GPT™

an EnPro Industries company

RISER-WRAP®

Water Infiltration Sealing System

RISER-WRAP®

The Riser-Wrap® seal is a two-layer system designed for corrosion and sealing protection on pipelines and encapsulating manholes to seal joints against ground water infiltration.

The first layer is a visco-elastic adhesive liquid sealant covered by a heat shrink sleeve. The heat shrink is a thick-walled .098" (2.5mm),cross-linked, high density polyethylene membrane.

APPLICATIONS

- Manhole Encapsulation/ Sealing
- Pipelines
- Repair and Rehabilitation
- Step-down Joints
- Square/Rectangular Vaults
- Septic Tanks/Vaults

RISER-WRAP® SQUARE VAULT APPLICATION

FEATURES AND BENEFITS

Low Preheat Requirements

- Preheat required only to remove the moisture from the surface and for fast/easy installation

Offers Permanent Heat Change Indicators

- Permanent Heat Indicator ensures that the correct application of heat has been applied to the entire heat shrink sleeve
- Installation is fully inspectable at any time after the installation

High Modulus of Elasticity Backing

- Accommodates ground movement.

High Impact and Penetration Resistance

- Toughness to resist soil stress

High Shrink Force

- Optimizes flow and fill of visco-elastic adhesive sealant
- Seals against ground water infiltration

Impermeable

- Provides corrosion protection
- Extends structure life

No Special Tools

- Quick & easy installation

Sizing Calculation Program

- On-line at www.gptindustries.com

PROPERTIES

	ASTM Test	Test Results	
ADHESIVE			
Softening Point	ASTM E-28	205°C	400°F
Lap Shear	ASTM D-1002	12N/cm²	18psi
BACKING			
Tensile Strength	ASTM D-638	22mPa	3,300psi
Elongation	ASTM D-638	650%	
Hardness, Shore D	ASTM D-224	58 Shore D	
Shrink Force	ASTM D-638	26N/cm²	38psi
Dielectric Strength	ASTM D-149	20KV/mm	500KV/in.
SLEEVE			
Peel Strength	ASTM D-1000	20/N/cm	11lb/in.
Water Absorption	ASTM D-570	0.05%	
Low Temp. Flexibility	ASTM D-2671	-40°C	-40°F
Penetration Resistance	ASTM G-17	Pass	

TYPICAL SPECIFICATIONS

1.0 Scope

Apply RISER-WRAP® heat shrinkable sleeve on exterior concrete manholes or other structures at locations indicated by the Engineer to protect manhole and reduce infiltration or ingress of water and other contaminates. The sleeve needs be applied over a cleaned, primed surface.

2.0 Sleeve - High Density Polyethylene Membrane

The heat shrinkable sleeve consists of an 11" or 17" wide wrap-around, 2.5mm thick, cross-linked high density polyethylene membrane complete with a mastic. Peel Strength is a minimum of 11 lb./in. per ASTM D 1000. Tensile Strength is 3,300 psi minimum per ASTM D-638. Mastic softening point should meet or exceed 400°F in accordance with ASTM E-28. Sleeve will incorporate permanent heat indicators, to assure proper heating.

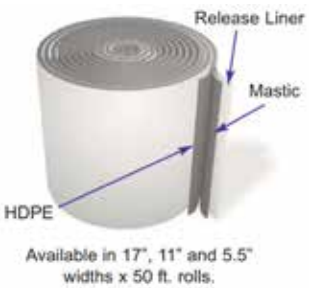
3.0 Joiner-Strip

The material to close the sleeve consists of a high density polyethylene fiber reinforced material to assure sleeve pulls tight. Lap Shear on assembled system will exceed 18psi per ASTM D-1002.

4.0 Primer

Primer is a Polyken 1027 or 1039. Primer needs be black in color and applied at a rate of approximately 2 – 3 mills. Must be able to dry with-in one hour.


RISER-WRAP® VACUUM TEST



Available in 17", 11" and 5.5" widths x 50 ft. rolls.

INSTALLATION VIDEO AND COMPLETE INSTALLATION GUIDELINE AVAILABLE AT WWW.GPTINDUSTRIES.COM





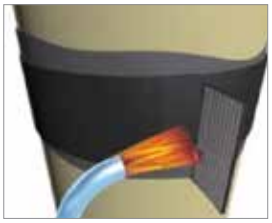
BASIC INSTALLATION GUIDELINES

1. Clean all exterior surfaces of the manhole with a brush or broom to remove any loose cement, dust or small rock particles.

2. Preheat manhole surface. The function of preheating is to remove excess moisture.

3. Apply Polyken® #1027 or #1039 liquid adhesive primers to the entire exposed concrete application surface.

4. Remove 8" (20cm) of release backing and position exposed surface on cleaned and primed seam area. Expose 8" (20cm) sections at a time as you wrap the sleeve material around the entire circumference of the manhole.



5. Using a small amount of flame, heat the adhesive side (Fiber Reinforced) of the adhesive joiner-strip. Center the strip vertically over the overlap sleeve edge, hold in place and apply small amount of heat to the face of the joiner-strip (Black Side).

6. Using a moderate to high flame, begin heating RISER-WRAP® sleeve material from the bottom edge moving around the structure in one direction.

7. Carefully cut the RISER-WRAP® sleeve when applying over cast iron manhole gussets. Gently mold with heat the sleeve around gussets with roller/gloved hand.

8. Inspection
Visually inspect the installed sleeve to make sure the sleeve is in full contact with the cone section and manhole frame. Also verify that the adhesive flows beyond the sleeve edges and that no cracks or holes exist in the sleeve backing.

