

K-FONIK® GK / GV

High Mass Elastomeric Noise Barriers Acoustic Performance



DESCRIPTION

K-FONIK® GK and GV noise barriers are flexible, non-reinforced, resilient mass-loaded elastomeric materials. They are environmentally-friendly as they are free of CFCs, HFCs, HCFCs, PBDEs, formaldehyde and fibers. Mass properties are attained without the use of hazardous lead or heavy metals. The products are made in L'Isolante K-FLEX's ISO 9001:2008-certified manufacturing facility in Milan, Italy.

AVAILABILITY

K-FONIK® high mass barriers are black (GK) and gray (GV) in color and are available in rolls (25' or 50' long x 4' wide) in a range of masses: 0.5, 0.75, 1.0 or 1.5 lb/ft². (Length varies by mass and mass availability is dependent on product type).

APPLICATIONS

K-FONIK® GK and GV are recommended for applications with service temperatures ranging from -40°F (-40°C) to +158°F (+70°C). The products are used to block the transmission of noise from one area to another and are suitable for direct application to the noise source and/or to housing covering the noise source. K-FONIK® GK is for general purpose applications and K-FONIK® GV is halogen-free for use on stainless steel, IMO-recognized marine applications and mass transit / transportation applications. Application types include:

Equipment and Engine Rooms:

- A) Free-hanging soundproof curtain panels
- B) Interior surfaces – To reduce noise from transferring through walls, ceilings and floors.

Machine Covers:

To reduce noise and vibration.

Piping:

To reduce transmission noise on process and drain piping.

General Construction:

Floors and Piping

Mass Transit / Shipbuilding:

Floors and Engine Rooms

OUTDOOR APPLICATIONS

K-FONIK® GK and GV are made from a UV-resistant elastomeric blend. For severe UV exposure (rooftop applications) or for optimum performance, approved jacketing or K-FLEX Clad® is recommended.

INSTALLATION

K-FONIK® GK and GV are flexible, easily cut and fabricated, durable (non-fracturing and resistant to tearing from handling and environment), and safe to handle (non-dusting and non-abrasive) for an efficient installation.

K-FLEX recommends that high mass products are installed on non-operational systems with clean, dry surfaces in ambient conditions between 40°F and 100°F. For piping applications, K-FONIK® GK and GV should have a minimum 2" overlap on all seams and joints. K-FLEX® 420 Contact Adhesive should be applied onto both surfaces of the overlap area and can also be used to adhere the products to most non-porous substrates. Mechanical fasteners are recommended for some industrial applications. The *K-FLEX Installation Manual* should be used as a comprehensive installation guide.

Contact K-FLEX technical support for installation techniques for acoustic enclosure, floor, wall and ceiling applications.

ACOUSTICS

K-FONIK® GK and GV offer excellent acoustic performance (STC = 26 dB at 1.0 lb/ft²). Sound barrier materials reduce structure-borne noise generated by a vibrating surface and air-borne

noise when placed between a sound source and its receiver. The vibration of metal panels, housings and enclosures is a common source of high intensity noise. The reduction of resonant vibrational energy and noise can efficiently and economically be achieved by use of K-FONIK® high mass products, which convert vibrational energy to heat energy, resulting in the following benefits: reduction of vibration transfer to adjoined surfaces, increased working life of the metal, and the ability to use thinner metal without the need for ribs, shaping, or other complications.

FLAME AND SMOKE RATING

K-FONIK® GK and GV are made with fire-resistant mineral fillers and have a flame spread rating of 25 or less and a smoke development rating of 50 or less (up to 1.5 lb/ft² mass) as tested by ASTM E84, "Surface Burning Characteristics of Building Materials". The products achieve this rating without the use of an FSK facing. They are acceptable for duct/plenum applications, meeting the requirements of NFPA 90A/B.

Numerical flammability ratings alone may not define the performance of products under actual fire conditions. They are provided only for use in the selection of products to meet limits specified when compared to a known standard.

SPECIFICATION COMPLIANCE

GV:

- ASTM E84 25/50-rated (to 1.5 lb/ft²) - tested to UL 723
- IMO A653 (CE Marine)
- IMO FTP Code Part 5
- WheelMark - MED 96/98/EC
- FMVSS 302 - Pass

GK:

- ASTM E84 25/50-rated (to 1.5 lb/ft²) - tested to UL 723
- UL 94-HB Flammability Classification (#E300774)
- FMVSS 302 - Pass

PHYSICAL PROPERTIES	K-FONIK® GK	K-FONIK® GV	TEST METHODS
Main Composition	High Mass Elastomeric Material		
Color	Black	Gray	
Operating Temperature Range	-40°F (-40°C) TO +158°F (+70°C)		
Available Masses (lb/ft²)	0.5, 1.0, 1.5	0.75, 1.0, 1.5	
Sound Transmission Class (STC)	0.5 lb/ft²: 21; 0.75 lb/ft²: 25; 1.0 lb/ft²: 26; 1.5 lb/ft²: 29		ASTM E90
Surface Finish	Smooth		
Thickness (1.0 lb/ft²)	0.1"		
Ozone Resistance	Pass (50 pphm)		ASTM D1171
Tensile (psi) (min) (1.0 lb/ft²)	300		ASTM D412
Elongation (%) (min) (1.0 lb/ft²)	25	10	ASTM D412
Tear Die C (lbs) (min) (1.0 lb/ft²)	50		ASTM D412
Water Vapor Diffusion Resistance (μ)	20,000		DIN EN 12086
Fire Classification	25/50-rated (without FSK facing) No Ignition - -	25/50-rated (without FSK facing) No Ignition 7 60	ASTM E84 ASTM D5132 ASTM E162 ASTM E662

NOISE REDUCTION DATA: SOUND TRANSMISSION LOSS (dB Reduction) and CLASS (STC)

FREQUENCY (Hz)	0.5 lb/ft²	0.75 lb/ft²	1.0 lb/ft²	1.5 lb/ft²
100	14	17	18	21
125	12	16	17	18
160	11	15	17	19
200	11	15	15	19
250	13	16	17	20
315	14	18	18	22
400	15	19	20	23
500	16	20	22	25
630	18	22	24	27
800	20	24	25	28
1000	21	25	27	30
1250	23	27	28	31
1600	25	29	30	33
2000	27	31	32	35
2500	28	32	34	37
3150	29	33	35	38
4000	31	35	36	40
5000	32	37	38	41
STC	21	25	26	29