

BEXAR METROPOLITAN WATER DISTRICT MATERIALS SPECIFICATIONS

Section 024 Polyethylene Wrapping Material

024.1 Scope of Work/Description

This specification covers polyethylene wrapping material for use in encapsulating ductile and cast iron pipe.

024.2 General Requirements

1. Polyethylene wrapping for ductile and cast iron water mains shall consist of a 4 mil thick tubular section of cross-laminated high-density polyethylene, having a high dielectric and tensile strength, for use in protecting and insulating cast iron and ductile iron pipe from the electrolytic action encountered in highly active soils.
2. Polyethylene wrapping shall consist of an opaque cross laminated high density polyethylene sheet continuously thermally bonded to form a tubular section. The tubes may be supplied in bulk length on rolls or in individual pre-cut lengths. See the attached size and length chart, in accordance with AWWA C105-93 (Table 1) for minimum requirements; greater widths and lengths can be used in lieu of the minimal list. When supplied for specified pipe lengths, the tubes shall contain a minimum of four feet additional material over the actual pipe length to allow for overlap.
3. The sheet of polyethylene film utilized for the tubular wrapping shall be produced from *virgin resins meeting raw material and physical properties of ASTM D-1248 and ANSI/AWWA C105, latest edition*. The material shall be *4-mil cross laminated high-density polyethylene*. The film shall be free of imperfections such as pin holes, tears, etc., after being thermally seamed into tubular form. The finished product will have a nominal thickness of 4 mils, with a tolerance of minus ten percent.
4. The polyethylene wrapping material shall have no volatile constituents, the loss of which may affect ductility. The material shall also have the following properties:
 - A. Mechanical: The polyethylene film shall have a tensile strength per latest *ASTM D-882 test, of 3,900 psi min*. The film shall have an elongation of not less *than 500%/100%* of the test strip minimum per *latest ASTM D-882 test*. The film shall have an impact resistance of 700 gram min. per latest *ASTM D-1709 test method B*. The film shall have a propagation tear resistance of 1500/225 grams min. per latest *ASTM D-1922 test*.

END OF SECTION