

International Journal of Innovative Research in Science, Engineering and Technology

(A High Impact Factor, Monthly, Peer Reviewed Journal)

Visit: www.ijirset.com

Vol. 8, Issue 3, March 2019

Occupational Safety and Health Management Studies in Textile Industry

S.Sri Guru Prasad, R.Mohanadass², I.Sirajudeen³

PG Scholar, Department of Industrial Safety Engineering, Selvam College of Technology, Namakkal,
Tamilnadu, India¹

Assistant Professor, Department of Mechanical Engineering, Selvam College of Technology, Namakkal,
Tamilnadu, India.^{2,3}

Principal & Professor, Selvam College of Technology, Namakkal, Tamilnadu, India.³

ABSTRACT: Occupational safety and health management in Textile Industry emphasis the health and safety to the workers, Industry is one of the occupation which affects health of workers, In fact the objective of an occupational health service is not only to keep the workers physically healthy but also mentally and psychologically stable. Occupational health is perturbed with the health safety issue of work. The hazards revelation in setting can harmfully affect the human health. There are different hazards faced by the workers in Textile Industry such as exposure to cotton dust, exposure to chemicals, noise and ergonomics issues, etc... Most of the workers are illiterate and do not know that what protective measures should be adopted for their jobs. To prevent t health issues of workers in industries it is essential that the workers be aware of the various occupational hazards in the industry. It is also necessary that the management should take the necessary steps to protect workers from potential hazardous situation.

KEYWORDS: Occupational health service, Hazards, Illiterate, Potential hazards situation

I. INTRODUCTION

The textile industry is essentially distressed with the design, fabrication and issuance of yarn, cloth and clothing. The substance may be congenital or artificial using products of the chemical industry. Textile is a material that is unified or woven and made from fibre. Thus, the textile industry is the industry responsible for taking a raw material, like cotton or wool, and spinning it into yarn that is later used to create a fabric. All of the processes involved in the converting of the raw material into a finished product - developing, producing, manufacturing, and distributing textiles - are included in the industry. The Textile Industry made up of a number of constituent engaged in spinning, waving, dyeing, printing, finishing and number of other procedure that are necessitated to turn thread into a consummated material or garment. There are various safety and health issues connected with the textile industry. This paper peruse at studying each of these issues in parallel to the US and Indian textile industries in element, along with the attainable solutions for these problems.

II. OCCUPATIONAL HEALTH AND SAFETY

Occupation health is everybody's business, everyone is affected by it directly or indirectly and has a specific role and responsibility to play and regards to occupational health. There are six types of hazards:

- Physical hazards
- Chemical and mineral hazards
- Biological hazards
- Mechanical hazards
- Ergonomic hazards

International Journal of Innovative Research in Science, Engineering and Technology

(A High Impact Factor, Monthly, Peer Reviewed Journal)

Visit: www.ijirset.com

Vol. 8, Issue 3, March 2019

- Psycho-social hazards

Physical hazards:

Physical injury can also result from missing instruction manuals, operating instructions, and related materials; they often result in severe injuries.

Biological hazards:

Biological hazards, comparatively cotton dust, are the pair extremely burnable as well as treacherous when inhaled.

Mechanical hazards:

The Mechanical hazards in industry midway round machinery, peek and rending parts and the like Most of the peril affiliated to mechanical hazards can be diminished to sustainable forces or energy levels by appealing a risk reduction strategy and the hazards must be secluded from people by shelter that prolong a safety.

Chemical hazards:

Multiplicities of factories wield hypochlorite solution for etiolating; further, the bleaching negotiator is aeriform chlorine or bleaching pounce which relief chlorine when it is debited into the tank. In either case, workers may be exposed to dangerous pulmonary tissue irritant causing delayed lung oedema. The use of corrosive alkalis and acids and the treatment of cloth with boiling liquor expose the workers to the risk of burns and scolds. Many tincture are skin aggravation that stimulate eczema; in addition, workers are tempted to use harmful mixtures of abrasive, alkali and bleaching agents to remove dye stains from their hands.

Ergonomic hazards:

Ergonomic hazards are observed in a majority of the units engaged in textile-related activities in India. Most of these units have a working environment that is unsafe unhealthy for the workers. Workers in these units face a number of problems such as unsuitable furniture, improper ventilation and lighting, and lack of efficient safety measures in case of emergencies. The workers in resembling segment are at menace for enlarging miscellaneous occupational sicknesses. Musculoskeletal disorders like carpal tunnel, forearm tendinitis, bicipital tendinitis, lower back pain, epicondylitis, neck pain, shoulder pain, and osteoarthritis of the knees are some of the occupational diseases that have been observed amount the workers on account of poor ergonomic conditions. These concerns are added habitual in emerging sovereign as contrasted to developed ones.

Exposure to cotton dust:

The workers engagement in the processing and spinning of cotton are exposed to significant amounts of cotton dust. They are also exposed to pieces of phosphine and soil. Exposure to cotton dust and other pieces guide to trachea chaos among the textile workers. The deadly sickness of byssinosis frequently known as brown lung; is generated among people waged in the textile industry on report of immoderate subjection to cotton dust. The symptoms of this disease include tightening of the chest, coughing, wheezing and shortness of breath.

