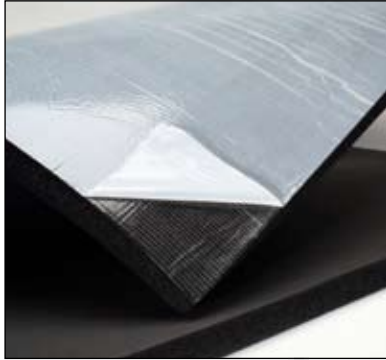


# INSUL-SHEET® with PSA

## Sheet Insulation

**Flexible Closed Cell Insulation**  
Designed for the HVAC/R Industry



### DESCRIPTION

INSUL-SHEET® with Pressure Sensitive Adhesive (PSA) is an environmentally friendly, CFC-free, flexible elastomeric thermal insulation. It is black in color and supplied as flat sheets (36" x 48") in standard thicknesses of 1/8" thru 1-1/2". It is supplied skin one side with a specially formulated scrim reinforced acrylic adhesive and tear resistant release liner on the opposite side. INSUL-SHEET® with PSA is also available in rolls, with a standard roll width of 48". INSUL-SHEET® with PSA is non-porous, non-fibrous and resists mold growth. An EPA registered antimicrobial agent is incorporated into the product providing additional protection against mold, fungal and bacterial growth.

K-Flex USA elastomeric insulation products are GREENGUARD® **certified** as low VOC materials, meeting the requirements of the "Children and Schools" classification, the most stringent requirements. Additionally, all K-Flex USA elastomeric insulation products are GREENGUARD® **listed** for mold resistance and meet the "mold resistant" criteria.

Features of PSA: tear and moisture resistant easy release liner, reinforced scrim prevents stretching insulation & improves peel strength.

### APPLICATIONS

INSUL-SHEET® with PSA is used to

retard heat gain and prevent condensation or frost formation on cold equipment, tanks, vessels or ducts. It also effectively retards heat loss when used on hot or cold equipment or ducts. INSUL-SHEET® with PSA is recommended for applications ranging from -70°F to 200°F (-57°C to 93°C). INSUL-SHEET® with PSA speeds up installation time and reduces the amount of solvent based contact adhesives required thus making it ideal for retrofit and OEM applications. The scrim reinforcement reduces the tendency to stretch the sheet insulation during installation as well as improving the peel strength of the material.

INSUL-SHEET® with PSA thickness has been calculated to control condensation on cold surfaces.

*Refer to the table on the reverse side for specific recommendations.*

### INSTALLATION

INSUL-SHEET® with PSA Insulation is applied to clean, dry ductwork and equipment by simply peeling the release liner away and applying uniform pressure to the sheet. Compression joints with adhesive applied should be used on all butt edges. See technical bulletin for installation instructions in cold temperatures.

INSUL-SHEET® with PSA is also available with factory-applied cladding for indoor and outdoor applications. Contact K-Flex USA for specific installation instructions. INSUL-SHEET® with PSA is acceptable for use in duct covering applications.

### OUTDOOR APPLICATIONS

For optimum performance, outdoor applications require 374 Protective Coating or other recommended protective coating, cladding or jacketing.

*For more detailed information refer to the Installation Guidelines.*

### RESISTANCE TO MOISTURE VAPOR FLOW

The closed-cell structure and unique formulation of INSUL-SHEET® with PSA effectively retards the flow of moisture vapor, and is considered a low transmittance vapor retarder. For most indoor applications, INSUL-SHEET® with PSA needs no additional protection.

Additional vapor barrier protection may be necessary for INSUL-SHEET® with PSA when installed on low temperature surfaces that are exposed to continuous high humidity.

### SPECIFICATION COMPLIANCE

ASTM C 534 Type 2 (Sheet), Grade 1  
ASTM D 1056-00-2C1  
New York City MEA 186-86-M Vol. IV  
USDA Requirements

UL 94-5V Flammability Classification  
(Recognition No. E300774)

ASTM E 84 1-1/2" 25/50-tested according to  
UL 723 and NFPA 255

Complies with requirements of CAN/ULC  
S102-M88

STC=17 per ASTM E 90

Foam Core: 25/50 at 1-1/2" and below  
PSA: 0/10

Meets requirements of NFPA 90A  
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 C 411  
(Test Method for Hot Surface Performance of  
High Temperature Thermal Insulation)



