

Safety and Health Impact of Textile Industry (Spinning)

Kumaravel A *, K. Muthu kumar

PG Student, Professor,

Department of Mechanical Engineering, Bannari Amman Institute of Technology, Sathyamangalam,
Tamil Nadu, India

Email: *kumaravel.is18@bitsathy.ac.in

DOI: <http://doi.org/10.5281/zenodo.3555648>

Abstract

In India, after agriculture traditionally textile industry playing a major role which gives employment for both skilled and unskilled labour in textile and India is second largest manufacturer of textile. The hazards and risks associated with textile industry is high when compare to other industry. Textile industry consume more water for the process and many chemicals used in this for colouring purpose. Without proper measures if the untreated water subjected into the land that will affects the ecosystem and environment human life. In this, we will focus on the problems faced by the textile industry environment aspects as well as health.

Keywords: Hazards, health, textile

INTRODUCTION

Textile industry have five major sectors they are:

- Ginning industry
- Spinning industry
- Weaving industry

- Dyeing industry
- Garment industry

In each industry different process may carried out.

The yarn manufacturing process flow chart is given below:

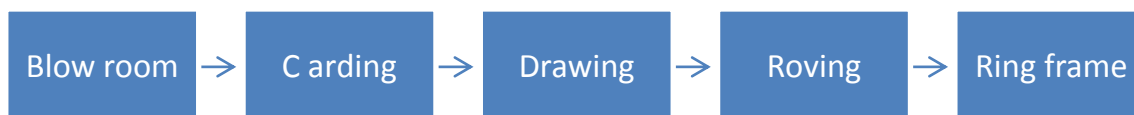


Figure 1: yarn manufacturing process flow chart.

Each process possess hazards which has lot more problems to the health of the workers. When it comes to environmental aspects this due to chemical process that involved in the textile industry. The hazards associated in the ginning industry physical chemical ergonomically physiologically create more problems to the workers and their health. Our focus is in ginning industry. Many cases occurred in the ginning industry some are temporary disablement and some are result in fatal.

Other than hazards women workers are facing more problems that things are not came out like sexual harassment form men workers. Over time etc., here we are going to see about the problems that are frequently face by the worker in the ginning industry. In this study, only about the OHS issues not environment.

When it comes to environment main problems are land water pollution due to the used water come from the textile industry. Those water are treated with

chemicals then only we get the fancy production. And those waters are highly hazardous one and that should be properly treated then only released to the outside in

that most common things should be maintained BOD COD DO TDS TSS Ph as per std. These problems arises from the dyeing and finishing bleaching.

LITERATURE REVIEW

Table 1: Literature review.

Sr. No.	Paper	Author, Year of publish	Review
1	Occupational Hazards and Illnesses of Filipino Women Workers in Export Processing Zones	Jinky Leilanie Lu, 2008	Many large and small scale industry have OHS committee and all but they are not functioned significantly
2	Frequency of hearing loss among textile industry workers of weaving unit in Karachi, Pakistan.	Ashraf HD, Younus MA, Kumar P, Siddiqui MT, Ali SS, Siddiqui MI, 2009	Noise level as per std 90 dBA for 8 hrs work. There is an immediate improvement in Pakistan
3	Reduced lung cancer mortality and exposure to synthetic fluids and biocide in the auto manufacturing industry	Mehta AJ, Malloy EJ, Applebaum KM, Schwartz J, Christiani DC, Eisen EA., 2010	The protective effect of synthetic MWF(Metal Working Fluid) against lung cancer.
4	Vibration and noise caused by lawn maintenance machines in association with risk to health	P. Tint, S. Kalle G. Tarmas, T. Koppel, K. Reinhold, 2012	Whole-body vibration levels can often be reduced by using vibration dampers and by installing suspension systems between the operator and the vibrating source.
5	Unsafe work environment in Garment industries, Tirupur, India	Padmini D.S. Venmathi A, Sep 2012	Here, the most of the industry textile have lots of problem for example light higher noise etc. Psychological Problems also.
6	Cotton Dust level in Textile industries and its impact on Human	BM Sangeetha, M Rajeswari, S Atharsha, K Saranyaa Sri, S Ramya, April 2013	Knitting process produce more dust here how they action against those dust and measures

OBJECTIVE

- The main focus of this study is due to the reason.
- Measure the work environment problem such as noise, temperature, and luminance.
- Find unsafe condition in the spinning industry.

