Introduction

Hancor offers a full line of pipe jointing options to fit the requirements of nearly any storm drain or gravity flow project specifications. The joints available range from soil tight split couplers to gasketed soil-tight (ST) and watertight (WT) pipe. When using systems with high performance couplings, it is important to provide a connection at the manhole or drainage structure that does not compromise the integrity of the system.

Connection Options

Soil-Tight Performance
When using Sure-Lok® ST or Hi-Q® HDPE pipe in non-watertight applications, it is generally acceptable to grout the void space between the HDPE pipe and drainage structure. Installation recommendations are outlined in Hancor Standard Detail 201 and 202.

Watertight Performance
When using BLUESEAL® HDPE pipe for testable systems, requiring some degree of watertight performance, it is necessary to provide additional measures to insure a watertight connection between the pipe and structure. ASTM F2510/F 2510M, “Standard Specification for Resilient Connectors Between Reinforced Concrete Manhole Structures and Corrugated High Density Polyethylene Drainage Pipes,” is the governing standard for corrugated HDPE pipe-manhole connections, but specific performance/installation requirements should be confirmed for every project. Along with a full line of adapter fittings available by Hancor, including the Waterstop® Gasket, are flexible boot fittings provided by other manufacturers. Fitting dimensions should be supplied to the manufacturer to insure the proper fitting size and manhole boot connector are supplied. Installation recommendations and product details are outlined in Hancor Standard Details 201, 203, and 204(A-G).

Installation Recommendations

When installing a Hancor manhole adapter on the upstream end, the fitting may be over inserted into the structure temporarily while the adjoining pipe is laid. The spigot piece is then pushed back through the structure and connected to the bell end when pushing the joint together, as shown to the right.
Summary

The selection of which manhole connection is best suited for a project is based on the joint and connection requirements along with preferred manhole connection method for the region. It is imperative that prevailing regulations be consulted before selecting a manhole connection. Other options may be available for watertight manhole connections. Refer to Hancor Standard Details 201 through 204 (A-G) for installation and connection-specific details. Contact the Hancor Regional Engineer or Application Engineering for further assistance.

Alternately, when using the adapter fitting in the downstream end of the structure, before pushing the bell and spigot together from inside the structure, it is necessary to provide blocking at the structure to prevent the fitting from moving in the structure, as shown to the left.
Notes:

1. Maximum inspection angle shall not exceed requirements as specified by the manufacturer.

Dimensions shall be in conformity with the company's design and the manufacturer's recommendations. All other requirements are to be followed in detail. See manufacturer's instructions for more information. The manufacturer's instructions shall be used as the definitive guide. This drawing is intended to be used for design and construction purposes only and does not imply any responsibility on the part of the manufacturer. This drawing is not intended for use in the field without the manufacturer's prior approval.

2. See standard details STP-204 (A) through STP-204 (E) for structural connection. Product information and technical notes are also provided in the manufacturer's instructions. This drawing is intended to be used for design and construction purposes only and does not imply any responsibility on the part of the manufacturer. This drawing is not intended for use in the field without the manufacturer's prior approval.

Pipe and Manhole:

- Extra precautions must be taken to prevent differential settlement between the pipe and the manhole. Extra precautions should be taken to prevent differential settlement between the structure and the manhole.

- Natural soil shall not exceed requirements as specified by the manufacturer.
FOR INSTALLATION RECOMMENDATIONS
NOTE 5.1: HOLE CONNECTIONS TO MANHOLES AND STRUCTURES
SEE STANDARD DETAIL STD-001 AND TECHNICAL

TYPE 1: SOIL-TIGHT USING NON-SHRINK

HOLE PIPE

NON-SHRINK GROUT (SOIL-TIGHT)
Between the pipe and manhole, must be taken to prevent differential settlement. Sealed around structure, adapter must be extruded. Contractor must use manhole gasket is unimportant. Performance highly dependent on installation.

Type 2: Sand-PC Manhole Adapter Grounted

See standard detail SD-201 and technical guide 201 for installation recommendations.

