Table 9.7: Automatic Sprinkler System Requirements

ITEMS	REQUIREMENTS
5. FITTINGS	i. Fittings shall be rated for a working pressure of 12 bar at the most remote point of the piping network.
6. SPRINKLERS	i. All sprinklers shall be permanently marked with a one- or two-character manufacturer symbol, followed by three or four numbers, so as to identify a unique sprinkler identification for every change in orifice size or shape, deflector characteristic, pressure rating, and thermal sensitivity. ii. Spare sprinklers not less than six numbers in quantity in each type & temperature range installed within the building shall be kept maintained in stock within the premises
7. CORROSION RESISTANT	i. Listed corrosion-resistant sprinklers shall be installed in locations where chemicals, moisture, or other corrosive vapors sufficient to cause corrosion of such devices exist.
8. PAINT/ COLOR	i. Sprinklers shall not be painted unless they are listed and approved with paint from the manufacturer.
9. COVER PLATES	i. Cover plates and Escutcheons used with recessed/flush-type or concealed sprinklers shall be part of the listed sprinkler assembly.
10. K-FACTORS	i. Standard sprinklers shall have the thread size of not less than ½ in. (12.7 mm) NPT having nominal orifice size of ½ in. (12.7 mm) with K-factor 5.6 (Metric factor 80). ii. Sprinklers having a K-factor exceeding K-5.6 (80) and having ½ in. (15 mm) NPT shall not be permitted to be installed in new sprinkler systems. iii. Where design density required is greater than 8.1 LPM/m^2 (2.1 gpm/m^2) but lesser than 13.9 LPM/m^2 (3.7 gpm/m^2), the sprinklers having K-factor 8.0 (Metric factor K-116) shall be used. iv. If the required design density is greater than 13.9 LPM/m^2 (3.7 GPM/m^2), the sprinklers having K-factor 11.2 (Metric factor K-161) or higher shall be used as per the approval listing.
11. OPERATING PRESSURE	i. The minimum operating pressure of any sprinkler for determining the water supply requirements shall be not less than 0.5 bar (7 psi) in the light hazard occupancy and 1.0 bar (14.5 psi) in the ordinary hazard occupancies. ii. The maximum operating pressure in a sprinkler system shall not be more than 12 bar. iii. Where a higher operating pressure is used for the sprinkler system, all the sprinklers, pipes and fittings shall be rated, approved and listed by Civil Defence for the higher operating pressure. However, the operating pressure shall not be more than 16 bar in any case.
12. PIPING	i. Pipe sizes for an automatic sprinkler system shall be established using Hydraulic calculations but shall not be less than the minimum diameters mentioned in **Table 9.7.4.** ii. The minimum wall thickness shall be as per schedule 40. iii. The pipes shall be rated for a working pressure of 12 bar at the most remote point of the piping network. iv. Sprinkler Piping shall be dedicated, serving only sprinkler system. v. It shall be permitted to provide minimum 25 mm (1 inch) outlets with hexagonal bushings to accommodate sprinklers attached directly to branch line fittings to allow for future system modifications.