

Industrial Safety Standards

Introduction

- The object of the Factories Act is to regulate the conditions of work in manufacturing establishments coming within the definition of the term “factory” as used in the Act.

Introduction

- The first Act, in India, relating to the subject was passed in 1881.
- This was followed by new Acts in 1891, 1911, 1922, 1934. and 1948.
- The Act of 1948 is more comprehensive than the previous Acts.
- It contains detailed provisions regarding the health, safety and welfare of workers inside factories, the hours of work, the minimum age of workers, leave with pay etc.
- The Act has been amended several times

Introduction

- The Act is based on the provisions of the Factories Act of Great Britain passed in 1937.
- In 1976 the Act was amended extensively.
- The provisions of the Amendment have been quoted and summarized at the appropriate places in this chapter

Application of the Act

- The Factories Act of 1948 came into force on 1st April 1949; It applies to factories, as defined in the Act, all over India, including the State of Jammu and Kashmir
- Unless 'otherwise provided, the Factories Act applies to factories belonging to the Central or any State Government. Sec. 116.

1. Definitions



Definitions under the Factories Act

- The term Factory is defined in Section 2 (m) of the Act as follows: “Factory means any premises including the precincts thereof:
- (1) whereon ten or more workers are working, or were working on any day of the preceding twelve months, and in any part of which a manufacturing process is being carried on with the aid of power or is ordinarily so carried on.

Definitions under the Factories Act

- (ii) Whereon twenty or more workers are working, or were working on any day of the preceding twelve months, and in any part of which a manufacturing process is being carried on without the aid of power, or is ordinarily so carried on, but does not include a mine subject to the operation of the Indian Mines Act, 1952 (Act XXXV of 1952), or
- A mobile unit belonging to the armed forces of the Union, a railway running shed or a hotel, restaurant or eating place

Explanation

- For computing the number of workers for the purposes of this clause all the workers in different relays in a day shall, be taken into account.
- Under Section S5, the State Government is empowered to declare any establishment carrying on a manufacturing process to be a factory for the purposes of the Act even though it employs less than the prescribed minimum number of workers, provided that the manufacturing process is not being carried on by the owner only with the aid of his family.

Manufacturing Process

- This term is defined in Section 2(k) in a very wide sense. It includes:
 - i. Making, altering, ornamenting, finishing, packing, oiling, washing, cleaning, breaking up, demolishing, or otherwise treating or adopting any article or substance with a view to its use, sale, transport, delivery or disposal; or
 - ii. Pumping oil, water, sewage or any other substance; or

Manufacturing Process

- iii. Generating, transforming or transmitting power; or
- iv. Composing types for printing, printing by letter press, lithography, photogravure or other similar processes or book binding; or
- v. Constructing, reconstructing, repairing, refitting, finishing or breaking up ships or vessels; or
- vi. Preserving or storing any article in cold storage.

Provisions of Factories Act 1948



Provisions of **Factories Act** 1948

- I. Statutory Provisions **under the Factories Act, 1948**
- II. **Provisions Regarding the** Health of Workers
- III. **Provisions Regarding the** Safety of Workers
- IV. **Provisions Regarding the** Welfare of Workers

I. Statutory Provisions under the Factories Act, 1948



1. Statutory Provisions under the Factories Act, 1948

The Factories Act, 1948, insists that the following preventive measures must be adopted in industrial establishments:

1. **Cleanliness:** Every factory should be kept clean and free from effluvia - from drain and privy refuse, and from dirt. It should be whitewashed at least once in 14 months or painted at least once in five years. Floors should be swept and cleaned, at least once every week, with some disinfecting fluid

1. Statutory Provisions under the Factories Act, 1948

2. **Disposal of wastes and effluents:** Effective arrangements should be made for their disposal and/or treatment.
3. **Ventilation and temperature:** Provision should be made for the circulation of fresh air, and temperature should be maintained by building walls and roofs of such materials as would keep it within reasonable limits. High temperature may be controlled by white washing, spraying and insulating the factory premises and by screening outside walls, roofs and windows.

