



KINETICS® PC

NOISE BARRIER/ABSORBER

Description

KINETICS PC noise barrier/absorber composites are recommended for direct attachment to enclosure and barrier surfaces increasing sound “blocking,” transmission loss (STC) and sound absorption (NRC) characteristics. Both characteristics combined yield a high level of sound reduction. PC is available in single and double layer formats.

Single layer PC contains one, mass/barrier damping sheet and one, fiberglass absorption layer available un-faced (PC 410 GOD) or with a black, high temperature facing (PC 410 GBD).

Double layer PC (PC 410/410 GBD) consists of single layer PC plus one additional layer of fiberglass for decoupling the mass/barrier from the enclosure or barrier surface for increased sound blocking superior to adding mass directly to the enclosure or barrier surface.

Both are available in 36" x 42" sheets and can be die or saw cut to customer-specified dimensions.

Installation

As a guideline, single layer, un-faced or faced PC material can be installed using a factory applied release, “peel and stick” liner. For best structural strength, double layer PC material should be mechanically fastened to the enclosure or barrier surfaces especially on vertical and overhead applications.

Application

PC material is effective when attached to the inside of equipment casings, enclosures or barriers surrounding noisy processes or equipment. Ideal for both standard and elevated temperature applications. Some examples:

- Engine compartments or cabinets
- Electric motor-driven equipment enclosures
- Air compressor enclosures
- Equipment guards
- Aluminum or metal duct and shoots
- In-plant personnel booths

Specifications

Noise control materials shall be a combination of a limp, flexible, acoustical barrier permanently adhered to a fiberglass decoupling/absorption layer.

The mass/barrier shall be bonded, with a nominal thickness of 0.059" (1.5 mm) and a mass density of 0.50 lb/sq. ft. (2.5 kg/m²).

The fiberglass absorption layer shall be 4 PCF (64 kg/m³) fiberglass with a nominal thickness of 1" (25 mm) bonded to one side of the barrier sheet. The fiberglass decoupler used in double composites shall be 4 PCF (64 kg/m³) fiberglass with a nominal thickness of 1" (25 mm) bonded to the opposite side of the barrier sheet.

The fiberglass absorber facing used on PC 410 GBD composite shall be a black, vinyl-coated, fiberglass cloth capable of withstanding high temperatures. The facing shall be bonded to the fiberglass absorber on the face opposite the acoustical barrier.

Noise control materials shall be model PC as manufactured by Kinetics Noise Control, Inc.

Fire ratings

Maximum Temperature:

PC 410 GOD = 350°F (177°C)
PC 410 GBD = 450°F (232°C)
PC410/410 GBD = 450°F (232°C)

Component Breakdown:

1) Fiberglass core:

K factor per ASTM C-177 = 0.230
Surface Burning Characteristics per ASTM E-84
Flame Spread = 15
Smoke Development = 0
Fuel Contributed = 15

2) Black Vinyl impregnated fiberglass facing

rated UL-84 Class 1 Flame Resistance

Flame Out = 2.0 Sec. max.
After Glow = 2.0 Sec. max.
Char Length = 2.0 In. max.

Sound Absorption Coefficients, Frequency, Hz

Model	125	250	500	1000	2000	4000	NRC
PC 410 GOD	0.10	0.40	0.35	0.54	0.73	0.85	0.57
PC 410 GBD	0.22	0.56	0.70	0.71	0.51	0.28	0.62
PC 410/410 GBD	0.22	0.56	0.70	0.71	0.51	0.28	0.62

Sound Transmission Loss, Frequency, Hz

Model	125	250	500	1000	2000	4000	STC
PC 410/410 GBD — adhered to 18 ga. steel	20	32	44	61	64	60	43
PC 410/410 GBD — adhered to 1/4" Plywood	13	29	39	60	61	59	37

Single Composites: Add damping and absorption to a barrier surface

PC 410 GOD: Mass layer/damping sheet, with adhesive transfer surface. 1" (25 mm), 4 PCF (64 kg/m³) unfaced fiberglass absorber

PC 410 GBD: Mass layer/damping sheet, with adhesive transfer surface. 1" (25 mm), 4 PCF (64 kg/m³) black faced fiberglass absorber

Double Composites: Add decoupled mass and absorption to a barrier surface

PC410/410 GBD: 1" (25 mm) 4 PCF (64 kg/m³) decoupling fiberglass, 0.5 PSF (2.5 kg/m²) mass layer, 1" (25 mm), 4 PCF (64 kg/m³) black faced fiberglass absorber



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