

An educational document from the American Concrete Pipe Association for users and specifiers

1.2 Thus, it is incumbent upon the product manufacturer, specifier, or project engineer to verify and assure that the pipe specified for an intended application, when installed according to procedures outlined in this practice, will provide a long term, satisfactory performance according to criteria established for that application.

7.2 Trench Bottom—Install foundation and bedding as required by the engineer according to conditions in the trench bottom.



7.10 Manhole Connections—Use flexible water stops, resilient connectors, or other flexible systems approved by the engineer to make watertight connections to manholes and other structures.

7.11 Field Monitoring—Compliance with contract documents with respect to pipe installation, including trench depth, grade, water conditions, foundation, embedment and backfill materials, joints, density of materials in place, and safety, should be monitored by the engineer at a frequency appropriate to project requirements.

7.5.1 Percent Compaction of Embedment — The Soil Class (from Table 2) and the required percent compaction of the embedment should be established by the engineer based on an evaluation of specific project conditions.



7.6 Minimum Cover—The minimum depth of cover should be established by the engineer based on an evaluation of specific project conditions.

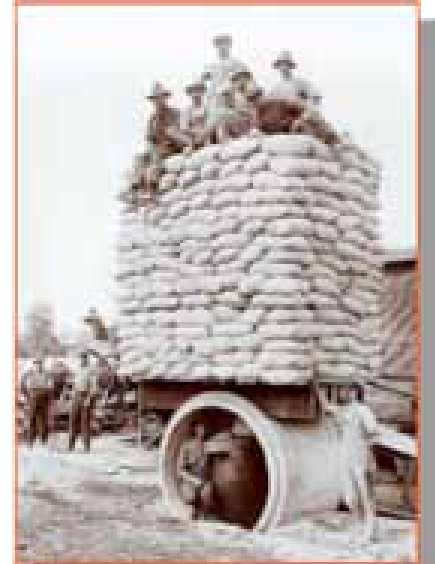


When Specifying Pipe – Make Sure You Get a Structure

When you specify Reinforced Concrete Pipe per ASTM C-76 you can be assured that a load tested structure is delivered to your job site.

| | Class III | | Class IV | | Class V | |
|----------|-----------|--------|----------|---------|---------|---------|
| | D-0.01 | D-Ult | D-0.01 | D-Ult | D-0.01 | D-Ult |
| Diameter | 1350 | 2000 | 2000 | 3000 | 3000 | 3750 |
| 12 | 10,800 | 16,000 | 16,000 | 24,000 | 24,000 | 30,000 |
| 15 | 13,500 | 20,000 | 20,000 | 30,000 | 30,000 | 37,500 |
| 18 | 16,200 | 24,000 | 24,000 | 36,000 | 36,000 | 45,000 |
| 21 | 18,900 | 28,000 | 28,000 | 42,000 | 42,000 | 52,500 |
| 24 | 21,600 | 32,000 | 32,000 | 48,000 | 48,000 | 60,000 |
| 27 | 24,300 | 36,000 | 36,000 | 54,000 | 54,000 | 67,500 |
| 30 | 27,000 | 40,000 | 40,000 | 60,000 | 60,000 | 75,000 |
| 36 | 32,400 | 48,000 | 48,000 | 72,000 | 72,000 | 90,000 |
| 42 | 37,800 | 56,000 | 56,000 | 84,000 | 84,000 | 105,000 |
| 48 | 43,200 | 64,000 | 64,000 | 96,000 | 96,000 | 120,000 |
| 54 | 48,600 | 72,000 | 72,000 | 108,000 | 108,000 | 135,000 |
| 60 | 54,000 | 80,000 | 80,000 | 120,000 | 120,000 | 150,000 |
| 66 | 59,400 | 88,000 | 88,000 | 132,000 | 132,000 | 165,000 |
| 72 | 64,800 | 96,000 | 96,000 | 144,000 | 144,000 | 180,000 |

Calculated loads in pounds required per ASTM C-76.



When you specify flexible pipe, such as corrugated metal, spiral rib metal or HDPE, are you confident the final installation will provide the structure that the applied loads require? You won't know until it is deflection tested in the field.

Remember – with flexible pipe designs and installations the Engineer is responsible for:

- Foundations and Bedding
- Trench Widths
- Embedment Densities -% Compaction
- Minimum Cover
- Flexible Connections to Structures
- Field Monitoring
- Establishing Methods for Controlling and Monitoring Distortions of Pipe

ASTM D2321-09 states that the Engineer is to verify and assure that the pipe installed per this specification will provide long term, satisfactory performance.



If you have not received a copy of a passing mandrel test or laser profile – your design is not verified.