Cretex Pro-Ring™ Installation Instructions

Cretex Pro-Ring™ is a high strength lightweight grade adjustment system ideal for replacing traditional construction methods which use concrete, mortar or other masonry products to raise manhole frames to their final elevation. Pro-Ring™ is capable of withstanding heavy loads, aggressive hydrogen sulphide and is quick and easy to install.

Tools

- Scrapper, wire brush, whisk broom, masons hammer or chisel,
- Large Caulking Gun (to suit 900mL cartridge)
- Knife for opening ChemLink M1 adhesive cartridge
- Stringline or straight edge
- Tape measure
- Chem link M1 Structural Adhesive is the recommended adhesive for bonding Pro-Ring™ to other Pro-Ring™, to maintenance hole and catch basin structures and frames.

Standard Installation Instructions

1. Ensure that the top surface of the MH or converter slab is clean and free of any dirt, debris, protruding mortar or excess concrete and that no low spots or voids are present.
    a. Use a wire brush, whisk broom, masons hammer or chisel to be sure the surface is clean and flat around the entire circumference.

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2. If the surface of the cone or flat top has low spots, is too rough or deteriorate to allow the first Pro-Ring™ to lay flat, the surface will have to be repaired and made smooth and uniform.
    a. Use a high strength quick setting repair mortar to ensure a smooth level surface before allowing the installation to proceed.

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b. An option for severely deteriorated MH surfaces such as those constructed from brick or block, is to place a ½" to 1" thick bed of high early strength cementitious grout on the manhole surface and rough in. Position the first ring with the tongue facing up and embedding the grooved underside directly into the grout. Make sure the ring is centred and level on the manhole.
c. Approved high early strength mortars and grouts include RapidSet® CementAll™ and RapidSet® MortarMix™

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3. Determine the height and appropriate combination of rings to achieve the desired final elevation. Using a straight edge such as a level, long 2x4 or a string line, measure the distance from the manhole surface to the existing or required final elevation and be sure to deduct the height of the manhole frame casting to determine the rings needed.

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4. Choose the best combination of Grade Rings, Finish Ring and Angle rings if needed to accommodate a sloping road or ground surface. With the required rings selected, it is recommended to dry stack the rings and place the manhole frame casting on the ring stack and verify the elevation is correct using your straight edge or stringline.

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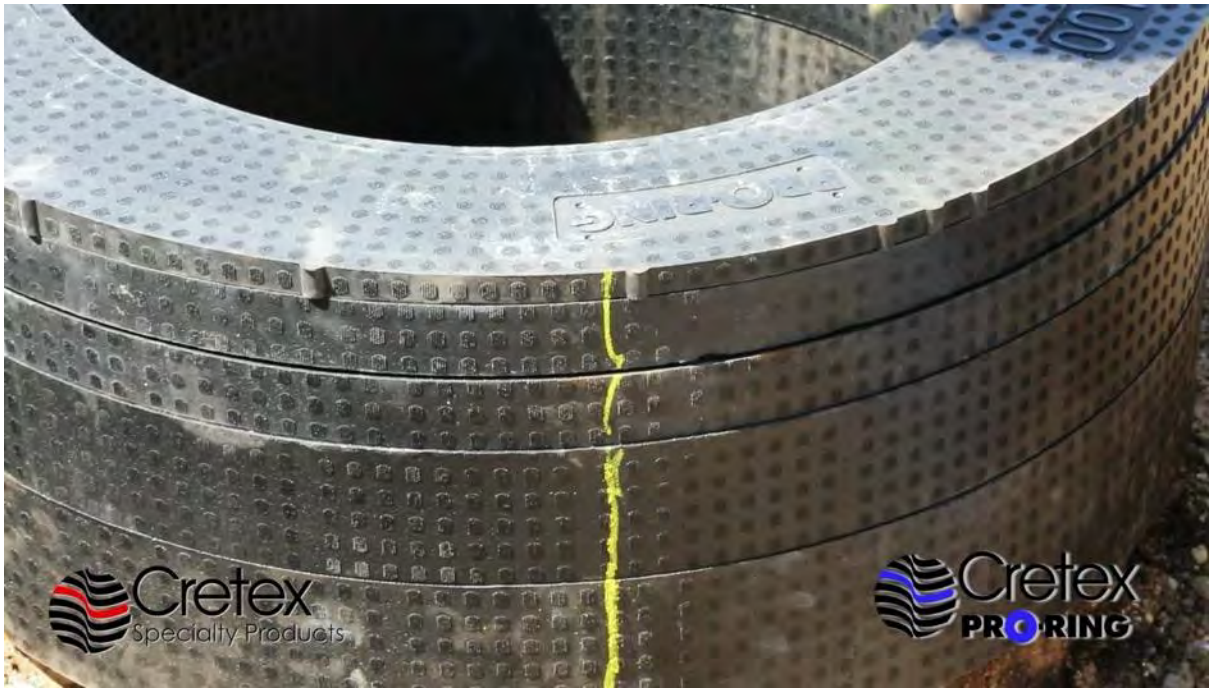
5. If an Angle Ring or Rings are being used, adjust by turning the ring or rings to achieve the desired amount of slope. After confirming the proper slope, mark the entire ring stack and manhole with a vertical line using a lumber crayon, chalk or high visibility marking paint. This vertical line will serve as an alignment mark to ensure that the rings are reassembled in the correct slope orientation.



