

*GUIDELINE*  
*FIRE SAFETY*  
– *INDUSTRIAL*  
*SECTOR*

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## **1. INTRODUCTION**

- 1.1 These guidelines recommend basic fire safety requirements for the INDUSTRIAL SECTOR.
- 1.2 In the industrial cluster activities can be grouped as:
  - a. agro-industry such as tea mills, sugar mills, agricultural mechanisation.
  - b. food processing plants, bottling/canning of beverages of non alcoholic/alcoholic drinks, distilleries.
  - c. workshops for light and heavy engineering work, such as cabinet making workshops, paint workshops, motor mechanic workshops, coach building, construction work.
  - d. manufacturing sector.
- 1.3 The place of work can be accommodated in a wide range of building of various design, size and structural materials. The buildings may be single or multiple floor built specifically for the purpose, multiple occupancy, private residential buildings, or any other building converted for the purpose.
- 1.4 These guidelines cover the place of work and aim at ensuring safety with regard to fire.
- 1.5 The promoter or his nominated agent is responsible to adhere to these guidelines,

## **2 FIRE SAFETY REQUIREMENTS**

- 2.1 Fire safety requirements are commensurate with:
  - (a) the number of persons involved in the industrial activity
  - (b) the type of industry and processes involved.
  - (c) the layout, size, design and nature of construction of the place of work
- 2.2 The main criteria which are considered with regard to fire safety requirements are
  - (a) Means of escape
  - (b) Means for fighting fire
  - (c) Means for giving warning in case of fire and
  - (d) any dangerous substances stored, used or handled
- 2.3 Any promoter desiring to develop and invest in the industrial sector shall ensure that the criteria at 2.2 are satisfied.
- 2.4 The promoter shall conduct a fire risk assessment to determine the requirements of fire safety and adhere to those requirements specific to his case – (check list annex to conduct survey)

### **3 MEANS OF ESCAPE**

- 3.1 Means of escape are structural and integral part of the construction which allow people to proceed to a place of safety in the event of a fire.
- 3.2 Means of escape includes exit doors, corridors and staircase which lead to the open air.
- 3.3 Every promoter shall ensure that people who are in the building can get out safely and quickly in the event of a fire.
- 3.4 A single route is accepted as means of escape where:
- (a) the distance to be travelled to reach the final exit is 18 m in case of an office and 12 m in other cases,
  - (a) the route to the final exit is protected and is at least 1.1 m wide,
  - (b) the floor height does not exceed 9 m and
  - (c) the total number of person does not exceed 60.

Note – Protected route means the route to final exits is rendered safe from heat, smoke or toxics vapours that may be produced in the event of fire by the provision of fire resisting material alarm the route or fire doors or by pressurisation.

- 3.5 In circumstances where the conditions are beyond those specified in 3.4 an alternate means of escape is required.
- 3.6 Where occupants may be endangered through obstruction of any single exit due to fire or smoke there shall be provided an alternate means of exit.
- 3.7 Spiral staircases and vertical ladder are not acceptable as alternate means of escape.
- 3.8 At ground floor level an exit alternate to the existing one is acceptable as an alternate means of escape.
- 3.9 In building above ground floor level a standard staircase made of metal or other non combustible material is acceptable as an alternate means of escape.
- 6.1 An external staircase is acceptable provided that
- (c) there is limited opening on the side where the staircase is sited
  - (d) windows do not open directly on the staircase
  - (e) materials used are protected against corrosion and slips
  - (f) the staircase is illuminated during night.
- 6.2 An emergency staircase shall satisfy the following specifications:-
- (a) It shall not be less than one metre wide
  - (b) Treads shall not be less than 225 mm
  - (c) Risers shall not be more than 190 mm

