

SECTION 40 27 00.19 CHEMICAL PIPING, TUBING, AND FITTINGS		
Item	Size	Description
General	All	Physical Characteristics: All chemical service lines shall be constructed of Fluorinated Ethylene Propylene (FEP) or Polyvinylidene Fluoride (PVDF) piping or tubing, as listed in the Piping Schedule as shown on the Drawings. Tubing shall be continuous lengths without splicing and fully contained within secondary containment piping, except on chemical pump skids or tanks or drums that provide secondary containment. Valves and fittings shall be Polypropylene (PP), or PVDF, as listed in the Piping Schedule as shown on the Drawings. Functional Characteristics: Service Flow Streams on Piping Schedule as shown on the Drawings. Performance Characteristics: All chemical service materials shall be NSF 61 safe for drinking water and FDA food grade quality.
CHEMICAL PIPING AND FITTINGS		
Pipe	1/2-inch through 1-inch	Performance Characteristics: Schedule 40 FEP conforming to ASTM D3296 or PVDF piping conforming to ASTM D3222. Plain ends for thermal fusion to female socket ends of fittings, or male threaded ends. Manufacturers and Products: Nibco; Chemtrol, PVDF, or equal.
Fittings	1/2-inch through 1-inch	Performance Characteristics: Schedule 40 FEP per ASTM D2116 or PVDF per ASTM D3222. Female end connections, either threaded or thermally fused socket ends, or flanged. Manufacturer and model same as pipe listed above.
Joints	1/2-inch through 1-inch	Performance Characteristics: Schedule 40 FEP per ASTM D2116 or PVDF per ASTM D3222. Thermally fused socket ends, threaded, or flanged.

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CHEMICAL TUBING AND FITTINGS		
Tubing	1/2-inch through 3/4-inch ID	Performance Characteristics: FEP tubing conforming to ASTM D3296 or PVDF tubing conforming to ASTM D3222. Manufacturers and Products: Saint Gobain; Versilon, or equal.
Wall Thickness	Tubing 1/2-inch ID through 3/4-inch ID	Physical Characteristics: 1/16 or 0.0625 inch
Joints, Fittings, Unions	All	Physical Characteristics: PP in accordance with ASTM D4101, or PVDF in accordance with ASTM D3222, compression collar sleeved over outside ends of tubing thermally flared to insert male-end barbed fitting, or flanged ends. No metals allowed in fittings. Manufacturers and Products: Saint Gobain; Barblock Tubing Retainer, or equal.

SECTION 40 27 00.19 CHEMICAL PIPING, TUBING, AND FITTINGS		
Item	Size	Description
CHEMICAL SECONDARY CONTAINMENT PIPING AND FITTINGS		
Piping, Fittings, Joints, Unions	2-inch	Performance Characteristics: Schedule 40 PVC per Section 40 27 00.10, Polyvinyl Chloride (PVC) Pipe and Fittings Data Sheet, Type 1, Grade 1 or Class 12454-B, conforming to ASTM A1784; or Schedule 40 CPVC per Section 40 27 00.11, Chlorinated Polyvinyl Chloride (CPVC) Pipe and Fittings Data Sheet, Class 23447 conforming to ASTM D1784 and ASTM F441. Physical Characteristics: Joints shall be glued or flanged, not threaded. Glue primer and solvent cement shall meet ASTM F493 and NSF 61 compliance. Functional Characteristics: All bends shall be long radius sweep bends. radius five times the diameter, equivalent to 10-inch radius for 2-inch diameter nominal size pipe.

END OF SECTION

