

# Hazard Analysis of Occupational Health and Safety (OHS) Using The JSA (Job Safety Analysis) Method in Grey Weaving 2 Warehouse PT XYZ

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## Abstract

PT XYZ is a company engaged in the textile sector with one of its products being grey cloth which is stored in the Grey 2 warehouse before being released. In the course of their activities, even though they have implemented Occupational Health and Safety (OHS), workers are still found to be negligent which has the potential to cause work accidents. For this reason, it is necessary to identify the hazards of each job in the Grey 2 warehouse using the Job Safety Analysis (JSA) method. The purpose of this study is to determine the potential hazards that exist in each job and determine recommendations for their control. This research uses a descriptive qualitative method. Data collection was carried out by observation, interviews, and documentation. The results showed that from all the work carried out in the grey weaving 2 warehouses, there were 18 identified potential hazards. Control recommendations that can be carried out by the company are to use complete Personal Protective Equipment (PPE), focus or not joke when working, ensure the condition of work tools before use, ensure that the path to be passed is safe, put work tools in the right place, arrange cloth tightly, and maintain a safe distance from work tools. Advice that can be given to companies is to provide education about hazards and control recommendations for each job, provide reward to workers, and form an OHS team.

## Keywords

*Logistics, JSA (Job Safety Analysis), Occupational Health and Safety (OHS)*

## INTRODUCTION

Warehousing is one of the supporting elements and plays an important role in a company where in this warehousing management of goods is carried out starting from the entry of goods to the release of goods. Warehousing management has a very important role in the sustainability of the company because the warehouse is closely related to company sales (Pitoy, et al, 2020: 252). In a warehouse, of course, there cannot be a source of danger. The use of tools, work machines, and materials used to carry out work and production processing is a source of danger that has the potential to cause work accidents (Mayadilani, 2020: 246).

Occupational Health and Safety (OHS) itself has been regulated in the Republic of Indonesia Law, namely Law Number 1 of 1970 concerning Work Safety which aims to guarantee safety by providing protection for workers at the work site. The Law on Work Safety regulates the basic principles related to the operation of labor safety.

In the sustainability of a company, human beings who are the resources owned by the company have an important role. Human resources are the main part of an organization compared to other parts of organizational resources, such as technology and capital, because humans control other factors in an organization (Susan, 2019: 955).



Figure 1. Data on Work Accident Rates in Indonesia for 2020-2022  
(BPJS-Employment, 2023)

According to the annual report that comes from BPJS employment in the last 3 years it is known that data on work accident rates have increased, including Work-Related Diseases (WRD), namely as shown in Figure 1.1 which illustrates the number of work accidents in 2020 there were 221,740 cases, then in 2021 it has increased to 234,370 cases, and in 2022 in the period up to November it is known that the number of work accidents has increased to 265,334 cases (Kompas.id, 2023). The data shows that work accidents in Indonesia are relatively high and have increased every year.

The occurrence of work accidents can disrupt the productivity of a company, even a loss for the company so the management of potential hazards within the company must be carried out as an effort to prevent work accidents or health diseases caused by the implementation of

work processes. Accidents and occupational diseases can result in losses from production costs in the form of waste in the form of reduced productivity due to work constraints or obstacles that occur (Ikhsan, 2022: 43)

The potential hazards encountered by workers in warehousing include the use of unsafe forklifts, the wrong arrangement or arrangement of goods, not using proper Personal Protective Equipment (PPE), procedures *lockout* and *tagout* not followed, injuries due to repetitive movements, and non-compliance with standards in fire safety equipment (OSHA, 2004: 1). *Occupational Safety and Health Administration* (OSHA) also mention that over 145,000 people work in over 7,000 warehouses which is why the fatal injury rate for warehousing is higher than the industry-wide average. This shows that the warehousing area has a high enough hazard potential that it is necessary to pay attention to OHS risk management in this area.

