



REGIONAL CONSTRUCTION STANDARDS

FOURTH EDITION

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and SDR of the pipe shall be as specified on the Drawings.

2. All HDPE fittings shall be molded from PE3408 polyethylene resins in accordance with the requirements of ASTM D3035 and manufactured to comply with ASTM F714 specifications. Butt fusion fittings shall comply with ASTM D3261 requirements.
3. Pipe sections shall be joined on the job site above ground into continuous lengths by the butt-fusion method, which shall be performed in strict accordance with the manufacturer's recommendations. The butt-fusion equipment used in the joining procedures shall be capable of meeting all conditions recommended by the pipe manufacturer, including, but not limited to, temperature requirements of 400 ° F, alignment, and 75 psi interfacial fusion pressure. Butt-fusion joining shall be 100% efficient and shall provide a joint weld strength equal to or greater than the tensile strength of the pipe. Socket-fusion, extrusion welding or hot gas welding of HDPE shall not be used for pressure pipe applications. Flanges, unions, grooved-couplers, transition fittings, and some mechanical couplers may be used to mechanically connect HDPE pipe without butt-fusion, if specified on the Drawings and approved by the manufacturer.

E. Valves

1. Gate Valves

- a. Gate valves shall be provided for each locality as specified in the Special Provisions.
- b. Resilient-seated gate valves shall be used on pipelines from 3 inches in diameter up to and including 16 inches in diameter. Valves under 16-inches shall operate in a vertical position (valves 16-inches and larger shall operate in a horizontal position). Gearing shall be provided on 16-inch and larger valves. Resilient-seated gate valves shall be in accordance with AWWA C509 or AWWA C515 and shall be supplied with an interior epoxy coating in accordance with AWWA C550. Resilient-seated gate valves shall be iron body, non-rising bronze or stainless steel stem, rubber encapsulated disc valve seat, o-ring seals, and suitable for buried service. Valve ends shall be flanged, mechanical joint, or mechanical joint by flange to suit the pipe or fittings as indicated on the Drawings.
- c. Gate valves smaller than 3-inches in diameter shall be cast bronze, solid-wedge disc, screwed bonnet, inside screw, non-rising stem valves with threaded connections. Valves shall conform to Standard SP-80, Type 2, Class 150, Manufacturer's Standardization Society of the Valve and Fitting Industry, Inc.

2. Coatings

All interior ferrous surfaces of all valves shall be coated in accordance with ANSI/AWWA C550 and shall not contain lead, coal tar resins, lampblack, carbon black or bituminous materials. The exterior surfaces shall receive a factory applied fusion bonded epoxy coating.

2. HDPE pipe shall meet the requirements for potable water and have ANSI/NSF No. 61 certification.
3. HDPE pipe 3-inches or less in diameter shall comply with AWWA C901 and shall have a nominal DIPS (Ductile Iron Pipe Size) outside diameter unless otherwise specified. The nominal size and SDR of the pipe shall be as specified on the Drawings.
4. HDPE pipe greater than 3 inches in diameter shall be in accordance with AWWA C906 and shall have a nominal DIPS (Ductile Iron Pipe Size) outside diameter unless otherwise specified. The nominal size and SDR of the pipe shall be as specified on the Drawings.
5. All HDPE fittings shall be molded from PE3408 polyethylene resins in accordance with the requirements of ASTM D3035 and manufactured to comply with ASTM F714 specifications. Butt fusion fittings shall comply with ASTM D3261 requirements.
6. Pipe sections shall be joined on the job site above ground into continuous lengths by the butt-fusion method, which shall be performed in strict accordance with the manufacturer's recommendations. The butt-fusion equipment used in the joining procedures shall be capable of meeting all conditions recommended by the pipe manufacturer, including, but not limited to, temperature requirements of 400 °F, alignment, and 75 psi interfacial fusion pressure. Butt-fusion joining shall be 100% efficient and shall provide a joint weld strength equal to or greater than the tensile strength of the pipe. Socket-fusion, extrusion welding or hot gas welding of HDPE shall not be used for pressure pipe applications. Flanges, unions, grooved-couplers, transition fittings, and some mechanical couplers may be used to mechanically connect HDPE pipe without butt-fusion, if specified on the Drawings and approved by the manufacturer.

E. Copper Water Pipe

Pipe shall be seamless copper tubing conforming to ASTM B 88, Type K, Temper 060, and shall be of the coiled type. Fittings shall be wrought copper solder-joint pressure fittings conforming to ASME B16.22. Copper tube and fittings shall be rated for a working pressure of 100 psi. Joints shall be compression style.

F. Valves

1. Gate Valves

- a. Gate Valves shall be provided for each locality as specified in the Special Provisions.
- b. Resilient-seated gate valves shall be used on pipelines 3-inches in diameter up to and including 12-inches in diameter. Resilient-seated gate valves shall be in accordance with AWWA C509 or **AWWA C515** and shall be supplied with an interior epoxy coating in accordance with AWWA C550. Resilient-seated gate valves shall be iron body, non-rising bronze or stainless steel stem, rubber encapsulated iron disc, o-ring seals, and suitable for buried service. Valve ends