# INSUL-SHEET® with PSA Sheet Insulation

## PRODUCT DATA

Foam Core Closed Cell Insulation		INSUL-SHEET® with PSA Insulation	Test Methods
Physical Properties			
Thermal Conductivity (K)	90°F (32°C) Mean Temp	.27 (.039)	ASTM C 177
BTU -in/hr - Ft <sup>2</sup> - °F (W/mK)	75°F (24°C) Mean Temp	.25 (.036)	ASTM C 177
Density		3-6 PCF	ASTM D 1622/D 3575
Operating Temperature Range	Upper	200°F (104°C)	
Flexible to -40°F (-40°C) but could be used down to -70°F (-57°C)	Lower	-70°F (-57°C)	
Water Vapor Permeability Dry Cup. Perm-In		<0.06	ASTM E 96
Water Absorption %		<0.20 by volume	ASTM C 209
Ozone Resistance		Pass	ASTM D 1171
Chemical/ Solvent Resistance		Good <sup>1</sup>	
Mildew Resistance/Air Erosion		Pass	UL 181

<sup>1</sup> Outdoor applications should be protected with an approved coating/cladding.

Sound Absorption Co-efficients at Frequency							
ASTM C-423/E-795 Type A Mounting/Sabins/Sq. Ft.							
Thickness	125Hz	250Hz	500Hz	1000Hz	2000Hz	4000Hz	NRC
1/4"	0.00	0.03	0.05	0.10	0.25	0.45	0.10
1/2" (12mm)	0.03	0.04	0.08	0.15	0.40	0.25	0.20
1" (25mm)	0.10	0.15	0.45	0.30	0.40	0.33	0.35

STC at 1" = 17 per ASTM E 90

Thickness Recommendations* - To Control Condensation								
Sheet Size	Ducts - Tanks - Vessels - Equipment - Metal - Surface Temperature							
	50°F	10°C	35°F	2°C	0°F	-18°C	-20°F	-29°C
Normal Conditions (Max 85°F, 29°C - 70% R.H.)	1/2"	13 mm	3/4"	19 mm	1"	25 mm	1-1/2"	38 mm**
Mild Conditions (Max 80°F, 26°C - 50% R.H.)	1/8"	3mm	1/4"	6 mm	1/2"	13 mm	3/4"	19 mm
Severe Conditions (Max 90°F, 32°C -80% RH)	3/4"	19 mm	1"	25 mm	1-3/4"	44 mm**	2"	50 mm**

\*\*Use Insul-Sheet

\*INSUL-SHEET® with PSA in thickness noted within the specified temperature ranges will prevent condensation on indoor piping under design conditions defined below. Thickness recommendations above 1-1/2" can be layered to achieve thickness. Subject to compliance with applicable code requirements.

**Normal:** Maximum severity of indoor conditions seldom exceed 85°F (29°C) and 70% R.H. in United States.

**Mild:** Typical conditions are most air-conditioned spaces and arid climates.

**Severe:** Generally found in areas where excessive moisture is introduced or in poorly ventilated areas where the temperature may be depressed below the ambient. Under conditions of higher humidity, additional thickness of insulation may be required.

NOTE: Thickness recommendations calculated using 0.2575 K-factor (0.25 plus 3% test error allowance)

INSUL-SHEET® with PSA "R" Values (based on nominal thickness)					
R Value 3/8"	R Value 1/2"	R Value 3/4"	R Value 1"	R Value 1 1/2"	
1.5	2	3	4 <b>(R) 4</b>	6	

\*All sizes are nominal.

Note: "R" factors were calculated using a K factor of 0.2575 (0.25 plus 3% test error allowance at 75°F, 24°C mean temp.) and nominal wall thickness is each case. Lower operating temperatures will result in improved R values. Contact Technical Services for specific recommendations.

Pressure Sensitive Adhesive Properties (PSA)	
Description:	Transfer tape designed for high temperatures (250°F), high performance applications where high tack, conformability, plasticizer resistance and a thin bond layer are required.
Construction:	Adhesive: High coat weight modified crosslinked acrylic typified by a high initial tack, plasticizer resistance and high shear strength, resistant to solvents, chemicals, UV light and moisture. Scrim: Support (6 g/m <sup>2</sup> ). Liner: PE release liner, (75 microns) moisture and tear resistant, easy release.



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