Efvandi, et al (2022) researched the analysis of potential hazards using the JSA method (Job Safety Analysis). The result is that during the servicing of the engine, radiator, and the stage of changing the engine oil, it was found that there are a number of hazards which include spills from hot oil, exposure to a hot radiator, and being sprayed by water from the radiator. The research conducted by Bawang, et al (2018) found several dangers in this stage: being crushed, electrocuted, squeezed, and noisy. Then in the material transfer step on the road hauling, there is a danger of crashing, hitting an embankment, tripping over rocks, or a good door broken. Then during the material arrangement stage, there was a danger of electric shock, noise, and slipping from the pile of ore.

Based on observations made in the warehouse grey weaving 2 PT XYZ is known that even though it has carried out the implementation of Occupational Health and Safety (OHS), at the stages of the work process in the warehouse, during the process there are still a number of workers who pay little attention to it or are negligent in carrying out the work process so that it has the potential to cause work accidents. According to observations made for 6 months and interviews conducted in warehouse grey weaving 2, Table 1 is obtained which describes the negligence that often occurs in warehouse grey 2.

**Table 1. Warehouse worker negligence data grey weaving 2**

No	Negligence
1	Do not use shoes as PPE (Personal Protective Equipment)
2	Not focusing on using work tools
3	Not paying attention to the type of cloth when stapling the cloth
4	Not quite right when compiling or arranging fabrics

*(Observations and interviews, 2023)*

Table 1 presents data on the negligence of warehouse workers *grey 2* is based on the results of observations and interviews where based on the observations made there are still some warehouse workers who do not wear shoes as PPE even though there has been an appeal to use PPE so that it has the potential to cause workers to slip or be hit by sharp objects.

Seeing this phenomenon makes it necessary to identify potential hazards using the Job Safety Analysis (JSA) method in order to find out what potentials may occur during the work stages at the grey weaving 2 warehouse and determine recommendations for appropriate potential hazard control so that workers can avoid work accidents. The JSA method is applied to identify hazards and their consequences and to determine appropriate controls to prevent unwanted events from occurring at the stages of the work process (Marfiana, Ritonga, and Salsabiela, 2019: 25). The use of the Job Safety Analysis (JSA) hazard analysis method was carried out on the basis of consideration of limited data at the research location.

On the basis of the description above, this study aims to determine the potential hazards and control recommendations that can be carried out by the company at each stage of work in the grey weaving 2 Warehouse at PT XYZ.

## **LITERATURE REVIEW**

### ***Risk management***

Soeisno Djojosedarso (1999: 4) states that risk management is the process of carrying out management functions when tackling risks, especially risks encountered by organizations or companies, families, and communities. He also revealed that risk management includes planning, organizing, compiling, coordinating, and supervising activities, including evaluating risk control programs.

### ***Occupational Health and Safety (OHS)***

Winoto (2018: 14) defines Occupational Health and Safety (OHS) as an effort to prevent work accidents and diseases caused by work for workers to create conditions that are mentally, physically, and socially healthy.

### ***Danger***

Siahaan (2009: 107) argues that a hazard is anything that can result in loss, injury, or poor health for someone. Kuswana (2014: 24) argued that the types of potential hazards or hazards can be divided into 5 which include: (1) Physical hazards; (2) Chemical hazards; (3) Biological hazards; (4) Ergonomic hazards; (5) Psychological Hazards.

### ***Risk***

Djojosedarso, (1999: 2) argues that risk is uncertainty over the occurrence of an event or the possibility of something happening that if it occurs will cause a loss.

### ***JSA (Job Safety Analysis)***

Ardinal (2020: 1) defines JSA or Work Safety Analysis as an important work safety tool and program for preventing accidents in various workplaces because it is very simple and not difficult to understand and implement. Ardinal (2020: 18) states that basically there are 4 basic steps to carry out *JSA (Job Safety Analysis)* which include:

1. Choose a job to do the analysis

The selection of work to carry out the Occupational Safety Analysis can be carried out by conducting workplace visits and looking at the potential hazards and risks that may be associated with the job.

2. Determine the sequence and steps of work

Each job can be divided into several steps or stages of work.

3. Perform hazard identification and analysis at each work step.

It is necessary to identify all possible hazards for each stage of work at this third stage. As in the previous stage, identification of the hazards that may exist at each stage of work can be carried out by observing the field for routine work.

