



## ALLEY KAT AIR DUCT BOARD™

Temperature Limit: 250°F (121°C)

### DESCRIPTION

Alley Kat Air Duct Board is a rigid glass mineral wool board faced on one side with a foil-scrim-kraft (FSK) vapor retarder and with a lightweight black fiber glass mat on the airstream surface. It is used to fabricate rectangular or Max10 air duct systems. The product is offered in two stiffness ratings: EI-475 and EI-800. Both types are available with butt edge or factory molded male-female shiplap edges. The airstream surface of Manson Insulation Alley Kat Air Duct Board is treated with an EPA registered, anti-microbial agent that prevents growth of mold, fungus or bacteria in accordance with ASTM C1071, G21.

### APPLICATION

Manson Insulation Alley Kat Air Duct Board is designed for commercial and residential air handling installations for cooling, heating or dual-temperature service where good temperature control and noise absorption are required.

### FEATURES

- Low thermal conductivity of 0.23 at 75°F (24°C) mean temperature.
- Low installed cost insulated duct system
- Excellent acoustical characteristics
- Non-woven, all-glass mat facing on airstream surface
- Assured insulation thickness, shiplap joints and FSK vapor retarder
- If necessary, can be cleaned in accordance with NAIMA's "Cleaning Fibrous Glass Insulated Air Duct Systems Recommended Practices"
- Manson Insulation Alley Kat Air Duct Board systems meet the fire and smoke safety regulations of most federal, state and local building codes.
- Fabrication in shop or on jobsite
- Dark black glass mat airstream surface

### SPECIFICATION COMPLIANCE

- **ASTM C1136** Type II (FSK facing)
- **ASTM D5116**
- **ASTM G21**
- **California Title 24**
- **Corps of Engineers Guide Specifications**
- **International Building Code**
- **International Mechanical Code**
- **NFPA 90A and 90B**
- **UL 181 Class 1**
- **City of New York MEA 497-90-M**
- **In Canada:**
  - CAN/CGSB 51-GP-52M (facing)
  - CAN/CGSB 51.10-92

### PRODUCT FEATURES

#### Greenguard Certification

- Over 50% post-consumer recycled glass

#### EUCEB

This product is tested and certified to meet EUCEB requirements.

#### Surface Burning Characteristics

- UL listed
- Does not exceed 25 Flame Spread, 50 Smoke Developed when tested in accordance with ASTM E84, CAN/ULC S102-M88, NFPA 255 and UL 723

#### Flexural Rigidity

- Available in two stiffness values: EI-475 and EI-800
- Flexural rigidity (EI) is the product of Young's modulus of elasticity (E) and moment of inertia (I) as determined in accordance with NAIMA AHS-100-96

#### Service Temperature (ASTM C411)

- Up to 250°F (121°C)

#### Air Velocity (UL 181)

- Maximum 5000 fpm (1524 mpm)
- Tested to 12,500 fpm (3810 mpm)

#### Internal Static Pressure (UL 181)

- Maximum ±2" water (498 pascals [Pa])

#### Water Vapor Transmission Rate (ASTM E96)

- Less than 0.02 perms

#### Water Vapor Sorption (ASTM C1104)

- Less than 5% by weight

#### Microbial Growth (ASTM G21, UL 181)

- Does not promote or support the growth of fungi or bacteria

**GLASS MINERAL WOOL AND MOLD**

Glass mineral wool insulation will not sustain mold growth. However, mold can grow on almost any material when it becomes wet and contaminated. Carefully inspect any insulation that has been exposed to water. If it shows any sign of mold, it must be discarded. If the material is wet but shows no evidence of mold, it should be dried rapidly and thoroughly. If it shows signs of facing degradation from wetting, it should be replaced. Air handling insulation used in the air stream must be discarded if exposed to water.

**NOTES**

The chemical and physical properties of Manson Insulation Alley Kat Air Duct Board insulation represent average values determined in accordance with accepted test methods. The data is subject to normal manufacturing and testing variations. The data is supplied as a technical service and is subject to change without notice. References to numerical flame spread ratings are not intended to reflect hazards presented by these or any other materials under actual fire conditions.