- (d) Angle of descent shall not exceeds 45 degrees
  - (e) There shall be not more than 16 risers in a flight
  - (f) There shall be not more than 2 flights without a change in direction
  - (g) All doors giving access to the staircase shall open outwards
- 6.3 Exit doors, corridors and staircases shall be kept free from obstruction at all material time.
- 3.13 Emergency exit doors shall (except in the case of a sliding door) be constructed to open outwards.
- 3.14 Whenever a building is occupied, emergency exit doors shall not be locked or fastened in such a manner that it cannot be easily and immediately opened from inside.
- 3.15 The contents of any room shall be arranged in such a way to allow free circulation for occupants.
- 1.1 Every exit door affording means of escape shall be marked by an exit white pictogram of minimum size 100 mm on a board with green background.
- 3.17 When the direction to the emergency exit may not be apparent to an occupant an exit sign with an arrow indicating direction shall be displayed.
- 3.18 If occupancy is permitted at night or if normal lighting levels are reduced during working times, exit signs shall be illuminated and emergency lighting provided along escape routes.
- 4 **MEANS FOR FIGHTING FIRE**
- 8.5 Every promoter shall provide first aid fire fighting equipment of suitable type specific to the circumstances of his case.
- 8.6 First Aid fire fighting equipment includes portable fire extinguishers and hose reel.
- 8.7 Four types of portable fire extinguishers using water or foam, or dry powder or carbon dioxide are available.
- 8.8 A water fire extinguisher is appropriate for fire involving solid materials normally of an organic nature in which combustion occurs with the formation of glowing embers. (Class A fires). E.g. wood, paper, textiles, clothing.
- 8.9 A foam fire extinguisher is appropriate for fires involving liquids or liquefied solids (Class B fires). E.g. petrol, oil, thinner
- 8.10 A dry powder fire extinguisher is appropriate for fire involving solid materials normally of an organic nature in which combustion occurs with the formation of glowing embers, liquid or liquefied solids, gasses and metals. (Class A, B, C and D). E.g. wood, paper, textiles, clothing, petrol, thinner, oil and electrical appliances.

- 8.11 A carbon dioxide fire extinguisher is appropriate for fire involving solid materials normally of an organic nature in which combustion occurs with the formation of glowing embers, liquid or liquefied solids, gasses (Class A, B, C). E.g wood, paper, textiles, clothing, petrol, thinner and electrical appliances.
- 8.12 These fire extinguishers are available in capacity of 9 lts for water and foam, 2 kg and 5 kg for carbon dioxide, 2 kg, 4 kg, 6 kg and 9 kg for dry powder type.
- 4.9 One 4 kg dry powder or one 2 kg carbon dioxide fire extinguisher is recommended for every 100 sq metres or part thereof according to the risk.
- 4.10 Portable fire extinguishers shall be preferably sited on the line of escape routes, near to room exits inside or outside according to the risk.
- 4.11 In multi storey building, portable fire extinguishers shall be sited at the same position on each floor, that is top of stairs flights or at corner of corridors where possible in groups forming fire points, where possible in shallow recess.
- 1.1 Portable fire extinguishers shall be installed in such a way that the carrying handle lies one metre off the floor level.
- 1.2 In large buildings, portable fire extinguishers shall be sited in such a place so that no person shall travel more than 30 m to reach them.
- 1.3 Portable fire extinguishers shall be maintained in operational order at all material time.
- 1.4 The equipment shall be regularly inspected and tested. A record of such inspection and test shall be kept.
- 1.5 A hose reel installation which is a first aid and fire fighting appliance shall be provided in premises to extinguish ordinary combustible materials such as wood, cloth, paper and any matter that produces an ash (Class A fire fires); where a portable fire extinguisher will be insufficient.
- 1.6 It consists essentially of a reel, inlet pipe, manual or automatic valve (as the case may be), hose and a shut-off nozzle.
- 1.7 The drum or hose support of the first coil of hose shall be not less than 150mm in diameter. The fittings to which the hose is attached shall be arranged in such a way that the hose is not restricted by additional layer of hose, being place on it.
- 1.8 The reel shall be of sufficient size to carry the length of hose and rotate around a spindle so that the hose can be freely run out.
- 1.9 If a *manual inlet* valve is provided, it shall be of screw-down type above ground stop valve or gate valve type. It should be closed by running the handle in a clockwise direction. The direction of opening should be indicated by an arrow marked on the handle.

- 1.10 If the valve is *automatic*, the valve should open automatically when the hose is run out of the reel after four complete revolutions.
- 1.11 (a) If the diameter of the hose is 19 mm, its length shall be not more than 45 metres.
- (b) If the diameter of the hose is 25 mm, its length shall be not more than 30 metres.
- 1.12 A nozzle of 4.5 mm to 6.5 mm capable of providing either jet or spray shall be incorporated at the end of the hose reel.
- 1.13 A hose reel installation shall be connected to a permanent water supply which is under pressure.
- 1.14 In vertical installations (tall buildings) the hose reel shall provide a jet of approximately 6m and the output shall be at least 24 litres per minute as follows:

