

STANDARD SPECIFICATION

SECTION 09870 GLASS LININGS AND COATINGS

PART 1 - GENERAL

1.01 DESCRIPTION

This section includes the installation of specially formulated internal porcelain linings for handling sewage, grease, scum and sludge. Glass linings shall be Vitco Corp. type SG-14, or District approved equal.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Standard Drawings.
- B. Record Drawings and Submittals: STD SPEC 01300.
- C. Painting and Coating: STD SPEC 09900.
- D. Disinfection of Piping: STD SPEC 15141.
- E. Pressure Testing of Piping: STD SPEC 15144.

1.03 SUBMITTALS

- A. Submit submittal packages in accordance with Standard Specification Section 01300.
- B. Submit installation schedule.
- C. Submit manufacture's catalog data and descriptive literature.
- D. Submit testing procedures and acceptance criteria.

1.04 SAMPLES

Submit a sample of the approved lining to the District's Representative for use as a comparison guide at the jobsite.

PART 2 - MATERIALS

2.01 GLASS MATERIAL

- A. The glass lining material shall consist of special glasses and inorganic materials applied to internal surfaces.
- B. A minimum of two linings shall be applied and each shall be separately fired to a maturing temperature exceeding 1300 degrees Fahrenheit. The firings shall form an integral molecular chemical/mechanical bond with the base metal.

- C. Subsequent coatings will form an integral molecular bond with the previous coat. The resulting bond shall be sufficient to with stand a metal yield of 0.001 inch/inch without damage to the glass.

2.02 MATERIAL PROPERTIES

- A. The entire lining system shall be 0.008 to 0.12 inches thick as tested with magnetic coating thickness test equipment.
- B. It shall have a hardness exceeding 5 on the MOHS scale and a density from 2.5 to 3 grams per cubic centimeter.
- C. The lining shall be capable of with standing an instantaneous thermal shock of 350 degrees Fahrenheit without crazing, blistering or spalling. It shall be resistant to corrosion by solutions with a pH between 3 and 10 at 125 degrees F.
- D. It shall show a weight loss of not more than 3 milligrams per square inch when tested in accordance with ASTM C283-54.
- E. There shall be no visible loss of surface gloss after immersion of a normal production run sample in an 8% sulfuric acid solution at 148 degrees F for a period of 10 minutes.
- F. Pin holes, crazing or fish scales which expose the metal substrate shall be limited to 0.01% of the total glass surface. The visual appearance of the glass lining should be similar to bright and clean opaque window glass.

PART 3 - INSTALLATION

3.01 FIELD CUTTING

Field cutting of the glass lined pipe shall be limited to only one piece per production run. This cut is for closure purposes only, unless otherwise specified or shown on the Drawings.

3.02 CUTS

Cuts shall be made using a high-speed abrasive wheel type cut off saw. Cut edges should be repaired using Glidden "Glid Guard" high solids epoxy, Series 5430 or District approved equal.

END OF SECTION