



Johns Manville



Healthy, safe and
sustainable solutions.



How we can help your company.

Johns Manville fiber glass is a healthier and safer choice, made with sustainable materials.

Our products are specifically developed for performance with health, safety and quality in mind. First and foremost, we're concerned with the health, comfort and well-being of a building's occupants. Second, our products are designed to promote and support sustainable building practices.

These benefits help improve indoor air quality and offer a sustainable alternative for earning points in a variety of green programs such as the LEED® green building certification program.

Johns Manville fiber glass can eliminate or reduce volatile organic compounds (VOCs) in your products. That's because we offer certified Formaldehyde-free™ fiber glass insulation, helping you remove one potential source of formaldehyde from a wide variety of thermal, acoustical and mechanical products.

Fiber glass applications include:

- Aerospace
- Air handling
- Appliance
- Building insulation
- HVAC
- Office interiors
- Pipe and equipment
- Transportation



Fiber glass. The safe, sustainable insulation with proven performance.

Fiber glass offers proven thermal and acoustic performance. One of the most thoroughly tested building materials, fiber glass has been proven safe for both workers in your facilities and those who ultimately use the products you offer.

Fiber glass is also sustainable, made with both readily available local materials and recycled content.

FIBER GLASS IS SAFE.

In an age when few companies are willing to make categorical statements, we offer this:

Fiber glass is safe.

JM doesn't offer that statement as opinion, but as fact based on the most recent long-term research and published results from some of the world's most respected health organizations.

Over the years, fiber glass has been rigorously studied by government and independent research organizations. Their conclusions show that fiber glass is safe as a finished product or as a product component, and it is safe for workers who make or install the product when they follow simple work practices to avoid temporary mechanical irritation.



THE RESEARCH.

In 2000, the U.S. National Academy of Sciences found “no significant association between fiber exposure and lung cancer or nonmalignant respiratory disease in the MMVF (man-made vitreous fiber) manufacturing environment.”

U.S. National Academy of Sciences

In 2001, the World Health Organization's International Agency for Research on Cancer (IARC) removed fiber glass insulation from its list of possible carcinogens. According to the agency, “studies...provide no evidence of increased risks of lung cancer or of mesothelioma from occupational exposures during manufacture of these materials, and inadequate evidence overall of any cancer risk.”

World Health Organization

The U.S. Department of Health and Human Services' Agency for Toxic Substances and Disease Registry (ATSDR) stated in 2004 that “studies showed no consistent evidence of disease among groups of workers involved in the manufacture of SVFs (synthetic vitreous fibers).”

U.S. Department of Health & Human Services



Fiber glass. A sustainable material.

RECYCLED CONTENT.

According to the North American Insulation Manufacturers Association, fiber glass insulation is the largest secondary market for recycled glass containers. The recycled glass used in fiber glass insulation saves more than 27 million cubic feet of landfill space every year. That's 2.2 billion pounds of recycled post-consumer glass.

What's not made from recycled materials is made mostly from sand, an abundant and rapidly replenished resource.

When a building is remodeled or demolished, fiber glass batts, rolls and loose fill can often be reused.

REGIONALLY OR LOCALLY PRODUCED.

Because fiber glass is made with a readily available resource and recycled content, it can be locally or regionally produced. That fact is extremely important when looking at fuel consumption and its environmental impact.

As a result of being locally produced, much less fuel is consumed as the fiber glass makes its way from the manufacturer to those who use it. And in its final form, some fiber glass insulation can be highly compressed when packaged, requiring less packaging and less space in transit, which further reduces fuel demands.

For more than 60 years, the performance of fiber glass has undergone continual improvement through engineering and design to enhance its affordability and efficiency.

Today, fiber glass offers a cost-effective solution that safely provides excellent thermal and acoustic performance.

WILL NOT SUPPORT MOLD GROWTH.

Mold requires an organic material as a food source. As an inorganic fiber, fiber glass is naturally resistant to mold growth. In addition, several Johns Manville fiber glass products are treated with an EPA-approved mold inhibitor to protect them from mold-related damage. These include MR® Faced batts, JM Spider® Custom Insulation System, pipe jacketing, HVAC duct liner and duct board products.

