

SPRINKLER PROTECTION BASICS: FITTING MATERIALS AND REQUIREMENTS

FITTING MATERIALS:

- Cast Iron:
 - ANSI B16.1, Cast Iron Pipe Flanges and Flanged Fittings.
 - ANSI B16.4, Cast Iron Threaded Fittings, Class 125 and 250.
- Malleable Iron:
 - ANSI B16.3, Malleable Iron Threaded Fittings, Class 150 and 300.
- Steel:
 - ASTM A234, Specification for Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and Elevated Temperatures.
 - ANSI B16.5, Steel Pipe Flanges and Flanged Fittings.
 - ANSI B16.9, Factory-made Wrought Steel Buttweld Fittings.
 - ANSI B16.11, Socket Welded and Threaded Forged Steel Fittings.
 - ANSI B16.25, Buttwelding Ends for Pipe, Valves, Flanges and Fittings.
- Copper:
 - ANSI B16.18, Cast Bronze Solder-joint Pressure Fittings.
 - ANSI B16.22, Wrought Copper and Bronze Solder-joint Pressure Fittings.

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FITTING MATERIALS:

- CPVC:
 - **ASTM F437**, Schedule 80 CPVC Threaded Fittings.
 - **ASTM F438**, Schedule 40 CPVC Socket-Type Fittings.
 - **ASTM F439**, Schedule 80 CPVC Socket-Type Fittings.

FITTING REQUIREMENTS:

- Required to withstand a minimum working pressure of 175 psi cold water (125 psi saturated steam pressure).
- Where working pressures in excess of 175 psi are anticipated, extra-heavy pattern fittings are required except as follows:
 - 2 inch or smaller standard weight cast iron fittings are permitted for working pressures of 300 psi or less.
 - 6 inch or smaller standard weight malleable iron fittings are permitted for working pressures of 300 psi or less.
 - Pressure ratings for listed fittings are based on the listings.
- Screwed unions larger than 2 inches are not permitted to be used.
- Where pipe sizes change, a single-piece reducing fitting is required.
 - Exception permits bushings to be used when required size fitting is not available.
 - Exception for temporary sprinkler installations.

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