MANSON® INSULATION

DISCOVER FIBERGLASS PIPE INSULATION

Feel Confident Specifying Alley-K® Pipe Insulation for Your Next Commercial or Industrial Project

WHAT'S INSIDE

- Introducing Alley-K®
- Applications
- Performance
- Sustainability
- Durability
- Thermal Control
- Cost Factors

Specify Manson Alley-K® to Insulate Pipes in the Toughest Industrial or Commercial Environments

Manson Alley-K® is a fiberglass pipe insulation constructed by melting sand and recycled glass and bound together by ECOSE® Technology. It provides thermal performance and personnel protection.

Manson Alley-K®, is a leading and popular choice for commercial plumbing and HVAC piping systems. Rock mineral wool pipe insulation, on the other hand, is often specified for outdoor industrial piping systems, most of which operate at temperatures below 1000°F. Manson Alley-K® pipe insulation serves as a cost-effective alternative for systems operating under 1000°F. This provides an opportunity for savings in installation, maintenance, and overall operational costs.

Explore this e-book to discover how Alley-K® compares to rock mineral wool and gain the knowledge you need to confidently specify Manson Insulation fiberglass insulation for your next project.

WHAT IS ALLEY-K® ?

A mandrel-wound, heavy-density, single-piece pipe insulation made from inorganic glass fibers bonded with the revolutionary **ECOSE® Technology.**

ECOSE **is a bio-based binder,** developed with green chemistry principles to replace petroleum-based phenol-formaldehyde (PF) binder traditionally used to hold the glass fibers together in pipe insulation.

Manson Alley-K® has an **Environmental Product Declaration (EPD),** a transparency document that quantifies environmental impact information about the life cycle of the product.

WHAT'S THE BEST MATERIAL FOR INSULATING PIPING?

Fiberglass Makes Manson Alley-K® Ideal For Industrial, Commercial or Institutional Applications

Produced in three-foot lengths, with or without a factory-applied all service jacket (ASJ), Manson Alley-K® can replace rock mineral wool insulation for hot, cold, concealed and exposed piping systems.

Manson Alley-K® is used for thermal control and safety for piping systems made of copper, iron, PVC, stainless steel, or hard pipe and equipment operating at temperatures from 0° F to 1000° F (-18° C to 538° C).

Additional weather protection is required for outdoors.

When Should You Specify Alley-K® Fiberglass Insulation?

Alley-K® can be used for the same applications as rock mineral wool pipe insulation, including:

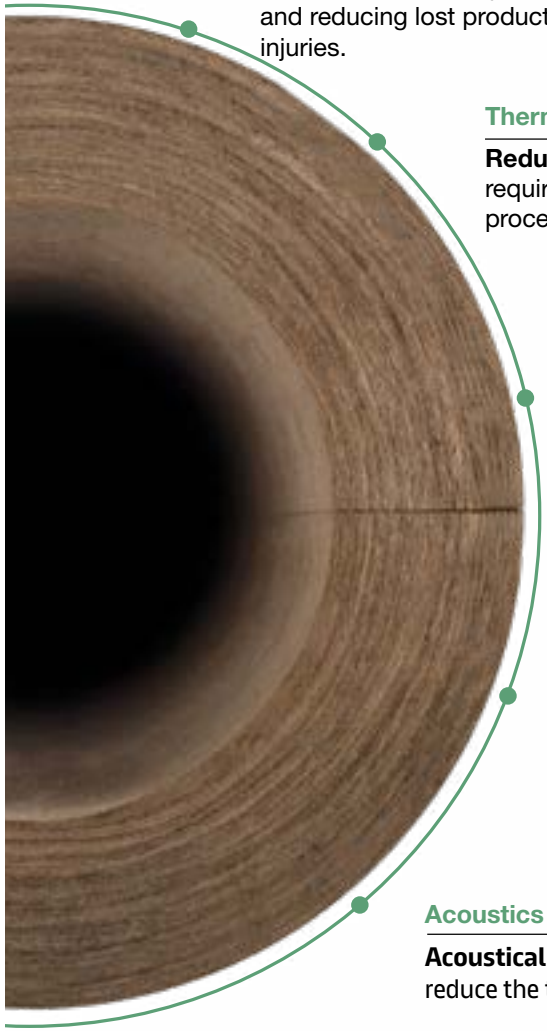
- Steam and condensate lines
- Hot- or cold-water systems
- Petrochemical processes
- Power plants

DOES FIBERGLASS MEET PERFORMANCE STANDARDS IN COMMERCIAL AND INDUSTRIAL ENVIRONMENTS?