NATURALLY FIRE RESISTANT.

Unlike many organic insulations, fiber glass does not require toxic fire retardants. Fire retardants may leach out of other insulation types over time, leaving them without protection from heat and flame.

INSULATES WELL AND PREVENTS POLLUTION.

Efficient thermal insulation is fundamental to energy efficiency and cost reductions. By reducing the demand for energy, it reduces the pollutants created by energy generation and ultimately saves money that would be spent on heating or cooling.

CERTIFIED RECYCLED CONTENT.

Certified by an independent testing laboratory (Scientific Certification Systems), many of our insulation products contain a North American average of 25 percent recycled glass content, with at least 20 percent being post-consumer glass. We also recycle our own glass, though the amounts are not included in these figures.



5% Pre-consumer
20% Post-consumer
SCIENTIFIC CERTIFICATION SYSTEMS

The best choice across the board.



FIBER GLASS COMPARED TO OTHER INSULATION MATERIALS.

BUILDING INSULATION

Insulation Type	Thermal Conductivity	Noise Reduction Coefficient (NRC)	Limited Combustibility
Fiber Glass	++	+++	yes
Mineral Wool	++	+++	yes
Foam			
Closed Cell	+++	+	no
Open Cell	+	++	no
Cellulose	+	+++	—
Note: Comparison of relative performance in typical applications. + = Good, ++ = Better, +++ = Best. Source: Various industry data.			

EQUIPMENT INSULATION

Insulation Type	Thermal Conductivity	Noise Reduction Coefficient (NRC)	Limited Combustibility
Fiber Glass	+++	+++	yes
Textile Glass	++	+++	yes
Synthetics			
Polyester	++	++	no
Melt Blown Polypropylene	++	+++	no
Mineral Wool	+++	+++	yes
Cotton Shoddy	++	++	no
Foam			
Elastomeric	+	++	no
Polyolefin	++	+	no
Melamine	+++	+++	no
Note: Comparison of relative performance in typical applications. + = Good, ++ = Better, +++ = Best. Source: Various industry data.			

FIBER GLASS CONTRIBUTES TO SUSTAINABLE INNOVATION AND DESIGN.

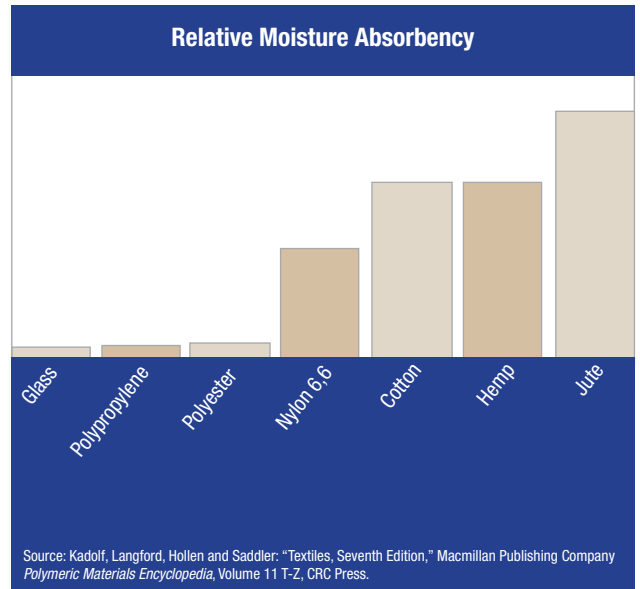
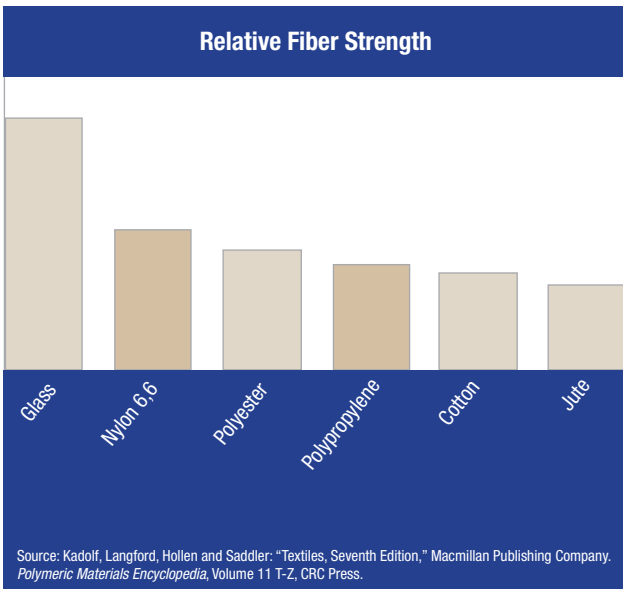
COMPARISON OF KEY FIBER PROPERTIES

