KINETICS™
Pipe/Duct Lagging Material
Model KNM-100ALQ

Description and Applications

Designed for indoor or outdoor use, Kinetics Model KNM-10OALQ pipe/duct lag material meets Class 1 requirements for smoke development and flame spread when properly installed. The composite material is designed to reduce the sound transmission of piping, ductwork and equipment housings greater than achieved by adding mass alone by combining a fire rated limp mass with a decoupling quilted fiber glass lining.

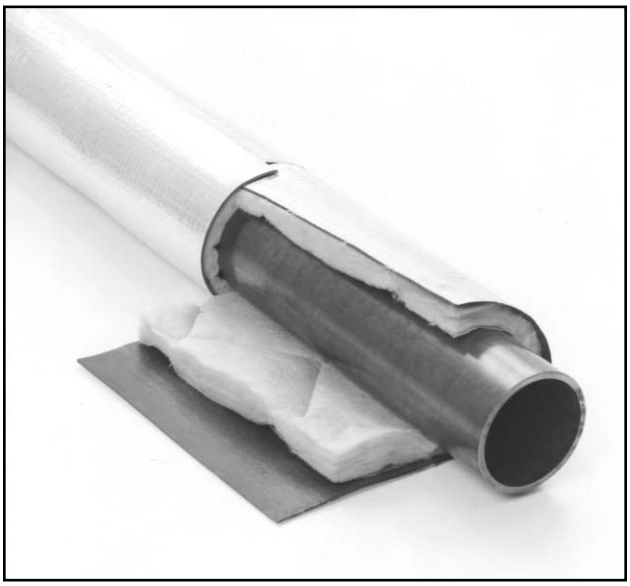
Applications Include: control of HVAC duct breakout noise, pipeline noise from fluid or gas pulsation in chemical, petrochemical and waste water treatment plants and industrial processes.

The material is constructed of a rugged reinforced, aluminized-faced, mass loaded limp vinyl bonded to a scrim-faced, quilted fiberglass absorber/decoupler. The vinyl provides mass and flexibility, while the aluminum adds increased mechanical strength, weatherability, attractive appearance and improved fire retardancy. To decouple the mass layer from the noise or vibration source, Kinetics Model KFA quilted absorber is used.

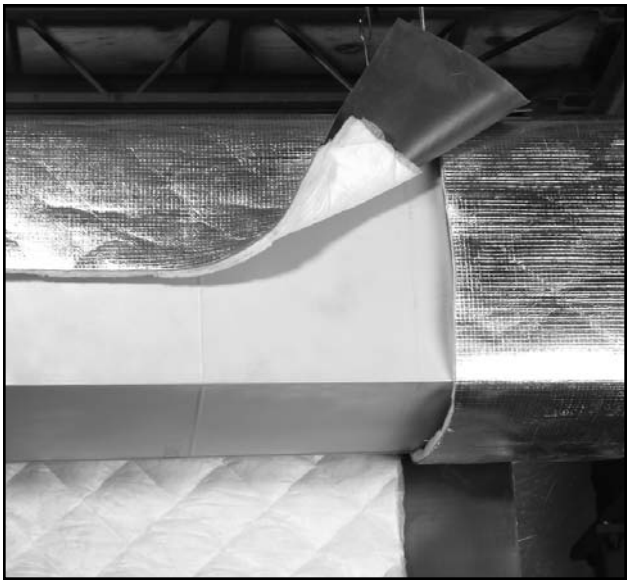
Kinetics Model KFA, 1 inch (25 mm) thick absorber layer consists of fine fiber glass batting sewn in a diamond pattern to a non-woven, porous glass fiber scrim cloth to encapsulate the glass.

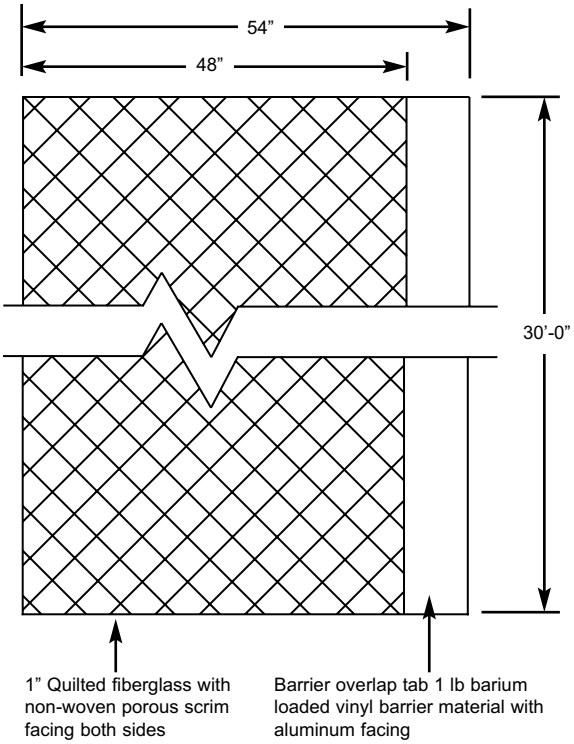
The non-lead composition of the barrier material allows for safe handling and easy installation. When applied with Kinetics quilted absorber, Kinetics fire-resistant barrier material is simply cut to length, wrapped around the pipe or duct and fastened with adhesive, tape, mechanical fasteners or bands.

