



# Ceramic Textiles & Composites

## Advanced Textile for High Temperature Filter Bags

3M offers an advanced textile for manufacturing high temperature filter bags which can be used at temperatures up to 700°F (371°C). This advanced fabric has proven successful in hot gas filtration bag houses. (Typical properties of the textile are provided on the back.)

### 3M™ Filter Bag Fabric FB-700

There are two variations of the textile suited for 700°F (371°C) temperatures; depending upon the bag house specifications, either reverse air or pulse jet. Each performs equally well in the rigorous environment of hot gas particulate filtration.

- For REVERSE AIR FILTRATION, the 3M™ FG7-14, a 14 oz. filter bag fabric, is recommended for use at temperatures up to 700°F (371°C).
- For PULSE JET FILTRATION, the 3M™ FG7-22, a 22 oz. filter bag fabric, is recommended for use at temperatures up to 700°F (371°C).

The filter bag fabric is comprised of a woven glass textile that has been coated to give excellent filtration properties in high temperature environments. The inorganic coating is a proprietary 3M innovation that enhances the dynamic mechanical properties of the fiber. This gives the filter bags improved high temperature performance. The textile can be sewn into a variety

of lengths using 3M™ Sewing Thread GT-15. A typical application in a pulse jet or reverse air bag house would allow the filter to be mounted using standard industry methods. New high wire count cages and close attention to the bag-to-cage fit will enhance the life of the products. The recovery of valuable product or removal of unwanted dust can be achieved with a filter bag made from this advanced textile.

While the filter bags produced from the FB-700 textile look and behave

like typical filterbags, they can withstand higher temperatures. This reduces failure due to thermal excursions and minimizes the need to cool the gas, which lowers operating costs. For new bag house construction, higher temperature filtration offers the opportunity to reduce the size of the gas clean-up facility and the opportunity to use hot gas emission reducing technologies.



### Features:

- Efficient particulate filtration
- High temperature capability
- Resistance to thermal excursions
- Abrasion resistance
- Retrofit existing baghouses

### Applications:

- Cement
- Incineration
- Chemical processing
- Petrochemical
- Product collection
- Coal-fired boilers



### Filter Bag Fabric FB-700 Typical Properties (FG7-14/FG7-22)

Fabric Style	FG7-14	FG7-22
Basis Weight	14 oz/yd <sup>2</sup> (475 g/m <sup>2</sup> )	22 oz/yd <sup>2</sup> (746 g/m <sup>2</sup> )
Weave Pattern	1/3 Twill	1/3 Twill
Temperature Resistance	700°F (371°F) continuous operation 800°F (427°C) short excursions	
Tensile Strength (warp)	>120 lb/in (21,4 kg/cm)	>200 lb/in (35,7 kg/cm)
Mullen Burst	>500 lbs/in <sup>2</sup> (35,1 kg/cm <sup>2</sup> )	>900 lbs/in <sup>2</sup> (63,2 kg/cm <sup>2</sup> )
Permeability	40-65 ft <sup>3</sup> /ft <sup>2</sup> -min @ 0.5 m H <sub>2</sub> O (122-198 l/dm <sup>2</sup> -min @ 12,7 mm H <sub>2</sub> O)	20-40 ft <sup>3</sup> /ft <sup>2</sup> -min @ 0.5 m H <sub>2</sub> O (61-122 l/dm <sup>2</sup> -min @ 12,7 mm H <sub>2</sub> O)

#### To get more information on 3M™ Filter Bag Fabric FB-700, contact:

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