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Hancor Design Aids Section



2-2 INTRODUCTION

- Products ▶
- Markets ▶
- Design Aids ▶
- Ducks Unlimited ▶
- Ordering ▶
- About Hancor ▶
- Contact Us ▶
- Monthly Drawing ▶
- Featured Products ▶
- Case Studies
- Installation Video
- Co-op Advertising
- Hot News

Pipe behavior can be broadly classified as flexible or rigid, depending on how it performs when installed. Flexible pipe can move, or deflect, under loads without structural damage. Hancor Sure-Lok®, Hi-Q® and AASHTO polyethylene pipe are examples. Rigid pipe is often classified as pipe that cannot deflect more than 2% without structural distress, such as cracking. Reinforced and non-reinforced concrete pipe are examples.

Both flexible and rigid pipe depend on proper backfill. Backfill characteristics, and also trench configuration in the case of rigid pipe, enter into the design procedures. In the case of flexible pipe, deflection allows loads to be transferred to and carried by the backfill. Rigid pipe transmits most of the load through the pipe wall into the bedding. Proper backfill is very important in allowing this load transfer to occur.

Many research projects have investigated the behavior of flexible pipe. Polyethylene pipe performance has been investigated through use of actual field installations, post-installation inspections, load cell tests, and finite element computer analyses. Now, three decades after its introduction, the behavior of corrugated polyethylene pipe has probably been analyzed more than any other conventional drainage pipe.

The information in subsequent areas of this section provides a step-by-step guide for the structural design of nonpressure corrugated polyethylene pipe. The methodology represents the state-of-the-art design procedure, and has been proven through test installations and actual projects to be highly conservative. More discussion on actual installations is included in Section 2-6.

Featured Products

BLUE SEAL	Sure-Lok	LandMax	Hi-Q	EnviroChamber	TerraFiber
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