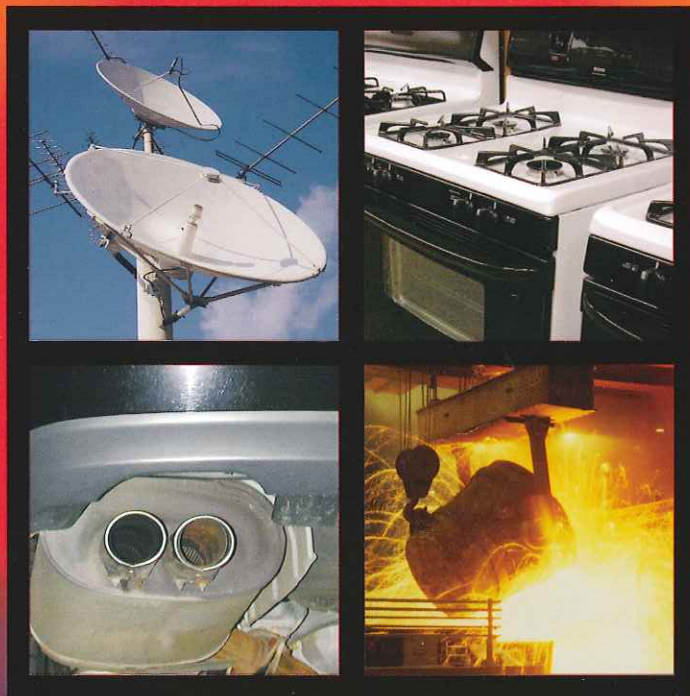
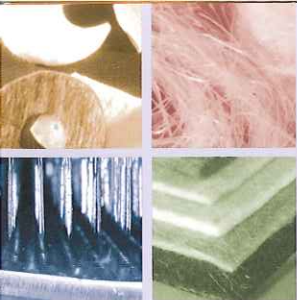


ENGINEERED NONWOVENS

THERMAL AND ACOUSTICAL INSULATION
FOR CUSTOMIZED SOLUTIONS





TECHNICAL FABRICS FOR GLOBAL INDUSTRY

A Legacy of Innovation

At BGF Industries we've been manufacturing fiberglass and other high-performance fabrics for an ever-growing range of applications since 1941. And our heritage as an innovator and developer of quality products extends even further—back to 1885, when we were renowned for our fine woven silk goods.

Over these past 100+ years, we've earned a reputation as a company of firsts:

- ▶ the first weaver of broad glass fabrics
- ▶ the first company to develop a patented process for heat-cleaning fabrics that improves the physical properties of composites
- ▶ the first company to develop warp sizes that allow for weaving with low twist single yarns
- ▶ the first finisher with in-house techniques that improve interfacial bonding of resins to glass
- ▶ the first weaver to develop unidirectional fabrics
- ▶ the first company to develop a product using "DE" filaments to improve composite arrangements
- ▶ the first in the industry to launch internet presence — bgf.com
- ▶ the first to offer an integrated business-to-business program (B2BGF) providing customers improved business communications

Staying Ahead of the Curve

At BGF, we work hard to stay ahead of the curve. We attempt to anticipate customers' needs before the need arises - by keeping on top of market trends, product performance attributes and always practicing "forward thinking."

Manufacturing

BGF maintains state-of-the-art equipment and facilities and manufactures needed nonwoven mat products in its 55,000 sq. ft. Industrial Nonwoven Facility in Altavista, VA. In January of 2004, BGF added an additional 60,000 sq. ft. for the BGF Fabrication Center, which handles die cutting and fabrication for the Nonwovens Division. We work closely with our customers to create custom products for specialized applications in order to maximize expected customer value. Production quality is ensured throughout the manufacturing process, thanks to statistical process control techniques that enable us to closely monitor the performance of all our operations, and quickly respond to customer requirements.

Quality & Service

Our commitment to quality continues throughout the process with our extensive, modern distribution system. In fact, BGF has successfully upgraded its ISO registration to 9001:2000, which requires us to plan and manage the processes necessary for the continual improvement of our quality management system. And, BGF offers customers B2BGF, an integrated business-to-business communications program providing customers with easy, online access to their order status, shipment details, invoices and certifications.



Quick Response for Smooth Operations

BGF understands the importance of on-time deliveries. Our manufacturing and customer service teams have the flexibility to react quickly to your critical requirements and will follow your order through every step in the process. We have backup systems in place to ensure accurate and timely deliveries so that your operation continues to run smoothly.