6. Remove the manhole frame casting and set aside for final installation later.
7. Remove the stack of rings, placing them upside down, next to the manhole within easy reach for final installation with the adhesive.

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8. Cut the tip off and puncture the cartridge of the recommended M1 adhesive and insert into the caulk dispenser.

9. Apply a heavy bead of caulk to both the inner deep groove and the outer shallow groove of the grade ring. Make sure the adhesive protrudes beyond the surface of the ring to allow proper adhesion and sealing to the cone.

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10. With the adhesive now applied to the first grade ring, flip the ring over placing it on the surface of the cone with the adhesive side facing down .

11. Make sure to line up any previously applied paint marks and then press down on the ring making sure the ring is centred on the manhole opening.

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Please note, this step is not required for irregular surfaces when the first ring is being embedded into the cementitious grout.

12. Apply a ¼” to 3/8” bead of adhesive into the deeper inner groove and to the outer shallow groove of the next grade ring.

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13. As before, grasp it and flip it over so the adhesive and grooves are facing down and place it on top of the first grade ring, so the tongue and groove joint lines up. Be sure to align any previously applied paint marks. A slight twisting motion during these steps will aid in proper adhesion and mating of the rings.

14. At this point continue applying the adhesive and installing any remaining grade rings as in prior steps, making sure to align any previously applied paint marks.

15. Once the bulk grade adjustment has been completed with Grade rings, you are ready for the Finish ring and Angle ring or rings if required.

16. As in previous steps, place adhesive and then flip the Finish ring into place being sure to take note of the alignment marks.

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17. Now that the Finish ring is set, any required angle rings can be installed. If no Angle rings are required, you will skip this step.

18. With the Angle ring or rings upside down, apply a ¼" to 3/8" bead of adhesive into the shallow groove in the centre of the ring. Grasp the angle ring, flip it over so the adhesive and groove is facing down and place it onto the Finish ring making sure to align any previously applied paint marks. Repeat the previous steps if more than 1 Angle ring is required, making sure to align any previously applied paint marks.

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19. Once all the Angle rings have been installed, the manhole frame casting is ready for installation. Apply a ½" bead of adhesive onto the top surface of the rings making sure it is located to make contact with the base flange of the manhole frame casting. A second bead of adhesive may be used to enhance the bond and seal.

20. If the existing manhole frame casting is being reused, wire brush or scrape off any loose material before placing it onto the rings and adhesive.

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21. Set the manhole frame casting in place and centre it over the opening.

22. At this point the installation of Cretex Pro-Ring™ is complete and the excavation can be backfilled immediately.

Use caution when backfilling and compacting to prevent any movement of the ring stack during this process.

Important Note : For trafficable (Class D) installations it is necessary that the load from the frame is spread across the majority of the top surface of the Pro-Ring™. It is recommended that the contact area between the frame and Pro-Ring™ it is resting on be at least 60%. For applications below Class D there is no minimum contact area recommended.

Pro-Ring™ can also be secured using bolts or threaded rod – see separate document " Pro-Ring™ Supplemental Instructions for Bolt Down Applications"

End of Instructions

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