Exposure to noise:

High extents of noise have been perceived in almost all the units affianced in the textile industry, extremely those in developing countries. In the extend rush, subjection to high noise levels has been familiar to vandalism the eardrum and cause hearing loss. Other problems like fatigue, absenteeism, annoyance, anxiety, reduction in efficiency, changes in pulse rate and blood pressure as well as sleep chaos have also been eminent on report of constant showing to noise. Lack of efficient maintenance of machinery is one of the major reasons behind the noise pollution in a majority of the units. Though it causes serious health effects, exposure to noise is often ignored by textile units because it is effects are not immediately visible and there is an absence of pain.

International Journal of Innovative Research in Science, Engineering and Technology

(A High Impact Factor, Monthly, Peer Reviewed Journal)

Visit: www.ijirset.com

Vol. 8, Issue 3, March 2019

III. PUBLIC HEALTH AND ENVIRONMENTAL ISSUES

The entreaty and other terminated textile handiwork industry is, naturally an industry which succumb relatively little environmental contamination via discharges into air, soil or water. However, off-gassing of formaldehyde can persist at the retail level in this industry, creating the implicit for growth of formaldehyde-related antipathetic, irritative and respiratory symptomatology among both sales people and customers. Likewise, some of the gener is proceeding exploit in the garment industry, such as rubberizing and production of lead-based adornments, can pose more serious threats of environmental contamination. In recent years, promoting deals about the possible adverse health sequence consorted with liability to formaldehyde and other fabric treatments has lead to development of a “green” industry. Attire and other terminated textile products are normally darn from congenital rather than synthetic fibre-based materials. Likewise, these natural handiworks are commonly not handled with crease-resistant and other finishing agents. The crowded, often squalid, conditions in the textile industry create ideal conditions for transmission of infectious diseases.

There are various units in health and safety hazard;

- Production and ginning unit
- Yarn manufacturing unit
- Synthetic fibre production unit
- Weaving unit
- Dyeing, printing and finishing unit

IV. PRODUCTION AND GINNING UNIT

Cropping, ginning process, lint-seed separation, lint cleaning, packaging are main proceeding in cotton handiwork unit. Health and safety hazard:

Propaganda from workers compensation claims bespeak that the number of detriment is altitudinous for the fingers, followed by back, eye, toes and shoulder pain. Total economic costs gin injuries and health disorders include direct costs and indirect costs. Direct costs are snap to decide and much less premium than indirect costs.

Yarn manufacturing unit:

Opening, blending, mixing and clearing-carding and combing-drawing and roving-spinning-winding and spooling are main processes in yarn manufacturing unit.

Health and safety hazards: (accidents due to machinery and cotton dust inhalation);

Accidents may occur due to machinery on all types of cotton textile industry. Effective guarding of the multiplicity of moving parts presents many problems and needs constant attention.

The workers engaged in the processing and spinning of cotton are exposed to significant amounts of cotton dust. They are also exposed to driblet of pesticides and soil. Exposure to cotton dust and other particles leads to respiratory disorders among the textile workers.

Synthetic fibre production unit:

Synthetic fibres are made from polymers that have been mechanically prompt from chemical components or compounds developed by the petrol chemical industry.

Health and safety hazards:

The synthetic fibres industry uses considerably measures of poisonous and flammable materials. As the fibre emerge from the spinnerets to be sere in air or by means of spinning, large measures of solvent vapours are released.

Dyeing, printing and finishing unit:

Dyeing:

Dyeing involves a chemical combination or a powerful physical affinity between the dye and the fibre of the fabric. An extensive variety of dyes and processes is used, depending on the type of fabric and the end-product desired.

Imminence in dyeing: (Fire and detonation)

International Journal of Innovative Research in Science, Engineering and Technology

(A High Impact Factor, Monthly, Peer Reviewed Journal)

Visit: www.ijirset.com

Vol. 8, Issue 3, March 2019

The fire hazards found in a dye works are the flammable solvents used in the processes and certain flammable dyestuffs. Safe storage facilities should be provided.

Printing:

The dye or pigment is thickened with starch or made into emulsion which, in the case of pigment colours, is prepared with an organic solvent. This paste or emulsion is taken up by the engraved rollers which print the material.

Hazards in printing: (flammability and Air emissions);

The thickening systems contain up to solvents and are highly flammable. Solvents in this print system will be flashed off from the oven during drying and curing.

Finishing:

Finishing is a term applied to a very broad range of treatments that are usually performed during the last manufacturing process before fabrication. Some finishing's can also be performed after fabrication.

Health hazards:

The principal of hazards are the noise, presence of heat, the very high temperatures being applied and nip points in the moving machine parts.

V. CONCLUSION

Protection and health expedient play an consequential part in any industry. It is essential that the workers be aware of the various Occupational hazards in the industry. At the same time, it is necessary that the management take the necessary steps to protect workers from potential hazardous situations.

REFERENCES

- [1]. Meenaxitwari, Babel Wish-an Asian journal of home science
- [2]. www.fibre2fashion.co
- [3]. <https://www.slideshare.net>
- [4]. <https://www.powershow.com>