HAZARDS

There are many health and safety issues in

spinning industry:

- Noise -NIHL
- Chemical- skin eye irritation pain
- Electrical- faulty earthing, illumination problem, spark form the fault current
- Psychosocial issues - working more than 8 hrs., no worker motivation
- Ergonomic-unsafe condition, unsafe work place

Remedial

Table 2: Remedial measure.

Sr. No.	Hazard	Consequences	Remedial Action
1	Physical hazard a)noise	NIHL	Isolation of the machine Proper lubrication(maintenance)
2	b)dust	BYSSINOSIS	Strictly follow the 5s principle Increase the dust collector PPE must
3	c)light	Visibility Problem	Proper visibility sheet Blub luminance should be correct according to the working nature
4	d)lifting heavy weight	MSD	Proper material handling should be there.
5	e)ventilation	Laziness	Increase the ventilation fans
6	Fire hazards	Property damages and loss life	Fire detectors fire ACTIVE AND PAASIVE protection should be there in the industry. Proper training to the workers
7	a)welding operation	Ignition Spark is very dangerous	Only certified and trained person should operate
8	b)short circuit	Source of fire	As per std only electrical equipment use
9	c)smoking	Ease to fire raw cotton	Management should not allowed any kind of smoking materials inside the factory
10	electrical hazards a)faulty earthing	Trip happens	Proper earthing and connection
11	b)fault isolation	Shock	Proper loto method should follow
12	c)moisture	Wiring should be proper	It should be in under control
13	d)motor run due to high voltage	Machine failure will occur	CB individual for all machine
14	e)using of old wire	Improper current flow	As per std wires should be there
15	e)looping in the line	Shock and due to over load it trips	Avoid looping
16	f)electrical maintenance	Problem occurs in every electrical machine	It should be maintained at least 6 month once
17	Chemical	Advisedly not good for health	PPE must Health check-up 6 month once Use chemicals only desired levels

CONCLUSION

The intent of this study about effects of the hazards to the workers and environment in this spinning industry. This study shows that important of OHS for the workers and nature. This study identified work related hazards among the occupation and working environment. These problem are raised and frequently occurred in the spinning industry. Hopefully, this study

can create some awareness and protection against the hazards.

REFERENCES

1. Jinky Leilanie Lu (2008), "Occupational Hazards and Illnesses of Filipino Women Workers in Export Processing Zones", *International Journal of Occupational Safety and Ergonomics*, 14(3), 333-342.

2. Ashraf HD, Younus MA, Kumar P, Siddiqui MT, Ali SS, Siddiqui MI (2009), "Frequency of hearing loss among textile industry workers of weaving unit in Karachi, Pakistan", *JPMA. The Journal of the Pakistan Medical Association*, 59(8), 575.
3. Mehta AJ, Malloy EJ, Applebaum KM, Schwartz J, Christiani DC, Eisen EA (2010), "Reduced lung cancer mortality and exposure to synthetic fluids and biocide in the auto manufacturing industry", *Scandinavian journal of work, environment & health* 36, no. 6 (2010): 499.
4. P Tint, G Tarmas, T Koppel, K Reinhold, S Kalle (2012), "Vibration and noise caused by lawn maintenance machines in association with risk to health", *Agronomy Research* 10, no. 1 (2012): 251-260.
5. Padmini DS, Venmathi A (September 2012), "Unsafe work environment in Garment industries, Tirupur, India", *J Environ Res Dev*, 7, 569-575.
6. Prabhakara Rao K, Srinivasa Rao CH, Sumangali P (2013), "A Study Of Pulmonary Functin Tests In Cotton Mill Workers Of Guntur District", *Bull Pharm Med Sci*, 1, 206-9.
7. BM Sangeetha M Rajeswari, S Atharsha, K Saranyaa Sri, S Ramya (April 2013), "Cotton Dust level in Textile industries and its impact on Human", *International Journal of Scientific and Research Publications*, 3(4), 1-6.

Cite this article as:

Kumaravel A, & K. Muthu kumar. (2019). Safety and Health Impact of Textile Industry (Spinning). *Journal of Industrial Mechanics*, 4(3), 8–11. <http://doi.org/10.5281/zenodo.3555648>