Manson Alley-K® Fiberglass Pipe Insulation Is a Proven Alternative to Rock Mineral Wool

Rock mineral wool has long been the standard for commercial, institutional, and industrial uses, but Manson Alley-K® has helped change this by offering both a lightweight and highly effective insulation solution that can be specified across a variety of applications and environments.

Manson Alley-K® delivers performance in the following key areas:



Safety

Protects workers by minimizing the risk of burns and reducing lost productive work time caused by injuries.

Thermal

Reduces heat loss or gain to maintain required temperature for industrial processes or ambient air in a facility.

Moisture

Condensation control can be maintained if properly installed on cold piping with either the factory applied ASJ or field applied vapor retarder jacket.

Fire

UL/ULC Classified FHC 25/50 (faced and unfaced).

Acoustics

Acoustical treatment for piping to reduce the transfer of sound energy.

FIBERGLASS WILL HELP MEET SUSTAINABILITY GOALS

Manson Insulation Provides Transparency Documents for Alley-K® Pipe Insulation

Choosing sustainable materials helps safeguard the health and safety of building occupants.

Product transparency is important. That's why Manson Insulation is proud to have a **Health Product Declaration®** and a third party verified **Environmental Product Declaration** (EPD), calculated via a **Life Cycle Assessment** (LCA). These transparency documents enable our products to contribute towards achieving green building certifications (e.g. LEED, etc.) and allow our customers to make informed decisions.

Manson Alley-K® Pipe Insulation is made with 55%* UL Certified recycled content by weight, as verified annually by UL Environment.

*2025 UL Certified

46-Day* Carbon Payback Period

In less than two months, the carbon needed to create the insulation product is offset by the carbon saved during the operation of the building because of reduced energy use. Fiberglass insulation products are a low carbon construction building material.

*Carbon Payback Scenario Analysis, NAIMA, Oct. 2024

The wide variety of documentation for Alley-K® not only helps with **green building programs** such as **LEED**, but showcases sustainability attributes:

- **EPDs** report the environmental impact of products.
- **HPDs** bring awareness to what is in the products.
- **GREENGUARD® Gold** offers insight into the low emissions of products.
- **Recycled content** in products diverts waste from landfill and reduces reliance on natural resources.
- **Asthma & Allergy Friendly®** Certified products are scientifically tested to meet strict standards to improve indoor air quality.

The Asthma & Allergy Friendly® Certification Mark is a Registered Certification Mark of the Asthma Allergy Foundation of America (AAFA) and Allergy Standards Ltd (ASL).

IS THERE A SUSTAINABLE INSULATION CHOICE?

Manson Alley-K® Removes Risks Associated with Conventional Insulation

Manson uses a renewable bio-based binder called **ECOSE® Technology,** which replaced non-renewable petroleum-based chemicals such as formaldehyde or acrylics. ECOSE® Technology is the binder that holds Alley-K® Pipe Insulation fibers together.

All Manson insulation products with ECOSE® Technology have been certified under the **UL Environment GREENGUARD Gold standard**, which defines low-emitting materials suitable for commercial applications and institutional buildings where people spend extended periods of time. GREENGUARD Certification is broadly recognized and accepted by sustainable building programs and building codes worldwide.

As an **ISO/IEC 17065:2012** accredited third-party certification body, UL's GREENGUARD scheme certifies products and materials for low chemical emissions and provides a resource for choosing products and materials to create healthier indoor environments. All GREENGUARD certified products must meet stringent chemical emissions standards based on established criteria from key public health agencies.

