



KINETICS® KFA

QUILTED FACE FIBERGLASS SOUND ABSORBER

Description

KFA quilted face fiberglass sound absorbers are fire safe, high performance, acoustical attenuating fiberglass blankets that are used to reduce reverberant (reflected) airborne noise. The absorbers are an excellent alternative to urethane foams since they are fire safe, exhibit low smoke emissions, and possess high mechanical strength. Additionally, they have a wide temperature range, can be cleaned, and are unaffected by moisture, humidity, dust, dirt, oils and most chemicals. Flexible quilted absorbers are easily installed, will not degrade, and have extremely long service lives.

KFA fundamental component is a low binder, fine fiber, acoustically absorptive, fiberglass batting. Two different reinforced, nonporous, fiberglass cloth facing materials are available and are quilted directly to the fiberglass batting using high strength thread and locking stitches. The quilting forms a matrix of 4" (102 mm) diamond stitch patterns which encapsulate the glass fibers. When the facing material on these stable encasements is subjected to airborne sound waves, the individual membrane faces respond diaphragmatically, like a drum head, and transmit sound energy through the nonporous facing into the fiberglass batting core material, where it is dissipated as thermal energy.

Available as single or double layer, nominal thickness 1" (25 mm) or 2" (51 mm). Double layer thickness increases low frequency absorption and provides significant transmission loss characteristics.

Depending on application requirements, the quilted absorbers can be faced on one or both sides. Available facings include the standard aluminum-vinyl coated fiberglass cloth (A), impervious high-temperature silicone-coated fiberglass cloth (S) which is quilted using a Nomex stitching thread, or nonmaintenance, nonwoven, porous, scrim fabric (N). The three facing materials can be used individually or in combination on the same absorber so that special properties or economies can be achieved.

Application

Model KFA quilted fiberglass sound absorbers can be used in many diverse industrial or OEM applications including absorptive linings for machinery housings, building walls, curtain or fixed enclosures, compartments, hoods, operator cabs, piping and duct work or wherever reduction of reverberant noise is required.

Specifications and Physical Properties

FIBERGLASS BATTING

FORM: Fiber diameter 4-6 microns
 RESIN BINDER: Thermosetting phenolic, 3-5% content by Wt.
 DENSITY: 2 lbs. pcf (9.8 kg/m³) (nominal)
 THERMAL CONDUCTIVITY: K = 0.25 (BTU in./°F x sq. ft. x hr.)
 @ 75°F mean (44.3 cal/in. x °C x sq. cm x hr. @ 24°C mean)

FACINGS

(A) ALUMINUM-VINYL COATED FIBERGLASS CLOTH

BREAKING STRENGTH (warp and fill):
 75 lbs./in. (13 N/mm) and 70 lbs./in. (12 N/mm)
 TEAR STRENGTH (warp and fill):
 2.6 lbs. (12 N) and 2 lbs. (9 N), respectively
 CONTINUOUS SERVICE TEMPERATURE LIMITS:
 -20°F to 250°F (-29°C to 121°C)
 MOISTURE PERMEABILITY: 1 to 2 Perms
 COLOR: Gray-Aluminum
 OTHER: Passes UL-181 Heat Aging Test

(S) SILICONE COATED FIBERGLASS CLOTH

BREAKING STRENGTH (warp and fill):
 100 lbs./in. (18 N/mm) and 80 lbs./in. (14 N/mm)
 TEAR STRENGTH (warp and fill):
 27 lbs. (120 N) and 22 lbs. (98 N), respectively
 CONTINUOUS SERVICE TEMPERATURE LIMITS:
 -40°F to 500°F (-40°C to 260°C)
 COLOR: Silver

(N) NONWOVEN POROUS SCRIM FABRIC

COMPOSITION: 100% spun-bonded polyester
 FABRIC WEIGHT: 0.4 oz. per square yard (13.6 g/m²)
 TEAR STRENGTH (warp and fill):
 6 lbs. (27 N) and 5 lbs. (22 N), respectively
 TEMPERATURE LIMIT: Continuous exposure to 400°F (204°C)

QUILTED THREAD

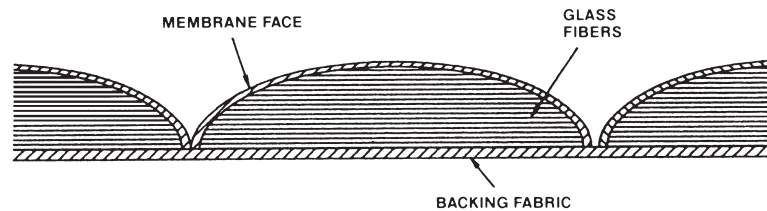
(N) (A) - Polyester per Fed. Spec. V-T-2850
 (S) - Nomex per Fed. Spec. V-T-295D

COMPOSITE

FLAMMABILITY: Class 1 flame spread and smoke developed rating per ASTM Designation E-84 (70); Surface Burning Characteristics of Building Materials
 FLAME SPREAD: -5
 FUEL CONTRIBUTED: -20
 SMOKE DEVELOPED: -5
 Quilted Fiberglass Absorbers have been approved for underground use on mining equipment.
 QUILTED THICKNESS:
 1" (25 mm), single layer fiberglass batting (nominal)
 2" (51 mm), double layer fiberglass batting (nominal)
 4" (102 mm), double layer, 2" fiberglass batting (nominal)
 MATERIAL WIDTH: 48-in. (1219 mm)
 WEIGHT: 0.20 lb./sq. ft. (0.98 kg/m²) single layer fiberglass batting (nominal)
 QUILTING PATTERN:
 Diamond Size - 4 in. x 4 in. (102 mm x 102 mm) (standard)
 QUILTED PATTERN STITCH: Full Locking
 EDGE BINDING:
 As specified with (A) or (S) fabric tape on roll goods, individual panels or components; sewn or stapled (optional)
 MILDEW AND ROT: Full Resistance
 ABRASION RESISTANCE: Excellent
 TEMPERATURE LIMITS: -40°F to 500°F (-40°C to 260°C) (see facing temperature limits)
 CHEMICAL RESISTANCE: Resists oils, grease, moisture, mild acids, alkalis, dirt, dust, and salt atmospheres.
 CLEANABILITY: Maintenance facings can be steam cleaned, or washed with standard industrial cleaners
 AVAILABILITY: Roll goods, individually sized panels or die cut components

Quilted fiberglass absorbers shall be model KFA by Kinetics Noise Control, Inc.

Model	Nominal Thickness	Octave Band Frequency (Hz)						
		125	250	500	1000	2000	4000	NRC
KFA-10Q-NA	1 in (25 mm)	0.12	0.47	0.85	0.84	0.64	0.62	0.70
KFA-10Q-NS	1 in (25 mm)	0.04	0.46	0.86	0.81	0.59	0.31	0.70
KFA-20Q-NA	2 in (51 mm)	0.08	0.33	0.79	1.02	1.04	1.02	0.80
KFA-40Q-AA	4 in (102 mm)	0.30	0.83	1.16	1.18	1.10	1.07	1.10



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