4. Determine efforts to prevent and control hazards and potential hazards so that accidents do not occur.

In general, there are 2 approaches that can be implemented so that accidents and hazards related to work can be prevented or avoided, namely by creating a safe work environment and implementing safe work practices.

## **METHODS**

### ***Research Approach***

The type of research used by researchers is a research method with a qualitative descriptive approach. Sugiyono (2019: 18) defines qualitative research as research based on the philosophy of positivism, conducted to research in natural object situations, (the opposite is an experiment) where the researcher is the key instrument, data collection is carried out through data triangulation or combination, data analysis has quality characteristics, and results emphasize meaning more than generalizations. The reason for using this method is that the researcher wants to describe the conditions to be observed in the field in a more in-depth and specific manner.

### ***Research focus***

The focus of the research in writing this Final Project is the Occupational Health and Safety (OHS) Hazard Analysis using the JSA method (Job Safety Analysis) in the warehouse grey weaving 2 PT XYZ.

### ***Research Data Sources***

In this case, to complete the research data, 2 data sources are needed, namely, primary data obtained directly through interviews and secondary data obtained from books, journals, work accident data in Indonesia as reported by BPJS employment, and archives or documents from related companies with research.

### ***Determination of Research Informants***

In this study, researchers used certain considerations in determining research informants, including:

1. Key informant

The key informant of this research is the head of the warehouse.

## 2. Informants

The main informants of this research are stapling operators, degree operators, sewing operators, rolling operators, and warehouse admins.

With these considerations, the research informants in this final assignment are then presented in Table 2 which describes the people who are used as information providers regarding the objects studied in this study.

**Table 2. Research informants**

No	Name	Informan Code	Position
1	Txyz (Key informant)	A-1	Head of Warehouse
2	Yxyz	A-2	Warehouse Admin
3	Wxyz	A-3	Stapel Operator
4	Sxyz	A-4	Sewing Operator
5	Exyz	A-5	Roll Operator
6	Nxyz	A-6	Degree Operator

### **Data Collection Techniques**

Data collection techniques in this study used observation techniques (participatory observation), interviews, and documentation.

### **Data analysis technique**

Miles and Huberman (1984) in Sugiyono (2019: 321) suggest that activities in qualitative data analysis are carried out in an interactive way and run continuously until complete until the data experiences saturation. The data analysis technique used in this study started with data collection, data reduction, data presentation, and conclusions.

### **Data Triangulation**

In this study, the data triangulation was used as source and technique triangulation. Source triangulation was carried out by comparing the results of interviews from key informants with key informants. The triangulation technique is done by comparing the results of observations with interviews.

## **RESULT AND DISCUSSION**

### **Identification of potential hazards, risks, and recommendations for control of hazards in each work in the warehouse grey 2 PT XYZ**

Warehouse work *grey 2* starts with stapling the cloth, rolling out the cloth, sewing the cloth, and wrapping it *roll* cloth, loading goods, until unpacking *roll* empty.

### **Identification of hazards in cloth staple work**

The process of stapling cloth begins with preparing the work tool and the cloth to be stapled. Once prepared, the fabrics are arranged on a pallet like putting together a puzzle from the bottom

up with a maximum limit of 12 rows. Based on the results of observations and interviews, potential hazards can be found in each cloth staple work process which can be seen in Table 3.

**Table 3. Identification of hazards in cloth staple work**

No	Work process	Potential hazard	Risk	Control recommendations
1	Prepare work tools and cloth	Stumble	Minor injuries	Placing the work tool in its place, ensuring the path to be passed is safe
2	Arrange fabrics on a pallet like a puzzle	Slipped	Minor injuries	Arrange fabrics tightly, ensure the type of fabric that is laid out, and maintain a safe distance between the feet and the end of the pile of fabrics.
		fell	Severe injury	Using a hat as PPE, keep a safe distance between your feet and the end of the pile of cloth
		Exposed to dust	Respiratory disorders	Using a mask as Personal Protective Equipment (PPE).
3	Storing cloth in the warehouse	Fabric fall	Experiencing dizziness, fainting	Ensuring the arrangement of the fabric is closed or locking, ensuring the height of the fabric, and using a hat as Personal Protective Equipment (PPE).
		Stumble	Minor injuries	Ensuring the path to be passed is safe, using shoes as Personal Protective Equipment (PPE).

