2. Fire Protection Systems

2.1. Intention

2.1.1. The Fire Protection System requirements are to address the following.

2.1.1.1. To provide an automatic as well as manual approach to extinguish fires.

2.1.1.2. Along with their equipment, Civil Defence Firefighters also utilize the Fire Protection Systems installed in the occupancies, to manually fight fires thereby protecting the property and lives of people. Thus ensuring the design of the fire protection system of the building and that its installation is in good working condition represents a priority of Civil Defence.

2.1.1.3. To ensure that the maintenance of Fire Protection systems is carried out periodically through Civil Defence approved contractors.

2.2. Fire Protection Concept

2.2.1. Fire Protection or Fire Extinguishment can be achieved with various techniques and mechanisms. However, the concepts behind all the extinguishing measures are basically one or more of the following.

2.2.1.1. Physically separate the combustible material from the flame.

2.2.1.2. Removing or Reducing the Oxygen supply.

2.2.1.3. Reducing the temperature of the combustible or the flame.

2.2.1.4. Introducing the chemicals that modify the combustion chemistry.

Did You Know?

The only type of sprinkler designed to extinguish fire is the ESFR type sprinkler (Early Suppression Fast Response).

Other types of sprinklers are designed to control and restrict the fire spread.

2.2.2. The requirements, design criteria, system specifications, inspection and maintenance requirements etc. provided in this chapter are minimum guidelines and a code of practice. It is the consultant's responsibility to refer to further codes and standards, international or local as mentioned but not limited to **Section 2.2.3.,** to evaluate the design details, the applications of fire protection systems, their suitability, the environmental impact and test certifications to comply in full in their design, material specifications, installation, inspection and maintenance.

2.2.3. International codes and standards referred to for this chapter are **NFPA 11, NFPA 12, NFPA 13, NFPA 14, NFPA 15, NFPA 16, NFPA 17, NFPA 20, NFPA 22, NFPA 24, NFPA 25, 30, NFPA 33, NFPA 45, NFPA 75, NFPA 76, NFPA 110, NFPA 750, NFPA 2001, NFPA 2010, NFPA Handbook, IBC, IFC, Manufacturer's design guidelines and installation specifications.**