

## SECTION 1520 – LINEAR LOW DENSITY POLYETHYLENE ENCASEMENT

### PART 1 - GENERAL

#### 1.1 SCOPE OF WORK:

Provide all labor, materials, equipment and services required to furnish and install linear low-density polyethylene (LLDPE) encasement of ductile iron pipe and associated appurtenances. All ductile iron pipes larger than 12" diameter shall be encased with LLDPE film according to this specification and Section 1530.

#### 1.2 SUBMITTALS:

- A. Descriptive literature, catalog cuts, and dimensional prints clearly indicating all dimensions and materials of construction, shall be submitted on all items specified herein to the ENGINEER for review before ordering.
- B. At the time of submission, the CONTRACTOR shall, in writing, call ENGINEER's attention to any deviations that the submittals may have from the requirements of the ENGINEER's Contract Drawings and Specifications.

### PART 2 - PRODUCTS

#### 2.1 LINEAR LOW DENSITY POLYETHYLENE ENCASEMENT FOR DUCTILE-IRON PIPE:

Linear Low-Density Polyethylene: Linear Low-Density Polyethylene film shall be manufactured of virgin polyethylene material conforming to the following requirements of ASTM Standard Specification D4976 Standard Specification for Polyethylene Plastics Molding and Extrusion Materials:

- A. Raw Material used to manufacture linear low-density polyethylene film.

Group	2 (Linear)
Density	0.910 to 0.935 g/cm <sup>3</sup>
Dielectric Strength	Volume resistivity, 10 <sup>15</sup> ohm-cm, minimum

- B. Linear Low-Density Polyethylene film.

Tensile strength	3,600 psi, minimum in machine and transverse direction per ASTM D882
Elongation	800%, minimum in machine and transverse direction per ASTM D882
Dielectric Strength	800 V/mil thickness minimum per ASTM D149
Impact Resistance	600 g minimum per ASTM D1709 Method B
Propagation tear Resistance	2,550 grams force, minimum in machine and transverse direction per ASTM D1922

Thickness: Linear low-density polyethylene film shall have a minimum nominal thickness of 0.008 in. (8 mils).

Tube size or sheet width. Tube or sheet size for each pipe diameter shall be as listed in the following table:

Required Linear Low-Density Polyethylene (LLDPE) Tube and Sheet Sizes for Ductile Iron Pipe (Push-on Joint)

Required Linear Low-Density Polyethylene (LLDPE) Tube and Sheet Sizes for Ductile Iron Pipe (Push-on Joint)

Nominal Pipe Diameter (Inches)	Minimum LLDPE Width (Inches)	
	Flat Tube	Sheet
3	14	28
4	14	28
6	16	32
8	20	40
10	24	48
12	27	54
14	30	60
16	34	68
18	37	74
20	41	82
24	54	108
30	67	134
36	81	162
42	81	162
48	95	190
54	108	216
60	108	216
64	121	242

- C. LLDPE encasement shall be in accordance with ANSI/AWWA C105/A21.5.
- D. LLDPE materials shall be in accordance with ANSI/AWWA C105/A21.5 and shall conform to the details and specifications shown therein.
- E. Pipe and fittings shall be wrapped with LLDPE prior to pouring concrete thrust blocks.
- F. LLDPE tape, compatible with the LLDPE encasement that can pull and stretch in one direction but easily tear in the other direction, shall be supplied and used to install per the LLDPE encasement manufacturer's specifications.

**PART 3 - BASIS OF PAYMENT**

Linear low-density polyethylene encasement shall be an additional pay item at the unit price per foot for each size pipe as indicated in the proposal forms, unless indicated otherwise. Measurement shall be made along the centerline of the pipe. No additional measurement or payment will be made for fire hydrant branches, unless otherwise indicated.

END OF SECTION