CERTIFICATIONS

Our badges of honor. Proof of our commitment to creating a better space for all the places we live, work and play.

INDOOR AIR QUALITY

We're raising the standard for indoor air quality. Manson products that are **Asthma & Allergy Friendly® Certified** and **Verified Healthier Air™** have been rigorously tested by a third-party to ensure they reduce allergen exposure and limit pollutants in the indoor environment.

TRANSPARENCY & HEALTH PRODUCT DECLARATION® (HPD)

HPDs are voluntary disclosures that help architects and builders make informed decisions about material safety. They offer transparency about chemical composition and any known health risks. We have nothing to hide in our products, which is why we provide HPDs.

GREENGUARD® CERTIFICATION

The status of a **GREENGUARD® Certification** means products have been tested and proven to meet some of the world's most rigorous chemical emissions standards. We offer more lines of formaldehyde-free fiberglass insulation products than any other fiberglass insulation company and have earned many **GREENGUARD® Gold certifications.**

LEED

Specifying Manson Insulation can put your project on the right track for LEED certification — a symbol of sustainability achievement. Meeting these standards means creating a building that is better for occupants, the community and the environment.

ENVIRONMENTAL PRODUCT DECLARATION (EPD)

An **EPD** is a comprehensive document that reports the environmental impacts of a product, calculated via a life cycle assessment (LCA). These transparency documents enable our products to contribute towards achieving green building certification such as LEED, Living Building Challenge, WELL, etc., and allow our customers to make informed decisions.

OUR COMMITMENT DOESN'T STOP THERE

We never tire of creating high-quality products that not only meet but exceed our customers expectations. Our insulation is engineered to meet an array of industry standards.

WILL FIBERGLASS REMAIN DURABLE IN THE HARSHEST ENVIRONMENTS?

In harsh and/or high traffic environments, fiberglass and other pipe insulation products require a protective finish system to keep them protected from liquids, vapors, contaminants, physical damage, and compression. Protective finish jackets like aluminum, stainless steel, GRP, PVC, or adhesive backed flexible laminates must provide a sealed system. This ensures fiberglass pipe insulation will deliver its stated thermal, acoustic, condensation control, and personnel protection performance.

Manson Alley-K® pipe insulation is available with an **all service jacket (ASJ).** Additional jackets may be field applied to unfaced pipe insulation.

TOUGH ENOUGH FOR YOUR MOST DEMANDING APPLICATIONS

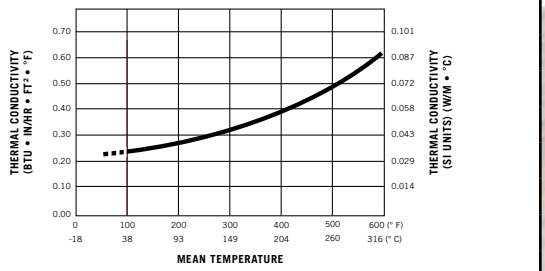
ASJ is a pipe insulation jacket composed of aluminum foil, reinforced with a glass scrim and bonded to kraft paper. ASJ also has a perm rating of 0.02.

When repairs are needed, sections of Manson Alley-K® with ASJ are quickly fixed or replaced without special tools or equipment.

DOES ALLEY-K® PIPE INSULATION MEET ASHRAE 90.1 THERMAL REQUIREMENTS?

Alley-K® Pipe Insulation meets or exceeds all requirements for ASHRAE 90.1-2022

ALLEY-K®® PIPE INSULATION THERMAL CONDUCTIVITY | ASTM C335		
Mean Temperature	**k**	**k (SI)**
75° F (24° C)	0.23	0.033
100° F (38° C)	0.24	0.035
200° F (93° C)	0.28	0.040
300° F (149° C)	0.34	0.049
400° F (204° C)	0.42	0.061
500° F (260° C)	0.51	0.074
600° F (316° C)	0.62	0.089



