

CONCAST

Fibercrete®

PRECISELY ENGINEERED HIGH STRENGTH CONCRETE



HANDHOLE INSTALLATION GUIDELINES

4/10/12

Handhole Installation Guidelines

The following guideline is provided to assist in the installation of Concast Handholes. Please read through the guideline in its entirety before beginning the installation.

Concast provides you with CAD generated handhole PDF drawings of each unit. Review all drawings before beginning installation, as they will aid in the location and depth of excavation.

Concast FH series handhole basic components:

- Handhole Base/Sleeve
- Handhole Cover with Penta-Head Bolt-Down

Concast FHR series handhole basic components:

- Handhole Base/Sleeve
- Handhole Cover with Penta-Head Bolt-Down
- Extension sleeve for added unit height if applicable.
- 8000P Cover Removal Tool

Excavation Limits and Requirements: Excavation shall be to a depth that permits preparation of a foundation as specified; the installation of the handhole unit at the prescribed line and grade. The width and length of the excavation hole shall be sufficient to permit the entire bottom surface of the handhole sleeve to be set level, and then the backfill to be placed and compacted as specified.

Excavation shall be extended below the bottom of the structure grade as necessary to accommodate any required granular bedding material. When rock or unsuitable foundation material is encountered at the established grade, additional materials are to be removed as specified or as directed by the soil engineer to ensure an acceptable foundation.

All excavations for pedestrian rated handholes below grade shall be to a minimum width equal to the overall handhole unit dimensions plus 6 inches. Excavation widths shall include at least three inches of clearance on each side of the handhole unit. Leave additional clearance for traffic rated handholes when they will be installed with a concrete or asphalt apron for full H-20 rating.

Handhole Bedding: All bedding materials shall be carefully compacted into place. Bedding requirements shall include mechanical compaction of sand and gravel material when specified. A 6 inch granular base of compacted crushed rock or granular materials; at which 100% passes a 3/8 inch sieve; and a maximum of 5% passes a number 10 sieve, shall be placed on compacted sub grade under the proposed handhole unit. The sub grade shall be compacted as directed by the soils engineer.

When the bottom of the excavation is soft, or where the soils engineer feels that unsatisfactory foundation conditions exist, the contractor shall over-excavate to a depth that ensures a proper foundation as directed by the soils engineer. The excavation can then be brought back up to the prescribed handhole grade with a thoroughly compacted granular material.

It shall be the contractor's responsibility to notify the owner and soils engineer of changing soil conditions which may be of poor bearing capacity, and also when organic soils are encountered. Where handhole units are placed on unstable soils without notification, the contractor shall be solely responsible for all corrections of the installation without further compensation.

Placing of the handhole: Handhole units, depending on weight, are either set by hand or with mechanical aid. Lifting inserts are cast into each FHR unit. If lifting from threaded inserts, thread the eyebolts or hoist rings (Concast part number 9002) all the way into the threaded inserts before lifting. Use suitable hoisting equipment to maneuver vault into place.

Handhole Backfilling Operations: All handhole excavations shall be backfilled to restore pre-existing conditions, or to the final grade as specified by the owner. Backfill material shall be a granular type as required by the soils engineer, and shall be reasonably free of foreign materials, rubbish, debris, etc. Frozen clumps, oversized stone, rock, concrete, bituminous chunks, or other unsuitable materials may prevent a thorough compaction or increase the risk of after settlement. Backfill shall be placed to the desired grade height, but shall not cover the top surface of the handhole unit.

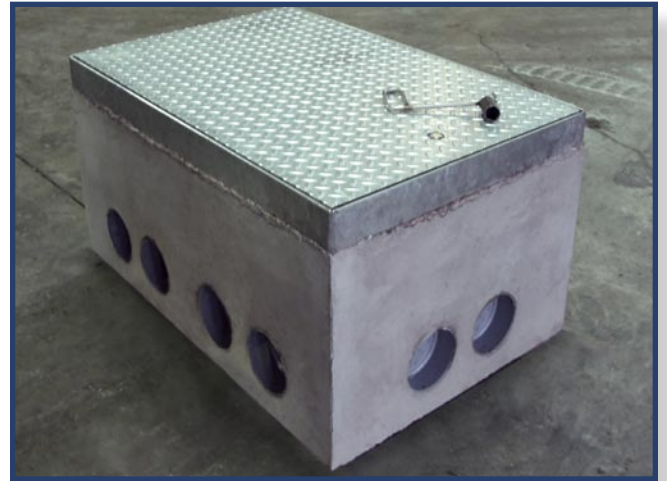
Compaction of the materials within the encasement zones of the handhole unit shall be achieved by hand or through the use of light equipment only. The use of roller type compaction equipment and heavy construction equipment should be avoided. Use of heavy equipment to compact backfill may cause damage to the handhole sleeve. Any damage to the handhole unit as a result of improper compaction methods will be the responsibility of the contractor.

Restoration of Surface Improvements and Final Acceptance:

Whenever any surface improvements such as pavement, curbing, pedestrian walks, fencing, or turfing have been removed, damaged, or otherwise disturbed by the contractor's operations; they shall be repaired or replaced to the pre-existing condition. The repairs are to meet the owner's satisfaction.

Until the final acceptance of the project, the contractor will assume full responsibility and expense for all backfill settlement. The contractor shall refill and restore the work as directed to maintain an acceptable surface condition.

All additional materials required shall be furnished without additional cost to the owner.



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