Rolls are manufactured with an additional 6" (152 mm) width of barrier on one side to provide an overlap of adjacent application and an improved acoustical seal. In some locations, codes may preclude the use of vinyl materials in this application.



- Fire Rated Indoor or Outdoor Material
- Barrier Overlap Tab for Fast, Noise-Tight Installation
- Tested for Insertion Loss on 20ga Duct per ASTM E1222-90



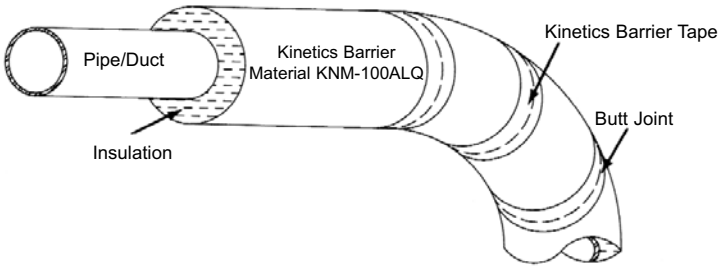


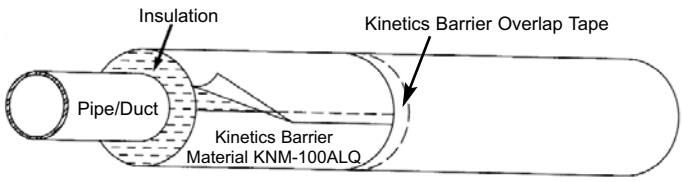
Specifications

The barrier shall be constructed of a [2 mm (.10")] thick mass loaded, limp vinyl sheet bonded to a thin layer of reinforced aluminum foil on one side. The barrier shall have a nominal density of (4.8 kg/m3) (1.0 psf) and shall have a minimum STC rating of 28. The barrier shall exhibit minimum flammability ratings of 0.0 seconds for flame out and afterglow and 0.2" for char length when tested in accordance with Federal Test Std. No. 191-5903. The barrier shall have a minimum thermal conductivity “K” value of 0.29 and a rated service temperature range of -40°F (-40°C) to 220°F (105°C). When tested for Surface Burning Characteristics per ASTM E84, the barrier will have a Flame Spread Index of no more than 10 and a Smoke Development Index of no more than 40.

The decoupling layer shall be a combination of 1" (25mm) fiberglass batting, non woven porous scrim-coated glass cloth, quilted together in a matrix of 4" (100 mm) diamond stitch pattern which encapsulates the glass fibers. The barrier shall be type KNM and the decoupling layer shall be type KFA by Kinetics. The composite material shall be fabricated to include a nominal 6" (152 mm) wide barrier overlap tab extending beyond the quilted fiber glass to facilitate a leak-tight seal around field joints. Nominal barrier width 54” (1372 mm), nominal decoupler width 48” (1219 mm).

Pipe/Duct Wrap Detail - Butt Joint Method





Pipe/Duct Wrap Detail - Overlap Method

Sound Transmission Loss

Tested as a free hanging barrier (ASTM E-90-90)

Frequency, Hz	125	250	500	1000	2000	4000	STC
KNM-100ALQ	13	16	24	33	43	49	28

Insertion Loss

Tested as a duct wrap over 2" fiberglass board (ASTM E1222-90)

Frequency, Hz	63	125	250	500	1000	2000	4000
KNM-100ALQ	2	10	16	27	35	34	33

Tested as a duct wrap directly over duct (ASTM E1222-90)

Frequency, Hz	63	125	250	500	1000	2000	4000
KNM-100ALQ	3	6	7	18	24	27	28

Note: Heavier 2 psf barrier has been tested for Insertion Loss over duct. See Model KNM-200AL.

KINETICS Noise Control

United States
6300 Irelan Place
P.O. Box 655
Dublin, Ohio 43017
Phone: 614-889-0480
Fax: 614-889-0540

Canada
3570 Nashua Drive
Mississauga, Ontario
L4V 1L2
Phone: 905-670-4922
Fax: 905-670-1698

www.kineticsnoise.com
sales@kineticsnoise.com