



City of Kingman
Fire Prevention Division, Kingman Fire Department
International Fire Code (IFC) 2006, KFD-13
**AUTOMATIC SPRINKLER SYSTEM CHECKLIST
FOR COMMERCIAL BUILDINGS**

All references are the 2010 NFPA 13 unless noted otherwise

1. Identify standard, edition and modifications (if applicable).
2. Submit current Fire Hydrant Test Flow Data
3. Identify the Occupancy classification Type (s) [i.e. Light, Ordinary Group I, Ordinary Group II, Ordinary Group III, Extra Hazard Group I, Extra Hazard Group I, Extra Hazard Group II and/or High-Piled Storage]. **5.1**
4. Plans and hydraulic calculations shall bear the seal and signature of an Arizona Registrant.
5. Hydraulic calculations shall include the following? **22.3**
 - a. K-factor
 - b. Orifice size
 - c. Hydraulic reference point
 - d. Flow in gpm
 - e. Pipe Lengths (center to center of fittings)
 - f. Friction loss between reference points
 - g. Friction loss in psi per ft of pipe
 - h. Elevation head in psi between reference points
 - i. Equivalent pipe length for fittings and devices
 - j. Graph sheet (include sprinkler system hose demand and in-rack demand [if applicable])
 - k. Water supply information
 - l. Occupancy classification
 - m. Density
 - n. Area of application
 - o. Coverage per sprinkler
 - p. Number of sprinklers calculated
 - q. Hose streams
 - r. Total water required in gpm
 - s. Pipe size
 - t. Pressure summary
 - u. Required pressure in psi at each reference point
 - v. Provide peaking or supplemental sets of calculations for grided systems
 - w. Limitations on extended coverage or other listed special sprinklers
6. Plans shall include a sprinkler head legend including the following: **22.1.3**
 - a. Sprinkler head manufacturer name and model number
 - b. Type of sprinkler head
 - c. K-factor
 - d. Orifice
 - e. Temperature rating
 - f. Quantity of sprinkler heads per system
8. Piping plans and elevations shall be of adequate complexity, including location and size of concealed spaces, closets, permissible sprinkler omissions, partitions and openings of partitions and a reflected ceiling plan. **22.1.3**
9. Identify the Commodity Classification (s) per **5.6.3**
10. Provide quick response or residential type heads per **IFC 903.3.2**
11. Sprinkler system exceeds allowable square footage. **8.2.1**
12. Sprinkler head exceeds allowable square footage. **8.5.2.2.1**
13. Sprinkler head (s) temperature rating is not appropriate for use/area. Correct on sprinkler head legend. **8.3.2., TABLE 6.2.5.1**

14. Sprinkler head exceeds calculated square footage [maximum allowable square footages are ___or___sf per manufacturer's listing]. **8.5.2.2.1**
15. Spacing between sprinkler heads exceeds allowable distances per: **8.5.3.1.1, 8.5.3.4.2., TABLES 8.6.2.2.1** (A through d)
16. Spacing between sprinkler heads exceeds the calculated S x L distances [maximum allowable distances are___ or___ sf per manufacturer's listing]. **8.5.3.1.3**
17. Spacing between sprinkler head and wall exceeds allowable distances, Small Room Rule-9 feet, and/or according to Manufacturer's Listing. **8.5.3.2.1, 8.6.3.2.1, 8.6.3.2.4**
18. Spacing between sprinkler head and wall exceeds 1/2 the calculated S or L distances [maximum allowable distances are___or___ sf per manufacturer's listing]. **8.5.3.2.1**
19. Submit sprinkler heads Manufacturer's Specification (cut) Sheets. **22.1.4**
20. Submit a full height cross section (include sprinkler heads). **22.1.3.4**
21. Fire Department connection (FDC) exceeds 50' (travel distance) to a fire department access road. **22.1.3 (44)**
22. Fire Department Connection (FDC) exceeds 200' (travel distance) to a fire hydrant. **22.1.3.44**
23. Identify the fire line construction type. **14.1.3.28**
24. Coordinate the location and size of the fire line on both the Civil and fire Protection sheets.
25. Show fire sprinkler riser assembly detail. **IFC 903.3.5**
26. Identify the sprinkler pipe type. **22.1.3.18**
27. Drain pipe shall terminate to an acceptable location. **8.16.2.6**
28. Provide calculations for two new sprinklers fed from an existing outlet. **8.15.19.5.3**
29. Sprinklers are not according to their listing. **6.1.1.1**
30. Show location of the inspector's test pipe. Pipe shall terminate to the exterior or approved location.
31. Exterior sprinkler heads shall have an intermediate temperature rating (175 degrees Fahrenheit minimum) **8.3.2, TABLE 6.2.5.1**
32. Stagger sidewall sprinkler heads. **8.7.3.1.6**
33. Provide sprinkler coverage at top of elevator shaft and in elevator pit. **8.15.5**
34. Provide sprinkler coverage at top of stairways (noncombustible stairways). **8.15.3.2.1**
35. Provide sprinkler coverage under the first landing above the bottom of the shaft (noncombustible stairways). **8.15.3.2.1**
36. Provide sprinkler coverage beneath all stairways of combustible construction. **8.15.3.1**
37. Provide sprinkler coverage in all concealed spaced except as allowed per **8.15.1**.
38. Third-Party monitoring is required. NOTE: Buildings over 12,000 square feet in aggregate area are required to report to a UL listed or FM approved central station, remote station or proprietary monitoring station. **2006 IFC 903.4** exception #2.
39. Sprinkler heads shall be of a corrosion-resistant type. NOTE: Required where chemicals, moisture or other corrosive vapors can cause corrosion. **6.2.6.1**
40. Provide sprinkler coverage under combustible canopies, canopies used for storage, overhangs over 4 feet. **8.15.7.1**
41. Provide sprinkler coverage under overhead doors. **8.4.2 (3)**
42. Provide dry pendent sprinkler heads in walk-in coolers/freezers.
43. Provide balcony and patio protection in 13R systems. **IFC 903.3.1.2.1**