

## Description

Kinetics Composite Acoustical Materials are a group of limp, flexible, noise barrier materials laminated to Kinetics urethane absorption foam.

All products are available with or without pressure-sensitive adhesive on the foam surface.

The composites are designed for attachment to surfaces of rigid enclosures to provide a Sound Transmission Class (STC) value which exceeds the performance of materials of the same mass if bonded directly to a surface.

Model KC-5-50 consists of 0.5 lbs./sq.ft. (2.5 kg/m<sup>2</sup>) loaded vinyl barrier bonded to 1/2" (13 mm) thick urethane absorption foam. Model KC-10-100 consists of 1.0 lbs./sq.ft. (4.9 kg/m<sup>2</sup>) bonded vinyl barrier bonded to 1" (25 mm) thick urethane absorption foam. Model KC-5-50/100 consists of 0.5 lbs./sq.ft. (2.5 kg/m<sup>2</sup>) loaded vinyl barrier bonded to 1/2" (13 mm) thick urethane absorption foam on one side and to 1" (25 mm) thick urethane absorption foam on the other side.

Under normal circumstances, the foam surface on the single composite and the 1/2" (13 mm) foam surface on the double composite are attached to the enclosure.

Model KC Composites are easily cut with a utility knife, scissors, or die-cut into custom configurations.

## Application

Model KC Composite Materials are recommended for direct attachment to noisy equipment casings.

When applied to a radiating surface, the absorption foam is placed toward the surface to "decouple" the limp mass thus providing an increase in Sound Transmission Class (STC).

Kinetics Composites can be suspended in limited lengths as a barrier around noisy equipment with the absorption surface facing the noise source.

### Typical applications include:

- Exterior wrapping of gear boxes
- Pipeline jackets
- Sheet metal guards, ducts, and enclosures
- Pile driver enclosures
- In-plant processing equipment
- Curtain or barrier systems

# KINETICS<sup>®</sup>

## Foam Composites

### Model KC



## Specifications

Noise Control Materials shall be a combination of limp, flexible, loaded vinyl noise barriers permanently factory-laminated to a polyester urethane absorption foam.

The limp mass barrier shall be barium sulphate loaded, unreinforced PVC material, nominally weighing 0.5 or 1.0 lbs./sq. ft. (2.5 or 4.9 kg/m<sup>2</sup>).

The bonded absorption or decoupling layer shall be 2 PCF (32 kg/m<sup>3</sup>) density, polyester urethane, flexible, acoustical foam having a Noise Reduction Coefficient (NRC) of 0.27 for 1/4" (6 mm), 0.49 for 1/2" (13 mm) and 0.73 for 1" (25 mm) thicknesses when used as a limited length, free-hanging barrier with the foam facing the noise source.

Each composite foam shall be classed as #94 HF-1 as specified by UL-94 Flame Retardancy Tests. Composite materials shall meet the Sound Transmission Loss (STL) and Noise Reduction Coefficients (NRC) as listed.

The composites shall be furnished with (or without) pressure sensitive adhesive backing on the foam surface depending on the installation requirement, and shall be Model KC as manufactured by Kinetics Noise Control, Inc.

## Performance

### Absorption Characteristics, Frequency (Hz)

Model	125	250	500	1000	2000	4000	6000	NRC
KC-5-50	0.10	0.16	0.34	0.56	0.90	1.00	0.94	0.49
KC-10-100	0.14	0.30	0.68	0.91	0.94	0.93	0.98	0.73
KC-5-50/100 1/2" (13 mm) Foam Side	0.10	0.16	0.34	0.56	0.90	1.00	0.94	0.49
KC-5-50/100 1" (25 mm) Foam Side	0.14	0.30	0.68	0.91	0.94	0.93	0.98	0.73

### Sound Transmission Loss (dB), Frequency (Hz)

Model	125	250	500	1000	2000	4000	STC
<b>Adhered to 1/4" (6 mm) Plywood</b>							
KC-5-50	11	22	35	54	52	51	33
KC-5-50/100	12	21	27	47	53	52	31
<b>Adhered to 18 Ga. Steel</b>							
KC-5-50	17	25	40	53	54	53	38
KC-5-50/100	18	26	39	54	55	53	39
<b>Free Hanging</b>							
KC-5-50	11	12	15	20	26	32	21
KC-10-100	15	19	21	28	33	37	27
KC-5-50/100	11	12	15	20	26	32	21

## Optional Features

Pressure-sensitive adhesive backing on the foam side. Add "A" to the product name.

Urethane facing on the foam side.  
Add "U" to the product name.

Tedlar facing on the foam side.  
Add "T" to the product name.

Mylar facing on the foam side.  
Add "M" to the product name.

Because there are (2) foam surfaces on KC-5-50/100, please specify which surface the optional feature is to be applied on.

## Availability

### KC-5-50

0.5 lb./sq. ft. (2.5 kg/m<sup>2</sup>) loaded vinyl barrier bonded to a 1/2" (13 mm) thick urethane foam. 0.6" (15 mm) thick x 54" (1372 mm) wide x 25' (7.6 m) long roll.

### KC-10-100

1.0 lb./sq. ft. (4.9 kg/m<sup>2</sup>) loaded vinyl barrier bonded to a 1" (25 mm) thick urethane foam. 1.1" (28 mm) thick x 54" (1372 mm) wide x 25' (7.6 m) long roll.

### KC-5-50/100

0.5 lb./sq. ft. (2.5 kg/m<sup>2</sup>) loaded vinyl barrier bonded to a 1/2" (13 mm) and 1" (25 mm) thick urethane foam. 1.6" (41 mm) thick x 54" (1372 mm) wide x 25' (7.6 m) long roll.



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