

## Black Rubber Insulation Sheet Roll, Skin Two Sides

# Job Name \_\_\_\_\_\_ Location \_\_\_\_\_ Engineer \_\_\_\_\_ Contractor \_\_\_\_\_ Tag \_\_\_\_\_ PO# \_\_\_\_

#### **Specifications**

A NBR/PVC based closed cell, flexible elastomeric foam insulation. It is environmentally-friendly as it is free of CFCs, HFCs, HCFCs, PBDEs, formaldehyde and fibers. An EPAregistered antimicrobial agent is incorporated into the product providing additional protection against mold, fungal and bacterial growth.

#### **Applications**

Recommended for applications with service temperatures ranging from -297°F (-182°C) to +220°F (+104°C). For full adhesion applications (i.e. ductwork), the upper temperature limit is +200°F (+93°C). The product is used to retard heat gain and prevent condensation or frost formation on below-ambient applications, including utility and industrial process equipment, tanks, vessels, ducts and large OD pipes. It can be used with heat tracing tapes. It also retards heat loss from medium hot surfaces.

#### Materials

Elastomeric Foam. Rubber.

#### Certifications/Listings/ Approvals

- ASTM C534 Type 2, Grade 1
- ASTM D1056-00-2B1
- New York City MEA 186-86-M Vol. V
- USDA Compliant
- CFIA Compliant
- RoHS Compliant
- UL 94-5V, V0 Flammability Classification (#E300774)
- ASTM E84 25/50-rated (to 2") tested to UL 723, NFPA 255 and CAN/ULC S102-03
- FMVSS 302
- FAR 25.853
- NFPA No. 101 Class A Rating
- NFPA 90A, 90B
- MIL-P-15280, Form S
- R-8 (2") meets IECC requirements for Outdoor Ductwork
- UL GREENGUARD® Gold Certified
- Meets energy code requirements of ASHRAE 90.1 and 189.16

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INSULATION SHEET							
▼ Physical properties ▼	▼ Insulation Sheet ▼	▼ Test methods ▼					
Main Composition	Flame-retarded NBR/PVC-based elastomeric foam						
Thermal Conductivity (K) Btu-in/hr-Ft²-°F (W/mK)	90°F (32°C) Mean Temp = 0.258 (0.0372) 75°F (24°C) Mean Temp = 0.245 (0.0353) 32°F (0°C) Mean Temp = 0.235 (0.0339)	ASTM C177					
Density	3-6 lb/ft <sup>3</sup>	ASTM D1667					
Operating Temperature Range	-40°F (-40°C) to +220°F (104°C)	ASTM C534					
Water Vapor Permeability (Dry Cup)	<0.01 perm-in	ASTM E96					
Water Absorption (Volume Change)	0%	ASTM C209					
Flame Spread / Smoke Development (up to 2" wall)	<25/50	ASTM E84					
Flammability	Self-Extinguishing	ASTM D635					
Dimensional Stability	<7% Linear Shrinkage	ASTM C534					
Hot Surface Performance (250°F for 96 hours)	No Cracking or Delamination	ASTM C411					
Ozone Resistance	Pass	ASTM D1171					
Odor Emissions	No Objectionable Odor	ASTM C1304					
Chemical/Solvent/Oil/Grease Resistance	Good	Compatibility Data Available on Request					
Flexibility	Excellent Pass: Cold Crack Test at -40°F (-40°C)	ASTM C534 ASTM D1056					
Mildew Growth Resistance/Air Erosion	Pass	UL 181, ASTM G21					
Corrosion Risk	pH neutral: 6.6±0.04	DIN 1988					
Leachable Chlorides	<0.05% water-soluble chloride ions	DIN 1988					
UV / Weather Resistance <sup>1</sup>	Good	ASTM G90					
Sound Transmission Class (1")	13	ASTM E90					
"For applications below "-40"F (-40"C), contact K-FLEX® technical support.  1 Outdoor applications should be protected with an approved K-FLEX® coating or cladding for optimum performance.							

SERVICE TEMPERATURE	50°F (10°C)			35°F (2°C)			0°F (-18°C)			-20°F (-29°C)		
▼ Surface Size ▼	▼ Mild ▼	▼ Normal ▼	▼ Severe ▼	▼ Mild ▼	▼ Normal ▼	▼ Severe ▼	▼ Mild ▼	▼ Normal ▼	▼ Severe ▼	▼ Mild ▼	▼ Normal ▼	▼ Severe ▼
Flat Surface or Pipe ≥48"	1/8"	1/2"	3/4"	1/4"	3/4"	1-1/2"	1/2"	1"	2"	3/4"	1-1/2"	2-1/2"

INSULATION SHEET ⇔ SOUND ABSORPTION COEFFICIENTS AT FREQUENCY (HZ) (ASTM C423)									
▼ Thickness ▼	▼ 125 ▼	<b>▼ 250 ▼</b>	<b>▼</b> 500 <b>▼</b>	<b>▼ 1000 ▼</b>	₹ 2000 ₹	<b>▼ 4000 ▼</b>	▼ 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		
1-1/2" (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		

INSULATION SHEET ⇔ "R" VALUES (ALL SIZES ARE NOMINAL)									
<b>▼</b> 3/8" <b>▼</b>	▼ 1/2°	· • 3/4 <sup>1</sup>	' <b>~</b>	<b>▼</b> 1-1/2	2" 🕶 🔻 2" 🔻				
1.5	2	3	4	6	8				