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Black NBR/PVC, Closed Cell Foam Material

Description:
NBR/PVC is a CFC-Free, close cell, flexible elastomeric thermal and acoustical insulation. It is black in color, is non-porous, fiber-free, and resists mold growth. An EPA-registered antimicrobial agent is incorporated into the product providing additional protection against mold, fungal and bacterial growth.

NBR/PVC Closed Cell Insulation is GREENGUARD certified as a low VOC material, and the material is recommended for applications ranging from -40˚F to 220˚F.

The tough skin of NBR/PVC withstands tearing, rough handling and severe environmental conditions, yet remains flexible for easy installation. The closed cell structure and unique formulation effectively retards the flow of moisture vapor, and is considered a low transmittance vapor retarder.

Specification Compliance:
ASTM C534 Type 2 (sheet), Grade 1
ASTM D1056-00-2B1
New York City MEA 186-86-M Vol. V
USDA Compliant
CFIA Compliant
RoHS Compliant
UL 94-5VA Flammability Classification (Recognition No. E300774)
FMVSS 302
FAR 25.853
ASTM E 84 2" 25/50-tested according to UL 723 and NFPA 255
Complies with requirements of CAN/ULC S102-03
NFPA No. 101 Class A Rating
Meets requirements of NFPA 90A & 90B Sect. 2.3.3 for Supplementary Materials for Air Distribution Systems
Meets Requirements of UL 181 Sections 11.0 and 16.0 (Mold Growth/Air Erosion)
Meets Requirements of ASTM C411 (Test Method for Hot Surface Performance of High Temperature Thermal Insulation)
R8 Sheet meets R-value requirements of the International Energy Conservation Code for Outdoor Ductwork
MIL – P – 15280, Form S (Sheet)
GREENGUARD certified under the "Children & Schools" and "Indoor Air Quality" classifications
Meets energy code requirements of ASHRAE 90.1 and 189.1
GMW 15473: Class 1, Type IV, Tensile Exception
Chrysler MSAY 516: Type 1
Chrysler MSZ-75 J18: 2C1
Ford WSS-M99P32-C
Ford WSK-M2D419-A

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Physical Properties	Test Methods	Typical Results
Main Composition	ASTM D1056-00 2B1	NBR/PVC
Thermal Conductivity *75˚F mean temp* *90°F mean temp* *32°F mean temp*	ASTM C177	 0.26 BTU-in/hr-ft²-°F 0.25 BTU-in/hr-ft²-°F 0.24 BTU-in/hr-ft²-°F
Density	ASTM D1667	3-6 lbs/ft³
Compression Resistance *25%* *50%*	ASTM D1056	 2-4 psi 7-9 psi
Compression Set, 50%	ASTM D1056	30% max
Tensile Strength	ASTM D412, Die A	30 psi min
Elongation	ASTM D412, Die A	100% min
Tear Strength	ASTM D624, Die C	4.5 lbs/in min
Service Temperature *Applications below -40°F, please contact Milcut*	ASTM C534	-297° to 220°F
Water Vapor Permeability (Dry Cup)	ASTM E96	<0.01 perm-in
Water Absorption (Volume Change)	ASTM C209	0%
Flame Spread/Smoke Development	ASTM E84	<25/50
Flammability	ASTM D635 UL94-5VA (Recognition No. E300774) FMVSS 302 FAR 25.853	Self-Extinguishing Pass Pass Pass
Dimensional Stability	ASTM C534	<7% Linear Shrinkage
Hot Surface Performance (250°F for 96 hours)	ASTM C411	No cracking or delamination
Ozone Resistance	ASTM D1171	Pass
Odor Emissions	ASTM C1304	No Objectionable Odor
Chemical/Solvent/Oil/Grease Resistance		Good
Flexibility *Cold Crack Test @ -40°F*	ASTM C534 ASTM D1056	Excellent Pass
Mildew Growth Resistance/Air Erosion	UL181, ASTM G21	Pass
Corrosion Risk	DIN 1988	pH neutral: 6.6±0.04
Leachable Chlorides	DIN 1988	<0.05% water-soluble chloride ions
UV/Weather Resistance	ASTM G90	Good
Sound Transmission Class (1”)	ASTM E90	13

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Sound Absorption Coefficients at Frequency

ASTM C423/E795 Type A Mounting/Sabins/Sq. Ft.

Thickness	125HZ	250HZ	500HZ	1000HZ	2000HZ	4000HZ	NRC
1/2" (12mm)	0.03	0.02	0.06	0.10	0.22	0.27	0.10
1" (25mm)	0.00	0.07	0.13	0.59	0.20	-0.05	0.25
1.5" (38mm)	0.00	0.15	0.81	0.29	0.31	0.27	0.40
2" (50mm)	0.22	0.65	0.48	0.54	0.47	0.45	0.55

SOUND TRANSMISSION CLASS AT 1" = 13 PER ASTM E 90

Sheet "R" Value

R Value 3/8"	R Value ½"	R Value ¾"	R Value 1"	R Value 1 ½"	R Value 2"
1.5	2.0	3.0	4.0	6.0	8.0

All Sizes Nominal

Note: "R" were calculated using a K factor of 0.2575 (0.25 plus 3% test error allowances at 75˚F, 24˚C mean temp.) and nominal thickness in each case. Lower operating temperatures will result in improved R values.