*(Observations and interviews, 2023)*

#### Identification of hazards on fabric degree work

The process of laying the cloth begins with assembling the cloth on a pallet and then releasing the ties on the cloth, then the cloth is spread out, which is then written with the code and serial number on the end grey use marker. Based on observations and interviews, potential hazards can be found in each process of the work of a cloth degree which can be seen in Table 4.

**Table 4. Identification of hazards in cloth degree work**

No	Work process	Potential hazard	Risk	Control recommendations
1	Arrange the fabric on the pallet according to the order	Tripped over the pallet	Minor injuries	Pay attention to the location of the pallet, and use shoes as Personal Protective Equipment (PPE).
2	Cut the ties in the fabric	Knife hit	Cut wounds	Checking the knife before use, keeping a safe distance between the hand and the knife, using shoes as PPE
3	Write the code and serial number on the end of the cloth grey with marker pens	Slipped	Bruises, minor injuries	Organize the fabric properly, focus or don't joke when climbing on the cloth
4	Send the fabric to the sewing department	Stumble	Minor injuries	Ensuring the path to be passed is safe, using shoes as PPE

		Fabric fall	Dizziness or dizziness	Ensuring the fabric is properly arranged, ensuring the height of the fabric, using hats as PPE
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(Observations and interviews, 2023)

### Identification of hazards in fabric sewing work

The fabric sewing process is carried out by plugging the sewing machine cable into the socket. After that, one end of the cloth is joined with the other end of the cloth which is then carried out by the sewing process. Based on the results of observations and interviews, potential hazards can be found in each process of fabric sewing work which can be seen in Table 5.

**Table 5. Identification of hazards in cloth sewing work**

No	Work process	Potential hazard	Risk	Control recommendations
1	Plugging in the cable to the socket	electrocuted	Weakness, heart rhythm disturbances	Ensuring cables are not peeling or in good condition, ensuring dry hands, and using shoes as Personal Protective Equipment (PPE).
2	Join the ends of the fabric for sewing	Punctured sewing machine needle	Minor injuries	Concentrate on sewing, turn off the machine when inserting or removing needles
		Stuck sewing machine	Minor injuries	Focus on the sewing process, turn off the machine during pauses, and keep a safe distance between your hands and the sewing machine

(Observations and interviews, 2023)

### Identification of hazards in the cloth rolling work

The work process of rolling fabric begins with the installation roll to the machine roll then the cloth is installed on roll blank. After the cloth is installed in the machine roll, the engine roll Run until all the cloth is rolled up. Based on the results of observations and interviews, potential hazards can be found in each work process rolling fabric which can be seen in Table 6.

**Table 6. Identification of hazards at work rolling cloth**

No	Work process	Potential hazard	Risk	Control recommendations
1	Installing Roll blank to the machine roll	The fall roll	bruises	Using a hat as Personal Protective Equipment (PPE), ensuring the hoist is in good condition, keeping a safe distance with roll
2	Installing fabric grey on roll empty	Fall from a height	Minor injuries	Ensuring safe footing before going up, using shoes as PPE
3	Start the engine roll	Machine stuck roll	Hand injury	Focus or not kidding while running the machine roll, turn off the machine when correcting the folds of the fabric.
		Exposed to cloth dust	Respiratory disorders, eye irritation	Wear masks, hats, and face shields as PPE

(Observations and interviews, 2023)

### Identification of hazards in customer loading work



The customer loading work process starts with preparing the cloth to be sent to near the fleet. After the cloth has been prepared, it is loaded onto the fleet and the fabric is tightly arranged on top of the fleet. Based on the results of observations and interviews, potential hazards can be found in each customer loading job process which can be seen in Table 7.