Check with your Manson Insulation Area Manager to assure information is current.

THERMAL CONDUCTIVITY K (ASTM C177) MEAN TEMPERATURE 75°F (24°C)	
	K-VALUE
Manson Insulation Air Duct Type EI-475 and EI-800	0.23 (0.033)
"k" Units: $\frac{\text{BTU} \cdot \text{in}}{\text{ft}^2 \cdot \text{hr} \cdot ^\circ\text{F}}$ $\left(\frac{\text{W}}{\text{m} \cdot ^\circ\text{C}}\right)$	

THERMAL RESISTANCE R (ASTM C518) MEAN TEMPERATURE 75°F (24°C)	
THICKNESS	R-VALUE (R.S.I.)
1" (25 mm)	R-4.3 (0.76)
1½" (38 mm)	R-6.5 (1.14)
2" (51 mm)	R-8.7 (1.53)
"R" Units: $\frac{\text{ft}^2 \cdot \text{hr} \cdot ^\circ\text{F}}{\text{BTU}}$ $\left(\frac{\text{m}^2 \cdot ^\circ\text{C}}{\text{W}}\right)$	

SOUND ABSORPTION COEFFICIENTS ASTM 423, TYPE A MOUNTING, ½ OCTAVE BAND CENTER FREQUENCY (CYCLES/SEC.)								
	TYPE	125	250	500	1000	2000	4000	NRC
EI-475	1" (25 mm)	0.03	0.25	0.62	0.92	1.03	0.97	0.70
EI-800	1½" (38 mm)	0.02	0.44	0.96	1.17	1.16	1.12	0.95
EI-800	2" (51 mm)	0.19	0.64	1.08	1.13	1.06	1.06	1.00

**RECOMMENDED MAXIMUM DUCT DIMENSIONS WITHOUT REINFORCEMENT\***

INTERNAL PRESSURE INCHES OF WATER	EI-475-1"		
	0.5 (125)†	1.0 (249)†	2.0 (498)†
Positive	36" (914 mm)	24" (610 mm)	15" (381 mm)
Negative	30" (762 mm)	24" (610 mm)	15" (381 mm)
	EI-800-1"		
	0.5 (125)†	1.0 (249)†	2.0 (498)†
Positive	36" (914 mm)	24" (610 mm)	18" (457 mm)
Negative	30" (762 mm)	24" (610 mm)	18" (457 mm)

\* The above table summarizes span/pressure limitations for unreinforced duct. For larger ducts, refer to NAIMA's "Fibrous Glass Duct Construction Standard."  
†(Pressure—Pascals [Pa])

**FORMS AVAILABLE**

THICKNESS	SIZE*	EDGE	PIECES/ CARTON**
1" (25 mm)	48" x 96" (1219 mm x 2438 mm)	BE, SL	8
1" (25 mm)	48" x 120" (1219 mm x 3048 mm)	BE, SL	6
1½"**** (38 mm)	48" x 120" (1219 mm x 3048 mm)	BE, SL	4
2"**** (51 mm)	48" x 120" (1219 mm x 3048 mm)	BE	3

\*Other lengths available on custom order. \*\* Palletized packaging available on request. \*\*\* EI-800 only. BE - Butt, SL - Shiplap

**FRICTION LOSS (INCHES OF WATER PER 100')**

FPM	HYDRAULIC DIAMETER						
VELOCITY	10"	16"	24"	32"	40"	72"	100"
500	0.056	0.031	0.018	0.013	0.010	0.005	0.003
600	0.080	0.044	0.026	0.018	0.014	0.007	0.004
700	0.108	0.059	0.035	0.025	0.019	0.009	0.006
800	0.140	0.077	0.046	0.032	0.024	0.012	0.008
900	0.176	0.096	0.058	0.040	0.031	0.015	0.010
1000	0.216	0.118	0.071	0.050	0.038	0.018	0.012
2000	0.845	0.463	0.278	0.194	0.147	0.071	0.048
3000	1.887	1.034	0.620	0.432	0.328	0.159	0.106
4000	3.340	1.831	1.097	0.765	0.580	0.281	0.188
5000	5.206	2.854	1.710	1.193	0.904	0.438	0.293