Call us at 800-476-4845 to discuss your engineered nonwoven fabric needs. We'll use our experience, innovation and commitment to quality to keep you ahead of the curve.



TECHMAT®

High Temperature Glass Fiber Insulation

Techmat® is made of 100% E-glass fibers mechanically needled into either high (9-11 pcf) or low (6 pcf) density nonwoven mats of various thicknesses. Techmat exhibits superior thermal and acoustical performance in operating temperatures up to 1000° F and excursions to 1200°F. By using only carefully selected long textile glass fibers, we ensure uniform mechanical bonding with no extra binders, as well as excellent insulation efficiency during extended exposure to elevated temperatures.

Techmat offers good drapability, excellent vibration resistance, and superior sound absorption properties. It's odorless, won't contribute to metal corrosion, and does not sustain mold or vermin.

Techmat Characteristics

- Low thermal conductivity at temperatures to 1000°F
- Good drapability — conforms to irregular surfaces
- U.L.® listed — 0-flame spread, 0-smoke generated
- Excellent vibration resistance — will not powder
- Excellent acoustical properties
- Non-alkaline
- Low chlorides & fluorides
- Will not contribute to metal corrosion
- Odorless — will not absorb odors
- Will not decay or sustain mold or vermin
- Moisture absorption negligible

Applications

- Hot water heaters, ovens
- Auto exhaust system insulation for resonators and mufflers
- Auto catalytic converter, flooring and front dash insulation
- Heat shields
- Removable pads
- Ship turbines
- Marine, industrial and process piping
- Power generating equipment
- Industrial furnaces and ovens
- Filtration
- Headliner insulation
- Supercharger covers

Manufacturing Capabilities & Configurations

- Foil Faced
- Layered with other mats
- Sheeted
- Preforms: tubes, complex shapes
- Roll goods
- Roll Lengths — 45' to 300'
- Blending
- Roll Widths — 46" to 60"
- Die-cut parts
- Thickness — 1/8" to 1"

If these configurations do not meet your requirements, our skilled engineering team can create a custom solution tailored to your individual needs.

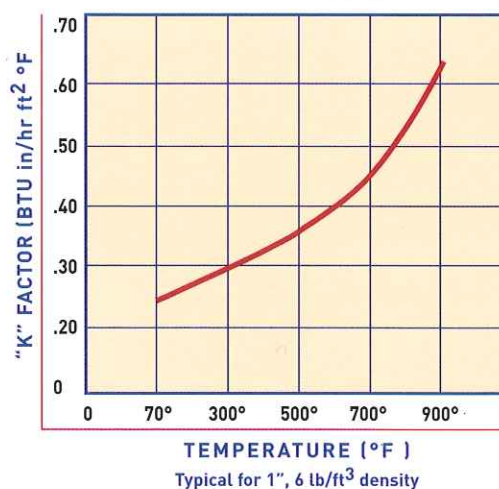
Physical Properties

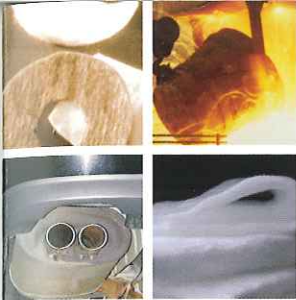
| Techmat® Low Density | | | | | | | |
|-----------------------|----------------------|----------------|------------------------|---------------------|--------------------|---------------------------|----------------------|
| Style | Density (lb./cu.ft.) | Width (inches) | Area per Roll (Sq.ft.) | Weight (oz./sq.yd.) | Thickness (inches) | Roll Length (linear feet) | Roll Mass (net lbs.) |
| 4003 | 6 | 48 | 300 | 4.00 | .500 | 75 | 75 |
| 4008 | 6 | 46 | 1150 | 1.00 | .125 | 300 | 72 |
| 4007 | 6 | 60 | 750 | 2.00 | .250 | 150 | 94 |
| Techmat® High Density | | | | | | | |
| Style | Density (lb./cu.ft.) | Width (inches) | Area per Roll (Sq.ft.) | Weight (oz./sq.yd.) | Thickness (inches) | Roll Length (linear feet) | Roll Mass (net lbs.) |
| 4073 | 9 | 60 | 375 | 6.00 | .500 | 75 | 141 |
| 4065 | 9 | 60 | 750 | 3.40 | .250 | 150 | 160 |
| 1210G | 11 | 60 | 225 | 15.00 | 1.00 | 45 | 211 |
| 1210A | 11 | 60 | 225 | 15.30 | 1.00 | 45 | 215 |

