

SECTION 02475 – POTABLE WATER FITTING MATERIALS

(Follow all instructions and make all edits with “Track Changes” turned on. If there are no instructions [purple text] above a subsection, paragraph, sentence, or bullet, then include it in the Project. Delete all purple text before preparing the final document. All other modifications to this Section will require ODOT Technical Resource and State Specifications Engineer approval.)

Replace Section 02475 of the Standard Specifications except for the Section number and title with the following:

Comply with Section 02475 of the Standard Specifications modified as follows:

Description

02475.00 Scope - This Section includes the requirements for fittings, restrained joints, and couplings for ductile iron pipe, high density polyethylene (HDPE) pipe, and polyvinyl chloride (PVC) pipe for potable water systems.

Materials

02475.10 General - Furnish bolts, nuts and washers used for securing fittings that are of similar Materials. For steel bolts meet the requirements of ASTM A307 for carbon steel, or ASTM F593 for stainless steel. For nuts meet the requirements of ASTM A563 for carbon steel and ASTM F594 for stainless steel. For iron bolts and nuts meet the requirements of ASTM A536, grade 65-45-12. Galvanize carbon steel bolts, nuts and washers according to 02560.40.

For all Materials in contact with potable water, meet the requirements of ANSI/NSF Standard 61, Drinking Water System Components - Health Effects or equivalent, and ANSI/NSF Standard 372, Drinking Water System Components - Lead Content.

02475.20 Ductile Iron Pipe Fittings - Replace this subsection, except for the subsection number and title, with the following:

Furnish ductile iron pipe fittings for ductile iron pipe shall meeting the requirements of AWWA C110 or AWWA C153, and shall have a minimum working pressure rating of 250 psi. Joints shall meet the requirements of AWWA C111 for joints. Furnish cement mortar lined and seal coated fittings shall be cement mortar lined and seal coated, meeting the requirements of AWWA C104. Provide Furnish gaskets for ductile iron flanged joints that are composed of synthetic rubber, full faced, 1/8-inch thick, and conform to ANSI/AWWA C111/A21.11. Ring gaskets will be are permitted only where specified or shown. Furnish bolts and nuts The type, material and with an identification mark for bolts and nuts shall be provided indicating the manufacturer, type and material.

02475.31 High Density Polyethylene (HDPE) Pipe Fittings - Use HDPE pipe fittings meeting the requirements of ANSI/AWWA C906, Standard Code Designation of PE3408.

Furnish all pipe fittings with a minimum dimension ratio (DR) of 17. Join pipe and fittings using a thermal butt fusion method that meets the requirements of ASTM D3261. Furnish fittings that are of the same class as the HDPE pipe.

02475.40 Fittings for Polyvinyl Chloride Pipe 4 Inches and Larger - Furnish fittings for PVC pipe 4 inches in diameter and larger that are the same as specified for ductile iron pipe.

02475.45 Fittings for Polyvinyl Chloride Pipe Under 4 Inches - Meet the requirements of ASTM D2466 for PVC pipe fittings under 4 inches in diameter.

02475.50 Restrained Joints - Restrain pipe, fittings, and valves by using an approved bolted or boltless system. Design the restraint system to operate at a working pressure that is greater than the hydrostatic test pressure identified in 01140.51(a), unless otherwise shown. No device utilizing round point set screws is allowed. Furnish restraint systems for pipe bells certified for use by the pipe manufacturer.

02475.60 Bolted, Sleeve-Type Couplings for Plain-End Pipe - Meet the requirements of AWWA C219 for bolted, sleeve type couplings, reducing or transition couplings, and flanged coupling adapters used to join plain end pipe. Furnish ductile iron buried couplings for connecting ductile iron, gray cast iron, or PVC pipe.

02475.70 Acceptance - Acceptance of fittings, restrained joints and couplings are according to 00165.35 and this Section.