

- A. CPVC Pipe: 2" and smaller: ASTM D 2846; larger than 2"; F441 Sch 80.
 - 1. Fittings: ASTM F 437, ASTM F 438, ASTM F 439, CPVC.
 - 2. Joints: ASTM D 2855, solvent weld with ASTM D 2564 solvent cement. ASTM F 656 primer.

2.4 WATER PIPING, ABOVE GRADE

- A. CPVC Pipe: 2" and smaller: ASTM D 2846; larger than 2"; F441 Sch 80.
 - 1. Fittings: ASTM F 437, ASTM F 438, ASTM F 439, CPVC.
 - 2. Joints: ASTM D 2855, solvent weld with ASTM D 2564 solvent cement. ASTM F 656 primer.

2.5 PIPING INSULATION

- A. All insulation materials and coatings shall meet flame spread and smoke developed ratings per NFPA Bulletin 90-A when tested in accordance with ASTM Standard E 84. Smoke developed less than or equal to 50, and flame spread less than or equal to 25. All coatings and mastics shall be non-flammable in wet state.
- B. Piping insulation shall be fiberglass, ASTM C 547 and ASTM C 795; rigid molded, noncombustible installed in accordance with manufacturer's instructions. Vapor Barrier Jacket:: White kraft paper with glass fiber yarn, bonded to aluminized film; moisture vapor transmission when tested in accordance with ASTM E 96 of 0.02 perm-inches. Insulation thicknesses shall be as follows:
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 - 1. Cold Water: 1/2" thick (locations outside building insulation)
 - 2. Hot Water: Conductivity: 0.24 to 0.28 (Btu-in/(hr-ft³-degree F); thickness as follows:
 - a. Runouts up to 2" & 12' in length: 1/2"
 - b. Pipe sizes 2" and less: 1"
 - c. Pipe sizes 1-1/2" and greater: 1.5"

2.6 PROPANE GAS PIPING, BURIED WITHIN 5 FEET OF BUILDING

- A. Steel Pipe: ASTM A 53/A 53M Schedule 40 black.
 - 1. Fittings: ASME B16.2, malleable iron, or ASTM A 234/A 234M, wrought steel welding type.
 - 2. Joints: NFPA 58, threaded or welded to ASME B31.1.

2.7 PROPANE GAS PIPING, ABOVE GRADE

- A. Steel Pipe: ASTM A 53/A 53M Schedule 40 black.
 - 1. Fittings: ASME B16.3, malleable iron, or ASTM A 234/A 234M, wrought steel welding type.
 - 2. Joints: NFPA 58, threaded or welded to ASME B31.1.

2.8 FLANGES, UNIONS, COUPLINGS

- A. Unions for Pipe Sizes 3 Inches and Under:
 - 1. Ferrous pipe: Class 150 malleable iron threaded unions.