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Table 8.1: General Requirements of Fire Detection and Alarm Systems

ITEMS	REQUIREMENTS
16. NOTIFICATION DEVICES (BELLS, SOUNDERS)	<ul style="list-style-type: none"> i. The notification appliances are used to initiate or direct evacuation or relocation of the occupants, or for providing information to occupants or staff, as the building fire strategy. ii. All notification devices shall be approved and listed by Civil Defence. iii. Notification devices shall have nameplate indicating the electrical connection parameters, audible decibels or visible performance and installation methods. iv. Notification devices shall be installed such that they are not mechanically damaged and shall be protected against mechanical damage where subjected to. v. Notification devices shall be mounted such that they are supported independently of their attachments to circuit conductors. vi. An average ambient sound level greater than 105 dBA shall require the use of a visible notification devices. vii. The total sound pressure level produced by combining the ambient sound pressure level with all audible notification appliances operating shall not exceed 110 dBA at the minimum hearing distance. viii. Where audible appliances are installed to provide signals for sleeping areas, they shall have a sound level of 75 dBA ix. If ceiling heights allow, wall-mounted notification devices shall have their tops above the finished floors at heights of not less than 2.29 m and below the finished ceilings at distances of not less than 150 mm. x. Audible notification appliances for wide area signaling shall be installed in accordance with the approved design documents, and the manufacturer's installation instruction to achieve the required performance.
17. VISUAL NOTIFICATION DEVICES	<ul style="list-style-type: none"> i. Visible notification devices shall be approved and listed by Civil Defence. ii. The flash rate shall not exceed two flashes per second (2 Hz) nor be less than one flash every second (1 Hz) throughout the listed voltage range of the appliance. iii. A maximum pulse duration shall be 0.2 second with a maximum duty cycle of 40%. iv. The pulse duration shall be defined as the time interval between initial and final points of 10% of maximum signal. v. Lights used for fire alarm signalling only or to signal the intent for complete evacuation shall be clear or nominal white and shall not exceed 1000 cd (effective intensity). vi. Lights used to signal occupants to seek information or instructions shall be clear, nominal white or other colour as required by the emergency plan. vii. Visible notification devices shall be located not more than 4.57 m from the end of the corridor with a separation not greater than 30.5 m between Visible notification devices. viii. Wall-mounted devices shall be mounted such that the entire lens is not less than 2 m and not greater than 2.44 m above the finished floor. ix. Where low ceiling heights do not permit wall mounting at a minimum of 2 m, wall mounted visible appliances shall be mounted within 150 mm of the ceiling. x. Visual alarm signals (flashers) shall be used in areas where audio alarm signal is not effective, not feasible to type of occupancy (i.e. Noisy parking spaces, extremely noisy environment like engine room and plant rooms) or in areas where audio alarm requires the aid of visual alarm.