ASHRAE 90.1-2022 REQUIREMENTS

MINIMUM PIPE INSULATION THICKNESS							
Fluid Operating Temperature Range and Usage	**Insulation Conductivity**		**Nominal Pipe or Tube Size**				
	Conductivity Range BTU-in./(hr · ft² · °F)	**Mean Temperature Rating**	**<1"**	**1"–<1½"**	**1½"–<4"**	**4"–<8"**	**≥8"**
Heating and Hot Water Systems (Steam, Steam Condensate, Hot-Water Heating and Domestic Water Systems)[a, b, c, d]							
Above 350° F	0.32–0.34	250° F	4½"	5"	5"	5"	5"
251–350° F	0.29–0.31	200° F	3"	4"	4½"	4½"	4½"
201–250° F	0.27–0.30	150° F	2½"	2½"	2½"	3"	3"
141–200° F	0.25–0.29	125° F	1½"	1½"	2"	2"	2"
105–140° F	0.22–0.28	100° F	1"	1"	1½"	1½"	1½"
Cooling Systems (Chilled Water, Brine, Refrigerant)[a, b, c, d]							
40–60° F	0.21–0.27	75° F	½"	½"	1"	1"	1"
Below 40° F	0.20–0.26	50° F	½"	1"	1"	1"	1½"

a. For insulation outside the stated conductivity range, the minimum thickness (T) shall be determined as follows: $T=r\{(1+t/r)^{K/k}-1\}$, where T=minimum insulation thickness (in.), r=actual outside radius of pipe (in.), t=insulation thickness listed in this table for applicable fluid temperature and pipe size, K=conductivity of alternate material at mean rating temperature indicated for the applicable fluid temperature {Btu · in.(h · ft² · °F)}; and k=the upper value of the conductivity range listed in this table for the applicable fluid temperature. b. These thicknesses are based on energy efficiency considerations only. c. For piping smaller than 1½" and located in partitions within conditioned spaces, reduction of these thicknesses by 1" shall be permitted (before thickness adjustment required in footnote a) but not to thicknesses below 1". These thicknesses are based on energy efficiency considerations only. Issues such as water vapor permeability or surface condensation sometimes require vapor retarders or additional insulation. d. The table is based on steel pipe. Non-metallic pipes schedule 80 thickness or less shall use the table values. For other non-metallic pipes having thermal resistance greater than that of steel pipe, reduced insulation thicknesses are permitted if documentation is provided showing that the pipe with the proposed insulation has no more heat transfer per foot than a steel pipe of the same size with the insulation thickness shown on the table.

WHICH PIPE INSULATION MATERIAL IS MORE COST-EFFECTIVE?

Reduce Construction, Operation, and Maintenance Expenses by Choosing Manson Alley-K® with ASJ

Specifying Manson Alley-K® with ASJ-SSL jacketing instead of rock mineral wool enables mechanical engineers and contractors to **significantly reduce overall costs** for installing, operating and maintaining pipe insulation.

Manson Alley-K® Pipe Insulation is manufactured as a one-piece, factory pre-slit, pipe insulation which provides ease of installation and is available with or without factory applied ASJ.

UP TO A 20% REDUCTION

in energy consumption during the manufacturing process by utilizing recycled materials, such as glass.

MANSON ALLEY-K® WITH ASJ REDUCES CONSTRUCTION LABOR AND MATERIAL COSTS.

The SSL (self-sealing lap) closure system features a pre-applied adhesive on the jacket, ensuring efficient and secure closure. Additionally, the lightweight fiberglass used in Manson Alley-K® eliminates the need for extra bands or hangers that are typically required to support the denser and heavier rock mineral wool. This design significantly speeds up the installation process.

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ABOUT MANSON INSULATION

We've been making high-quality insulation trusted by professionals for a variety of applications since 1978. By choosing Manson, you are choosing higher quality glass mineral wool products with superior performance, and better for the environment.

Contact Manson Sales
Sales: 1-800-626-7661
imanson.com

Sources:
[1] Commercial and Industrial OrientationWB.pptx, slide 8
[2] Ibid-please contact Manson for source file
[3] Ibid-please contact Manson for source file