



Mat-Faced Micro-Aire®

Fiber Glass Duct Board Type 475 & Type 800

Description

Mat-Faced Micro-Aire Duct Board is produced from durable glass fibers, bonded with a thermosetting resin. The airstream side of Mat-Faced Micro-Aire Duct Board features a fiber glass mat for use at velocities up to 5,000 fpm (25.4 m/sec). The opposite side features a fire-resistant Foil-Scrim-Kraft facing extending the full width of the male edge to serve as an integral closure flap for section joints.

Mat-Faced Micro-Aire Duct Board is molded with double-density, male/female edges for secure connections. It is ideal for fabrication into rectangular ductwork for use in heating, ventilating, and air conditioning systems in new commercial or residential construction, or for renovating older sheet metal systems.

Advantages

Durable Airstream Surface. Mat-Faced Micro-Aire exhibits superior toughness compared to standard fiber glass duct board. It provides increased resistance to damage that can occur from in-shop handling, fabrication, jobsite shipping, and installation.

If cleaning is necessary, the airstream surface may be cleaned using standard industry-recognized dry methods. See the North American Insulation Manufacturers Association (NAIMA) "Cleaning Fibrous Glass Insulated Air Duct Systems".

"Friendlier Feel". The smooth mat facing creates a friendlier surface for fabrication and installation, and reduces exposure to normal construction dust.

Quiet Operation. Fabricated Mat-Faced Micro-Aire duct systems noticeably decrease the audibility of crosstalk, equipment noise, and eliminates the sounds associated with the expansion and contraction of sheet metal duct systems.

Will Not Support Microbial Growth. The airstream surface of Mat-Faced Micro-Aire Duct Board is treated with an antimicrobial agent specifically registered with the EPA for HVAC applications to resist potential growth of fungus or bacteria on the airstream surface. Microbial resistance testing was conducted in accordance with ASTM C 1071, as well as the more stringent ASTM G 21. Bacteria tests were conducted in accordance with ASTM G 22.

Closure Systems

Johns Manville recommends only those closure systems which comply fully with the requirements of UL 181. Closure systems meeting these requirements are as follows:

Thermally Activated Closure Systems: Fortifiber® Therm-Lock® with Automatic Bond Indicator (ABI) dots or other thermal tapes in compliance with standard UL 181A-H.

Pressure Sensitive Tapes: Tapes that have met the requirements of the UL 181A-P standard and are registered with Underwriters Laboratories. Tapes in compliance with this standard must be imprinted with this information.

Glass Fabric and Mastic: Glass fabric and mastic that have met the requirements of the UL 181A-M standard and are registered with Underwriters Laboratories.

Limitation of Liability

If the closure system used is not one of the approved systems noted above, and if application is not in accordance with the tape or glass fabric and mastic manufacturer's stated procedures, the UL 181 Class 1 air duct rating, and the Johns Manville product warranty are void.



Operating Temperature Limit: 250°F (121°C)

ISO 9000 Certification

Johns Manville commercial & industrial insulation products are designed, manufactured, and tested in our own facilities, which are certified and registered to stringent ISO 9000 (ANSI/ASQC 90) series quality standards. This certification, along with regular, independent third-party auditing for compliance, is your assurance that Johns Manville products deliver consistent high quality.

Available Forms

To facilitate cost-effective fabrication and installation, Mat-Faced Micro-Aire Duct Board is available in cartons or on pallets in several size configurations. (1½" and 2" [38 mm and 51 mm] thickness available as Type 800 only.)

Size (inches)	Size (mm)	Thickness (inches)	Thickness (mm)
48 x 120	1219 x 3048	1, 1½, 2	25, 38, 51
96 x 120*	2438 x 3048*	1, 1½	25, 38

*Wide Board available on pallets only.

Note: 48" x 96" x 1" (1219 mm x 2438 mm x 25 mm) size available on a special order basis only.

Meets Code Requirements

Mat-Faced Micro-Aire Types 475 and 800 duct boards are listed by Underwriters Laboratories as tested in systems in accordance with UL 181 Class 1—"Standard for Safety for Air Ducts".

Materials complying with the UL 181 Standard are in accordance with Standards NFPA 90A and 90B.

