CS/101

Registered Fire Engineer Scheme

Fire Safety Requirements
for
Cold Store under Food Business Regulation (Cap.132X)

A. Restrictions on Location

The premises shall not be located:

1) On any basement level of industrial building; or
2) In areas designated for emergency use such as buffer or refuge floor of industrial building.

B. Standard Requirements

1. All fire service installations and equipment provided for the premises shall be retained and maintained in efficient working order. For all maintenance, alterations and additions, such works shall be carried out by a Registered Fire Service Installation (FSI) Contractor who shall issue Certificate(s) of Fire Service Installations and Equipment (FS 251) to the owner with copies forwarded to the Director of Fire Services within 14 days after completion of the works. A certificate of compliance (FSI/314A or FSI/314D as appropriate) shall also be submitted by the responsible Registered FSI Contractor to the Director of Fire Services for the alteration and addition works.

2. A sprinkler system shall be provided in accordance with the Code of Practice for Minimum Fire Service Installations and Equipment. Any sprinkler system so provided in the cold room shall be dry sprinklers or sprinkler installation operating in dry mode.

3. A manual fire alarm system with visual alarm signals shall be provided in accordance with the Code of Practice for Minimum Fire Service Installations and Equipment. Manual fire alarm call points at the following locations:
   3.1 Near the main entrance; and
   3.2 Near each exit.

4. Portable fire-fighting equipment of the approved type, over and above those installed for the occupation of the building, shall be provided as follows:-

4.1 _____x 9L water type extinguisher(s) at _____

4.2 _____x 5 kg dry powder type fire extinguisher(s) at _____

4.3 _____x 4.5 kg CO_2 type fire extinguisher(s) at _____

5. All exits shall be suitably indicated by illuminated signs in accordance with the Code of Practice for Minimum Fire Service Installations and Equipment. If the exit signs are out of sight to any location within the premises, suitable directional signs in same dimensions as the exit signs shall be provided to assist the occupant to identify the exits in the event of an emergency.

6. Emergency lighting shall be provided to the premises and the attached Requirements for Self-contained Luminaries Emergency Lighting System (PPA/104(A)) shall be complied with.

7. A ventilation/air-conditioning control system shall be provided to the premises if applicable and the attached Requirements for Ventilation/Air-conditioning Control System for Licensed Premises shall be complied with.

8. The mechanical ventilating system installed at the premises shall comply with the Building (Ventilating Systems) Regulations (Cap.123J), the fire safety requirements for mechanical ventilating systems as stipulated in the Fire Services Department Circular Letter No.4/96 Part XI and the attached Fire Safety Requirements for Ventilating System for Premises (other than Scheduled Premises).

9. The access doors of cold room shall be openable manually from inside and outside. A manual actuating point, which can activate the visible and audible emergency alarms outside the cold room, shall be installed inside each cold room. Independent electric lighting, which cannot be switched off from outside, shall be provided in each cold room.

10. All linings for acoustic or thermal insulation within the cold room shall conform to British Standard 476 : Part 7 Class 1 or 2 Rate of Surface Spread of Flame or its international equivalent, or shall be brought up to any of those standards by treating with a fire retardant paint or solution acceptable to the Director of Fire Services. In the latter case, the work shall be carried out by a Class 2 Registered FSI Contractor and a certificate (FS 251) to this effect from the Contractor shall be forwarded to this Department as documentary proof of compliance.

C. Additional Requirements when using safety groups A2L, A2, A3, B1, B2L, B2 and B3 refrigerants as defined in the American Society of Heating, Refrigerating and Air- Conditioning Engineers (ASHRAE)

1. The plant room shall be adequately ventilated to open air in such a manner as to maintain 20 air changes per hour in case of leakage or rupture of the system. As an alternative, the plant room can be ventilated in accordance with the means of ventilation and the criteria set under the revised ANSI/ASHRAE Standard 15 or BS EN 378.

2. Each plant room shall be provided with suitable approved type gas leakage detectors to automatically actuate the audible and visible alarm and shut down the system when a leakage of refrigerant is detected in accordance with the detection value set under the revised ANSI/ASHRAE Standard 15 or BS EN 378.

3. Any fixed electrical installation shall be inspected, tested and certified by an electrical worker/contractor registered by the Director of Electrical and Mechanical Services. A copy of the Work Completion Certificate (WR1) shall be forwarded to the Director of Fire Services as proof of compliance.

4. All electrical equipment inside the plant room shall be of totally enclosed type to BS EN 60529 standard with protection not less than IP 44.

5. An emergency stop switch of the plant shall be installed at a conspicuous position outside the plant room with the words “EMERGENCY STOP” , “緊急停止”.

6. Piping and ducting containing refrigerant shall not pass through any means of escape.

7. A responsible person capable of dealing with any leakage or spillage of refrigerant shall be on 24-hour call when the plant is in operation.

8. Neither open fires nor naked flame shall be permitted in or adjacent to the plant room when the plant is in operation.

9. The notices of “NO SMOKING”, “不准吸煙” shall be prominently displayed on the doors of the plant room and the cold room in 120 mm English and Chinese characters.

10. The words of “DANGER – (refrigerant) GAS (flammable/toxic)”, “危險 – (雪種) 氣體(易燃/有毒)” shall be prominently displayed on the door of the plant room in 120

mm English and Chinese characters.

11. If the total charge of refrigerant amounts to 5 tonnes, two sets of breathing apparatus and protective clothing shall be available for use in an emergency and shall be kept adjacent to the plant room. The breathing apparatus shall be of a type approved by the Labour Department for use in confined spaces. The plant operators shall deliver proper training to their staff in the proper use and maintenance of these sets.

12. Manual of operation of the plant and emergency procedure for handling leakage of refrigerant shall be available outside the plant room.

D. Additional Requirements (if any)

Remarks:
Should the applicants have insurmountable difficulties in complying with the above prescribed requirements, they can submit alternative proposals for FSD's consideration. For example, applicants can adopt the Fire Engineering approach, or submit a study report to explain how they will tackle problems of fire suppression, smoke control, evacuation and access of fire services etc.