

INSTALLATION INSTRUCTIONS



DUCTILE IRON

Introduction

This Installation Guide provides general information useful for installation of the Channell **SUPERBULK** line of below grade handhole vaults configured with ductile iron covers and a galvanized steel support ring. The guide cannot anticipate all situations that could be encountered in the field, and therefore, represents information applicable to common installation conditions. The use of the iron lid/steel ring combination is intended for several applications where there is, by design, vehicular traffic present. Applications such as alley ways, driveways, and parking lots would be illustrations of these applications. It is important to note that the steel frame must be imbedded in a concrete surround or collar as part of the installation. The **SUPERBULK** product is not intended for direct roadway installations. In the course of vault placement, it may be necessary to drill holes for ducts or cut away portions of the HDPE vault to fit in a previous installation. This may be done, provided the rest of the installation follows the installations procedures on the following pages.

Site Preparation

1. Ensure that all federal, state, local, OSHA, and company specific regulations and safety practices are met prior to beginning and continuing throughout the installation process.
2. Excavate the hole 8-10 inches larger than the width and length dimensions of the handhole body.
3. Excavate the depth of the hole 6 inches deeper than the overall depth of the vault. Tamp the excavated bottom of the hole to compress any loose soil and flatten the bottom.
4. Place 5-6 inches of 3/4" crushed rock over the entire floor. The rock should be free of soil and other organic matter. This important step prevents subsistence of the vault over time, aids in drainage, and provides a solid foundation for the handhole. (See Figures 1 and 2)
 - a. As an alternative, a dry mix of cement and crushed rock in a 1:10 ratio may be used to form a higher strength foundation.
 - b. NOTE: Do not use "pea gravel" or other "round stone" for this step.



Placement of the Handhole

1. If duct openings are needed, drill holes in the HDPE sidewalls using a properly sized hole saw. Other clearances that may be required during a retrofit of a previous installation may be obtained by using reciprocating saw with a wood cutting blade. (See Figure 3)



2. Place the handhole vault with the steel ring in place in the pit. Level the vault assembly to grade by adding/adjusting of the crushed rock foundation. (See Figure 4)

3. Remove any soil or rock pieces from the cover seat in the steel ring. Place the support beam(s) onto the ring and place the iron covers in the ring. Assure the support beam and covers are properly seated. Cover the bolt holes with an adhesive backed tape, such as “duct tape” to prevent filling or contamination during backfill of the pit. (See Figures 5 and 6)



Figure 3



Figure 4



Figure 5

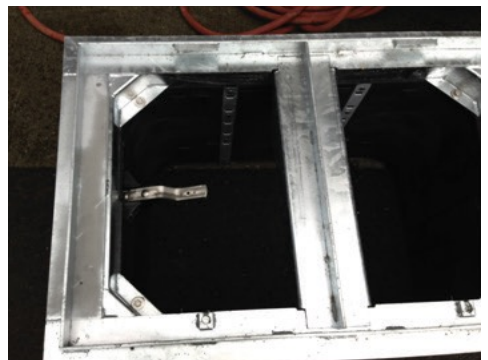


Figure 6

Backfilling

1. The excavated pit should be backfilled with fine, wet crushed gravel, or “crusher run”. Hand tamp the gravel in layers of 4-6 inches to insure flow of backfill into the cells of the vault wall. a. NOTE: Care should be taken to prevent excessive damage of the cellular ribs during the tamping step.
2. Add backfill to a level 6-8 inches from the top of the cover. Tamp the final layer the backfill to a uniform level to grade. (See Figure 7)



Figure 7

Adding the Concrete Collar

1. The final step is the addition of concrete to the top of the handhole/ring assembly.
2. Add concrete into the pit assuring that it flows into the sidewall cells and is uniform under the steel flange on the galvanized ring. If possible, add rebar along the sides and around each of the four corners at 3 inches or so into the cement pour. If possible use tape to cover the bolt hole to prevent concrete from entering during this step.
3. Finish the concrete layer to the top of the ring. (See Figures 8 & 9)
4. Add any concrete finishing steps to the top layers as required. (See Figure 9)



Figure 8



Figure 9

Final Steps

1. Clean uncured concrete from the iron lids and the gaps between the ring and covers.
2. Remove tape from the bolt counter bore location and place bolts into threaded locations.
3. Assure the cement is properly cured before vehicular loads are applied to the covers. (See Figure 10)



Figure 10



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