**Table 9.27.: Storage, Warehouse and Industrial Fire Protection Systems**

| OCCUPANCY | SYSTEM REQUIREMENTS | COMBINED FIRE PUMP SET AND FIRE WATER TANK CAPACITIES |
|---|---|---|
| Q. AIRCRAFT HANGERS | **2. GROUP II AND III AIRCRAFT HANGERS (Access door height is 8.5 m or less and A single fire area is below 3716 $m^2$) AND PAINT HANGERS**<br><br>i. The foam water deluge system shall be provided for the hanger as per Section 3.9 and Table 9.11. A supplementary system should also be provided under wings in accordance with NFPA 409.<br>ii. The foam discharge density shall be minimum of 0.17 gpm/$ft^2$<br>iii. Area of operation under a single foam water deluge system shall not exceed 465 $m^2$ (5,000$ft^2$).<br>iv. The maximum distance between sprinklers/ open discharge devices either on branch line or between branch line shall not exceed 3.7 m.<br>v. If open door of the hanger interferes in the intended discharge pattern, additional sprinkler/ open discharge devices heads shall be installed near the door.<br>vi. Sprinklers/open discharge devices of different orifice sizes and plates shall not be used.<br>vii. A foam water hand hose system shall be installed throughout the hanger as per Table 9.11.13. with design densities as appropriate as per Table 9.11.C.<br>viii. Each hand hose connection shall be a minimum of 38 mm (11⁄2 in.) in size and fitted with a control valve. The hose shall be of a diameter to provide a minimum flow of 60 gpm.<br>ix. Standard Sprinklers shall be provided at office, tool rooms and non-service and non aircraft storage area as per Section 3.5.<br>x. Yard Fire Hydrants shall be provided as per Section 3.11., in a loop to cover the entire hanger or group of hangers.<br>xi. A dry riser, wet riser and hose Reel system shall not be required.<br><br>**3. GROUP IV AIRCRAFT HANGERS (Membrane covered steel structure) AND UNFUELED AIRCRAFT HANGERS**<br><br>i. Sprinklers shall be provided throughout the facility as per Section 3.5.<br>ii. The design density shall be a minimum of 0.17 gpm over the operating area of 465 $m^2$ (5,000$ft^2$).<br>iii. Yard Fire Hydrants shall be provided as per Section 3.11., in a loop to cover the entire hanger or group of hangers.<br>iv. A dry riser, wet riser and hose Reel system shall not be required. | **2. GROUP II AND III AIRCRAFT HANGERS (Access door height is 8.5 m or less and A single fire area is below 3716 $m^2$) AND PAINT HANGERS**<br><br>xii. The capacity of the fire pump set shall be 1500 gpm at a pressure as required to satisfy 6.9 bar at the most remote Yard hydrant outlet valve. However, the fire pump capacity might increase depending on the simultaneously activated zones and fire area considerations which are dependent on the aircraft size.<br>xiii. The water tank shall have a capacity of 60 minutes of operation, complete with low water level detection, direct breeching inlet and instantaneous refilling arrangement.<br>xiv. The foam concentrate shall be for a minimum of 10 minute duration.<br><br>**3. GROUP IV AIRCRAFT HANGERS (Membrane covered steel structure) AND UNFUELED AIRCRAFT HANGERS**<br><br>v. The capacity of the fire pump set shall be 1500 gpm at a pressure as required to satisfy 6.9 bar at the most remote Yard hydrant outlet valve. However, fire pump capacity might increase depending on the might increase depending on the simultaneously activated zones and fire area considerations which are dependent on the aircraft size<br>vi. The water tank shall have a capacity of 60 minutes of operation, complete with low water level detection, direct breeching inlet and instantaneous refilling arrangement. |