

4. Details of Fire Detection and Alarm Systems

4.1. General Requirements

4.1.1. The General requirements of Fire Detection and Alarm System shall be as per **Table 8.1.**

Table 8.1: General Requirements of Fire Detection and Alarm Systems

ITEMS	REQUIREMENTS
1. EQUIPMENT AND MATERIALS	<ul style="list-style-type: none"> i. Only listed and approved addressable Fire Detection and Alarm System shall be provided in all new constructions. Conventional type Fire detection Systems are not acceptable, unless it is existing. ii. All Fire Detection and Alarm System equipment, Material , Accessories, Wiring shall be Civil Defence approved and listed as per Section 7. iii. System components shall be installed, tested, inspected, and maintained in accordance with the manufacturer's published instructions and this Code. iv. Along with recommendations of this chapter, approved Manufacturer's specifications should also be followed regarding spacing and installation details. v. All devices and appliances that receive their power from the initiating device circuit or signaling line circuit of a control unit shall be listed for use with the control unit. vi. Equipment shall be designed so that it is capable of performing its intended functions under the following conditions: <ul style="list-style-type: none"> a. At 85 percent and at 110 percent of the nameplate primary (main) and secondary (standby) input voltage(s). b. At ambient temperatures of 0°C (32°F) and 49°C (120°F) c. At a relative humidity of 85 percent and an ambient temperature of 30°C (86°F)
2. DESIGN BASIS	<ul style="list-style-type: none"> i. Fire Detection shall be based on thorough evaluation of the area to be protected with following minimum considerations. <ul style="list-style-type: none"> a. Structural features, size, and shape of the rooms and bays. b. Occupancy and uses of areas Ceiling heights c. Ceiling shape, surface, and obstructions. d. Ventilation e. Ambient environment f. Gas characteristics of the gases present g. Configuration of the contents in the area to be protected h. Response time(s)
3. DETECTORS (INITIATING DEVICES)	<ul style="list-style-type: none"> i. All kinds of Detectors shall be approved and listed by Civil Defence. ii. Initiating devices of the manual or automatic type shall be selected and installed to minimize unwanted alarms. iii. Where subject to mechanical damage, an initiating device shall be protected. A mechanical guard used to protect a smoke, heat, or radiant energy–sensing detector shall be listed for use with the detector. iv. Initiating devices shall be supported independently of their attachment to the circuit conductors. v. Unless tested and listed for recessed mounting, detectors shall not be recessed into the mounting surface. vi. Initiating devices shall be installed in a manner that provides accessibility for periodic inspection, testing, and maintenance.