



SARAN VAPOR RETARDER FILM AND TAPE

# Application Guidelines for *Saran* Vapor Retarder Film and Tape

*Saran*\* vapor retarder film and tape are high-quality, high-performance water vapor retarders that work to preserve the physical and thermal integrity of insulation, particularly for cold applications, by helping to prevent water absorption and by resisting moisture vapor drive into the insulation systems. The permeance of *Saran* film and tape meets or exceeds standard industry requirements for cold systems including ASTM C 1136 and C 755. *Saran* film can be either factory-applied or field-applied. *Saran* tape allows flexibility for easy wrapping and conformance to elbows and fittings. *Saran* film and tape are popular in the insulation industry because of superior water vapor permeance, high resistance to mechanical abuse and easy installation at a very reasonable cost. See Table 1 for product size and dimensions.

## Saran Vapor Retarder Application Guidelines

A weather barrier (jacketing) is required outdoors or where insulation can get wet (e.g., washdown areas) in above-ambient service temperature applications. Jacketing may also be required for aesthetics or where physical damage is likely. When the service temperature is below ambient, see Table 2 for *Saran* vapor retarder film and tape application guidelines.

In Table 3, jacketing recommendations assume that the material is compatible for a specific application. For fittings, elbows, tees, valves, etc., pre-formed PVC covers at the same thickness as on straight pipe sections should be used. Aluminum jacketing for fittings, elbows and valves should be sectional, factory contoured or field fabricated to fit closely around insulation.

*Saran* film and tape should be protected from long exposure to UV light from the sun. After installation, *Saran* film and tape can be left exposed for a maximum of two weeks before being covered with protective jacketing.

## Installation Methods

Factory application of *Saran* film to Styrofoam\* or Trymer\* insulation must be performed by a Dow authorized fabricator. *Saran* vapor retarder films can be factory applied to the insulation using hot-melt, liquid or spray grade adhesives.

In field application, *Saran* film is shipped to the jobsite pre-cut into sheets 35.5" wide by the circumference of the pipe (plus a 2" overlap). These sheets are wrapped around the individual pipe insulation sections during installation. Butt joints are sealed by preferably using *Saran* tape or by gluing slightly overlapped successive lengths of *Saran* film.

TABLE 1

Saran Vapor Retarder Film and Tape Product Offering				
Product name	Saran Film		Saran Tape	
	Saran 540	Saran 560	Saran 520	Saran 560
Available sizes and dimensions	35.5" x 375'	35.5" x 250'	1"-, 2"-, and 3"-wide rolls, 150'/roll	3"-wide roll, 150'/roll
Permeance (perms)	0.02	0.01	0.03	0.01

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TABLE 2

Saran Film and Tape Application Guidelines		
SERVICE TEMPERATURE		
	32°F and lower	32°F to ambient
<b>Saran Film</b>	Recommended: <b>Saran 540</b> or <b>Saran 560</b> • Both products meet or exceed industry requirements for all properties (strength, permeance, etc.) <b>Saran 560</b> preferred: • Where possibility of mechanical abuse is high • At very cold temperatures (below -50°F) where a permeance of 0.01 might be desired • Where increased vapor retarder stiffness and rigidity is desired	Recommended: <b>Saran 540</b> • <b>Saran 540</b> is more economical • <b>Saran 540</b> performance exceeds industry requirements for this application <b>Saran 560</b> preferred: • Where possibility of mechanical abuse is high • Where increased vapor retarder stiffness and rigidity is desired
<b>Saran Tape – for butt joints</b>	Recommended: one layer of 3"-wide <b>Saran 560</b> tape with a 25% circumferential overlap. This is the most economical alternative. Alternative: <b>Saran 520</b> tape • Two layers of 3"-wide <b>Saran 520</b> tape with no circumferential overlap necessary	Recommended: one layer of 3"-wide <b>Saran 520</b> tape with 25% circumferential overlap Alternative: <b>Saran 560</b> tape • One layer of 3"-wide <b>Saran 560</b> tape with a 25% circumferential overlap where: – Possibility of mechanical abuse is high – A permeance rating ≤ 0.02 perms is desired
<b>Saran Tape – for elbows, fittings and valves</b>	Apply <b>Saran 520</b> tape in a spiral wrap fashion with 50% overlap of successive courses. Recommendations: • 1"-wide tape for nominal insulation outer diameters of less than about 6" • 2"-wide tape for nominal insulation outer diameters of about 6" to 12" • 3"-wide tape for nominal insulation outer diameters greater than about 12"	Apply <b>Saran 520</b> tape in a spiral wrap fashion with minimal overlap of successive courses. Recommendations: • 1"-wide tape for nominal insulation outer diameters of less than about 6" • 2"-wide tape for nominal insulation outer diameters of about 6" to 12" • 3"-wide tape for nominal insulation outer diameters greater than about 12"

Both installation techniques will yield effective system results. However, factory application is usually preferred and it may yield lower installation costs. For assistance in estimating the quantity of *Saran* film and tape required for a specific job, contact your local Dow representative.

Detailed installation guidelines can be obtained from your local Dow representative. Also, contact your local Dow representative for SSL, adhesive and installation temperature information.

TABLE 3

Protective Jacketing over <i>Saran</i> Film and Tape			
Scenario	Indoors	Outdoors	Underground
Minimal mechanical abuse and no requirements for aesthetics	No protective jacketing necessary. <b>Saran</b> film and tape can be left exposed.	Jacketing required. Aluminum is recommended.	No protective jacketing necessary. Exposed vapor retarder should be <b>Saran 560</b> film.
High mechanical abuse expected	Protective jacketing required. PVC is recommended. Alternative: Aluminum	Protective jacketing required. Aluminum is recommended.	Protective jacketing necessary. PVC acceptable.
Aesthetics is critical	Jacketing required on fittings. PVC is recommended. Alternative: Aluminum <b>Saran</b> film on straights may be left exposed or jacketed.	Jacketing required. Aluminum is recommended.	N/A

**IN THE U.S.:**

- For Technical Information: 1-800-441-4DOW (4369)
- For Sales Information: 1-800-232-2436

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