



### Spiracoustic Plus™ : 1½" (38 mm)

#### Round Duct Liner System

#### Description

The Spiracoustic Plus System from Johns Manville is a comprehensive group of duct lining products specifically engineered to provide very high acoustical and thermal performance in round air ducts of virtually any size.

Based on high-density fiber glass board technology, Spiracoustic Plus has factory-made, evenly-spaced kerfs to allow the material to conform to the inside diameter of round air ducts.

The airstream surface and transverse edges are coated with Johns Manville's proprietary black Permacote® acrylic polymer. The coating is formulated

with an immobilized protective agent, specifically registered with the EPA for HVAC duct applications, to protect the coating from potential growth of fungus and bacteria.

Spiracoustic Plus eliminates the need for costly double-wall insulation practice in round air duct, and provides consistent thermal and acoustical performance throughout. The bottom line: comfort with peace of mind.

The following tables are provided to give you complete product and performance data for 1½" Spiracoustic Plus. For similar data for 1" and 2" products, refer to AHS-361 and AHS-363, respectively.

### Thickness: 1½" (38 mm)

#### Selection Table by Duct Diameter

Product Type	Description	Metal Duct ID		Finished ID	
		in	mm	in	mm
VSD	Very Small Diameter*	12 (min) to 20	305 (min) to 508	9 (min) to 17	229 (min) to 432
SD	Small Diameter	22 (min) to 38	559 (min) to 965	19 (min) to 35	483 (min) to 889
LD	Large Diameter	40 (min) & up	1016 (min) & up	37 (min) & up	940 (min) & up

\* Fabrication Note: All Spiracoustic Plus VSD installations in metal duct must be sized for a "slip-fit" installation.

Note: Minimum diameters are established to prevent damage to the liner during installation, and must be observed.

#### Product Packaging

##### Cartons

Product Type	Description	Sheet Size		Cartons		
		in	mm	Sheets	Sq. Ft.	Sq. Meters
VSD	Very Small Diameter	48x120x1½	1219x3048x38	4	160	14.9
SD	Small Diameter	48x120x1½	1219x3048x38	4	160	14.9
LD	Large Diameter	48x120x1½	1219x3048x38	4	160	14.9

##### Pallets

Product Type	Description	Sheet Size		Pallets		
		in	mm	Sheets	Sq. Ft.	Sq. Meters
VSD	Very Small Diameter	48x120x1½	1219x3048x38	32	1280	119
SD	Small Diameter	48x120x1½	1219x3048x38	32	1280	119
LD	Large Diameter	48x120x1½	1219x3048x38	32	1280	119

#### Thermal Performance

k*		R-Value	
Btu·in/(hr·ft²·°F)	W/m·°C	(hr·ft²·°F)/Btu	m²·°C/W
0.23	0.033	6.4	1.13

\* Thermal conductivity tests were conducted in accordance with ASTM C 518 at 75°F (24°C) mean temperature.

#### Acoustical Performance

Sound Absorption Coefficients (Type "A" Mounting)**							
Frequency (Hz)							
125	250	500	1000	2000	4000	NRC	
0.10	0.39	1.02	1.08	1.04	1.00	0.85	

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

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### Acoustical Performance

#### Insertion Loss in dB/ft (dB/.305 m)

#### Liner Thickness = 1½" (38 mm)

Diameter		1/3 Octave Band Center Frequency - Hz							
in	mm	63	125	250	500	1000	2000	4000	8000
18	457	0.10	0.22	0.61	1.48	4.12	1.95	1.52	1.04
20	508	0.10	0.21	0.57	1.42	3.65	1.78	1.37	0.99
22	559	0.10	0.19	0.53	1.37	3.23	1.64	1.23	0.93
24	610	0.09	0.18	0.50	1.32	2.85	1.50	1.11	0.88
26	660	0.09	0.17	0.46	1.27	2.51	1.38	1.00	0.83
28	711	0.09	0.16	0.43	1.22	2.21	1.27	0.91	0.78
30	762	0.08	0.15	0.40	1.18	1.95	1.17	0.83	0.74
32	813	0.08	0.14	0.37	1.13	1.73	1.08	0.76	0.69
34	864	0.08	0.13	0.34	1.09	1.54	1.00	0.69	0.65
36	914	0.07	0.12	0.31	1.04	1.37	0.92	0.64	0.61
38	965	0.07	0.12	0.28	1.00	1.23	0.86	0.60	0.57
40	1016	0.07	0.11	0.26	0.96	1.12	0.80	0.56	0.53
42	1067	0.06	0.10	0.24	0.92	1.03	0.75	0.53	0.50
44	1118	0.06	0.09	0.22	0.88	0.95	0.71	0.50	0.47
46	1168	0.06	0.09	0.20	0.84	0.89	0.67	0.48	0.44
48	1219	0.05	0.08	0.18	0.80	0.85	0.63	0.46	0.41
50	1270	0.05	0.07	0.16	0.76	0.81	0.60	0.45	0.38
52	1321	0.05	0.07	0.15	0.73	0.79	0.57	0.43	0.35
54	1372	0.04	0.06	0.13	0.69	0.76	0.55	0.42	0.33
56	1422	0.04	0.06	0.12	0.66	0.75	0.52	0.41	0.31
58	1473	0.04	0.06	0.11	0.63	0.73	0.49	0.40	0.29
60	1524	0.03	0.05	0.10	0.60	0.70	0.47	0.38	0.27
62	1575	0.03	0.05	0.09	0.57	0.68	0.44	0.36	0.25
64	1626	0.03	0.05	0.09	0.54	0.64	0.41	0.34	0.24
66	1676	0.02	0.04	0.08	0.51	0.60	0.38	0.31	0.23
68	1727	0.02	0.04	0.08	0.48	0.54	0.34	0.28	0.22
70	1778	0.02	0.04	0.08	0.46	0.47	0.31	0.25	0.21
72	1829	0.01	0.04	0.08	0.43	0.37	0.26	0.20	0.20

Tests conducted on 10' (3.1 m) sections in accordance with ASTM E 477. Attenuation data for subsequent sections are not accumulative.



717 17th St.  
Denver, CO 80202  
(800) 654-3103  
specJM.com

### North American Sales Offices, Insulation Systems

**Eastern Region**  
P.O. Box 158  
Defiance, OH 43512  
(800) 334-2399  
Fax: (419) 784-7866

**Western Region & Canada**  
P.O. Box 5108  
Denver, CO 80217  
(800) 368-4431  
Fax: (303) 978-4661

The physical and chemical properties of the Spiracoustic Plus™ Round Duct Liner System 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.**