Low Resistance To Air Flow

Mat-Faced Micro-Aire Duct Board has a smooth interior surface that offers minimal resistance to air flow. Air friction data is available from your Johns Manville representative by requesting AHS-165.

Specification Data

General Properties	IP Units	SI Units
Thickness	1"	25 mm
	1½"*	38 mm*
	2"*	51 mm*
Air Velocity (max.)	5,000 fpm	25.4 m/sec.
Operating Temperature (max.)	250°F	121°C
Internal Static Pressure (max.)		
• For 1" and 1½"	2" w.c.	498 Pa w.c.
(25 mm & 38 mm) Thickness		
• For 2" (51 mm) Thickness	1" w.c.	249 Pa w.c.

*Available as Type 800 only.

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Specification Data

Sound Absorption Coefficients

Type	Thickness		Frequency (Hz)						
	(inches)	(mm)	125	250	500	1000	2000	4000	NRC
475	1	25	.07	.25	.63	.90	.97	1.00	.70
800	1½	38	.10	.42	.91	1.04	1.04	1.04	.85
800	2	51	.17	.63	1.10	1.05	1.04	1.06	.95

Coefficients determined on Type "A" mounting in accordance with ASTM C 423-90 test procedure.

Maximum Duct Dimensions Without Reinforcement—IP Units

Internal Pressure (in. water)	Type 475 (1" thick)			Type 800 (1½", 2" thick)		
	0.5	1.0	2.0	0.5	1.0	2.0
Positive (inches)	36	24	15	36	24	18
Negative (inches)	34	22	14	36	24	18

Maximum Duct Dimensions Without Reinforcement—SI Units

Internal Pressure (Pascals)	Type 475 (25 mm thick)			Type 800 (38, 51 mm thick)		
	125	249	498	125	249	498
Positive (mm)	914	610	381	914	610	457
Negative (mm)	864	559	356	914	610	457

These tables summarize span/pressure limitations for unreinforced duct. For larger duct sizes, see The Pocket Installer, AHS-3.

Thermal Conductivity and Resistance*

Thickness (in) (mm)	Thermal Conductivity ("k")		Thermal Resistance (R-Value)	
	Btu•in/(hr•ft²•°F)	W/m•°C	(hr•ft²•°F)/Btu	m²•°C/W
1 25	.23	.033	4.3	0.76
1½ 38	.23	.033	6.5	1.14
2 51	.24	.035	8.3	1.46

*Material thermal conductivity tested in accordance with ASTM C 518 at 75°F (24°C) mean temperature.

UL Fire Hazard Classification

Flame Spread not over 25
Smoke Developed not over 50

Flexural Rigidity

Mat-Faced Micro-Aire Duct Board is available in stiffness values of 475 and 800 EI. The stiffness or flexural rigidity is the product of Young's Modulus of Elasticity (E) and the Moment of Inertia (I), as determined in accordance with NAIMA AHC-100-74 (REF, ASTM D 1037).

Specification Compliance

- ICC Compliant
- National Fire Prevention Association (NFPA 90A and 90B)
- Building Officials Conference of America (BOCA)
- International Conference of Building Officials (ICBO)
- Southern Building Code Congress (SBCC)
- Canadian National Building Code
- Federal Housing Authority "Minimum Property Standards"
- General Services Administration, Public Building Services, "Standard Air Conditioning Specifications"
- Corps of Engineers "Air Conditioning Guide Specifications"
- Department of Army Guide Specifications—Family Housing
- Department of Defense Guide Specifications—Family Housing
- Department of Navy Guide Specifications—Family Housing



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The physical and chemical properties of Mat-Faced Micro-Aire® Fiber Glass Duct Board represent typical, average values obtained in accordance with accepted test methods and are subject to normal manufacturing variations. They are supplied as a technical service and are subject to change without notice. Any references to numerical flame spread or smoke developed ratings are not intended to reflect hazards presented by this or any other materials under actual fire conditions. Check with the Regional Sales Office nearest you to assure current information. **All Johns Manville products are sold subject to Johns Manville's Limited Warranty and Limitation of Remedy. For a copy of the Johns Manville Limited Warranty and Limitation of Remedy, and information on other Johns Manville thermal insulations and systems, call (800) 654-3103.**