



SuperDuct® RC High Performance Air Duct Board

Description

SuperDuct RC Air Duct Board is made from strong, resilient glass fibers bonded with a thermosetting resin. Male/female joints are factory made on the transverse edges of each board. A tough FSK (foil-scrim-kraft) facing is laminated to the exterior surface of the board.

Reinforced Coating System

The airstream surface of SuperDuct RC features Johns Manville's exclusive Reinforced Coating system – a high-tensile glass mat that reinforces our proven Permacote® acrylic polymer coating to provide a smooth surface with excellent durability and acoustical properties.

Available Forms

SuperDuct RC is available in cartons or pallets in 1" (25 mm), 1½" (38 mm) or 2" (51 mm) thicknesses. Standard board sizes are 48" x 120" (1219 mm x 3048 mm) and 48" x 96" (1219 mm x 2438 mm).

Wide Board™. SuperDuct RC is also available in Johns Manville's exclusive 96" x 120" (2438 mm x 3048 mm) Wide Board size, which effectively eliminates 50% of the duct joints required. Wide Board is stocked in 1" (25 mm) thickness on pallets only.

Facing Information

FSK Aluminum Foil - Reinforced with fiber glass scrim laminated to UL rated kraft.

Meets ASTM C 1136 and CAN/CGSB 51-GP-52M

Permeance: .02 perms*

* Per ASTM E 96, Procedure A for facing material prior to lamination. After lamination, permeance values may be higher.

General Properties

Operating temperature (max.) - ASTM C 411, UL 181	250°F (121°C)
Air velocity (max.) - UL 181	6000 fpm (30.5 m/sec)
Internal pressure (max.) - UL 181	2" w.c. (498 Pa)
Water repellency - INDA IST 80.6	≥6
Fungi resistance - ASTM C 1338	Does not breed or promote
Fungi resistance - ASTM G 21	No growth
Bacteria resistance - ASTM G 22	No growth

Surface Burning Characteristics

SuperDuct RC meets the Surface Burning Characteristics and Limited Combustibility of the following standards:

Standard/Test Method

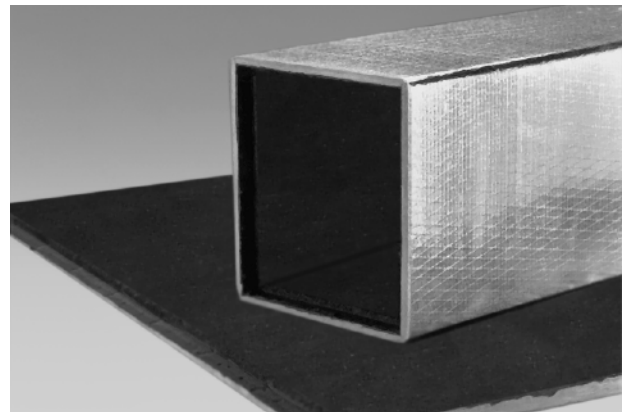
- ASTM E 84
- UL 723
- NFPA 255
- NFPA 90A and 90B
- NFPA 259
- CAN/ULC S102-M88

Maximum Flame Spread Index	25
Maximum Smoke Developed Index	50

UL labels supplied on packages when requested on order.

Specification Compliance

- UL 181 Class 1 Rigid Air Duct Listed
- ASHRAE 62
- California Title 24
- Universal Building Code (UBC)
- International Mechanical Code (IMC)
- Canada: CGSB 51.10-92 and CAN/ULC-S110M



Advantages

Resistant to Dust and Dirt. The tough, acrylic polymer Permacote coating helps guard against the incursion of dust or dirt into the substrate, minimizing the potential for biological growth.

Will Not Support Microbial Growth. Permacote coating is formulated with an immobilized, EPA-registered, protective agent to protect the coating from potential growth of fungus and bacteria.

SuperDuct RC passes UL 181 mold growth resistance testing. Tests were conducted in accordance with ASTM C 1338 and ASTM G 21 (fungi testing) and ASTM G 22 (bacteria resistance testing). Detailed information is available in Johns Manville fact sheet HSE-103FS.

Note: As with any type of surface, microbial growth may occur in accumulated duct system dirt, given certain conditions. This risk is minimized with proper design, filtration, maintenance and operation of the HVAC system.

