

Section 1006
Concrete and Plastic Pipe
Louisiana DOTD Standards

1006.01 GENERAL

- a) Portland-pozzolan cement conforming to Subsection 1001.02 may be used in the manufacture of concrete pipe and pipe arch.
- b) Any admixture for portland cement concrete listed in QPL 58 is allowed for use in concrete pipe manufacture except for chloride-type accelerators and high range water reducers.
- c) Compressive strength specimens for concrete pipe shall be made and cured in accordance with DOTD TR 227 and tested in accordance with DOTD TR 230.
- d) Concrete pipe shall be cured by one of the methods listed in ASTM C 76 as approved by the Materials and Testings Section.

1006.02 CONCRETE SEWER PIPE. Nonreinforced (plain) concrete sewer pipe shall conform to ASTM C 14, Class III. Joints shall conform to Subsection 1006.05.

1006.03 REINFORCED CONCRETE PIPE. Reinforced concrete pipe shall conform to ASTM C 76, amended as follows:

- a) Unless otherwise specified, Class III, Wall A, C or C pipe shall be furnished.
- b) When extra strength pipe is required, either Class IV or Class V pipe shall be furnished as specified. Either Wall A, B or C may be furnished.
- c) For pipe sizes not included in ASTM C 76, the area of reinforcement shall be approved in accordance with ASTM C 655. The producer shall provide fabrication drawings and design calculations reflecting conformance with these specifications prior to pipe fabrication.
- d) No modified designs will be allowed.
- e) Joints shall conform to Subsection 1006.05.

1006.04 REINFORCED CONCRETE PIPE ARCH. Reinforced concrete pipe arch shall conform ASTM C 506, amended as follows:

- a) Unless otherwise specified, Class A-III pipe arch shall be furnished.
- b) No modified designs will be allowed.
- c) For pipe arch sizes not included in ASTM C 506, the area of reinforcement shall be approved in accordance with ASTM C 655. The producer shall provide fabrication drawings and design calculations reflecting conformance to these specifications prior to pipe fabrication.
- d) Joints shall conform to Subsection 1006.05.

1006.05 CONCRETE PIPE JOINTS. Joints for concrete pipe and pipe arch shall conform to AASHTO M 198 with the following modifications. Gasket material shall conform to Subsection 1006.06. All joint systems will be approved by the Materials Engineer Administrator.

a) Type 3 Joints (T3):

- 1. Pipe for Type 3 joints shall have a maximum taper of 12° and a maximum differential between the joint taper of the bell and spigot (tongue and groove) of 1° with the following exception. A maximum allowable differential between the bell and the spigot (tongue and groove) may be 2° provided the taper is 6° or less and it will pass the 10-psi hydrostatic pressure test. The 10-psi pressure hydrostatic test requirement will apply to all pipe with diameters greater than 15 inches when the groove (bell) depth and tongue (spigot) length is less than 2 ½ inches, and will apply to all pipe with diameters of 15 inches or less when the groove depth and tongue length is less than 2 inches.**
- 2. Joints for use with rubber gaskets which have a taper less than 6° will not require the hydrostatic pressure test, except as provided in Paragraph (1). If the joint taper is 6° to 8° inclusive, its use will be permitted provided the joint will pass the 10-psi hydrostatic test.**
- 3. Joint for use with flexible plastic gaskets which have a taper of 10° or less will not require the hydrostatic pressure test except as provided in paragraph (1). When the joint taper is 10° to 12° inclusive, its use will be permitted provided the joint will pass the 10-psi hydrostatic pressure test.**

b) Type 2 Joints (T2): Pipe for Type 2 joints shall have joints approved by the Materials and Testing Section, shall use approved rubber or flexible plastic gaskets and shall pass the 5-psi hydrostatic pressure test.

c) Type 1 Joints (T1): Pipe for Type 1 joints shall be soil tight, approved, and shall use approved rubber or flexible plastic gaskets.

d) Repair of Joints: Joint repairs shall conform to ASTM C 443.