Fiber Type	Glass	Polypropylene	Polyester	Nylon 6,6	Organic Fibers*
Moisture Absorbency Resistance	+++	+++	+++	++	+
Strength	+++	++	++	++	++
Fire Resistance	+++	+	+	+	+
Temperature Resistance	+++	+	+	+	++
Abrasion Resistance	+	+++	+++	+++	++
Acid Resistance	+++	+++	+++	+	+
Alkali Resistance	+++	+++	++	+++	+++

*Organic fibers include cotton, hemp, jute, flax and kenaf.

Source: Kadolf, Langford, Hollen and Saddler: "Textiles, Seventh Edition", Macmillan Publishing Company.

Note: Comparison of relative performance in typical applications.
+ = Good, ++ = Better, +++ = Best.





When given the choice, 89 percent of homeowners prefer building materials made without formaldehyde and 79 percent are willing to pay a premium.

Proprietary JM Brand
Positioning Research

THE WHITE INSULATION THAT'S QUITE GREEN.

TAKING A SUSTAINABLE MATERIAL SEVERAL STEPS FURTHER.

Any thermal insulation contributes to the environment to some degree simply by reducing energy loss and the emissions associated with energy use.

At Johns Manville, that's just the start. We take our ecological responsibilities very seriously and strive to be good stewards of the environment.

Here's how we're working to protect the environment while making a healthier, high-quality insulation.

IMPROVING INDOOR AND OUTDOOR AIR QUALITY.

Because we've removed the formaldehyde from all of our building insulation products, we've also eliminated binder-related formaldehyde emissions during manufacturing. In fact, our building insulation plants are so low emitting, they were the first ones in our industry exempt from EPA Hazardous Air Pollutant Regulations.

These pollution prevention measures have reduced Johns Manville's hazardous pollutant emissions by more than 200,000 pounds annually.

THE TROUBLE WITH FORMALDEHYDE.

In 2002, Johns Manville converted its entire line of building insulation to formulations that do not contain added formaldehyde. Prior to 2002, there had been limited use of acrylic binders to replace formaldehyde by Johns Manville and its competitors, and JM's conversion was the first full-scale application of the technology.

The decision to make such a monumental change was based on good market research and the realization that social, legal and regulatory trends were moving toward stricter control of formaldehyde. Research also revealed that, given the choice, 89 percent of consumers would choose insulation materials made without formaldehyde and 79 percent would pay a premium for them.

JM certified Formaldehyde-free™ fiber glass insulation—as a smart alternative to formaldehyde-based building materials — helps achieve a healthier and safer building by reducing overall indoor formaldehyde exposure. JM Formaldehyde-free™ fiber glass insulation also helps meet California EPA recommendations to use building materials (including insulation) with no added formaldehyde and U.S. EPA recommendations to minimize your exposure to formaldehyde.

Since 2002, JM has steadfastly worked at converting as many of our fiber glass products as possible to an acrylic formulation. We now make 80 percent of our Insulation Systems products without added formaldehyde.



Passing the test.

JM's Formaldehyde-free™ fiber glass products have been tested by an independent, nationally recognized laboratory to determine emissions of toxic VOCs. In contrast to “certified low-emitting products,” Formaldehyde-free™ insulation achieves non-detect for formaldehyde in rigorous IAQ testing.