9. Backfilling Guidelines
After shrinking is complete, allow the sleeve to cool prior to backfilling. Water quenching of the sleeve is acceptable to facilitate immediate backfilling. To prevent damage to the sleeve, use selected backfill material (no sharp stones or large particles) otherwise an extruded polyethylene mesh or other suitable shield should be used.

Optional: Gusset Installation
Use small sections (4" to 6" strips) of filler cord and mold around gussets.

NOTE: Primer Not Needed for Asphalt or Bituminous Coated Concrete. Apply Riser-Wrap® directly on the coated surface. Do not apply Polyken 1027 or 1039 primer over asphalt. Apply primer to bare surfaces only.

TOOLS REQUIRED FOR INSTALLATION

1. Approved torch assembly, regulator and Propane bottle. (BN-80 head suggested)
2. Tape Measure. (16')
3. Heavy Duty Knife.
4. Paint Brush or Paint Roller.
5. Marking Pens. (Sharpie)
6. Heat Resistant Gloves or Welder's Gloves.
7. Approved surface rolling device. (4" roller)

8. Wire brush or broom.
9. Approved solvent or cleaner & rags.
10. Crescent Wrench
11. Safety Glasses or Goggles

Use yellow/orange flame when heating RISER-WRAP® material. Blue flame will overheat material.

NOTE: Detailed/Complete Installation Guidelines packaged with boxed RISER-WRAP® material.

ORDERING

Riser-Wrap heat shrink sleeves can be supplied in 5.5" (140mm), 11" (280mm) or 17" (432mm) widths and shipped in 50 ft. rolls. Primer and joiner-strips required.

To determine the amount of RW material required:

Sleeve Width: Measure width of area to cover. Add about 3" above and below seal area.
Select 17", 11" or 5.5" widths.

NOTE: Select sleeve width that will overlap by 2" (50mm) on each side of the overlap joint. Figure 10% shrinkage during installation of sleeve width when calculating the minimum sleeve width.

Sleeve Length: Measure Circumference of pipes, cones, manhole frames/rings, concrete risers at the widest or largest point. {When measuring use the following formula}.
Circumference + 6" = RW Length

Example: **18" Dia. Grade Ring**
Circumference = 56.52 - Round up to 57"
57" + 6" = 63"
Use: **RW 17" x 63" Sleeve**

To determine the number of primer cans required.

Primer is supplied in 1 gallon cans, which covers 320 sq. ft. @ 2-3 mils brushed or rolled.
Example: $\frac{63" \text{ (Length)} \times 17" \text{ (Width)}}{144" \text{ /sq. ft.}} = 7.4$ sq. ft.

To determine the amount of RW Joiner-Strips.

Order in 5.5", 11" or 17" for each RW application.
1-RW-JS-17"

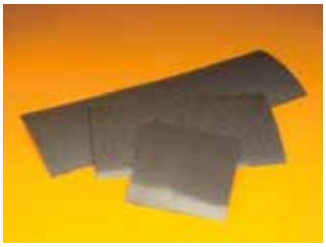
Visit www.gptindustries.com for on-line calculation program.

STORAGE & SAFETY GUIDELINES

To ensure maximum performance, store products in a dry, ventilated area. Keep products sealed in original cartons and avoid exposure to direct sunlight, rain, snow, dust or other adverse environmental elements. Avoid prolonged storage at temperatures above 130°F. (54°C.) or below - 4°F. (-20°C.). Product installation should be done in accordance with local health and safety regulations.

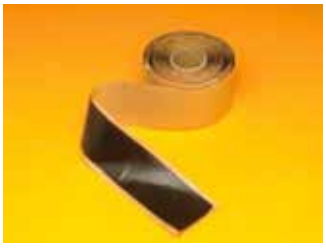
RISER-WRAP® used to rehab an existing manhole submerged in runoff water.

RISER-WRAP® 11" MATERIAL



JOINER-STRIPS

POLYKEN PRIMER



FILLER CORD

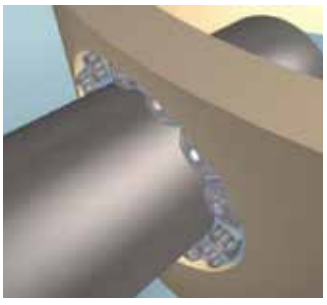
WARRANTY

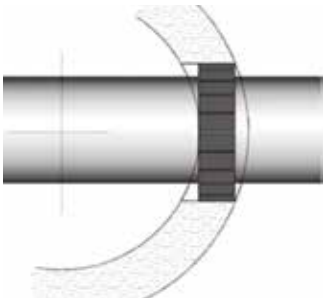
All products are warranted against failure caused by manufacturing defects for a period of one year. Any product found to be so defective and returned within one year from date of shipment will be replaced without charge. The above warranty is made in lieu of, and we disclaim, any and all other warranties, expressed or implied, including the warranties of merchantability and fitness for a particular purpose, and buyer agrees to accept the products without any such warranties. We hereby disclaim any obligation or liability for consequential damages, labor costs or any other claims or liabilities of any kind whatsoever.

The Complete Manhole Sealing System

LINK-SEAL® Modular Seals in Combination with RISER-WRAP® heat shrink sleeves.

Create a Positive Hydrostatic Seal (20 psig, 40 feet head) in the annular space between Pipe and Pre-Cast Base. See LINK-SEAL® Engineering Manual for LINK-SEAL® modular seal selection when sealing pipe penetrating curved concrete surfaces.





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