1. Statutory Provisions under the Factories Act, 1948

- 4. **Dust and fumes:** Effective measures should be taken to prevent, or at any rate reduce, the inhalation and accumulation of dust and fumes. Exhaust appliances should be used near the point of the origin of dust and fumes.
- 5. **Lighting:** Sufficient and suitable lighting, natural or artificial or both should be made available in the factory premises.
- 6. **Overcrowding:** No room should be overcrowded. There should be at least 500 cu. ft. of space for every worker

1. Statutory Provisions under the Factories Act, 1948

- 7. **Drinking water:** A sufficient quantity of cool drinking water should be made available for the employees throughout the year, particularly during the hot summer months
- 8. **Latrines and urinals:** Adequate latrines and urinals should be separately provided for men and women employees.
- 9. **First aid appliances:** There should be an adequate number of boxes containing first aid materials, qualified personnel to administer first aid, and an ambulance or at least a room where an injured employee may be given first aid.

II. Provisions Regarding the Health of Workers



II. Provisions Regarding the Health of Workers

Sections 11 to 20 of the Act contain certain provisions intended to ensure that the conditions under which work is carried on in factories do not affect the health of tire workers injuriously.

Summary of the provisions of the Factories Act relating to the health of workers are ...

2. Provisions Regarding the Health of Workers

1. **Cleanliness:** Every factory shall be kept clean and free from dirt, and the outflow of drains etc. The floors must be cleaned. Drainage shall be provided. Inside walls, partitions and ceilings must be repainted at least once in five years.

When washable water paint is used they must be painted once every three years and washed at least every period of six months.- Sec. 11, as amended in

2. Provisions Regarding the Health of Workers

2. **Disposal of Wastes and Effluents:** The waste materials produced from the manufacturing process must be effectively disposed off-Sec. 12.
3. **Ventilation 'and Temperature:** There must be provision for adequate ventilation by the circulation of fresh air: The temperature must be kept at a comfortable level. Hot parts of machines must be 'separated and insulated.-Sec. 13

2. Provisions Regarding the Health of Workers

4. **Dust and Fume:** If the manufacturing process used, gives off injurious or offensive dust and fume steps must be taken so that they are not inhaled or accumulated. The exhaust fumes of internal combustion engines must be conducted outside the factory- Sec. 14.
5. **Artificial humidification:** the water used for this purpose must be pure. It must be taken from some source of drinking water supply. The State Government can frame rules regarding the process of humidification etc.-Sec. 15.

2. Provisions Regarding the Health of Workers

6. **Over Crowding** There must be no overcrowding in a factory. In factories existing before the commencement of the Act there must be at least 350 c.ft. (or 55 cubic meters) of space per worker. For factories built afterwards, there must be at least 500 c.ft. (or 75 cubic meters) of space. In calculating the space, an account is to be taken of space above 14 ft. (or 5 meters) from the floor. -Sec. 16.
7. **Lighting Factories** must be well lighted. Effective measures must be adopted to prevent glare or formation of shadows which might cause eyestrain. -sec. 17.

2. Provisions Regarding the Health of Workers

8. **Drinking Water Arrangements:** must be made to provide a sufficient supply of wholesome drinking water. All supply' points of such water must be marked "drinking water". No such points shall be within 20 ft. (or 7.5 meters) of any latrine, washing place etc. Factories employing more than 250 workers must cool the water during the hot weather. -Sec. 18.
9. **Latrines and Urinals:** Every factory must provide' sufficient number of latrines and urinals. There must be separate provision for male and female workers. Latrine and urinals must be kept in a clean and sanitary condition. In factories, employing more than 250 workers, they shall be of prescribed sanitary types. - sec. 19.