Acoustical Ratings

| Frequency(Hz) | 1/4" Techmat | 1/2" Techmat | 1" Techmat |
|---------------|--------------|--------------|------------|
| 250 | .04 ± .02 | .07 ± .02 | .15 ± .04 |
| 500 | .12 ± .01 | .24 ± .01 | .60 ± .03 |
| 1000 | .29 ± .01 | .55 ± .01 | 1.02 ± .02 |
| 2000 | .51 ± .01 | .79 ± .01 | 1.08 ± .02 |
| 4000 | .65 ± .01 | .91 ± .01 | .92 ± .02 |

Thermal Conductivity





SILCOFLEX®

Peak Performance at High Temperatures

SilcoSoft® is a nonwoven needled mat made from a new generation of high performance belCoTex® fibers patented by belChem Fiber Materials GmbH of Germany. BGF has exclusive rights for this fiber in North America for needled nonwoven applications.

SilcoSoft provides excellent acoustical and thermal properties in temperatures up to 2000°F. The distinguishing characteristics which set SilcoSoft apart from silica products is its cotton-like soft touch and conformability to irregular shapes, as well as exhibiting excellent thermal characteristics at a weight 30% lighter than some alternatives. SilcoSoft is also non-dusting and non-irritating and it's 9 micron diameter fiber is non-respirable making handling safe and easy.

SilcoSoft Characteristics

- Withstands temperatures up to 2000°F
- Excellent thermal insulator
- Chemical resistant
- Excellent acoustical properties
- Soft and fleecy fiber
- Non-respirable 9 micron filament diameter
- Non-toxic
- Lightweight, conforms to irregular surfaces
- Easy handling

Applications

- Catalytic converter insulation
- High temperature insulation
- Acoustical insulation
- Muffler packing
- Exhaust manifold insulation
- Liquid/gas filtration
- Insulating pads & blankets
- Pre-heat furnace lining seals
- Pit cover and soaking linings
- Roller hearth furnace linings
- Welding blankets

Manufacturing Capabilities and Configurations

- Die-cut parts
- Layered with other mats
- Foil Faced
- Preforms: tubes, complex shapes
- Sheeted
- Roll Lengths - 25' to 100'
- Roll goods
- Roll Widths - 36" to 48"
- Blending
- Thickness - 1/8" to 1"

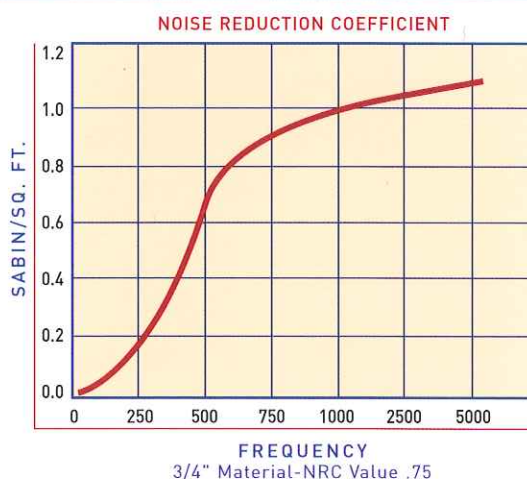
If these configurations do not meet your requirements, our skilled engineering team can create a custom solution tailored to your individual needs.

Physical Properties

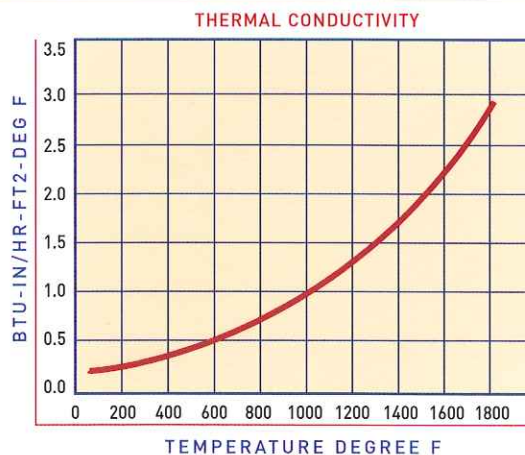
| Style | Thickness (inches) | Weight (oz/ft ²) | Roll Length (feet) |
|--------|--------------------|---------------------------------|--------------------|
| A04083 | 1/8 (3.18 mm) | 1.0 (305 g/m ²) | 90 (45.7 m) |
| A04075 | 1/4 (6.35 mm) | 2.0 (610 g/m ²) | 100 (30.4 m) |
| A04076 | 1/2 (12.7 mm) | 4.0 (1220 g/m ²) | 50 (15.2 m) |
| A04091 | 1 (25.4 mm) | 8.0 (2440 g/m ²) | 25 (7.6 m) |

All styles are 6-8 lb/cubic ft. density products. Widths available from 28" - 48".

