

28 31 00 – Fire Detection and Alarm System

1. Audible Alarms

- A. Audible emergency alarms shall produce a sound that exceeds the prevailing equivalent sound level in the room or space by at least 15 dBA or exceeds any maximum sound level with a duration of 60 seconds by 5 dBA (whichever is louder). Sound levels for alarm signals shall not exceed 120 dBA.

2. Visual Alarms

- A. At a minimum, visual signal appliances shall be provided in buildings and facilities in each of the following areas: toilets, hallways, lobbies, meeting rooms, breakrooms, areas designated for public use, common use and general usage areas. Visual alarm signal appliances shall be integrated into the building or facility alarm system. Visual alarm signals shall have the following minimum photometric and location features:

1. The lamp shall be a xenon strobe type or equivalent.
2. The lens color shall be clear or nominal white (i.e. unfiltered or clear filtered white light).
3. The maximum pulse duration shall be 0.2 sec with a maximum duty cycle of 40 per cent. The pulse duration is defined as the time interval between initial and final points of 10 per cent of maximum signal.
4. The intensity shall be a minimum of 75 candela.
5. The flash rate shall be a minimum of 1 Hz and a maximum of 3 Hz.
6. The appliance shall be placed 80 inches above the highest floor level or within the space of 6 inches below the ceiling (whichever is lower).
7. In general, no place in any room or space required to have a visual signal appliance shall be more than 50 feet from the signal in the horizontal plane. In large rooms and spaces exceeding 100 feet across without obstructions 6 feet above the finished floor (such as auditoriums), devices may be placed around the perimeter and spaced a maximum of 100 feet apart (in lieu of suspending appliances from the ceiling).
8. No place in common corridors or hallways in which visual alarm signaling appliances are required, shall be more than 50 feet from the signal.

- B. When visual alarms are in place, the signal shall be visible from all areas of the unit or room. Instructions for use of the auxiliary alarm or receptacle shall be provided.

3. Auxiliary Alarms

- A. All residential rooms shall be equipped with either:
 - 1. A visual alarm connected (hard-wired) to the building emergency alarm system or
 - 2. A standard 120V electrical receptacle dedicated for connection of an auxiliary alarm. Provision of an auxiliary alarm must include any signaling/triggering system required so that the building emergency alarm will activate all auxiliary alarms.

4. Manual Pull Stations

- A. Manual pull stations shall be mounted at locations as specified in NFPA 72, but at a height such that the actuation device is not more than 48 inches above the finished floor.