

The Heat Shield™ Data Sheet filter media properties

	Polyamid (Nylon)	Polypropylene	Polyester	Acrylic copolymer	Homopolymer acrylic	PPS (Torcon®)	Aramid (Nomex®)	Polyimide (P84)	Polytetrafluoroethylene (Teflon®)
Continuous operating temperature, dry heat	200°F 94°C	200°F 94°C	270°F 132°C	248°F 120°C	260°F 125°C	375°F 190°C	400°F 204°C	356°F 180°C	500°F 260°C
Water vapor saturated Environment, moist heat	200°F 94°C	200°F 94°C	200°F 94°C	230°F 110°C	260°F 125°C	375°F 190°C	350°F 177°C	383°F 195°C	383°F 195°C
Specific gravity (g/cm³)	1.14	0.9	1.38	1.16	1.17	1.38	1.38	1.41	1.41
Relative moisture regain (%) @ 68°F and 85% moisture	4.0 to 4.5	0.1	0.4	1.0	1.0	0.6	4.5	3.0	3.0
Supports combustion	Yes	Yes	Yes	No	Yes	No	No	No	No
Microbial resistance	No effect	Excellent	No effect	Very good	Very good	No effect	No effect	No effect	No effect
Alkalies	Good	Excellent	Fair	Fair	Fair	Excellent	Good	Excellent	Excellent
Mineral acids	Poor	Excellent	Fair	Good	Very good	Excellent	Fair	Very good	Excellent
Organic acids	Poor	Excellent	Fair	Good	Excellent	Excellent	Fair	Very good	Excellent
Oxidizing agents	Fair	Good	Good	Good	Good	Excellent	Poor	Very good	Excellent
Organic solvents	Very good	Excellent	Good	Very good	Very good	Excellent	Very good	Excellent	Excellent

The Heat Shield™ treatments, blends, and composites

Options	Benefits	Applicable media
Singed	Enhanced cake release	All except nylon, PTFE, and rayon
Glazed (eggshell)	Enhanced cake release	Polyester and polypropylene
Silicon	Enhances cake formation and water repellency	All
Flame retardant	Retards combustibility (not flame proof)	All
Acrylic Coating	Enhances filtration efficiency and cake release	Homopolymer acrylic, polyester, and polyester polypropylene
PTFE, surface coating	Enhances filtration efficiency and cake release	Aramid, acrylic, homopolymer acrylic, polyester, and polypropylene
PTFE, penetrating finish	Enhances water and oil repellency	All
Stainless steel blends	Conducts static electricity	All
Epitropic blends	Conducts static electricity	All
Dual density composites	Asymmetric pore path enhances filtration	Polyester
Electret composites	Electrostatic charge enhances filtration	Polyester, polypropylene, and modacrylic

Applications for The Heat Shield™ media:

The Heat Shield™ media are used in the fabrication of air filter bags, including pulse jet, reverse air and shaker bags for dust collection, pollution control, product recovery, and equipment protection.

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Filter Media for liquids, gases, and air

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Heat Shield

The Heat Shield™ Data Sheet

Needlepunch filter media for bag houses

The Heat Shield™

Thermal upsets, an integral part of every hot mix asphalt plant, have caused the premature destruction of thousands of filter bags. Costly plant stoppages, environmental pollution and expensive filter bag replacement have been the result of these technical glitches. American Felt and Filter Company (AFFCO) has developed a solution to this age old problem. This is how we did it.

Woven Basalt is a fabric manufactured from volcanic rock. It is capable of withstanding thermal excursions up to 2000°F without any degradation whatsoever. AFFCO utilized woven Basalt as a scrim to build Nomex® felt. The result is The Heat Shield™.

We placed a regular Nomex® felt in an oven at 1000°F for 60 minutes. The Nomex® felt was destroyed beyond recognition. We then placed The Heat Shield™ in the oven at 1000 F for 60 minutes. Zero shrinkage.

AFFCO is offering The Heat Shield™ as a thermal insurance to the asphalt industry.

It took AFFCO, a company that has been around for more than 100 years, to develop a solution to a very old problem in the asphalt industry.

The Heat Shield™ products can be manufactured with various fiber constructions for demanding applications to suit individual specifications. Some composite examples are PPS, P-84®, Kynol®, Basofil® Polyacrylonitriles, Polyacrylates, Teflon®, Nomex®, Etc...

For more information, designing, questions, clarifications or quotations please contact AFFCO.

The Heat Shield™ Data Sheet

Style 74/64HTBA14
Construction Aramid with Basalt Scrim
Finish Calendared, Singed one side
Weight 14 oz/sq.yd
Permeability 25 - 35 cfm
Mullen Burst 550 - 650 psi
Thickness 0.06 - 0.07 in.
MD Tensile Strength 120 - 150 lb
CD Tensile Strength 200 - 250 lb
MD Elongation 10 - 20%
CD Elongation 10 - 20%

Specifications:

Materials of construction:

PPS P-84® Kynol® Teflon®
Basofil® Polyacrylonitriles
Polyacrylates Nomex®

Surface finishes:

Calendering, glazing (eggshell), or singeing

Coatings:

PTFE, acrylic, or silicone

Blends and composites:

Dual density, fire resistant, static retardant (stainless steel or epitropic)

Operating limitations:

Do not exceed recommended temperature limitations of materials. Use only in chemically compatible environment

Standard basis weights: (custom weights are available) 8, 10, 12, 14, 15, 18, and 18 oz/yd²

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