Acoustical Data

1/3 Octave Center Frequency (Hz)	Absorption Coefficient	Total Absorption In Sabins
100	0.00	0.00
125	0.00	0.00
160	0.02	1.19
200	0.00	0.34
250	0.07	4.83
315	0.11	7.66
400	0.12	8.22
500	0.13	9.21
630	0.26	18.75
800	0.33	23.80
1000	0.59	42.04
1250	0.43	30.90
1600	0.25	18.07
2000	0.20	14.52
2500	0.14	9.92
3150	0.12	8.65
4000	-0.05	-3.72
5000	-0.07	-5.06

SAA = 0.22
NRC = 0.25

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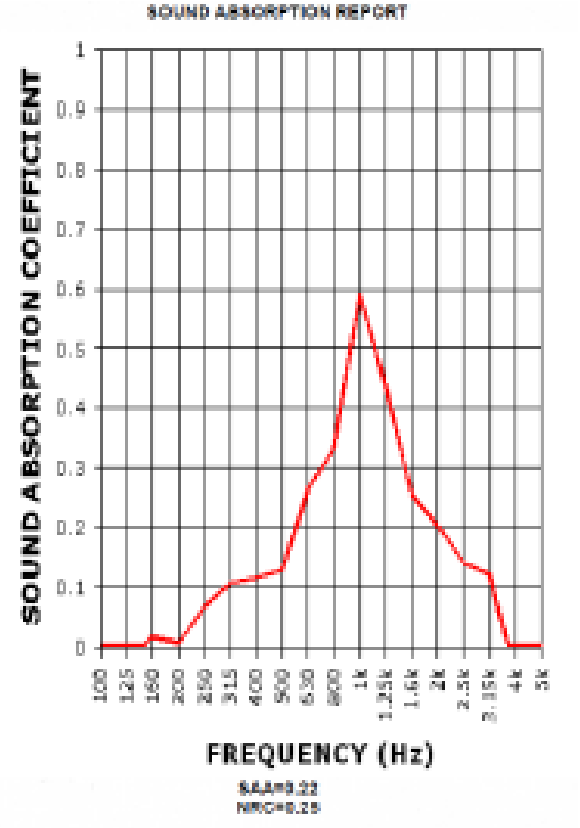

Freq. (Hz)	T.L. (dB)	UNC. (dB) 95% CL	DEF. (dB) <CONT
100	10	0.62	
125	10	0.62	
160	08	0.47	
200	08	0.64	
250	07	0.57	
315	08	0.34	1
400	09	0.38	3
500	10	0.23	3
630	11	0.16	3
800	11	0.18	4
1000	11	0.15	5
1250	11	0.15	6
1600	12	0.11	5
2000	15	0.08	2
2500	19	0.11	
3150	20	0.06	
4000	22	0.06	
5000	25	0.06	

Sound Transmission Class (STC): 13
Total Deficiencies = 32

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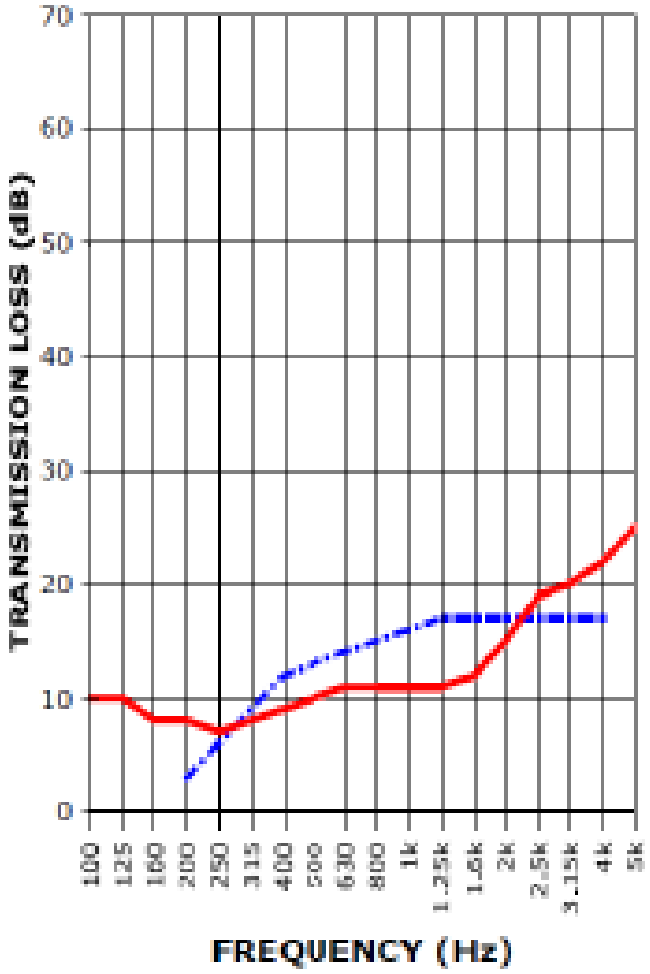
SOUND TRANSMISSION REPORT



STC = 13

TRANSMISSION LOSS

SOUND TRANSMISSION LOSS CONTOUR

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