III. Provisions Regarding the Safety of Workers



III. Provisions Regarding the Safety of Workers

Sections 21 to 40A, 40B and 41 of the Act lay down rules for the purpose of securing the safety of workers. Summary of the provisions of the Factories Act regarding the safety of the workers are stated below: (Sections 21 to 41

III. Provisions Regarding the Safety of Workers

1. **Fencing to Machinery:** All dangerous machinery must be securely fenced c.g., moving .parts- of prime movers and flywheels connected to every prime mover, electric generators, etc.-Sec. 21.
2. **Work on or near machinery in motion:** Work on or near machinery in motion must be carried out only by specially trained adult male workers wearing tightly fitting clothes. - Sec. 22.

III. Provisions Regarding the Safety of Workers

3. **Employment of young persons on dangerous machines:** No young person shall work at any dangerous machine' unless he has been specially instructed as to the dangers and the precautions to be observed, has received sufficient training about the work, and is under the supervision of some person having thorough knowledge and experience of the machine. -Sec. 23.
4. **Striking gear and devices for cutting off power:** in every factory suitable device for cutting off power in emergencies from running machinery shall be provided and maintained in every work-room.
Sec. 24

III. Provisions Regarding the Safety of Workers

5. **Self-acting machines:** Moving parts of a self-acting machine must not be allowed to come within 45 cms. of any fixed structure which is not part of the machine. -Sec. 25.
6. **Casing of new machinery:** In all machinery installed after the commencement of the Act. certain parts must be sunk, encased or otherwise effectively guarded e g., set screw, bolt, toothed gearing etc. -sec. 26.

III. Provisions Regarding the Safety of Workers

7. **Women and children near cotton Openers:** Women and children must not be allowed to work near cot/On openers, except in certain cases. -Sec. 27
8. **Hoists, lifts, chains etc.:** Even/ hoist and lift must be so constructed as to be safe. There are detailed rules as to how such safety is to be secured. There are similar provisions regarding lifting machines, chains, ropes and lifting tackles. 28.

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III. Provisions Regarding the Safety of Workers

- 9. **Revolving machinery:** Where grinding is carried on the maximum safe working speed of every revolving machinery connected therewith must be notified. Steps must be taken to see that the safe speed is not exceeded. -Sec. 30.
- 10. **Pressure plant:** Where any operation is carried on at a pressure higher than the atmospheric pressure, steps must be taken to ensure that the safe working pressure is not exceed - Sec. 31.

III. Provisions Regarding the Safety of Workers

- 11. Floors, stairs and means of access:** All floors, steps, stairs, passage and gangways shall be of sound construction and properly maintained. Handrails shall be provided where necessary. Safe means of access shall be provided to the place where the worker will carry on any work.-Sec. 32.
- 12. Pits, sumps:** Openings in floors etc. Pits, sumps, openings in floors etc. must be securely covered or fenced.-Sec. 33.

III. Provisions Regarding the Safety of Workers

13. Excessive weights: No worker shall be made to carry a load so heavy as to cause him injury.-8ec. 34.

14. Protection of eyes: Effective screen or suitable goggles shall be provided to protect the eyes of the worker from fragments thrown off in course of any manufacturing process and from excessive light if any.-Sec. 35.

III. Provisions Regarding the Safety of Workers

15. Precautions against dangerous fumes: No person. shall be allowed to enter any chamber, tank etc. where dangerous fumes are likely to, be present, unless it is equipped. with a manhole or other means of going out. In such space no portable electric light of more than 24. volts shall be used. Only a lamp or light of flame proof construction can be used in such space. For people entering such space suitable breathing apparatus, reviving apparatus etc. shall be provided. Such places shall be cooled by ventilation before any person is allowed to enter. -Secs. 36 and 36A.