Nozzle diameter	Minimum running pressure at the entry of reel
6.5 mm	1.5 bar
4.5 mm	4 bar

- 1.15 In horizontal installations the output shall be at least 24 litres per minute.
- 4.12 One hose reel shall be provided to cover every 500m<sup>2</sup> of floor space or part thereof.
- 1.16 Hose reels shall be sited in prominent and accessible positions at each floor level adjacent to exits in corridors on exit routes, in such a way that the nozzle of the hose can be taken in every room and within 6m of each part of a room.
- 1.17 Fire hose reel assemblies shall be provided with a notice bearing the words “FIRE HOSE REEL” in white letters on a red background. The methods of operation (of the valve) should be displayed adjacent to each assembly.
- 4.13** A hose reel installation shall be maintained in operational order at all material time. The installation shall be regularly tested and a record shall be kept.

## **5. MEANS OF GIVING WARNING IN CASE OF FIRE**

- 1.1 A fire alarm system is required in a building for one or both of the following purposes:
- to enable people in the building to be informed of an outbreak of fire and evacuate the building before the escape routes are affected by the product of fire.
  - to enable early detection and mitigate damage that may be caused by the fire by activating fire fighting resources.

- 1.2 A promoter in the industrial sector shall ensure that a fire warning system is installed at his place of work if the number of persons exceeds 60 or inflammable substances are stored, used and handled.
- 1.3 A fire alarm system consist basically of breakglass manual call points which are wired electrically to sounders / sirens and a control indicator panel.
- 1.4 Breakglass call points shall be installed at 1.4 metres above floor level preferably near exit and emergency staircase. In large premises no one shall travel more than 30 mts to reach a call point.
- 5.5 Sounders/sirens shall be strategically placed in sufficient numbers and in such a way that the sound is audible throughout the building. The sound shall be distinctive and at least 5 decibel above normal noise in the premises.
- 1.1 The basic system can be enhanced by introducing automatic fire detectors.
- 1.2 Fire detectors are designed to detect one or more of the three characteristics of a fire: heat, smoke or flame.
- 1.3 No one type is suitable for all applications and the final choice depend on the individual circumstances.
- 1.4 Heat or smoke detectors are suitable for most buildings. Flame detectors are mainly used to supplement heat or smoke detectors in high compartments or outdoor wide area storages.
- 1.5 A fire warning system shall be designed and installed in accordance to BS 5839 or any other equivalent standard.
- 1.6 Every component of the system shall be regularly tested and maintained in operational order. A record of test shall be kept.

## **6. INFLAMMABLE SUBSTANCES**

### **6.4 Liquefied Petroleum Gas – L.P.G**

- 6.1.1 If the quantity of LPG used stored or handled is below 500 kg
  - a. Cylinders shall be kept upright in a well ventilated place preferably outside building and away from any source of heat, combustibile materials and electrical circuits.
  - b. Cylinders shall be kept away from exits or area used for circulation of people. Cylinders shall not be kept under stairways.
  - c. Cylinders shall be kept in areas where it will not be physically damaged.
  - d. Cylinders shall be secured to prevent them from falling or being knocked over, it shall be on flat and firm surface.



- e. Fittings recommended for the equipment shall be used.
- f. Appliances and accessories shall be maintained in good working order.
- g. Ensure that rubber hose/other connections and regulator are in good working condition.
- h. Rubber hose/tubings and regulator shall be replaced before the expiry dated stated on the items and as recommended by manufacturers.
- i. Empty cylinders shall be kept away from full cylinders.
- j. One 4 kg dry powder fire extinguisher shall be provided.

6.1.2 **If the quantity of LPG exceeds 500kg**

- a. Containers, cylinder and tanks shall be designed, fabricated, listed and marked ( stamped) in accordance to regulations.
- b. Defective containers, cylinders and tanks shall be returned to supplier.
- c. Containers, cylinders, tanks and systems shall be secured against accidental dislodgement.
- d. Storage, use and handling areas shall be secured against unauthorised entry.
- e. Containers, cylinders, tanks and system shall be protected from physical damage.
- f. Guard posts or other means shall be provided to protect compressed gas containers, cylinders, tanks and system from vehicular damage.
- g. Containers, cylinders, tanks shall be separated from combustible material, waste, vegetation , source of heat and conditions that present exposure hazard to or from each other.
- h. Containers, cylinders, tanks shall be protected from direct contact with soil or surfaces where water might accumulate to prevent bottom corrosion.
- i. The gas storage installation shall be protected by a water spray system.
- j. Layout plan of installation shall be submitted to the fire industrial to ensure conformity.
- k. One 9kg dry powder fire extinguisher shall be provided.
- l. After completion of the project, the installation shall be registered with the Fire Industrials after payment of a fee of Rs 250.

