

ASTM SPECIFICATIONS FOR NON-REINFORCED CONCRETE PIPE

Non-reinforced concrete pipe has a proven history of successful and extensive use throughout the country. Prior to the mid 1920's, all concrete pipe installed in the United States was non-reinforced. The oldest concrete sanitary sewer pipeline installed in this country was non-reinforced. This line, installed in Mohawk, New York in 1842, is still in use.

Most State Department of Transportations in the United States allow the use of non-reinforced concrete pipe under roadways, for side drains and in the median.

There are 5 ASTM Standard Specifications covering non-reinforced concrete pipe. These include the oldest ASTM concrete pipe standard ever written; ASTM C 14 Standard Specification for Concrete Sewer, Storm Drain, and Culvert Pipe approved in 1917.

In addition to ASTM C14 other specifications for non-reinforced concrete pipe include:

- ASTM C 118 Standard Specification for Concrete Pipe for Irrigation or Drainage
- ASTM C 412 Standard Specification for Concrete Drain Tile
- ASTM C 505 Standard Specification for Non-reinforced Concrete Irrigation Pipe With Rubber Gasket Joints
- ASTM C 985 Standard Specification for Non-reinforced Concrete Specified Strength Culvert, Storm Drain, and Sewer Pipe

These specifications, and the companion AASHTO specifications allow non-reinforced pipe to be produced in sizes from 4" through 60". Of the five specifications, the one with the widest range of applications is ASTM C 985. This standard covers sizes 4" - 60" and provides for designs to fit the particular application.

Non-reinforced concrete pipe meets all the requirements with regard to materials (cement, fly ash, aggregates, admixtures, etc.), testing (3-edge-bearing, absorption, concrete strength), and finished product tolerances (diameter, laying length, wall thickness) as required by ASTM and AASHTO standards.

These specifications provide a means for the Engineer to be confident the non-reinforced concrete pipe specified will perform as required to meet the project requirements.