**Table 7. Identification of hazards in customer loading work**

No	Work process	Potential hazard	Risk	Control recommendations
1	Setting up cloth near the truck fleet	Fabric fall	Dizziness or lightheadedness	Ensuring the fabric is arranged properly, ensuring the height of the cloth, and using a hat as Personal Protective Equipment (PPE).
2	Loading cloth onto a fleet of trucks	Sprain on hand	Hand injury	Focus or not kidding when passing the cloth
		Fabric cut	Cuts, ships	Using gloves as PPE
		Repetitive motion	Back pain, sore	Doing stretches, use your knees as support when lifting
3	Organize fabrics in a fleet of trucks	fell	Minor injuries	Focus when arranging the cloth, paying attention to the direction in the cloth is being thrown

*(Observations and interviews, 2023)*

### Identification of hazards in finishing fabric loading work

The process of loading cloth finishing begins with attaching the sling hoist to the section roll ready-to-ship fabrics. After being linked, the cloth that was already on the roll was lifted and directed above the fleet. Based on the results of observations and interviews, potential hazards can be found in each process of loading work finishing which can be seen in Table 8.

**Table 8. Identification of hazards in finishing fabric loading work**

No	Work process	Potential hazard	Risk	Control recommendations
1	Hooking slings to parts roll	Pinched hands	Hand injury	Focus or no kidding when hooking slings to parts roll, check the sling before use
		Get hit by a swing roll	Sprains, broken bones	Ensuring the hoist is in good condition, Focus or not kidding while operating the hoist
2	Lift <i>roll</i> to the fleet	Stumble	Minor injuries	Ensuring the path to be passed is safe, using shoes as Personal Protective Equipment (PPE).
		Crushed <i>roll</i>	Bruises on the body	Ensuring the condition of the hoist is in good condition, using a hat as PPE

*(Observations and interviews, 2023)*

### Identification of hazards in empty roll unloading work

The process of unloading empty rolls begins with directing the hoist to roll empty that is above the fleet is then lifted. After the roll empty is already transported by the hoist, then the next roll, the blank is placed in the store roll vacant in the warehouse. Based on observations and

interviews, potential hazards can be found in each loading work process finishing can be seen in Table 9.

**Table 9. Identification of hazards in empty roll unloading work**

No	Work process	Potential hazard	Risk	Control recommendations
1	Direct the hoist to roll empty	Stumble	Minor injuries	Pay attention to the road to be passed
2	Put roll empty to store roll	The fall roll	bruises	Pay attention to the directions roll, and ensure the hoist is in good condition
		Stumble	Minor injuries	Ensuring the path to be passed is safe, using shoes as Personal Protective Equipment (PPE).

*(Observations and interviews, 2023)*

**Analysis of potential hazards and recommendations for controlling hazards in each job in the warehouse grey 2 PT XYZ**

**Hazard analysis on cloth staple work**

a. Prepare work tools and cloth

The danger at this stage is tripping due to sometimes placing pallets and hand lifts not in the right place causing a potential hazard in the form of workers being able to trip over these objects. The recommended control that can be done is to place the work tool in its place, ensuring that the path to be passed is safe.

b. Arrange fabrics on a pallet like a puzzle

The dangers at this stage are slipping, falling, and exposure to dust. The danger of slipping and falling can occur if you are not careful when arranging the cloth, namely that your feet are on the edge of the cloth, causing you to slip and fall. The danger of exposure to dust can occur because when styling the cloth there is dust scattered. Recommendations for controlling the potential danger of slipping are by stacking fabrics tightly, ensuring the type of fabric that is laid out, and maintaining a safe distance between the feet and the end of the pile of fabrics. Recommendations for controlling the danger of falling can be done by using a hat as Personal Protective Equipment (PPE), keeping a safe distance between the feet and the end of the pile of cloth. Recommendations for controlling the potential hazard of exposure to dust are carried out by using a mask as PPE.

c. Store the cloth in the warehouse

The danger in this step is that the worker has the potential to fall on the cloth and trip over it. The danger of falling cloth can occur if the cloth is not neatly arranged or caught by objects above it. There is a tripping hazard because workers sometimes turn their backs to the road when carrying cloth into the warehouse. Recommendations for controlling the danger of falling cloth can be done by ensuring the arrangement of the cloth is tight or locked, ensuring the height of the cloth, using a hat as PPE. Recommendations for controlling tripping hazards can be done by ensuring the path to be passed is safe, using shoes as PPE.