6.2 **Inflammable Liquids – M/Spirits, Alcohol, Kerosene, etc**

- 6.2.1 Promoters of the industrial sector are allowed to use, store and handle inflammable liquids up to a maximum of 200 lts. If the liquid has a flash point of 22.7°C or less or 400 lts if the liquid has a flash point between 22.7°C to 43°C.

- 6.2.2 If the quantity used/stored or handled exceeds the quantity mentioned in 6.2.1 the promoter shall keep the liquid in a store constructed for the purpose.
- 6.2.3 The store shall be constructed according to the following specification:-
- a. The walls shall be constructed of brick, stone, concrete or other non-inflammable material, the floor of concrete or other impervious material and the roof of re-inforced concrete or other non-inflammable material.
  - b. The store shall be provided with a well-fitted metal sliding door, or a metal door opening outwards of not less than 3.5mm thick, carried on an iron door frame. Such door shall have an all-round over-lap of not less than 50mm and shall be fitted with a substantial lock.
  - c. The window frames shall be constructed of metal and fitted with fire resisting glass panes or metal sheets.
  - d. Every store shall be constructed in such manner or surrounded by walls not less than 150mm in height forming a well of such character that the inflammable liquid contained therein cannot escape therefrom.
  - e. Low and high level means of ventilation shall be provided in the store.
  - f. The openings shall be protected by non-corrodable wire gauze of not less than 0.9mm.
  - g. A store shall not be situated in such a position that will impede the escape of any person from the premises, or endanger any room, building, or premises in the case of fire.
  - h. Any store with a floor area in excess of 10m<sup>2</sup> shall be provided with at least two doors, constructed as described in paragraph (b) above.
  - i. Every store shall be maintained at all times in accordance with the provisions of this specifications.
- 6.2.4 All lights installed shall be of incandescent electric type which shall be enclosed in an outer flame proof fitting and all wiring shall be armoured cable or enclosed in seamless metal tubes; the junctions of which are screwed together. All switches, junction boxes, fuses and other electrical equipment shall be outside the store. All armoured cables and seamless tubes shall be efficiently earthed.
- 6.2.5 No person shall use any store or cause or permit such store to be used for any purpose other than the storage of inflammable liquid, oils and their containers; and engage in or cause or permit any other person to be engaged in any store unless all the doors of the store are fully open and kept entirely unobstructed.
- 6.2.6 No person shall enter any store or cause or permit any store to be entered without the express permission of the occupier or other responsible person in charge of such store.

6.2.7 Prior to constructing the store the promoter shall have the plan of the store approved by the Fire Industrials after paying a fee of Rs 150/-.

6.2.8 After completion of the project, the promoter shall have the store registered at the fire industrial after payment of a fee of Rs 300/-.

### 6.3 Spraying Room

6.3.1 If spraying activities using inflammable liquids or substances are carried out the promoter shall adhere to the following requirements:

6.3.1 (a) He shall obtain a spraying room permit

(b) He shall submit one copy of plan of building where spraying will be carried out together with Rs 150 for its approval.

6.3.2 The spraying room shall be constructed in accordance with the following requirements.

(a) Non- inflammable materials only shall be used in the construction thereof.

(b) There shall be installed an exhaust method of ventilation such as will adequately remove vapours from and capable of changing air in the spraying room at least thirty times in every hour.

(c) All exhaust vents leading from spraying rooms or spraying booths shall be so designed and constructed that all vapours are expelled into the open air at a point of not less than 4 meters above the level of the ground and at a distance of not less than 5 metres from the opening to any building and such vent shall be constructed of non-inflammable material.

(d) No electrical equipment shall be installed in the spraying room other than incandescent electric lights enclosed in outer flame-proof fittings.

(e) Upon completion of the project, the promoter shall obtain a certificate of registration after payment of a fee of Rs 300.

## 7. MISCELLANEOUS REQUIREMENTS

7.1 Electrical Installation

7.1.1 The design, construction, maintenance or alteration of installations shall be carried out by qualified persons.

7.1.2 All electrical systems shall be constructed, installed, protected, maintained, inspected and tested, so as to prevent danger so far as is reasonably practicable.

