

OUTERWRAP and INSULSHIELD™ SOIL STRESS PROTECTION FOR DIRECT BURIAL MEMBRANE



SOIL STRESS FAILURE



INSTALLING OUTERWRAP

Polyguard's Insulrap™ products are designed for direct burial over insulation and is sufficient for carrying soil stress loads on smaller diameter pipes. However, when larger diameter pipes are interred, the large amount of settling and expanding/contracting around the pipe over time creates large amounts of stress and can cause movement of the vapor barrier membrane. As shown in photo one, this stress can create gaps at the laps. **I-50** is not spiral wrapped as shown in the photo; however the same stress can occur at butt laps or overlaps.

To alleviate this possibility on large diameter pipe, **Polyguard** has an un-bonded, 3 mil, cross laminated polyethylene, 6" or 12" wide **Outerwrap** which can be spiral wrap applied (photo 2 - no adhesive necessary) over the **I-50**. This inexpensive wrap then becomes a sacrificial layer which will wrinkle protecting the vapor barrier from wrinkling.

Outerwrap PROPERTIES	ASTM #	TYPICAL VALUE
Tensile Strength	ASTM D412 Die C Modified	3,700 PSI
Impact Strength	ASTM D781 (spherical head)	90 (Kg/Cm)

INSULSHIELD Data on Reverse

P.O. Box 755
Ennis, TX 75120
PH: (214) 515-5000
FX: (972) 875-9425

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

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INSULSHIELD™

INSULSHIELD is a sheet molded drainage product that has a pre-punched polymeric core to provide impact resistance with a non-woven filter fabric on each side to allow moisture to wick away from the insulation.

INSULSHIELD™ is designed for placement over insulation and waterproofing membrane systems, prior to backfilling operations. The **INSULSHIELD** will protect the membrane from damage during and subsequent to construction. Additionally, use of the system allows the engineer to substitute clean, rock free backfill for the expensive layer of sand backfill that has generally been required in the past. More importantly, **INSULSHIELD** eliminates the problem of inadvertent neglect by the

contractor to install the specified sand backfill over the entire project.

Insulation and vapor barrier/waterproofing jacketing should be installed as per manufacturers' instructions.

After installation of the waterproofing membrane jacketing, the **INSULSHIELD** should be cut to size, and wrapped around the jacketed insulation in a "cigarette wrap" fashion, overlapping a minimum of 4" at all laps. The protection system should be taped at 6" intervals with 3/4" or 1" reinforced filament tape. Backfilling should be done as soon as possible after application.

INSULSHIELD™ PROPERTIES	ASTM #	TYPICAL VALUE
Compressive Strength	ASTM D1621	52 ps ^f
Puncture Strength	ASTM D6241	250 lbs