WHAT IS CONCRETE PRESSURE PIPE?

Concrete pressure pipe is an engineered product that combines the best features of portland cement concrete and steel to create a robust structure for conveying liquids within a wide range of external loads and internal pressures.

AMERICAN
Concrete Pressure Pipe
ASSOCIATION

www.acppa.org

TYPES OF CONCRETE PRESSURE PIPE
AS DEFINED BY THE AMERICAN WATER WORKS ASSOCIATION (AWWA)

Reinforced Concrete Pressure Pipe, Steel-Cylinder Type (AWWA C300)
First manufactured in 1919, C300 consists of a welded steel cylinder with steel joint rings at each end, a cage(s) of circumferential steel reinforcing bars/wire and a structural concrete wall.

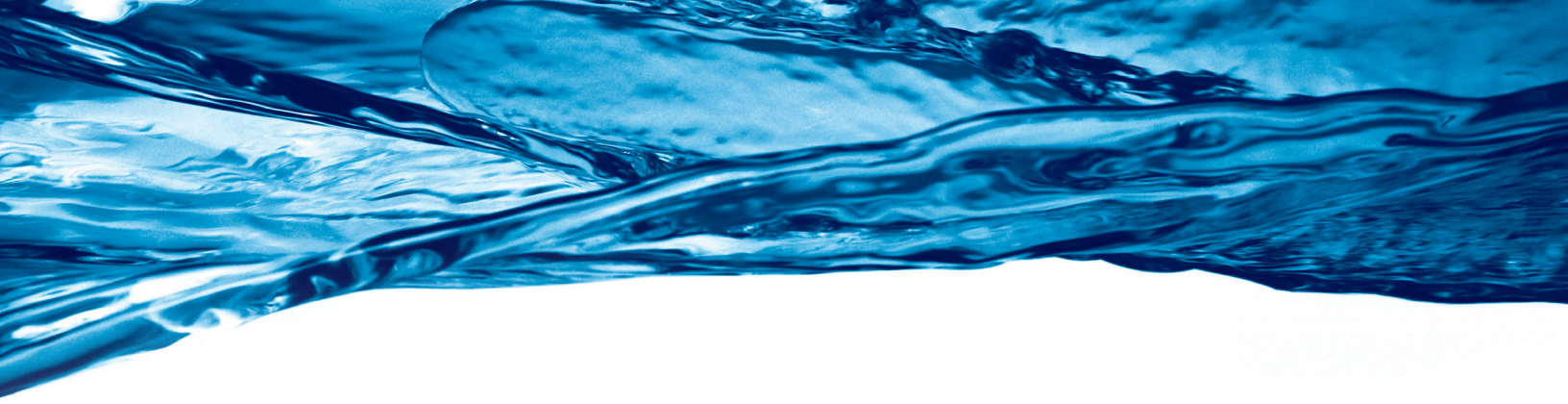
Prestressed Concrete Pressure Pipe, Steel-Cylinder Type (AWWA C301)
There are two types of C301 pipe:

- Lined-Cylinder Pipe (LCP)
  First used in North America in 1942, LCP consists of a welded steel cylinder with steel joint rings at each end, an internal concrete lining, high-tensile strength steel wire wrapped directly on the steel cylinder and an external coating of portland cement mortar.

- Embedded-Cylinder Pipe (ECP)
  First installed in North America in 1953, ECP consists of a welded steel cylinder with steel joint rings at each end, embedded in a concrete core, high-tensile strength steel wire wrapped on the exterior concrete core surface and an external coating of portland cement mortar.

Reinforced Concrete Pressure Pipe, Noncylinder Type (AWWA C302)
First used in the early 1900's, C302 consists of a cage(s) of circumferential and longitudinal steel reinforcing bars/wire and a structural concrete wall with steel or concrete joint rings at each end.

Concrete Pressure Pipe, Bar-Wrapped, Steel-Cylinder Type (AWWA C303)
First offered in the early 1940's, C303 consists of a welded steel cylinder with steel joint rings at each end, an internal concrete or mortar lining, spiral-wrapped reinforcing bar around the outside of the steel cylinder and an external coating of portland cement mortar.



BENEFITS OF CONCRETE PRESSURE PIPE (CPP)

Durable
CPP is able to handle a wide range of external loads and internal pressures.

Economical
CPP is easy to install and requires little maintenance resulting in low life-cycle costs.

Adaptable
CPP is custom designed and manufactured to meet the specific needs of a project.

Reliable
CPP has a long history – nearly 100 years – of proven performance.

Sustainable
CPP is regionally manufactured using recyclable, natural products.

Certified Quality
ACPPA's annual audit program, administered by Lloyd's Register Quality Assurance (LRQA), ensures that every member plant is in compliance with AWWA standards for design and manufacturing.

APPLICATION SCENARIOS OF CONCRETE PRESSURE PIPE

APPLICATION	C300	C301	C302	C303
Water Transmission Lines	o	o		o
Water Distribution Mains	o	o		o
Wastewater Gravity Sewers	o	o	o	
Wastewater Force Mains	o	o		
Dam Principal Spillways	o	o		o
Water Treatment Plants – Process Lines	o	o		o
Wastewater Treatment Plants – Process Lines	o	o		o
Industrial Process Lines	o	o		o
Chilled Water Lines	o	o		o
Power Plant Cooling Lines	o	o		o
Power Plant Make-up Water Lines	o	o		o
Subaqueous Intake Lines	o	o	o	o
Subaqueous Outfall Lines	o	o	o	o
Pile Supported Lines	o	o		o
Direct Jacked/Microtunneling	o		o	
Carrier Pipe in Tunnel Casings	o	o	o	o

NOTE: This matrix is intended to provide general guidelines for the use of concrete pressure pipe. Before making any design decision, you should consult your local manufacturer. To find a manufacturer in your area, contact ACPPA at **703.273.7227** or visit **www.acppa.org**.

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