AMERON REINFORCED CONCRETE CYLINDER PIPE
Since before the 1920’s, most of the concrete pressure pipe in the U.S. was reinforced concrete cylinder pipe (RCCP). As the names would indicate, the construction of this pipe uses mild steel reinforcement that is cast into the concrete wall of the pipe. New installations of reinforced concrete cylinder pipe have been completed for various applications such as water transmission, sewer force mains, inverted siphons, subaqueous pipelines and liners for pressure tunnels. Recently RCCP has been specified for cooling water pipelines at power plants.

**Design basis:** Design of reinforced concrete cylinder pipe is covered by Chapter 7 of the AWWA M9 Manual. The design procedure addresses external loads and internal pressures individually and in combinations. AWWA C300 limits the reinforcing steel furnished in the cage(s) to no less than 40 percent of the total reinforcing steel in the pipe. The maximum loads and pressures for this type of pipe depend on the the pipe diameter, wall thickness and strength limitations of the concrete and steel.
Manufacturing: Manufacture of reinforced concrete cylinder pipe begins with a hydrostatically tested steel cylinder and attached steel joint rings. The cylinder assembly and one or more reinforcing cages are positioned between inside and outside forms, and the concrete is placed by vertical casting. Steam or water is used to cure the concrete.

Size range: Reinforced concrete cylinder pipe is manufactured in diameters of 30-144 in., with larger sizes limited only by the restrictions of transportation to the job site. Standard lengths are in the 8-24 ft range.

Joints: The standard joint for reinforced cylinder pipe, as shown in Fig. 2, consists of steel spigot and bell rings and a rubber gasket. The external joint recess is grouted in the field after installation.
PRODUCT FEATURES

Specifications:
American Water Works Association Standard C300; AWWA Manual M9

Applications:
Water transmission, cooling water systems, sewer force mains, inverted siphons, subaqueous pipelines, liners for pressure tunnels

Pressure Classes:
To 500 psi; external loads as required, including high cover

Diameter Range:
30 through 144 inches

Laying Lengths:
8 through 24 feet
MANUFACTURING PROCESS

Cylinder Fabrication on the Drum Cylinder

Sizing steel joint rings

Automatic Reinforcing Cage Fabrication Machine for RCCP

Casting and curing the concrete cores

Preparing RCCP for shipment to jobsite
DOUBLE GASKET SPIGOT JOINT

The reliability and durability of our standard, single, rubber-gasket joints have been proven for more than 50 years. However, in special applications, Ameron’s double-gasket spigot pipe (see Figure 3 below) can be specified and used for the following:

- Field testing a field joint prior to laying the next pipe section
- Field testing the pipe joints after the completion of the backfill
- In areas where water is not readily available for field hydrostatic testing of the completed pipeline
- For subaqueous installations
- For pipe installations in or near seismically active areas
- In high-fill areas with the possibility of long-term settlement
- In areas where the added protection of an additional gasket is desired

Figure 3: Double Gasket Spigot Joint
AMERON’S OBJECTIVES

We believe the growth of our businesses will be based on how well we identify customer needs and satisfy them over the long term with products and services of superior value.

We also believe that satisfied, repeat customers are the lifeblood of any successful business and must be nurtured and cared for in the most professional and courteous manner.

Our customers should expect and receive:

- Strong commitment from us to the markets we serve.
- Products and services of consistently superior value.
- Professional and dedicated technical services provided promptly where needed.
- Well-trained, knowledgeable and motivated direct sales people and representatives.
- Professionally prepared, well-documented sales proposals, product literature, technical data and other support materials.
- Fast, courteous response in any transaction.
- Consistent, on-time delivery of products and services.

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