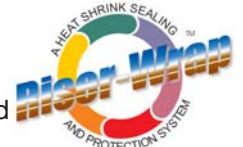


Riser-Wrap™ Installation Techniques



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.

System Components

Riser-Wrap™ heat shrink is typically shipped in 50ft. bulk rolls. Joiner-Strips are shipped pre-cut. The adhesive is protected from contamination by an inner liner. Primer is sold separately in 1 gallon cans.

Always make sure all can lids are closed when not in use.

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

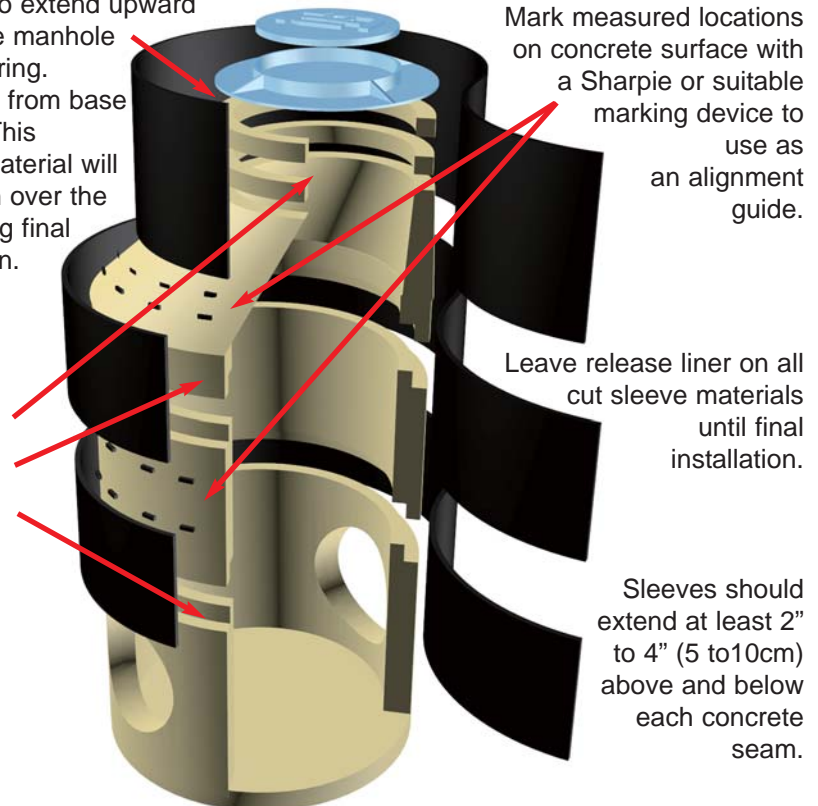
Product Preparation Guidelines

Cut all Riser-Wrap™ sleeve lengths and select appropriate joiner-strips sizes before starting installation.

1. Riser-Wrap™ sleeves should extend a minimum of 2" to 4" (5 to 10cm) above and below each seam. Choose appropriate sleeve width roll for application [Available in 5.5", 11" and 17" (14, 28 and 43cm) widths].
2. Measure circumference at each joint and add 6" (15cm) for final cut of each sleeve length.

Measure circumference and add 6" (15cm), for overlap, for each Riser-Wrap™ sleeve. **NOTE: In most cases manhole cones taper. Always measure circumference at the largest point of the taper.**

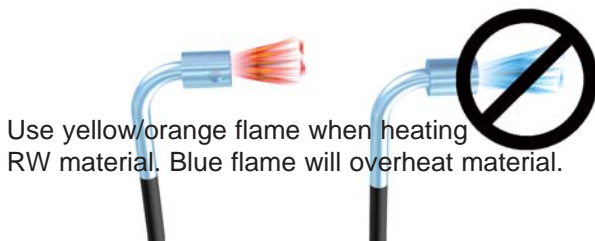
Allow 5" (13cm) of sleeve material to extend upward above the manhole cast iron ring. (Measure from base of ring.) This excess material will fold down over the ring during final installation.



Mark measured locations on concrete surface with a Sharpie or suitable marking device to use as an alignment guide.

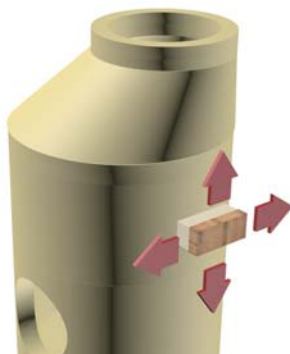
Leave release liner on all cut sleeve materials until final installation.

Sleeves should extend at least 2" to 4" (5 to 10cm) above and below each concrete seam.

