1. Section 221005   
   Plumbing Piping
   1. PART 1  GENERAL
      1. SECTION INCLUDES
   2. Pipe, pipe fittings, specialties, and connections for piping systems.
      1. Domestic water.
      2. Ball valves.
      3. REFERENCE STANDARDS
         1. ASSE 1003 - Performance Requirements for Water Pressure Reducing Valves for Domestic Water Distribution Systems 2009.
         2. ASTM F876 - Standard Specification for Crosslinked Polyethylene (PEX) Tubing 2020b.
         3. ASTM F877 - Standard Specification for Crosslinked Polyethylene (PEX) Hot- and Cold-Water Distribution Systems 2020.
         4. ASTM F1960 - Standard Specification for Cold Expansion Fittings with PEX Reinforcing Rings for Use with Cross-linked Polyethylene (PEX) and Polyethylene of Raised Temperature (PE-RT) Tubing 2020.
         5. AWWA C550 - Protective Interior Coatings for Valves and Hydrants 2017.
         6. MSS SP-110 - Ball Valves Threaded, Socket-Welding, Solder Joint, Grooved and Flared Ends 2010.
         7. NSF 61 - Drinking Water System Components - Health Effects 2020.
         8. NSF 372 - Drinking Water System Components - Lead Content 2020.
         9. PPI TR-4 - PPI Listing of Hydrostatic Design Basis (HDB), Hydrostatic Design Stress (HDS), Strength Design Basis (SDB), Pressure Design Basis (PDB), and Minimum Required Strength (MRS) Ratings For Thermoplastic Piping Materials or Pipe 2017.
      4. SUBMITTALS
         1. See Section 013000 - Administrative Requirements for submittal procedures.
      5. QUALITY ASSURANCE
   3. PART 2  PRODUCTS
      1. GENERAL REQUIREMENTS
         1. Potable Water Supply Systems:  Provide piping, pipe fittings, and solder and flux (if used), that comply with NSF 61 and NSF 372 for maximum lead content; label pipe and fittings.
      2. DOMESTIC WATER PIPING, ABOVE GRADE
         1. Cross-Linked Polyethylene (PEX) Pipe:  ASTM F876 or ASTM F877.
            1. Manufacturers:

SharkBite, a brand of Reliance Worldwide Corporation; [\_\_\_\_\_\_]:  www.sharkbite.com/#sle.

* + - * 1. PPI TR-4 Pressure Design Basis:
        2. Push-To-Connect Fittings and Couplings:

Manufacturers:

SharkBite, a brand of Reliance Worldwide Corporation:  Brass Push; www.sharkbite.com/#sle.

SharkBite, a brand of Reliance Worldwide Corporation:  EvoPEX Push; www.sharkbite.com/#sle.

SharkBite, a brand of Reliance Worldwide Corporation:  Brass Crimp; www.sharkbite.com/#sle.

SharkBite, a brand of Reliance Worldwide Corporation:  Poly Crimp; www.sharkbite.com/#sle.

* + 1. BALL VALVES
       1. Manufacturers:
          1. SharkBite, a brand of Reliance Worldwide Corporation; [\_\_\_\_\_\_]:  www.sharkbite.com/#sle.
       2. Construction, 4 inch and Smaller:  MSS SP-110, Class 150, 400 psi CWP, bronze or ductile iron body, 304 stainless steel or chrome plated brass ball, regular port, teflon seats and stuffing box ring, blow-out proof stem, lever handle with balancing stops, threaded or grooved ends with union.
    2. PRESSURE REDUCING VALVES
       1. Manufacturers:
          1. Cash Acme, a brand of Reliance Worldwide Corporation; [\_\_\_\_\_\_]:  www.cashacme.com/#sle.
       2. 2 inch and Smaller:
          1. ASSE 1003, bronze body, stainless steel, and thermoplastic internal parts, fabric reinforced diaphragm, strainer, threaded single union ends.
          2. Pressure Reducing Pilot-Operator:

Operating Range:  5 to 50 psi.

Connected into brass or bronze pilot piping and fittings.

Fixed flow restrictor, pressure gauges, and isolation valves.

* + - 1. 2 inch and Larger:
         1. ASSE 1003, cast iron body with interior lining complying with AWWA C550, bronze fitted, elastomeric diaphragm and seat disc, flanged.
         2. Pressure Reducing Pilot-Operator:

Operating Range:  5 to 50 psi.

Connected into brass or bronze pilot piping and fittings.

Fixed flow restrictor, strainer, pressure gauges, and isolation valves.

* 1. PART 3  EXECUTION
     1. INSTALLATION
        1. Install in accordance with manufacturer's instructions.

1. END OF SECTION