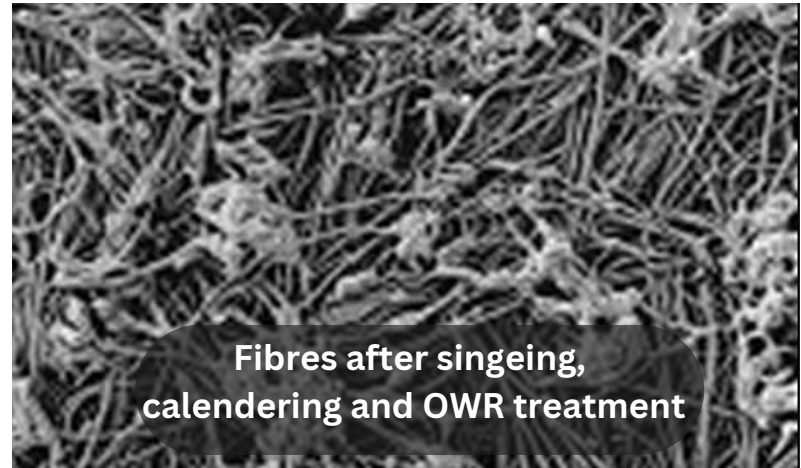
-Electrostatic.



**Needlefelt fabric under
Electron Microscope**



**PTFE membrane under
Electron Microscope**



**Fibres after singeing,
calendering and OWR treatment**

TREATMENTS

- SINGED
- CALENDERED
- HEATSET
- GLAZED
- OIL AND WATER REPELLENCY
- ANTI-STATIC
- PTFE MEMBRANE

SINGED: Filter fabrics, especially needlefelts, which are produced from short staple fibres, invariably possess surfaces with protruding fibre ends. Since such protrusions may inhibit cake release by clinging to the dust, it is common practice to remove them. This is achieved by singeing, a process in which the fabric is passed, at relatively high speed, over a naked gas flame.

CALENDERING- The operation fulfils two objectives, viz. to improve the fabric's surface smoothness and hence aid dust release, and to increase the fabric's filtration efficiency by regulation of its density and permeability. As a result of the latter, the yarns and fibres become more tightly packed, making it more difficult for particles to pass through or even into the body of the fabric.

OIL AND WATER REPELLENCY- This operation leads to a hydrophobic and oleophobic layer on the fabric surface. Fluorocarbon Polymers are the only class of chemicals, which impart both water and oil repellency. When a drop of oil is added on a textile surface it forms a contact angle with it thereby creating a drop formation and hardly any wetting of the surface.

PTFE MEMBRANE- An extremely fine structure which is used to filter extremely fine dust particles. It is laminated on to the fabric with either a special adhesive or flame bonding. PTFE membrane fabrics should be handled carefully as they can be easily damaged and is used in areas of high fineness in dust and the requirement to release dust easily.



STITCH QUALITY

Quality of stitch play a very important role in integrating the bag together. The stitch is used turn the flat fabric into a cylinder along with stitching the bottom disc and the top snap/collar section.

Hence it is important to keep in view that the bag manufacturing follow all the standards necessary to allow for all the factors including stitch size, stitch distance along with the stitch pattern. If stitch loops are missed while stitching the bags, which can happen, often due to problems in the looper or the feed dog, stitches can be missed, and these holes generated, lead to an increase in DP. Oftentimes, workers while stitching do not notice a thread break, leading to this phenomenon being generated.

Hence, it has been noticed that, having an automatic, sensor based setup allows for a perfect bag stitch.

SNAP BANDS

Snap Bands play a very important role in fixing the bags to the cellplate/tubesheet. However, a poor constructed or cut snap band can lead to a decrease in life of the bag. Snap Bands are cut in a power-press in most cases. Crude power-presses lead to the bands have sharp edges at the point of intersection of the bands. When the bag is put tightly against the tubesheet, pressure of the cloth falls directly on to the bands. The sharp edges, as often noticed, leads to internal tear of the fabric. This leads to material damage at the top of the bag, leading to issues of bag tears and weakness to the fabric or bag bursts.

Hence, modern automatic snap band cutting machines allow a smooth cut of the bands along with rounded edges to prevent any sharp sections to cut in to the fabric. It is also preferred that the snap bands are manufactured at 25/30 mm width and not cut from a wider sheet, as that prevents the edges, lengthwise from tearing into the fabric.

SOME OF OUR CLIENTS

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Cement**

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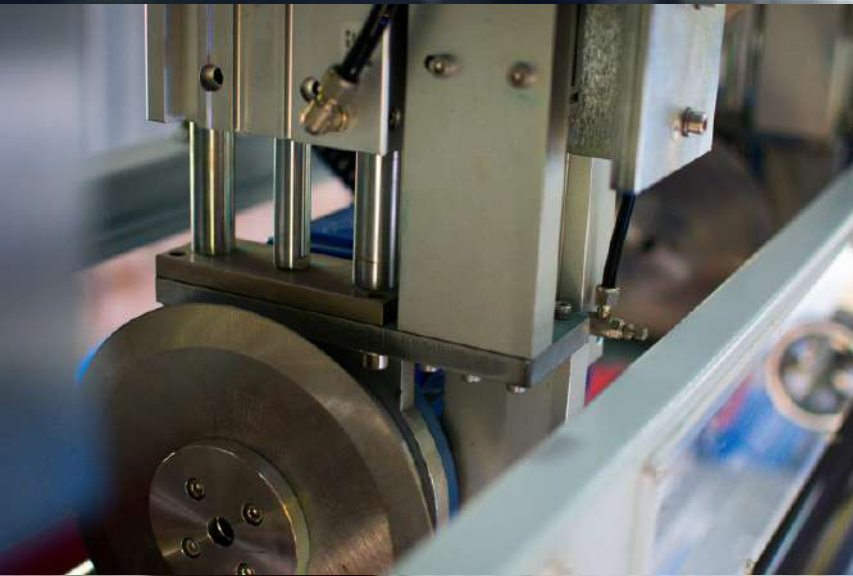
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