7.1.3 All electrical conductors shall be of sufficient size and current-carrying capacity for the purposes for which they are intended.

- 7.1.4 Every electrical joint and connection shall be of proper construction as regards conductance, insulation and mechanical strength.
- 7.1.5 Every installation and every circuit shall be protected by means of fuse, circuit breakers and earthing.
- 7.1.6 Every circuit shall be so arranged as to prevent the persistence of dangerous earth leakage currents.
- 7.1.7 Effective means, suitably placed for ready operations shall be provided to cut off the supply of electrical energy on any electrical equipment, as may be necessary to prevent or remove danger.
- 7.1.8 Every installations shall be divided into circuits as necessary to avoid danger in the event of a fault and facilitate safe operations, inspections, testing and maintenance.
- 7.1.9 Protective devices shall be arranged and identified so that the circuits protected are easily recognized.
- 7.1.10 Cables to be installed on walls shall incorporate a sheath suitably resistant to any mechanical damage likely to occur, or to be contained in a conduit system or other enclosure affording adequate protection against such damage.
- 7.1.11 Cable with the colour combination green and yellow shall be reserved exclusively for the identification of protective conductor and shall not be used for any other purpose.
- 7.1.12 All fixed luminaries and lamps shall be placed or guarded so as to prevent ignition of any material which in the conditions of use foreseen are likely to be placed in proximity to the luminaries or lamps. Any shade or guard used for this purpose shall be suitable to withstand the heat from the luminaries or lamp.
- 7.2 **Housekeeping**
- 7.2.1 Housekeeping in relation to fire safety is the day to day management of fire hazards to minimise the occurrence of fire.
- 7.2.2 A high standard of cleanliness shall be observed at the place of work.
- 7.2.3 Waste products shall be regularly collected and carefully disposed of – weed and dry grass should be removed.
- 7.2.4 Areas in and around the building shall be kept free from accumulated waste materials.
- 7.2.5 A ‘No Smoking’ shall be enforced and No Smoking notices shall be displayed.
- 7.2.6 Walls and fences shall always be kept in good condition.

7.2.7 During repair works are being carried out fire precautionary shall be observed and fire protection measures maintained.

## **8 FIRE PREVENTION**

8.1 Fire prevention principles and measures aim to avoid the inception of a fire

8.2 It involves the control of fire hazards at the place of work and observance of basic rules to avoid ignition sources coming into contact with combustible materials.

8.3 The promoter of an industrial sector shall ensure that his employees are aware of basic fire prevention measures and strictly observe the rules at the place of work.

8.4 The main causes of fire can be classified as:

- a. faulty electrical equipments / installations
- b. smoking materials
- c. frictional, welding, cutting sparks, naked flames,
- d. spontaneous combustion
- e. arson

1.1 Fire prevention measures

- a. electrical installation – described at paragraph 7.1
- b. smoking material – A ‘No Smoking’ policy shall be enforced at the place of work
- c. waste disposal – described at paragraph 7.2
- d. flammable products – explained at paragraph 6
- e. arson – exercise regular patrol and enforce strict surveillance

## **9. FIRE PROCEDURE**

9.1 A fire procedure outlines the main features of a fire emergency response plan which the promoter in the industrial sector shall establish and implement.

9.2 The plan contains measures to prevent the occurrence of a fire, fire protection measures and the course of action to be taken in the event of a fire.

9.3 The requirements for fire protection have been highlighted in Section 2 to 7.

9.4 Fire preventive measures have been described in Section 8.

9.5 The actions to be taken in the event of a fire include the following:

- a. Raise the alarm – any one who discovers a fire shall immediately inform all his colleagues and neighbours who might be affected by the fire.
- b. Call the fire brigade – Dial 115
  - Give the brigade distinct information concerning the fire
  - Your name and telephone number

- Exact location of building/site
- Give information about the fire such as its nature, the floor involved or if persons trapped.

c. Attack the fire – Try to extinguish the fire with the available first aid fire fighting equipment only if safe to do so.

- d. Evacuate the building - All persons not involved in fighting the fire shall leave the premises through the nearest exit
- Close the door of the room involved in fire
  - Walk – DO NOT RUN
  - Do not use elevators, always use staircase
  - Assist the disabled and elderly to an area of refuge or other safe place
  - Do not go back to the building for any reason until advised to do so

9.6 The promoter shall nominate responsible persons and assign them specific task as to “who will do what” in the event of a fire.

