ALLEY–K™

Preformed Pipe Insulation
Temperature Limit: 850°F (454°C)

Specification Sheet

DESCRIPTION

Alley-K™ is a preformed cylindrical pipe insulation composed of high quality glass fibers, bonded together with a thermosetting resin. The lightweight, one-piece pipe sections are manufactured with a single seam that opens to receive the pipe and snaps closed after it is in place, thereby allowing for easy installation. A vapor retarder jacket is available for outdoor or cold process temperature applications.

USES

Alley-K™ is intended as a thermal insulation for hot and cold service piping from -20°F (-29°C) to 850°F (454°C). Typical uses include: domestic hot and cold water, hot water heating, high temperature, dual temperature, steam, condensate and refrigerated lines. As a component of a suitable insulation system, unjacketed Alley-K™ may be used for hot lines, while Alley-K™ with SSL jacket may be used for cold lines or outdoor applications, with proper weather proofing.

ALLEY-K™

TYPES AND SIZES

Alley-K™ pipe insulation is available plain (no jacket) and with an all service jacket. The all service jacket is reinforced with fiberglass scrim and comes with a longitudinal lap, complete with a pressure sensitive self-sealing lap closure system (SSL).

Alley-K™ is designed to fit standard pipe sizes from 1/2" to 25" and to fit copper tube sizes from 5/8" to 6-1/8". Standard thicknesses range from 1/2" to 4"; greater thicknesses can be achieved by nesting.

The following tables show standard sizes and thicknesses.

IRON PIPE SIZES

NOMINAL PIPE SIZES	NOMINAL THICKNESSES	LENGTH
1/2"	1/2", 1", 1-1/2", 2" (13, 25, 38, 51 mm)	36" (0.914 m)
3/4" to 1-1/4"	1/2", 1", 1-1/2", 2", 2-1/2" (13, 25, 38, 51, 64 mm)	36" (0.914 m)
1-1/2"	1/2", 1", 1-1/2", 2", 2-1/2",3" (13, 25, 38, 51, 64, 76 mm)	36" (0.914 m)
2" to 25"	1-1/2", 2 ", 2-1/2", 3", 3-1/2", 4" (38, 51, 64, 76, 89, 102 mm)	36" (0.914 m)

COPPER TUBE SIZES

NOMINAL PIPE SIZES	NOMINAL THICKNESSES	LENGTH
5/8" to 6-1/8"	1/2", 1", 1-1/2", 2" (13, 25, 38, 51 mm)	36" (0.914 m)
2-1/8", 3-1/8", 4-1/8"	2-1/2" (64 mm)	36" (0.914 m)

PRODUCT FEATURES

WATER VAPOR ABSORPTION
(ASTM C553) Less than 5% by weight, Less than 0.2% by volume.

ALKALINITY AND PH
(CGSB-51-GP-9M) Maximum alkalinity 0.5% (Na_2O), pH maximum: 12.

BACTERIA FUNGI RESISTANCE
(ASTM 665) Does not breed or promote growth.

HOT SURFACE PERFORMANCE
(ASTM C411) Rated to 850°F (454°C).

ASBESTOS FREE
Laboratory analysis has shown that Alley-K™ Pipe Insulation is Asbestos free.

LINEAR SHRINKAGE
(ASTM C356) Less than 2%.

FIRE HAZARD CLASSIFICATION
(UL 723, CAN/ULC-S102M, ASTM E84, NFPA 255) Listed by UL for surface burning characteristics.

SMOKE OPACITY
(ASTM E662) Exceeds requirements for optical opacity of smoke generated.

ASTM E162
Exceeds the requirement for surface flammability of materials exposed to a radiant heat source.