Cleanability. If HVAC system cleaning is required, the Reinforced Coating airstream surface may be cleaned with industry-recognized dry methods. See the North American Insulation Manufacturers Association (NAIMA) "Cleaning Fibrous Glass Insulated Air Duct Systems."

Quiet Operation. SuperDuct RC features exceptional noise absorbing characteristics. Fabricated SuperDuct RC systems noticeably decrease the audibility of crosstalk, equipment noise, and the sounds associated with the expansion and contraction of sheet metal systems.

Better Temperature Control. The thermal performance inherent in the SuperDuct RC product helps deliver warmed or cooled air at the desired temperatures, and eliminates condensation problems when installed properly.

Extended Performance Parameters. SuperDuct RC meets or exceeds all performance requirements of lined sheet metal and has a velocity rating up to 6000 fpm (30.5 m/sec).

SMACNA Leakage Class 6. SuperDuct RC, when fabricated and installed per recommendations, exhibits leakage equal to or less than that of sealed spiral metal.

SuperDuct® RC

High Performance Air Duct Board

Closure Systems

Johns Manville recommends only closure systems which comply fully with the requirements of UL 181A when installed with SuperDuct RC as listed in Johns Manville UL Fabrication Sheet, AHS-30.

Limitation of Liability

If the closure system used is not one of the UL 181 approved systems as listed in Johns Manville's Fabrication Sheet, AHS-30, and if application is not in accordance with the tape manufacturer's stated procedures, the UL 181 air duct rating and all product warranties are void.

Flexural Rigidity

SuperDuct RC Air 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).

Maximum Unreinforced Duct Dimensions

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

Thickness	Internal Pressure Pa	Positive mm	Negative mm
Type 475	125	914	864
25 mm	249	610	559
	498	381	356
Type 800	125	914	914
38, 51 mm	249	610	610
	498	457	457

This table summarizes span/pressure limitations for unreinforced duct. For larger duct sizes, see The Pocket Installer, AHS-3.

Thermal Conductivity

Thickness		Mean Temp. @ 75°F (24°C)	
in	mm	Btu·in/(hr·ft²·°F)	W/m·°C
1	25	.23	.033
1½	38	.23	.033
2	51	.23	.033

Conductivity per ASTM C 518.

Thermal Performance

Thickness		R-Value	
in	mm	(hr·ft²·°F)/Btu	m²·°C/W
1	25	4.3	0.76
1½	38	6.5	1.15
2	51	8.7	1.53

SuperDuct RC Sound Absorption Coefficients (Type "A" Mounting)

Type	Thickness		Frequency (Hz)						
	in	mm	125	250	500	1000	2000	4000	NRC
475	1	25	0.04	0.27	0.71	0.96	1.03	0.99	0.75
800	1½	38	0.11	0.45	0.96	1.07	1.06	1.00	0.90
800	2	51	0.14	0.81	1.10	1.07	1.03	1.01	1.00

Coefficients were tested in accordance with ASTM C 423 and ASTM E 795.

SuperDuct RC Sound Attenuation in dB/ft [dB/0.305 m] (1" [25 mm] thickness)

Type	Duct Size		Frequency (Hz)						
	in	mm	125	250	500	1000	2000	4000	8000
475	6x12	152 x 305	1.3	2.7	3.5	5.4	6.4	4.6	2.3
475	8x12	203 x 305	1.7	1.8	3.0	5.3	6.0	3.2	1.9
475	12x12	305 x 305	1.9	1.9	2.7	5.7	5.3	2.1	1.8
475	12x24	305 x 610	0.7	1.1	2.3	5.0	3.1	2.1	1.7
475	24x24	610 x 610	0.4	0.8	2.1	3.9	1.2	1.6	1.4

Tests conducted on 10' (3.1 m) sections in accordance with ASTM E 477.

Attenuation data for subsequent sections are not accumulative.

ISO 9000 Certification

Johns Manville mechanical 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.

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The physical and chemical properties of SuperDuct® RC High Performance Air Duct Board listed herein 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. Numerical flame spread and smoke developed ratings are not intended to reflect hazards presented by these 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 standard Terms and Conditions including Limited Warranty and Limitation of Remedy. For a copy of the Johns Manville standard Terms and Conditions, Limited Warranty and Limitation of Remedy, and information on other Johns Manville thermal insulations and systems, call (800) 654-3103.**