

Installation Instructions

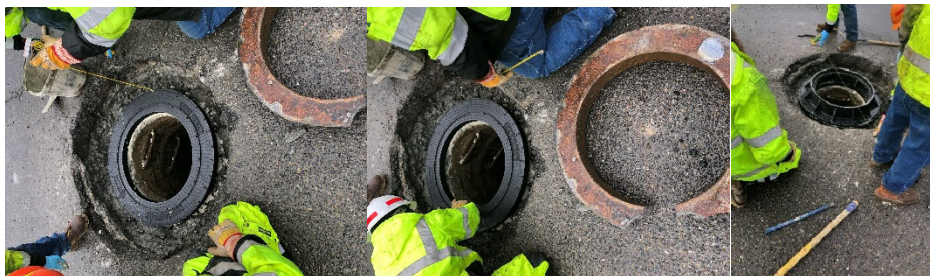
For Composite Manhole Frames & Covers

These instructions are very basic and provide one method for installing composite manhole frames and covers. Other valid methods and guides exist, a number of which are online and may be considered prior to installation.

- 1) Ensure proper packaging for safe transportation to the jobsite. Do not roll or push the manhole frame & cover off the delivery vehicle. Use proper onsite equipment to safely unload the frame & cover and carefully place on the ground.
- 2) Confirm that the frame & cover has been properly matched to the manhole being used. Verify that the diameter of the clear opening of the frame is compatible with the opening of the manhole. The clear opening of the frame should not be smaller than the manhole clear opening ID. The bottom flange of the manhole frame should be completely supported by either concrete, riser rings or the manhole itself.



- 3) Remove the existing frame & cover. This may require cutting or jackhammering the existing asphalt or concrete. The old frame & cover is likely very heavy. Please use proper lifting technique to avoid injury.



- 4) Clean up the excavation and remove any debris or surplus dirt left over from the removal of the previously installed frame & cover. Confirm that the depth from the top of the manhole to grade is greater than the height of the new replacement frame & cover. This will ensure that the frame & cover will not be higher than your pavement finish grade once installed.

- 5) If riser rings are not to be used, pour a concrete layer around the hole. Make sure the concrete completely supports the composite frame bottom flange. The frame bottom flange maybe placed directly on the new, wet concrete. You can set it into the wet concrete with tools or by hand. Hand holes in the frame may be anchored with bolts or re-bar into the riser rings or concrete below if an adhesive is not being used. Make sure that the top of the composite frame is level with the finish pavement grade.



- 6) If riser rings are to be used, consider rings made from alternative materials such as rubber, polymer or HPDE. These riser rings are resistant to Hydrogen Sulfide corrosion. Traditional concrete riser rings are subject to degradation from exposure to Hydrogen Sulfide. Properly line up each additional riser ring, and follow the instructions from the riser ring manufacturer for proper application of concrete, adhesive or sealants. Use beveled riser rings to match roadway crown if necessary. Use a level, string, or other method to confirm top of frame & cover matches pavement grade.



- 7) Once anchored, continue laying concrete or asphalt until level with the top of the frame and flush with final grade. In northern climates we recommend the use of a concrete collar rather than asphalt around the frame finished flush with the top of the composite frame. Asphalt can settle with time, exposing the top of the frame to potential side impact strikes from road equipment such as snow plows. 3 - 4 inches of concrete should be adequate, float and finish concrete collar to project specifications. If an asphalt collar is used compact as recommended.

- 8) Remove all wet concrete from the inside of the frame. This would include both the seat and walls. Any concrete remaining in those areas once hardened, will cause issues in either seating the cover or, if the cover was in place during installation being able to remove the cover from the frame. Once surplus concrete has been removed, and before replacing cover please inspect the seat area of the frame. Verify that the elastomer seal is seated properly in its race. Also remove (brush or wipe) any debris on the seat ledge that would prevent the cover from sitting flat and flush on the seal.
- 9) Aligning the paddle locks or bolt holes on the cover is simple if the frame and cover has outward facing lobes. Match the outward facing lobes on the cover with the receiving lobe locations in the frame. This will automatically align both the bolt down and paddle lock style covers. No further work is required to align these models. If you have the bolt down model with the inward facing lobes, place the cover in the frame properly lining up the alignment marks on both the frame and cover. You may need to slightly rotate the cover if the holes do not line up. If you have a frame and cover set that locks with a wormgear, place the cover hook (opposite the wormgear) in one of the 4 available pockets. This will automatically align the wormgear with a matching pocket on the opposite side of the frame. After installation is complete, ensure bolts are properly torqued. We recommend a minimum of 50 and a maximum of 65 ft/lbs. of torque.
- 10) Although approximately 1/3 the weight of cast iron frames and covers, care should be taken when installing covers to or removing covers from the frame to protect fingers and hands. Place the cover partially on the frame then pull into place using a manhole hook or other tool with the pick bars. Keep hands and feet clear of the cover while installing. Make sure the seat area has been cleaned of all debris prior to installing cover. When in place tighten all paddle locks and bolts. The paddle lock pentagon operating nuts have directional arrows showing the location of the paddle. Do not overtighten the stainless steel bolts as this will strip the threads in the inserts. Tighten wormgear until it pulls down the cover flush with the frame top edge.



Allow the concrete or asphalt to cure per the manufacturer's instructions before allowing traffic.