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III. Provisions Regarding the Safety of Workers

- 16. Explosive or inflammable! gas etc.:** where a manufacturing process produces inflammable gas, dust, fume, etc. Steps must be taken to enclose the machine concerned, prevent the accumulation of substances and exclude all possible sources of ignition. Extra P' precautionary measures are to be taken where such substances are worked at greater than the atmospheric, pressure. -Sec. 37.
- 17. Precaution in case of fire:** Fire escapes shall be provided. Windows and doors shall be constructed to open outwards. The means of exit in case of the fire shall be clearly marked in red letters. Arrangements must be made to give warning in case of fire -sec.38

III. Provisions Regarding the Safety of Workers

18. Specifications of defectives etc. and safety of buildings and machinery. If any building or machine is in a defective or dangerous condition, the inspector of factories can ask for the holding of tests to determine how they can be made safe. He can also direct the adoption of the measure necessary to make them safe. In case of immediate danger the use of the building or machine can be prohibited. -Secs. 39. 40

III. Provisions Regarding the Safety of Workers

19. Maintenance of Buildings: If the Inspector of Factories thinks that any building in a factory, or any part of it, is in such a state of disrepair that it is likely to affect the health and welfare of the workers. He may serve on the occupier or manager or both in writing specifying the measures to be done before the specified date. - Sec. 40A

III. Provisions Regarding the Safety of Workers

20. Safety Officers: The State Government may notify to the occupier to employ a number of Safety Officers in a factory

(i) wherein one thousand or more workers are ordinarily employed or

(ii) wherein any manufacturing process or operation which involves the risk of bodily injury poisoning, disease or any other hazard to health of the persons employed in the factory .-Sec. 40B

III. Provisions Regarding the Safety of Workers

21. Rules: The State Government may make rules providing for the use of such further devices for safety as may be necessary.-
Sec. 41.

IV. Provisions Regarding the Welfare of Workers

IV. Provisions Regarding the Welfare of Workers

1. **Washing:** In every factory adequate and suitable facilities for washing shall be provided and maintained. They shall be conveniently accessible and shall be kept clean. There must be separate provisions for male and female workers.-Sec. 42.

IV. Provisions Regarding the Welfare of Workers

2. **Storing and Drying:** The State Government may make rules requiring the provision of suitable facilities for storing and drying clothing.-Sec. 43.
3. **Sitting:** Sitting facilities must be provided for workers who have to work in a standing position. So that they may take rest when possible. When work can be done in a sitting position efficiently the Chief Inspector may direct the provision of sitting arrangements.- Sec. 44.

IV. Provisions Regarding the Welfare of Workers

4. **First aid:** Every factory must provide first aid boxes or cupboard. They must contain the prescribed materials and they must be in charge of persons trained in first aid treatment. Factories employing more than 500 persons must maintain an ambulance room containing the prescribed equipment and in charge of the prescribed medical and nursing staff-Sec. 45.
5. **Canteens:** Where more than 250 workers are employed. The state Government may require the opening of canteen or canteens for workers. Rules may be framed regarding the food served, its management etc., -Sec.46.

IV. Provisions Regarding the Welfare of Workers

6. **Shelters:** In every factory where more than 150 workers are employed there must be provided adequate and suitable shelters or rest, rooms and a lunch room (with drinking water supply) where workers may eat meals brought by them. Such rooms must be sufficiently lighted and ventilated and must be maintained in a cool and clean condition. The standards may be fixed by the State Government. -Sec.

IV. Provisions Regarding the Welfare of Workers

7. **Creches:** in every factory where more than 30 women are employed, a room shall be provided for the use of the children (below 6 years) of such women. The room shall be adequate size, well lighted and ventilated, maintained in a clean and sanitary condition and shall be in charge of a woman trained in the care of children and infants. The standards shall be laid down by the State Government. -Sec. 48

IV. Provisions Regarding the Welfare of Workers

8. **Welfare Officers:** Welfare officers must be appointed in every factory where 500 or more workers are employed. The State Government may prescribe the duties, qualifications etc. of such officers. - Sec. 49.
9. **Rules:** the State Government may make rules regarding the welfare of workers. -Sec. 50.