Note: 6” of pipe connection to manholes and structures.
### Table: Connection Details

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### Diagram: Installation View
- Ensure backfill is properly compacted.
- Place under pipe and clamp screws will be placed 180° from each other.
- Stainless steel takeup should have acceptable ground material.
NOTE: (N) Adapter CO (CN) AOD Product Codes

ADAPTER W/ SMOOTH EXTERIOR

(CORR-N-SEAL) OR

PREAPPROVED MANHOLE

WHERE PREAPPROVED MANHOLE

ADAPTER W/ SMOOTH EXTERIOR

MANHOLE ADAPTER W/ SMOOTH
BOOT W/ HOLE AS PREDICTED MANHOLE
PRECAST W/ FIELD INSTALLED MANHOLE

TYPE 1B CORR-N-SEAL (CORR-N-SEAL) OR

KORR-N-SEAL, 300)

YOUR PRODUCT IS SUPPLIED BY MANUFACTURER

PARTS LIST AS SUPPLIED BY MANUFACTURER

KORR-N-SEAL IS A REGISTERED TRADEMARK OF KCIC (WWW.KCIC.COM)

MANHOLE ADAPTERS ARE INSTALLATION ENGINEERED PRODUCTS UNLESS OTHERWISE SPECIFIED. THE MANHOLE ADAPTERS ENSURE HIGH PERFORMANCE, HIGHLY OPTIMIZED INSTALLATION.

CONSTRUCTION MUST BE TAKEN TO PREVENT DIFFERENTIAL SETTLEMENT BETWEEN THE STRUCTURE AND THE MANHOLE ADAPTER. EXTRA PRECAUTIONS MUST BE TAKEN TO PREVENT DIFFERENTIAL SETTLEMENT BETWEEN THE STRUCTURE AND THE MANHOLE ADAPTER.
A. A/C is a registered trademark of A/C Products, Inc. (www.aecom.com) KOR-N-SEAL is a registered trademark of NTC, Inc. (www.ntc.com)

**NOTES**

APEX Party: Codes as supplied by manufacturer.

Prep and Manhole

Be taken to prevent differential settlement between the installed structure and the original manhole oiltight. The performance highly dependent on installation.

Water main, connection type 2 dual

**TOOLING**

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**MANHOLE AND STRUCTURES FOR INSTALLATION RECOMMENDATIONS**

See standard detail Std. 204 and technical note 6.0 for details.

**APPLICABLE HAPROTEC SERIES**

A-LOCK is a registered trademark of A-Lock Products Inc. (www.alock.com)

KOR-N-SEAL is a registered trademark of NPc Inc. (www.npcinc.com)

NOTES

PARALLEL PIPE AND MANHOLE

BE TIGHTEN TO PREVENT INDIFFERENTIAL SETTLEMENT BETWEEN THE
SEWER AND STRUCTURE. ADAPTOR EXCESSES REQUIRE MUS
CONSTRUCTION MUST INSURE ADAPTOR GAP IS UNIFORM.

PERFORMANCE LIGHT DEPENDENT ON INSTALLATION.

THIRD PARTY CODES AS SUPPLIED BY MANUFACTURER

MANHOLE BOOT W/ PVC MANHOLE
PRECAST W/ FIELD INSTALLED PVC MANHOLE

TYPE 3A: A-Lock Pre-Cast Manhole

GASKET W/ PVC MANHOLE ADAPTOR

ADAPTOR

KOR-N-SEAL 096R (KOR-N-SEAL 096R)

WATERPROOF CONNECTOR

NOTES

TECHNICAL NOTE 5.8. HOLE CONNECTIONS TO MANHOLE RINGS AND STRUCTURES

REFER TO STANDARD DETAIL STD. 201 INSTALLATION RECOMMENDATIONS ARE ALSO SPECIFIED IN

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Pipe and Manhole:

KOR-N-SEAL is a registered trademark of NPC inc. (www.npc.com)

Third Party: Codes as supplied by Manufacturer

Performance highly dependent on installation

HDP Pipe

Z-100 Type 4: Z-100 (Pre-Cast Manhole Gasket)

NOTES:

MANHOLE AND STRUCTURES FOR INSTALLATION RECOMMENDATIONS

SEE STANDARD DETAIL ST-2021 AND TECHNICAL NOTE 6A HOP CONN TO