

4.23 Combination Fire Services (2019)

Reference: 2019 San Francisco Fire Code, § 903; 2016 NFPA 13, 13R, & 13D

Purpose: Combination fire services will be permitted only for limited area sprinkler systems and residential systems in accordance with § 903.3.5.1 of the San Francisco Fire Code (SFFC).

Scope: Combination fire services may be used only when the combined sprinkler system and domestic water demand through the meter will not exceed the manufacturer's listed maximum intermittent delivery rate. Combination fire services shall comply with San Francisco Public Utilities Commission (SFPUC) Rules and Regulations, Section A, Rule 5A. The following guidelines will be used in conjunction with this policy:

I. Sprinkler System Design Criteria:

- A. Sprinkler systems supplied by the combination fire service must be hydraulically designed in accordance with NFPA 13D, 13R and/or 13 as required by the San Francisco Fire Code.
- B. The domestic water demand must be included in the sprinkler flow at the domestic water system point of connection to the combination fire service line.
 1. Domestic water demand shall be at least 5 GPM per unit for two dwelling units or less.
 2. For three or more dwelling units, the domestic demand shall be as estimated using the Tables in NFPA 13R.
- C. The maximum delivery rates for combination fire service are as follows:
 1. 1 inch service = 50 GPM
 2. 1-1/2 inch service = 100 GPM
 3. 2-inch service = 160 GPM

II. Combination Fire Service Pipe:

1. For all sizes, the service line must be copper (Type K with brazed joints) from the water main in the street to the sprinkler connection to minimize problems of tuberculation (deposits that develop on the walls of the service lines).
2. The fire service size shall be determined by the San Francisco Fire Department or other proper authority having fire jurisdiction.
3. The domestic service shall be sized in accordance with Department Rules based on demand and/or fixture count for the building or premises involved.
4. The combined Fire and domestic service can be sized up to two (2) meter sizes larger than the calculated meter size required for the domestic demand.
5. Service size must be equal to or greater than the calculated combination meter size.

6. Maximum size of a combined service shall be 2-inch.
7. Service size information and calculated domestic meter size documentation, shall be obtained from the PUC prior to SFFD plan review.

III. The meter friction losses to be used in the hydraulic calculations are:

DELIVERY RATE

Service Size	25 GPM	50 GPM	75 GPM	100 GPM	125 GPM	160 GPM
1-inch	5 psi	9 psi				
1½ -inch	1 psi	3 psi	7 psi	12 psi		
2 - i n c h	1psi	1psi	3 psi	5 psi	8 psi	12 psi