

## INSULRAP™ 50 SMOOTH

A LAMINATED DIRECT BURIAL VAPOR BARRIER MEMBRANE



**INSULRAP™ 50 Smooth** is the premier direct burial membrane in the insulation market used as a waterproofing and vapor-proofing jacketing. **Insulrap™ 50** is a "peel and stick" protective membrane. It's made of rubberized asphalt laminated to a white polyethylene film. Using "cigarette wrap" application, **Insulrap™ 50** can be shop applied or field applied.

### APPROVALS

- Approved by DuPont Company engineering specification SN 700 Code 741.
- Approved by Dow Chemical Company global engineering specification G158-4005-00.
- Laminated membranes are recommended in Dow Chemical Company's publication *TRYMER® Pipe Insulation - Your Guide to Features, Installation, and Use* - 1997 edition.

### ADVANTAGES

- Factory controlled product thickness is uniform. Jobsite labor does not control the thickness.
- Speeds up the project - no cure time.
- Significant labor savings from speed and elimination of cleanup.
- Highly resistant to water and vapor transmission.
- In either warm or cold conditions, the membrane will stretch and flex to accommodate movement of the substrate.
- Resistance to chemicals, acids, and alkalis.
- 25/50 flame/smoke rating.

### MATERIALS

**INSULRAP™ 50** is a self-adhesive membrane for waterproofing and vapor-retarding. **Low Temperature Activator** is used to improve low temperature adhesion or adhesion to porous or dusty insulation surfaces. **INSULSHIELD™** is a rock shield material designed to protect buried systems from rock or other backfill damage. Large pipe sizes require **OuterWrap™** to prevent soil stress.

### HANDLING OF MATERIALS

**Polyguard** materials should be moved and stored so as to prevent injury to the packages. Materials should be stored out of the weather. Recommended storage temperature is 50°F to 80°F.

### SURFACE PREPARATION

Insulation should be banded according to insulation manufacturer's instruction. Surface should be clear of dust, frost, moisture, and foreign matter. In cool temperatures (below 50°F) **Low Temperature Activator** or a heat gun should be used to improve adhesion. **Surface temperature of the insulation should not exceed 150°F.** Butt joints and longitudinal seams of insulation should be inspected for gaps so that excess heat from hot lines is not permitted to escape to the membrane.

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This information is based on our best knowledge, but POLYGUARD cannot guarantee the results to be obtained.



Polyguard is ISO 9001 certified since 1996.

## APPLICATION

**INSULRAP 50** can be applied by cigarette wrapping. The silicone treated release sheet should be removed immediately before application. Apply the adhesive surface to the dry insulation. Cigarette wrap applications should overlap a minimum 3" onto itself. If membrane is butted onto itself, cigarette wrapped 4" butt strips should be applied over the joints. Check all seams carefully to ensure waterproofing integrity at overlaps. Use pressure from a roller or otherwise to insure that the lap is well conformed to the surface underneath. In cooler weather, **Polyguard Liquid Activator**, a heat gun, or hair dryer can be used to insure adhesion. Lightly passing the heat source over the adhesive face of the membrane and substrate can greatly improve "grab" in marginal application conditions. **INSULRAP 50** can be used for fitting elbows & joints. 4" width **INSULRAP 50** in a spiral wrap configuration is recommended for insulated pipe outside diameters up to 16". For outside diameters >16", 6" or 12" width **INSULRAP 50** should be used. A 50% overlap should be used at all seams. **COVERING: INSULRAP 50** should not be exposed to ultraviolet light for over 7 days. It should either be covered with jacketing or **INSULSHIELD™**, or should be backfilled promptly.

## DRAINAGE

The insulated pipe should be installed above the water table level on a gravel base with proper drainage using sand or a geotextile drain system provided by the architect or engineer. **INSULRAP 50** is not designed for long term immersion in water.

## APPURTENANCE DESIGN

Consult the engineer's application instructions for recommendations on wall penetrations (existing and new construction), insulation supports, line guide, line anchor, expansion-contraction joints, expansion chamber, and ditch configurations for drainage. Polyguard has detail drawings available at [www.polyguardmechanical.com](http://www.polyguardmechanical.com).

## LIMITATIONS

**INSULRAP 50** is a waterproofing or vapor-proofing membrane only. **DO NOT USE AS A SUBSTITUTE FOR BANDING OR MECHANICAL FASTENING OF INSULATION.** Refer to insulation manufacturers application instructions. The adhesive surface on **I-50** loses a portion of its initial "tack" in cooler weather. Follow instructions above for surface preparation and application to insure maximum adhesion. Insulation surface temperature should be within normal engineering and safety standards (below 120°F) during operation of the system. **Solvent Based joint sealers** can emulsify the rubberized asphalt, consult joint sealer data sheet for harmful solvents.

## KEEP OUT OF REACH OF CHILDREN

This material is offered for sale by **POLYGUARD PRODUCTS** only for the expressed purposes as described in this literature. Any use of the products described in this literature for purposes other than taught therein by **POLYGUARD PRODUCTS** shall be the responsibility of the purchaser and **POLYGUARD PRODUCTS** does not warrant nor will be responsible for any misuse of these products. . **Read ALL MSDS's prior to installation.**

TECHNICAL DATA			
NOMINAL PROPERTIES	TEST METHOD	TYPICAL RESULTS	METRIC
Total Thickness	ASTM D 1000	0.050"	1.27 mm
Film Thickness	ASTM D 1000	0.010"	0.254mm
Flame Spread Index	ASTM E 84	4	
Smoke Index	ASTM E 84	50	
Overlap Adhesion	ASTM D 1000	>12.0 lb/in width	2.10 N/mm
Ultimate Elongation (%)	ASTM D 882 (MODIFIED)	>400%	>400%
Water Vapor Transmission (perms @ 77°F)	ASTM E 96 PROCEDURE B	U.S. Perms 0.015	0.85 g/Pa-s-m <sup>2</sup>
Low Temperature Pliability	ASTM D 146	No Cracks at -15°F	No Cracks at -25°C
Puncture Resistance	ASTM 154	>40 lbs	18.1 kg