SPECIFICATIONS - DETAILED PROVISIONS
Section 15330 - Vitrified Clay Sewer Pipe (Plain End)
(Limited to Maximum Pipe Diameter of 12")

C O N T E N T S

SECTION 15330
VITRIFIED CLAY SEWER PIPE (PLAIN END)
(Limited to Maximum Pipe Diameter of 12")

PART 1 - GENERAL

1.01 REQUIREMENT

Under this specification the Contractor shall be required to furnish, deliver, unload, and string within the time specified in the contract documents, the vitrified clay sewer pipe as specified on the bidding sheets, shown on the contract drawings, and described in these specifications. The coupling shall consist of three (3) parts: a circular rubber sleeve, stainless steel compression bands with stainless steel nuts and bolts type tightening devices, and a steel or plastic shear ring.

1.02 MEASUREMENT AND PAYMENT

Payment for quantities of pipe will be made at the unit prices as stated on the bidding sheets or order-to-do-work; or shall be included with the cost of furnishing and installing sewer pipe, where so stated on the bidding sheets.

PART 2 - PRODUCTS

2.01 PIPE DESIGN

All pipe and rubber coupling joints shall be made in strict conformance with all requirements of the latest revision of ASTM C-700, ASTM C-425, and to the requirements of these specifications. All pipe shall be high strength vitrified clay pipe conforming to the requirements of Section 207-8 of the Standard Specifications For Public Works Construction, 1991 Edition. All joints shall be factory fabricated, with the coupling attached to one end of the pipe at the factory. All pipes shall be manufactured and tested in the United States.

The compression bands and clips shall be fabricated from stainless steel AISI Type 316 and the nuts and bolts shall be manufactured using stainless steel AISI Type 305. The shear ring shall be fabricated from stainless steel AISI Type 304, or with the approval of the Engineer, another stainless steel which is more corrosion resistant than Type 304, or approved corrosion resistant plastic.

The sleeve shall be made of a synthetic rubber which is vulcanized to form a smooth surface, free of pitting, cracks, air marks, porosity, air pockets, and which shall meet all manufacturers requirements.

All pipe and joints manufactured under these specifications shall be suitable for the conveyance of sewage.

2.02 TOLERANCES

Tolerances shall conform to the requirements of the above stated specifications, and the actual cross-sectional area of the inside diameter of the pipe shall be not less than the computed cross-sectional area, based on the stated nominal diameter of the pipe.

PART 3 - EXECUTION

3.01 INSPECTION

The Engineer or his authorized representative shall at all times have the right to inspect the work and the materials.

3.02 JOINT INSTALLATION

Before installing compression bands, the surface of the rubber sleeve shall be thoroughly wetted with a silicone base lubricant approved by the Bureau of Standards. This lubricant shall not be injurious to the rubber sleeve or steel band.

Bands installed in the plant shall be tightened to a tension equivalent to a torque of 70 pound-inches.

Plant equipment used in the installation of the bands shall be calibrated by the Bureau of Standards at least twice a year to assure correct band tension. Factory-installed joints shall be subject to testing in the field.

Bands installed in the field shall be tightened with a torque wrench set to a torque of 70 pound-inches. Torque wrenches to be used in the field shall be furnished by the pipe supplier and shall be calibrated by the Bureau of Standards at the start of each project, and weekly thereafter for the duration of the project.

3.03 FACTORY TESTING OF RUBBER FOR SEALING COMPONENTS

All test specimens (unless otherwise specified) shall be conditioned in a mechanical convection oven for seven (7) days at 110□F. □ 5□and sub
being tested. Test specimens which are exposed to various chemical and bacteriological environments, unless otherwise specified, shall be conditioned in the same manner, both before and after exposure, prior to testing.

3.04 LABORATORY TEST OF JOINT

An assembled joint shall present sufficient resistance to shear loading to allow a weight of 150 pounds per inch of nominal diameter to be uniformly applied over an arc of not less than 120□ and a longitudinal distance of 12" immediately adjacent to one edge of the sleeve coupling. The assembled pipe shall rest on three (3) supports. A support shall be located at each extreme end of the assembly. The third support shall be placed immediately adjacent to the coupling. The shear load shall be placed on the unsupported end of the pipe, immediately adjacent to the coupling. There shall be no visible leakage when tested with an internal hydrostatic pressure of 10 psi for 10 minutes.

The coupling for the 4" through 12" diameter pipe, inclusive, shall exhibit sufficient flexibility when jointed to allow maximum deflection of 5□ in any direction. The deflected joint shall show no visible leakage when subject to the same shear load as indicated in the previous paragraph and when tested under an internal hydrostatic pressure of 10 psi for 10 minutes.

During these tests, the ends of the tested pipe shall be restrained only in the amount necessary to prevent longitudinal movement.

END OF SECTION 15330

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