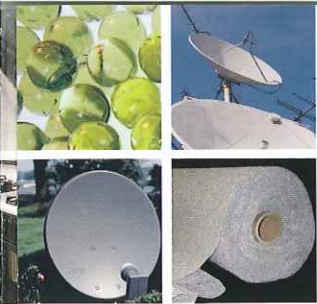
Acoustical Ratings



Thermal Conductivity



SilcoSoft products are fabricated using 100% belCoTex® fiber produced in Germany by belChem Fiber Materials GmbH.



SPECIALTY MAT

Customized Solutions to Meet Your Performance Needs

BGF works closely with you, utilizing our experience, innovation and leading-edge capabilities to provide customized solutions that meet your high-performance needs. Our industrial non-woven products are all manufactured from a well-controlled assortment of long textile glass fibers to assure uniform mechanical bonding with no additional binders, thereby assuring insulation efficiency during extended exposure of elevated temperatures. Other types of fibers either by themselves or in conjunction with different fibers, can be utilized if glass type fibers are not appropriate.

Metafil® Mat — Electronically Conductive Mat for Composite Applications

High-performance fibers such as Metafil® are manufactured to provide superior electrical and shielding performance. Metafil Mat is comprised of aluminum coated glass fibers thermally bonded utilizing binder fibers into a nonwoven mat of uniform density. The structure of the material allows for conformability to irregular surfaces and compatibility with other base substrates and resin systems.

Metafil® Characteristics

- Multi-resin compatibility
- Good drapeability, conforms to irregular surfaces
- Electrically and thermally conductive
- Moldable
- Moisture absorption negligible

Applications

- Microwave antennas
- EMI/RFI shielding
- Lightning strike protection
- Electrostatic finishing
- Electrostatic dissipation
- Thermal dissipation
- Radar reflective composites

Manufacturing Capabilities and Configuration

- Roll Length – 300'
- Roll Width – 46"
- Thickness – 0.05" to 0.08"

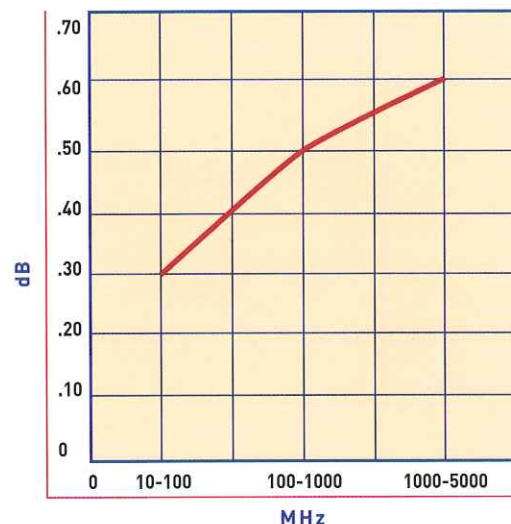
Physical Properties - Metafil® Mat

| | |
|------------------|-------------------------------------|
| Fibers | Aluminum coated E-glass, polyester |
| Fiber Diameter | 18 microns |
| Color | Light gray |
| Weight | 3 oz./yd. ² |
| Thickness | 0.05 to 0.08 inches (1.3 to 2.0 mm) |
| Fiber Resistance | ← 4.2 Ω/cm |

Configurations - Metafil® Mat

| | |
|---------------|--------------------|
| Roll Length | 300 ft. (91.4m) |
| Roll Width | 46 inches (122 cm) |
| Roll Weight | 25 lbs. (11.3 kg) |
| Core Diameter | 3 inch ID (76mm) |

Shielding Effectiveness* - Metafil® Mat



*Test data provided by Microwave specialty Corp.



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Contact our Sales Department at 800-476-4845 today for more product information and samples and let BGF help you stay ahead of the curve.