ALLEY-K™

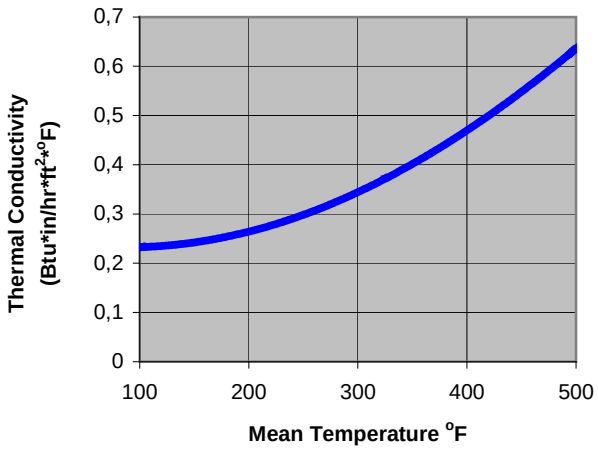
FIRE HAZARD CLASSIFICATION

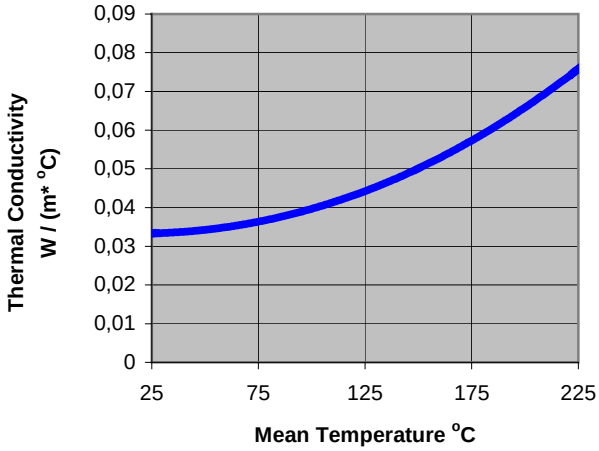
PRODUCT	FLAME SPREAD	SMOKE DEVELOPPED
Plain	25	50
With Jacketing	25	50

THERMAL PERFORMANCE

THERMAL CONDUCTIVITY (ASTM C335)

MEAN TEMPERATURE °F	THERMAL CONDUCTIVITY Btu·in/(hr·ft²·°F)	MEAN TEMPERATURE °C	THERMAL CONDUCTIVITY W/(m °C)
75	0.231	24	0.033
100	0.234	38	0.034
200	0.268	93	0.039
300	0.337	149	0.049
400	0.475	204	0.068
500	0.635	260	0.092





SPECIFICATION COMPLIANCE

Alley-K complies with the property requirements of the following specifications for thermal insulation:

ASTM C547

Standard Specifications for Mineral Pipe Insulation.

ASTM C795, MIL-I-24244C, NRC 1.36

Specification for wicking-type thermal insulation for use over austenitic stainless steel.

CITY OF NEW YORK MEA #21-91-M
CITY OF LOS ANGELES #RR-8319
NATIONAL FIRE PROTECTION ASSOCIATION NFPA 90A & 90B
CGSB 51-GP.9M

JACKETING.

- UL 723/ASTM E84
- CGSB 51-GP-52M
- ASTM C1136 (Type I)
- Water Vapor Permeance (ASTM E-96): 0.02 perms (Max)
- (ASTM C1338) Mold and Mildew Resistance
- Tensile Strength (ASTM D828):
  MD: 60 lbs/Inch
  OM: 50 lbs/Inch

ALLEY-K™

QUALIFICATIONS FOR USE

1. Hot surface performance: tested to 850°F (454°C) according to **ASTM C411.**

2. A sufficient thickness of insulation must be used to keep maximum surface temperature of Alley-K™ SSL pipe insulation below 140°F (60°C).

3. At operating temperatures above 500°F (260°C), Alley-K™ must be applied in a thickness ranging from 2" (51 mm) min. to 6" (152 mm) max.

4. Due to the fact that binder is organic in nature, we recommend the following heat up schedule for insulation with wall thicknesses of 4-1/2" (114 mm) (or more) for operating temperatures from 500°F (260°C) to 850°F (454°C).

5. When pressure sensitive self-sealing tape and butt strips are used, the material must be stored in a clean, dry environment. When adhering SSL tape and butt strip, rub firmly with a hard object such as a plastic squeegee or back of a knife to assure a good vapor seal.

6. Fibrous insulation can emit an acrid odour during the initial heat-up when applied to hot surfaces above 392°F (200°C). It is recommended that adequate ventilation be provided and/or workers be supplied with approved full face respirators.

TIME	TEMPERATURE	TOTAL TIME
3.5 hrs.	@ 550˚ F (288˚ C)	3.5 hrs.
2.5 hrs.	@ 650˚ F (343˚ C)	6 hrs.
2 hrs.	@ 750˚ F (399˚ C)	8 hrs.

INSTALLATION RECOMMENDATIONS

Manson's Alley-K™ is usually applied in accordance with the procedure in the publication "Commercial & Industrial Standards"* by the National Insulation and Abatement Contractors Association (NIAC).

*For a copy of the NIAC standard, contact NIAC at 99 Canal Center Plaza, Suite 222, Alexandria, VA 22314. Telephone (703) 683-6422.

member of NIA National Insulation Association www.insulation.org

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