

- J. Install eccentric reducers where compressed-air piping is reduced in direction of flow, with bottoms of both pipes and reducer fitting flush.
- K. Install branch connections to compressed-air mains from top of main. Provide drain leg and drain trap at end of each main and branch and at low points.
- L. Install pressure gauge on discharge piping from each air compressor and on each receiver. Comply with requirements in Section 220500 "Common Work Results for Plumbing."
- M. Install piping to permit valve servicing.
- N. Install piping free of sags and bends.
- O. Install fittings for changes in direction and branch connections.
- P. Install PE pipes in accordance with AWWA M55, ASTM D2774 and the manufacturer's installation instructions.

3.4 JOINT CONSTRUCTION

- A. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.
- B. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.
- C. Threaded Joints: Thread pipe with tapered pipe threads in accordance with ASME B1.20.1. Cut threads full and clean using sharp dies. Ream threaded pipe ends to remove burrs and restore full ID. Join pipe fittings and valves as follows:
 - 1. Apply appropriate tape or thread compound to external pipe threads unless dry seal threading is specified.
 - 2. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged. Do not use pipe sections that have cracked or open welds.
- D. Brazed Joints for Copper Tubing: Join in accordance with AWS's "Brazing Handbook," "Pipe and Tube" Chapter.
- E. Soldered Joints: Apply ASTM B813, water-flushable flux, unless otherwise indicated, to tube end. Join in accordance with ASTM B828 or CDA's "Copper Tube Handbook."
- F. Flanged Joints: Use asbestos-free, nonmetallic gasket suitable for compressed air. Join flanges with gasket and bolts in accordance with ASME B31.9 for bolting procedure.
- G. Dissimilar Metal Piping Material Joints: Use dielectric fittings.

3.5 INSTALLATION OF VALVES

- A. General-Duty Valves: Comply with requirements in Section 220523 "General-Duty Valves for Plumbing Piping." within the Site Expansion Building Package.