

FILTER BAGS

Fabric Characteristics

Felt



Felted Fabric Construction

A felted fabric (also called felt) is a thicker, non-woven fabric of synthetic or fiberglass fibers produced by mechanical action, pressure, moisture and heat. One common type is needled felt. Formed when barbed needles move through batts or webs of loose fibers to interlock the fibers. A felt can use a scrim. A scrim is a reinforcing layer of woven fabric.

A web of carded fibers called the “batt” are placed on top of each other or upon a scrim and together, they are passed through the needling machine. During the needling, barbed needles punch the web fibers into the woven base to create the felted product. Increased felt thickness can be achieved by repeating this process. Fabric weights are usually expressed in ounces per square yard (OSPY). Standard filtration felts are 10 – 16 OSPY.

Felted Fabric Finishes

A plain fabric is unfinished. In many cases a filter fabric is treated (finished) so that it can withstand various conditions, such as moisture or abrasion. Many of the treatments are mechanical surface treatments and others are chemical treatments of either the entire fabric or just the fabric surface.

Mechanical surface treatments generally improve the dust cake formation on the filter and filter cleaning. Common treatments include singed, eggshell, glazed, calendar and membrane. The first three smooth the surface of the needled felt to improve dust cake formation and filter cleaning.

Singed	Running the fabric over an open flame to remove high points and fiber fuzz.
Eggshell	Like a singed treatment, but pressure is applied to produce a smoother, eggshell-like surface.
Glazed	Like a singed or eggshell treatment, but more pressure is applied to produce a high-sheen surface.
Calendar	Compressing a needled felt between rollers, which improved the felt's density.
Surfcoat	Proprietary smooth, non-fibrous, micropore coating with excellent dust cake release and improved resistance to blinding.
Membrane	Laminating an expanded layer of polytetrafluoroethylene (PTFE) to woven fabrics or needled felts, which makes it easier to clean sticky or very fine dust from the fabric and reduces the required cleaning frequency.
<i>In addition, various filter manufacturers offer proprietary mechanical treatments, depending on the application, to improve the fabric's surface characteristics. Common chemical treatments include HCE and tricomponent finishes.</i>	
HCE™	Immersing the fabric in a noncuring silicone bath that impregnates the fabric so filter is tacky and easily forms a dust cake.
ARN-IT™	Acid resistant nomex, created by adding an acid-resistant treatment to aramid to protect it from sulfuric acid in the flue gas.
Tuflex®	Adding a Teflon® compound to the fabric to improve the fabric's ability to release dust.

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