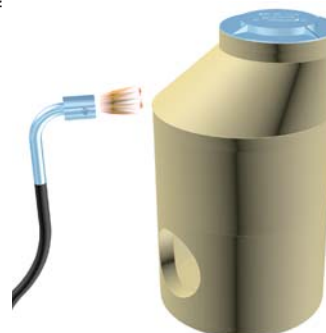


Use yellow/orange flame when heating RW material. Blue flame will overheat material.

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. Sharp edges or points should also be removed or flattened. Visible oil and grease shall be removed by use of a suitable solvent. **KEROSENE MAY NOT be used.**



2. Preheat manhole surface. The function of preheating is to remove excess moisture - in many cases, preheating may not be required. Preheating may only be necessary when ambient temperatures are below 60°F. (16°C.) or when moisture is apparent on the manhole surface.

Installation Video available to view online at www.riserwrap.com

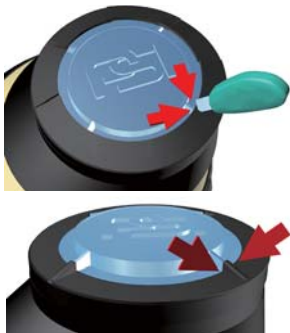
Installation Guidelines



3. Apply Polyken #1027 or #1039 liquid adhesive primers to the entire exposed concrete application surface. No less than 2 mil. and no more than 5 mil. wet thickness is required. Primer shall be "dry to touch" prior to application of Riser-Wrap™. Dry time will vary depending on ambient temperature and/or humidity. **Primer shall not be diluted and Riser-Wrap™ shall not be applied to a wet primer surface. Apply Riser-Wrap™ with-in 1 hour of primer application.**

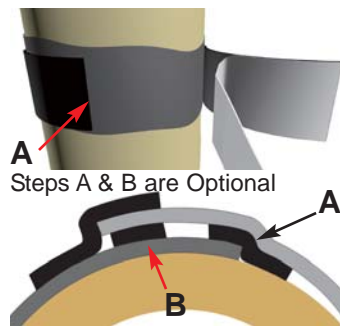
Note: Primer **Not** Needed for Asphalt or Bituminous Coated Concrete.

Optional: Filler Application
Use 931 Polyken Filler Cord around manhole frame. Cut cord to outer circumference of gussets. After primer is applied, wrap cord around the base of the manhole frame at the bottom edges of gussets. Use to build-up damaged concrete surfaces.



7. Carefully cut the Riser-Wrap™ sleeve when applying over cast iron manhole gussets. Make cuts on both sides of the gussets. Gently mold with heat the sleeve around gussets with roller/gloved hand.

Note: Allow Riser-Wrap™ material to cool before cutting around gussets.

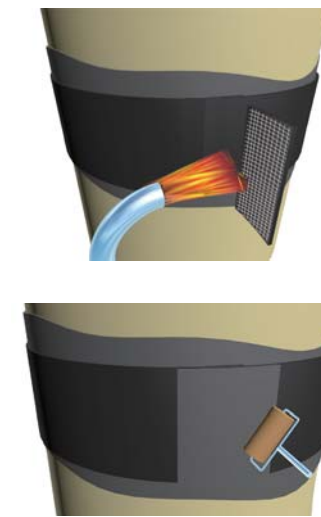


4. Remove 8" (20cm) of release backing and position exposed surface on cleaned and primed seam area. Expose 8" (20cm) sections at a time as you wrap the sleeve circumference of the manhole. Overlap the starting edge making sure the top and bottom edges are uniformly vertically aligned. For street surface enclosures allow 5" of sleeve material to extend upward above the manhole cast iron ring. This excess material will fold down over the ring during the application. **Optional: Filler Application**
Place filler cord vertically over the seam (A) of the Riser-Wrap™ material and primed concrete. Place filler cord vertically over RW material, 1-2" from seam (B) of the Riser-Wrap™ material. Apply joiner-strip see step #5.

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.

8. Inspection

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



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**). Using a roller/gloved hand, pat the strip down alternating heat with pressure. Continue until fully bonded.

NOTE: Place joiner-strip on straight part of cone. Always use yellow/orange portion of flame when heating. Do not stack align joiner-strips when using multiple sleeves, off-set for installation.

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.



6. Using a moderate to high flame, begin heating Riser-Wrap™ sleeve material from the bottom edge moving around the structure in one direction. Apply heat continuing around the structure while moving upward as the sleeve shrinks. Use a roller/gloved hand to smooth wrinkles and pockets of trapped air.

The PSI Riser-Wrap™ embossed sleeve surface informs the applicator that the sleeve is securely attached when the embossment disappears during heating.

Optional: Gusset Installation

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



Note: Should you be unsure of installation guidelines contact PSI 800-423-2410 prior to installation.



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