

2.01 SANITARY SEWER (Gravity Mains) (Continued)**E. Polyvinyl Chloride Composite Pipe (truss type PVC) 8 inch to 15 inch:**

1. Comply with ASTM D 2680. Pipe constructed with truss-type structure between inner and outer PVC walls with voids filled with lightweight concrete.
2. Pipe stiffness per ASTM D 2412, 200 psi.
3. PVC plastic meeting ASTM D 1784, Cell Classification 12454.
4. Integral bell and spigot joints with elastomeric seals complying with ASTM D 3212 and F 477.

F. Reinforced Concrete Pipe (RCP) 18 inch to 144 inch:**1. General:**

- a. Comply with ASTM C 76 (AASHTO M 170).
- b. Minimum Class IV (3000D), Wall B.
- c. Tongue and groove joints.
- d. Rubber O-ring or profile gasket flexible joint complying with ASTM C 443.

2. Pipe Lining:

- a. Epoxy Coal Tar:
 - 1) Coat interior pipe barrel and all joint surfaces with two-component coal-tar epoxy-polyamide black paint or approved equal.
 - 2) Lining Material: Steel Structures Painting Council (SSPC) Specification No. 16, Table 1.
 - a) Minimum epoxy resin content 34% to 35% by dry film weight.
 - b) Minimum sag resistance 40 mils.
 - c) Minimum solids 80% by volume.
 - 3) Apply according to lining material manufacturer's recommendations.
- b. PVC:
 - 1) Minimum thickness of 0.65 inch.
 - 2) Locking extensions extruded from the same material as the liner a minimum of 0.375 inches tall spaced a maximum of 2.5 inches.
 - 3) Liner to cover the entire interior of the concrete pipe.
 - 4) Minimum tensile strength of liner is 2200 psi with a minimum elongation of 200% at breaking.
 - 5) Meet EPA 9090 for chemical resistance.
 - 6) Free of cracks, cleavages, pinholes, or other defects.
 - 7) Joint sealer strip to be from the same material as the liner.
- c. HDPE:
 - 1) Minimum thickness of 0.064 inches according to ASTM D5199.
 - 2) Minimum density of 0.90 g/cm³.
 - 3) Meet EPA 9090 for chemical resistance.
 - 4) Locking extensions made from the same material as the liner with minimum pullout strength of 14,000 pounds per square foot.
 - 5) Free of cracks, cleavages, pinholes, or other defects.
 - 6) Joint sealer strip to be from the same material as the liner.
 - 7) If gasketed joints, comply with ASTM F 477 and ability to withstand a minimum groundwater pressure equal to that of the pipe liner or 20 psi, whichever is greater.

G. Ductile Iron Pipe (DIP) 8 inch to 54 inch:**1. General:**

- a. Comply with AWWA C151.
- b. Minimum thickness Class 52.