

# Model Specifications 522

## DRISCOPLEX<sup>®</sup> 5100 Ultra-Line<sup>®</sup> Piping

### For Potable Water Distribution and Transmission

#### 1. General Terms and Conditions

- 1.1. Scope. This specification covers requirements for DriscoPlex<sup>®</sup> 5100 PE 4710 (formerly PE3408) high-density polyethylene piping for water service applications. The pipe is not to be used for plumbing inside residential or commercial buildings. All work shall be performed in accordance with these specifications.
- 1.2. Engineered and Approved Plans. The pipe shall be installed in accordance with engineered construction plans for the work prepared under the direction of a Professional Engineer.
- 1.3. Referenced Standards. Where all or part of a Federal, ASTM, ANSI, AWWA, etc., standard specification is incorporated by reference in these Specification, the reference standard shall be the latest edition and revision.
- 1.4. Licenses and Permits. A licensed and bonded Contractor shall perform all installation construction work. The Contractor shall secure all necessary permits before commencing construction.
- 1.5. Inspections. All work shall be inspected by an Authorized Representative of the Owner who shall have the authority to halt construction if, in his opinion, these specifications or standard construction practices are not being followed. Whenever any portion of these specifications is violated, the Project Engineer or his Authorized Representative shall, by written notice, order further construction to cease until all deficiencies are corrected. A copy of the order shall be filed with the Contractor's license application for future review. If the deficiencies are not corrected, performance shall be required of the Contractor's surety.

#### 2. Polyethylene Pipe and Fittings

- 2.1. Qualification of Manufacturers. The Manufacturer shall have manufacturing and quality assurance facilities capable of producing and assuring the quality of the pipe and fittings required by these Specifications. The Manufacturer's production facilities shall be open for inspection by the Owner or his Authorized Representative. The Project Engineer shall approve qualified Manufacturers.
- 2.2. Approved Manufacturers. Manufacturers that are qualified and approved by the Project Engineer are listed below. Products from unapproved manufacturers are prohibited.

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- 2.3. Materials. Materials used for the manufacture of polyethylene pipe and fittings shall be PE4710 high-density polyethylene meeting cell classification 445574C according to ASTM D3350 (formerly PE 3408 meeting 345564C per ASTM D3350-02). The Manufacturer shall certify that the materials used to manufacture pipe and fittings meet these requirements.
- 2.3.1. Potable Water. The material shall be listed and approved for potable water in accordance with NSF Standard 14 & 61.
- 2.4. Polyethylene Pipe. Polyethylene pipe shall be manufactured and tested in accordance with AWWA C901 and shall be so marked. The specification of manufacture must be specified as indicated. Each of the manufacturing specifications listed below have different outside diameter sizes.

### **3. Joining**

- 3.1. Heat Fusion Joining. Joints between plain end pipes and fittings shall be made by butt fusion. Joints between the main and saddle branch fittings or corporation stops shall be made using saddle fusion. The butt fusion and saddle fusion procedures used shall be procedures that are recommended by the pipe and fitting Manufacturer. The Contractor shall ensure that persons making heat fusion joints have received training in the Manufacturer's recommended procedure. The Contractor shall maintain records of trained personnel, and shall certify that training was received not more than 12 months before commencing construction. External and internal beads shall not be removed.
- 3.1.1. Heat Fusion Training Assistance. Upon request and at the requestor's expense, training personnel from the Manufacturer or his Representative shall be made available.
- 3.1.2. ID Stiffener and Restraint. A stiffener shall be installed in the bore of the polyethylene pipe when an OD compression mechanical coupling is used and when connecting plain end PE pipe to a mechanical joint pipe, fitting or appurtenance.
- 3.2. Branch Connections. Branch connections to the main shall be made with saddle fittings or tees. Polyethylene saddle fittings shall be saddle fused to the main pipe per 3.1.

### **4. Installation**

- 4.1. General. When delivered, a receiving inspection shall be performed and any shipping damage shall be reported to the manufacturer within 7 days. Installation shall be in accordance with ASTM D 2774, Manufacturer's recommendations and this specification. All necessary precautions shall be taken to ensure a safe working environment in accordance with all applicable safety codes and standards.

### **5. Testing**

- 5.1. Leak Testing. Hydrostatic leak testing shall be conducted in accordance with ASTM F 2164, "Field Leak Testing of PE Pressure Piping Systems using Hydrostatic Pressure." Pneumatic pressure testing is prohibited.

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