Concrete Solutions for Corrosive Environments

High Strength Concrete Pipe with Integral Liner:
- Corrosion-resistant
- Lifetime performance
- Economical alternative
Pipe Standards

Scope:
This specification covers concrete pipe with an interior PVC liner intended for use as conveyance systems of sewage, industrial wastes and storm water.

A variety of joints are available that will satisfy the applicable design requirements.

Reference Documents:
The reference documents for this specification are: ASTM C14, C985, C76, C655, C361, and D1784 latest edition.

Terminology:
Definition of terms related to this specification are found in ASTM C822 and F412.

Pipe Characteristics Materials:
PVC Liner-The PVC plastic inner liner is cast and fully anchored into concrete prior to curing allowing the two materials to act together. Steel reinforcement may be added based on the indirect design procedure in accordance with the Concrete Pipe Design Manual. Special coatings may be applied to the bell and spigot.

Concrete—Concrete is a minimum compressive strength of 5,000 PSI. Non-reinforced concrete pipe should be in conformance with ASTM C14 or C985.

Steel Reinforcement—Any required steel reinforcement should be in conformance with ASTM C76 or C655.

Storm Water and Sewer Management Systems

Concrete pipe are ideal conduits for storm water and sewer management systems and structures. However, gases are generated in storm and wastewater utilities that can be potentially corrosive agents. Corrosion attack is universal in most underground systems, regardless of geographic location. Temperature, low velocities, long detention times and solid buildups may all contribute to the existence of hydrogen sulfide and corrosion problems.

Concrete, like many materials, is susceptible to corrosion from the presence of hydrogen sulfide. As a result, corrosion-resistant products must be considered when designing and costing storm water and sanitary sewer applications.
Concrete Solution for Corrosive Environments

County Materials is a leader in manufacturing the Amer-I-Line concrete pipe series. Amer-I-Line was developed to meet the harsh operating environments in the wastewater industry. Throughout North America, hundreds of miles of Amer-I-Line concrete pipe and countless structures provide economical service for storm water and sewer infrastructure.

Amer-I-Line pipe are crafted with a PVC plastic inner liner cast directly into the pipe walls. The liner acts as a corrosion-resistant material that affords immunity against chemicals, permeation, biological attack and abrasion, and offers many economic advantages.

Once Amer-I-Line concrete pipe are installed underground in normal water and sewer systems, their PVC lining is not susceptible to the typical processes of deterioration found in nature. As a result, concrete pipe are protected at potential points where corrosive gases, such as hydrogen sulfide, may be generated.

Amer-I-Line’s PVC liner is crafted of unplasticized polyvinyl chloride, a material that has a proven record of resisting corrosion from hydrogen sulfide and biological attack.

Amer-I-Line™ Advantages

The design and selection of products for piping systems must include a thorough economic evaluation that looks at more than just the initial costs associated with basic materials, trenching, engineering and inspection. Annual maintenance issues and environmental effects have a direct impact on the life and true cost of a system.

Durability can be affected by erosion, corrosion and other types of environmental degradation. If corrosion and related issues are not taken into consideration during product specification, higher maintenance costs from cleaning, repair and system replacement will be likely.

The built-in protection provided by Amer-I-Line concrete pipe provides long-term durability, ease of installation and economic value. As a result, water management systems designed with Amer-I-Line result in considerable savings with reduced operating costs and enhanced lifetime performance.

Call for Available Sizes- (888) 443-6162
County Materials is an American-based manufacturer of concrete construction and landscaping products, including reinforced concrete pipe, culvert pipes, and precast concrete manholes for use in storm water and sanitary sewer applications.

Reinforced concrete pipe products:
- Flared end sections
- Horizontal elliptical concrete pipe
- Horizontal elliptical end walls
- Box culverts
- Anti-steep collars
- Custom structures
- Custom box manhole structures
- Corrosion resistant pipes
- Circular concrete pipes (with profile joints, o-ring joints, and neptune profile joints)
- Reinforced concrete pipe tees and bends

Related products:
- Rubber adjusting rings
- Catch basins
- Manholes and sizings
- Concrete adjusting rings
- End wall gates
- Pipe couplings
- Filter fabrics
- Joint tie assemblies
- Pipe joint lubricants
- Protect-A-plugs
- Sewer joint compounds
- Seals
- Foundry castings
- Silt fences
- Butyl joint sealants
- Water stops
- Exterior joint systems
- Hydropholic water plug sealants
- Internal/external flex rib seals
- External seal joint systems
- External joint systems

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