THE JOHNS MANVILLE ADVANTAGE: IMPROVED INDOOR AIR QUALITY.

Johns Manville has taken the benefits and proven performance of fiber glass—its proven safety, its thermal and acoustic insulating abilities and its environmental sustainability—and created an even safer product line.

By developing a patented process that uses an acrylic binder, JM has completely eliminated the use of formaldehyde in many of our fiber glass products.

As a result, you can use JM certified Formaldehyde-free™ fiber glass to eliminate or reduce formaldehyde and VOCs in your products, too, from acoustic panels and partitions to air conditioners and many other products.

“... It is best to limit that amount of [formaldehyde] exposure as much as possible.”

2005 Comments of U.S. EPA on LEED-NC Version 2.2's Proposed Indoor Environmental Quality Prerequisite



The Home Safety Council's Commendation awards manufacturers for innovative products that improve consumer safety. In 2006, Johns Manville earned a commendation award for Product Innovation for Consumer Safety for Formaldehyde-free™ fiber glass building insulation. The Council wrote that JM's “home safety product innovations... demonstrate a clear commitment to health and safety.”



JM Formaldehyde-free™ fiber glass insulation also meets the stringent rules of Canada's Environmental Choice Program. Only fiber glass batt insulation without formaldehyde can earn the program's EcoLogo™.





With sustainable building practices, we'll help you get the point.

Using Johns Manville Formaldehyde-free™ fiber glass contributes to prerequisite and point opportunities with:

- The Leadership in Energy and Environmental Design (LEED) program developed by the U.S. Green Building Council®
- National Institute of Standards and Technology's Building for Environmental and Economic Sustainability (BEES 3.0) program.
- U.S. Army Corps of Engineers' Sustainable Project Rating Tool (SPiRiT) program.

We can also help builders and manufacturers through many of the other rating systems that judge sustainable building practices, including:

- Austin Green Builder Program
 - Green Guide for Health Care
 - Built Green Colorado
 - NAHB Green Guidelines
- ... and a wide range of other national, state and local programs.

LEADING YOU THROUGH LEED.

As a charter member of the U.S. Green Building Council, Johns Manville has the knowledge necessary to help you with your sustainable building efforts.

In fact, JM fiber glass insulation helps contribute to LEED certification points in three of the five major credit areas:

1. Materials and Resources (recycled content)
2. Energy and Atmosphere (thermal performance)
3. Indoor Environmental Quality (Formaldehyde-free™ insulation)

JM can help you earn LEED points in all phases of your project, with products ranging from building insulation to roofing systems, building wrap, mechanical insulation and wall coverings. For more information on how we can help your business, call us at (800) 654-3103 or visit www.specJM.com. We'll be happy to send you our detailed LEED Credits Guide #HIG-1231.

Or if you prefer, ask to speak to one of our LEED specialists. We'll answer your questions and help in any way we can to keep your project moving forward, efficiently and within the program guidelines.

JM IS THE SINGLE SOURCE FOR ALL YOUR INSULATION NEEDS.

Johns Manville, a Berkshire Hathaway company, is a leading manufacturer and marketer of premium-quality building insulation, mechanical insulation, commercial roofing, roof insulation and specialty products for commercial, industrial and residential applications.

JM's product offerings include Formaldehyde-free™ fiber glass building insulation, commercial roofing membranes and roof insulations, filtration media, thermal and acoustic insulation, mats and reinforcements.

JM is the single source for your insulation needs in the Aerospace, Air Handling, Appliance, Building Insulation, HVAC, Office Interiors, Pipe and Equipment, and Transportation markets. We are your partner in problem solving, offering years of experience, timely and accurate answers and a broad range of technologies. Our internationally accredited Analytical and Testing Labs provide the following capabilities:

- Acoustical technology
- Analytical chemistry
- Industrial hygiene
- Microstructural analysis
- Physical and fire test
- Thermal technology

 Printed on recycled paper.



5% Pre-consumer
20% Post-consumer
SCIENTIFIC CERTIFICATION SYSTEMS



PLUS FORMALDEHYDE FREE
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