9.7 The promoter shall ensure that the nominated persons are properly trained in their specific task.

9.8 The promoter shall ensure that the action plan is implemented through a fire drill conducted at least twice a year.

## **10. FIRE RISK ASSESSMENT**

10.1 Ensuring an assessment of fire risks within one’s premises has been carried out is a key part of the ‘responsible persons’ role.

### **10.2 The 5 steps of a risk assessment**

10.2.1 The following is a summary of the 5 steps you will need to go through to carry out a fire risk assessment within your premises.

10.2.2 Step 1 – Identify the fire hazards within your premises

You need to identify:

- Sources of ignition such as naked flames, heaters or some commercial processes.
- Sources of fuel such as accumulated waste, display materials, textiles or overstocked products.
- Sources of additional oxygen such as forced air circulation or medicinal or commercial oxygen supplies.

10.2.3 Step 2 – Identify people at risk

You will need to identify those people who may be especially at risk such as:

- People working in close proximity to fire hazards.
- People working alone or in isolated areas (such as roof spaces or storerooms)

- Children or parents with babies
- The elderly or infirm and people who are disabled.

#### 10.2.4 Step 3 – Evaluate, remove, reduce and protect from risk

Evaluate the level of risk in your premises. Action should be taken to reduce the level of hazard.

- Replace highly combustible materials with less combustible ones as far as practicable.
- Ensure adequate separation between combustibles and ignition sources.
- Operate a safe smoking policy.

#### 10.2.5 Step 4 – Record, plan, instruct and train

In this step the promoter shall record, plan, instruct, inform and train. The promoter will need to record the hazards and people you have identified as especially at risk in Step 1 and Step 2. The promoter should also record what the promoter did about it in Step 3. A simple plan can help you achieve this.

#### 10.2.6 Step 5 – Review

The promoter should make sure your fire risk assessment is up to date, you will need to re-examine your fire risk assessment every time there is a significant change to the level of risk in your premises. This could include an increase in combustible materials being stored, a new night shift starting or a change in the type or number of people using your premises.

## 11. PRECAUTIONARY MEASURES

### 11.1 Precautions with machinery

- A comprehensive maintenance plan to prevent, detect and correct defective or worn equipment
- Installation and maintenance of electrical equipment carried out by competent electrical contractors
- Moving parts correctly aligned and not overloaded- belts properly tensioned.
- Adequate lubrication of machinery.
- Hot surfaces shielded, especially where close to hydraulic systems
- Sharp tools and adequate coolants, where necessary, for cutting processors.
- Filters and magnetic separators provided to eliminate objects capable of causing friction sparking.
- Drip trays provided or floor coverings impervious to oil.
- Metal Bins with close fitting lids provided for oily rags.
- Cleaning solvents for machinery applied from safety containers.
- Work planned to limit the quantity of combustible material present.
- Waste and scarp removed regularly.
- Machines kept clean.

### 11.2 Precautions with heating/dry process

- Plant designed to provide adequate separation between combustible material and hot surfaces. Guards and shields provided where necessary.
- Automatic controls incorporated to keep materials in process below their ignition temperatures.
- Ventilation systems where flammable vapours are given off.
- Safety devices installed to cut off heating, in the event of ventilation failure or conveyor breakdown.
- Explosion relief vents provided for gas-fired ovens and driers and where there may be explosive concentrations of vapour or dust.  
Regular cleaning.
- A comprehensive maintenance plan to prevent, detect and correct defective or worn equipment.
- Hydraulic systems and shields designed to ensure that leaking oil cannot contact hot surfaces.
- Plant and processes operated by trained staff.

### 11.3 Precautions with process involving the production of dust

- Dust-producing processes shall be enclosed as far as possible and provided with efficient dust extraction systems.
- Explosion relief devices installed where appropriate.
- All potential ignition sources shall be eliminated, dust-tight electrical equipment shall be used in hazardous areas.
- Metal components shall be bonded together and earthed.
- Plant designed to eliminate 'dead spots' and cleaned out regularly.
- Inert atmospheres and explosion suppression systems considered for special cases.
- Work areas kept free of dust deposits by vacuum cleaning.

