

Exam: AFSA Applied Sprinkler Technology 202: Hydraulic Calculations, Part 2

1. What is the total equivalent footage for 235 ft of dry 2 inch Schedule 10 steel pipe with four (4) 45° elbows, ten (10) 90° long turn elbows, and two (2) tees?
 - A. 313 ft
 - B. 290.6 ft
 - C. 331 ft
 - D. 285.9 ft

2. What is the difference in friction loss per foot of pipe for 885.6 gpm flowing through 5 inch galvanized Schedule 40 steel pipe and 5 inch galvanized Schedule 10 steel pipe? (round to nearest hundredth)
 - A. .018 psi/ft
 - B. .017 psi/ft
 - C. .014 psi/ft
 - D. .03 psi/ft

3. Determine the total friction loss for 95.5 gpm flowing through 120 ft of 1.5 inch Schedule 5 galvanized steel pipe with four (4) 45° elbows and two (2) 90° standard elbows.
 - A. 26.7 psi
 - B. 42.3 psi
 - C. 24.9 psi
 - D. 39.6 psi

4. Using the following data, determine the minimum flow and pressure required for sprinkler S1.

Sprinklers are K8.0
Area of coverage for sprinkler S1 is 100 ft²
Area of coverage for sprinkler S2 is 125 ft²
Density is .2 gpm/ft²

 - A. 20 gpm @ 7.0 psi
 - B. 20 gpm @ 6.25 psi
 - C. 21.2 gpm @ 6.25 psi
 - D. 21.2 gpm @ 7.0 psi

5. Using the following data, determine the minimum flow and pressure required for sprinkler S2.

Sprinklers are K8.0

Area of coverage for sprinkler S1 is 100 ft²

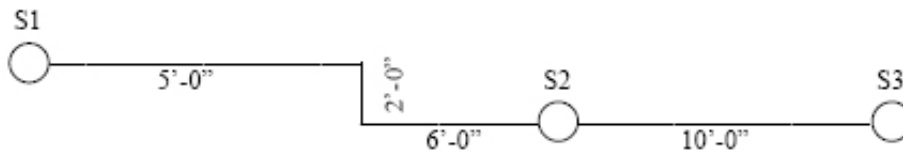
Area of coverage for sprinkler S2 is 125 ft²

Density is .2 gpm/ft²

- A. 25 gpm @ 7.0 psi
- B. 21.2 gpm @ 9.8 psi
- C. 21.2 gpm @ 7.0 psi
- D. 25 gpm @ 9.8 psi

6. Using Figure 2.4 and the following data, calculate the flow and pressure for sprinkler S3 with all sprinklers flowing.

Figure 2.4



Pipe Size: 1 inch
 Pipe Type: Schedule 40 steel
 Sprinkler Type: K5.6
 Area of Coverage: S1 = 180 sq. ft.
 S2 = 180 sq. ft.
 S3 = 120 sq. ft.
 Density: .1 gpm/ft²
 System Type: Dry pipe

- A. 24.2 gpm @ 18.7 psi
- B. 12.0 gpm @ 4.6 psi
- C. 14.8 gpm @ 7.0 psi
- D. 25.6 gpm @ 12.5 psi