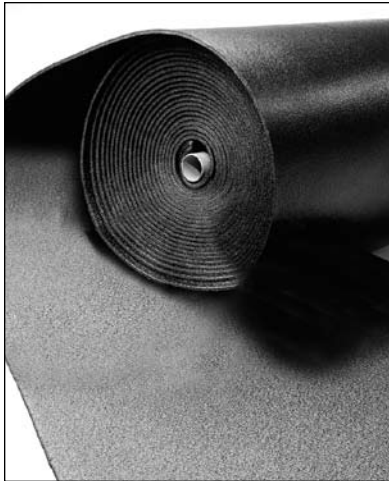


# therma-cel®



## Sheet Insulation Engineered Polymer Foam Insulation

Made in  
America



### DESCRIPTION

therma-cel® sheet insulation is a flexible, polyolefin, thermal insulation. It is available in black or white and in sheet and roll form. Standard sheet size is 36" x 48" in thicknesses of 3/8" thru 2 1/2". Standard roll width is 48" available in the same thickness.

### APPLICATIONS

therma-cel® sheet insulation is used to retard heat flow and provide condensation control on large diameter piping, tanks, vessels and equipment.

therma-cel® sheet insulation has a low thermal conductivity and very low water vapor transmission rate. This low density product demonstrates excellent thermal, physical and chemical resistant properties and has a broad service temperature range between -330°F and 210°F (-201°C and 99°C). It can be installed in commercial, industrial and residential insulation projects.

### INSTALLATION

When therma-cel® sheet insulation is applied to equipment, use 100% coverage of 320 or 620 Contact Adhesive or other approved adhesive system. Since it is a contact adhesive, both surfaces to be joined should be coated and then joined after adhesive is dry to the touch. Compression joints with adhesive applied should be used on all butt edges. Refer to Installation Guidelines for specific instructions.

### OUTDOOR APPLICATIONS

therma-cel® sheet insulation is made from UV resistant polyolefin resins. For severe UV exposure (rooftop applications) or where optimum performance is required, the product must be protected from the elements. Various jacketing or cladding materials are recommended, ie. PVC, CPVC, AL, etc. If coatings are going to be used, please refer to technical bulletin for recommended coatings.

### RESISTANCE TO MOISTURE VAPOR FLOW

The closed-cell structure of therma-cel® sheet insulation effectively retards the flow of moisture vapor and is considered a low transmittance vapor retarder. For most indoor applications, therma-cel® sheet insulation needs no additional protection.

Additional vapor barrier protection may be necessary for therma-cel® sheet insulation when installed on low temperature surfaces that are exposed to continuous high humidity.

### FLAME AND SMOKE RATING

therma-cel® sheet insulation in wall thicknesses of 1" (25 mm) and below has a **flame spread rating of 25 or less and a smoke development rating of 50 or less** as tested by ASTM E 84 Method of Testing entitled: "Surface Burning Characteristics of Building Materials."

*Numerical flammability ratings alone may not define the performance of products under actual fire conditions. They are provided only for use in the selection of products to meet limits specified, when compared to a known standard.*

### SPECIFICATION COMPLIANCE

- ASTM C-1427, Type 2, Grade 1
- New York City OTCR #13-09  
USDA Requirements
- ASTM E 84 1" 25/50-tested according to UL 723 and NFPA 255
- UL 723 File # R-22380
- UL 94 HF-1 File # E-147665
- Complies with requirements of CAN/ULC S102.2-M88
- Meets requirements of NFPA 90A/90B
- CFC/HCFC Free
- Low VOCs
- Halogen Free
- Non-porous
- Fiber Free
- Resistant to mold growth
- Sound transmission co-efficient = 11 at 1" per ASTM E 90

## PRODUCT DATA

Physical Properties		therma-cel® Insulation	Test Methods
Thermal Conductivity (K)	90°F (32°C) Mean Temp	.255 (.037)	ASTM C 177
BTU -in/hr - Ft² - °F (W/mK)	75°F (24°C) Mean Temp	.250 (.036)	ASTM C 177
	50°F (10°C) Mean Temp	.245 (.035)	ASTM C 177
Operating Temperature Range	Upper	210°F (99°C)	
Flexible to -100°F (-73°C)	Lower	-330°F (-201°C)	
Water Vapor Permeability Dry Cup. Perm-In		0.0	ASTM E 96
Ozone Resistance		Pass	ASTM D 1171
Chemical/ Solvent Resistance		Good	
Mildew Resistance/Air Erosion		Pass	UL 181

## Sound Absorption Co-efficients at Frequency

ASTM 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

## Thickness Recommendations\* - To Control Condensation

Sheet Size	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	1-1/4"	32 mm**	1-1/2"	38 mm*
Mild Conditions (Max 80°F, 26°C - 50% R.H.)	3/8"	10 mm	1/2"	13 mm	3/4"	19 mm	3/4"	19 mm
Severe Conditions (Max 90°F, 32°C - 80% RH)	3/4"	19 mm	1"	25 mm	1-1/2"	38 mm**	2"	50 mm*

\*\* Multiple Layers

**therma-cel® Sheet Insulation** in thickness noted within the specified temperature ranges will prevent condensation on indoor piping under design conditions defined below.

**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 high humidity, additional thickness of insulation may be required.

## therma-cel® "R" Values per square foot

R Value 3/8" (10 mm) Wall	R Value 1/2" (13 mm) Wall	R Value 3/4" (19 mm) Wall	R Value 1" (25 mm) Wall
1.5	2.0	3.0	4.0

Note: "R" factors were calculated using a K factor of .250 (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.