

# SARANEX® 540 CX Vapor Retarder Film

SARANEX® 540 CX Vapor Retarder Film is composed of a film of the barrier polymer polyvinylidene chloride (PVDC) coextruded with other specialty polymers that provide strength and support. Working together, the portions of this coextruded film combine to create a vapor retarder and jacketing material for mechanical insulation systems that is durable, flexible and has excellent resistance to water vapor penetration. SARANEX 540 CX Film is designed specifically to help prevent water absorption and strongly resist moisture vapor drive into the insulation. A permeance rating of 0.02 perms meets or exceeds standard industry requirements for vapor retarders in cold service.

SARANEX 540 CX Vapor Retarder Film is not a known nutrient source for mold or mildew.

## Applications

SARANEX 540 CX Vapor Retarder Film is a high-performance, cost effective vapor retarder used in many pipe insulation applications.

Typical applications for SARANEX 540 CX Film include:

- Food and beverage facilities
- Chilled water piping and HVAC systems
- Transport pipelines
- Chemical condensation tanks
- Cold storage systems
- Refrigerated transport
- Pharmaceutical plants
- Petrochemical plants

ITW can provide general guidelines and recommendations on many typical applications for SARANEX 540 CX Vapor Retarder Film. Call 1-800-231-1024 or contact your local ITW representative for details.

SARANEX Films are FDA and USDA compliant.

## SIZE

SARANEX 540 CX Vapor Retarder Film is supplied either factory applied on straight lengths of TRYMER® or XPS PIB insulation or in easy-to-use rolls for field application.

Width: 35.5" (90 cm)  
 Length: 375' (114 m)

## PHYSICAL PROPERTIES

SARANEX 540 CX Vapor Retarder Film exhibits the properties and characteristics indicated in Table 1 when tested as represented.

Consultation with local code officials or design engineers/specifiers is recommended before application.

Table 1

Physical Properties <sup>(1)</sup> of SARANEX 540-CX Vapor Retarder Film	
Property and Test Method	Value
Thickness, ASTM D374, mils, avg	4
Yield, ft <sup>2</sup> /lb, calculated	39.2
Permeance <sup>(2)</sup> , ASTM E96, perm	0.02
Water Vapor Transmission Rate, ASTM F1249, g/100in <sup>2</sup> • 24 hr at 100°F and 90% RH	0.065
Ultimate Tensile Strength, ASTM D882, lb/in <sup>2</sup>	
MD	2,150
TD	1,890
Ultimate Tensile Strength, ASTM D882, lb/in width	
MD	9
TD	8
Ultimate Elongation, ASTM D882, %	
MD	291
TD	242
2% Secant Modulus, ASTM D882, lb/in <sup>2</sup>	
MD	71,700
TD	72,300
Mullen Burst Strength, ASTM D774, lb/in <sup>2</sup>	75
Unrestrained Shrink, % in 100°C Air	
MD	<1
TD	<1
Surface Burning Characteristics <sup>(3)</sup> , ASTM E84	
Flame Spread	= 10
Smoke Developed	= 20
Service Temperature Limits <sup>(4)</sup> , °F (°C)	-40 to 250 (-40 to 121)
Color	White

<sup>(1)</sup> Data shown are typical values obtained from representative samples. This data may be used as a guide for design purposes, but should not be construed as specifications.

<sup>(2)</sup> 1 perm = 1 gr/hr/ft<sup>2</sup>/in•Hg @ 73°F, 50% R.H.

<sup>(3)</sup> This numerical flame spread data is not intended to reflect hazards presented by this or any other material under actual fire conditions.

<sup>(4)</sup> Service temperature limits is defined as the temperature to which the jacket or coating may be subjected after application over insulation. It does not refer to the operating temperature of the equipment, vessel or pipe. (Source: National Insulation Association)

For maximum film flexibility during installation, it is recommended that SARANEX Film products be installed at ambient temperatures above 24°F (-4°C).

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### Installation

SARANEX 540 CX Vapor Retarder Film is compatible with all current installation methods for vapor retarder films. It can be installed at ambient temperatures as low as 0°F (-18°C). For maximum film flexibility during installation, it is recommended that SARANEX Film products be installed at ambient temperatures above 24°F (-4°C). SARANEX 540 CX Vapor Retarder Film has service temperature limits of -40°F to 250°F (-40°C to 121°C).

Because of the critical technical design aspects of many of the applications of SARANEX 540 CX Vapor Retarder Film, ITW recommends that qualified designers or consultants design the total system. Detailed installation guidelines for SARANEX Vapor Retarder Film and Tape products are available at [www.itwinsulation.com](http://www.itwinsulation.com).

### Availability

SARANEX 540 CX Vapor Retarder Film is distributed through ITW's extensive Authorized Fabricator Network. For more information, call: 1-800-231-1024

### Technical Services

ITW can provide technical information to help address questions when using SARANEX 540- CX Vapor Retarder Film. Technical personnel are available at: 1-800-231-1024

- **For Technical Information: 1-800-231-1024**
- **For Sales Information: 1-800-231-1024**
- ITW Insulation Systems  
1370 East 40<sup>th</sup> Street, Building 7, Suite 1  
Houston, TX 77022-4104
- **[www.itwinsulation.com](http://www.itwinsulation.com)**

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COMBUSTIBLE: Protect from high heat sources. Local building codes may impose additional requirements. For more information, call ITW at 1-800-231-1024 or contact your local building inspector.

Building and/or construction practices unrelated to insulation could greatly affect moisture and the potential for mold formation. No material supplier including ITW can give assurance that mold will not develop in any specific system.