### 11.4 Precautions when packaging

- Packaging departments separated from production and storage areas by fire-resisting walls and floors.
- Packaging materials kept to a minimum in packing area.
- Conveyors utilized to reduce the quantities of packaging materials kept in the department.
- Automatic fire shutters installed where conveyors and chutes pass through walls and floors.
- Thermostats provided on wax baths and other heat sealing equipment where appropriate.
- Smoking prohibited.
- Work and waste removal planned to limit quantities of combustible materials present.
- Gangways painted boldly on floor and always kept clear.
- Packaging shall be against water damage.

### 11.5 Precautions at Storage and Warehousing

- Stores in detached buildings or separated by fire-resisting walls and floors from all other departments.



- Fire doors or shutters fitted to all door openings and conveyors leading to other departments: fire doors kept closed.
- All ignition sources strictly controlled.
- Heating by warm air, hot water or low-pressure steam central heating systems only.
- Smoking prohibited.
- Access to storage areas prohibited to unauthorized persons.
- Tidy stacking and racking to facilitate detection of fires, fire fighting and the covering of goods in the event of a fire to protect them from water damage.
- Individual stacks or groups of racks should be limited in area with access provided to all sides.
- Lines boldly painted on floor and gangways kept clear.
- To guard against water damage. Goods shall be stored off the floor on non combustible pallets. Any floors above the storage shall be as watertight as possible.
- A ventilation system shall be provided

## **12. LEGISLATION / GOVERNMENT POLICY**

### **1. Fire Clearances/Fire Certificates are issued under the following enactments after compliance with fire safety requirements.**

- Occupational Safety, Health and Welfare Act – 1988 – Section 52, 53, 54} Fire  
2005 – Section 74, 75, 76} Certificate
- Local Government Act 2003
- Tourism Act
- Education Act 2000 - Section 10(3)(b)
- Residential Care Homes Act No. 8 of 2003 - Section 9 – Sub Section 2(b)
- The Business facilitation (Miscellaneous Provision) Act 2006.

### **2. Certificates of Registration are issued under the following enactments after compliance with fire safety requirements:**

- Inflammable Liquids and Substances Regulations - GN 179/53
- Inflammable Gases Regulations - GN 32/62
- Cinematograph Regulations - GN 242/41

### **3. Ex-post Control**

3.1 If a promoter runs his activity in an existing building it will be inspected to ensure compliance with fire safety guidelines, 15 days after the start of the business.

3.2 Any shortcoming noted will be notified to the promoter and the Chief Executive of the Local Authority for appropriate action.

3.3 If a promoter intends to construct a new building or cause extensive alterations to an existing building, it is advisable that the promoter consults the Fire Services before starting construction.

3.4 For any additional clarifications the Government Fire Industrials will be most willing to assist.

Address your queries to the Chief Fire Officer:

Phone No.: 212 0214, 212 0515, 212 4726

Fax No.: 208 3875

E-mail: [gfs@mail.gov.mu](mailto:gfs@mail.gov.mu)

Postal Address: 14 Deschartres Street  
Port-Louis

# INSPECTION CHECK LIST

## 1. Occupancy

- (a) For what purpose the building is used?
  - (i) the type of construction
  - (ii) dimension of building
  - (iii) access for fire appliances
- (b) The number of person involved?
- (c) Is there any explosive or inflammable material?
- (d) Is the method of storage or handling appropriate?
- (e) Is the electrical and gas installation appropriate?

## 2. Means of Escape

- (a) Is the means of escape satisfactory?
- (b) Is there sufficient exit door/staircases?
- (c) Is the means of escape free from obstruction?
- (d) Is there sufficient lights/emergency light in the escape routes?
- (e) Can the escape routes be used safely?
- (f) Is there appropriate signs indicating the means of escape?

## 3. Means for fighting fires

- (a) Is there provided appropriate type/numbers of portable fire extinguishers?
- (b) Is the fire extinguisher maintained/sited properly?
- (a) Is there any other 1<sup>st</sup> aid fire fighting equipments installed?
- (b) Is there the need for other 1<sup>st</sup> aid fire fighting equipments?
- (c) Is there any fixed fire protection equipments?
- (d) IS there the need for any fixed fire protection system?

## 4. Means for giving warning in case of fire

- (a) Is there the need for fire warning system?
- (b) Is a fire warning system installed?
- (c) If installed, does it operate properly?

## 5. Staff Training

- (a) Are the occupants familiar with the escape route?
- (b) Do they know the evacuation procedure?
- (j) Is the staff conversant in handling 1<sup>st</sup> aid fire fighting equipment?