**Hazard analysis on fabric degree work**

a. Arrange the fabric on the pallet according to the order

The hazard at this stage is tripping over the pallet because the surface of the pallet is covered by cloth so it can cause tripping. Recommendations for possible controls by paying attention to the location of the pallet and using shoes as PPE in order to minimize the risks involved.

b. Cut the ties in the fabric

The danger at this stage is that the worker can be hit by a knife because the knife used is sharp so if the worker is not careful and keeps a safe distance it can hit the worker. Control recommendations that can be carried out are to check the condition of the knife before use and maintain a safe distance between the hand and the knife. In addition, workers must also use shoes as PPE to minimize the risk of being hit by a knife because a knife can hit a worker's leg if it falls down.

c. Write the code and serial number at the end grey

The danger at this stage is slipping because workers sometimes write codes and numbers on cloth so that if they are not careful they can slip. The recommended control that can be done is to arrange the cloth properly so that the cloth does not make workers slip down. In addition, workers should not joke with colleagues or focus when going up to write down the code and the final serial number grey.

d. Send the fabric to the sewing department

The danger at this stage is that workers can trip and fall on the cloth. A tripping hazard can occur because sometimes workers walk backward when carrying the cloth so it can cause tripping. Recommendations for controlling tripping hazards can be done by ensuring the path to be passed is safe and using shoes as PPE to minimize the risk of tripping. Recommendations for controlling the danger of falling cloth can be done by ensuring the fabric is arranged properly and ensuring the height of the cloth and using a hat as PPE.

### **Hazard analysis in fabric sewing work**

a. Plugging the cable into the socket

The danger at this stage is electrocution because sometimes there are loose wires that can cause electrocution. Recommendations for controlling these hazards can be done by ensuring the cables are not peeling or in good condition, ensuring that hands are dry, and using shoes as PPE.

b. Join the ends of the fabric for sewing

The danger at this stage is being pinched by the sewing machine and being pricked by the needle because the sewing machine runs fast and the needle used is sharp so it can hit the worker. Recommendations for controlling the danger of being pinched by a sewing machine can be done by concentrating on the sewing process and turning off the sewing machine when it is paused. Recommendations for controlling the danger of needle sticks can be done by concentrating on the sewing process and turning off the machine when inserting or removing the sewing needle.

### **Hazard analysis in the cloth rolling work**

a. Attaching the empty roll to the roll machine

The danger at this stage is the fall of the roll if you do not ensure that the sling is in good condition before use because the roll is lifted up when you want to install it so it can fall down. Recommendations for controlling the danger of falling rolls can be done by using a hat as Personal Protective Equipment (PPE) and maintaining a safe distance from the roll and checking the condition of the hoist before use.

b. Installing grey fabric on an empty roll

The danger at this stage is falling from a height because the installation of the grey cloth is done by climbing onto the machine so it has the potential to cause falling down. Recommendations for controlling these hazards are ensuring the footing to be used is safe and using shoes as Personal Protective Equipment (PPE).

c. Running roll machine

The danger at this stage is that it is stuck in the rolling machine and exposed to dust. The danger of being pinched by the rolling machine can occur because the rolling machine moves quickly when it is running so if workers are not careful they can get stuck in the rolling machine. The danger of exposure to dust can occur because cloth dust is scattered when the rolling process is running. Recommendations for controlling the danger of being pinched by the rolling machine can be done by focusing or not joking when running the rolling machine and turning off the machine when fixing fabrics that are sometimes folded or creased. Recommendations for controlling the dangers of exposure to dust can be done by using a mask as PPE so that dust does not interfere with breathing. In addition, workers can also use hats and face shields as Personal Protective Equipment (PPE).

**Hazard analysis in customer loading work**

a. Placing fabrics near the fleet of trucks

The danger at this stage is the falling of the cloth because sometimes the cloth with a high order gets stuck in the iron that is above the cloth so that the worker can fall on the cloth. Recommendations for controlling these hazards include ensuring the fabric is arranged properly, ensuring the height of the cloth, and using a hat as PPE to minimize risk.

b. Loading cloth onto a fleet of trucks

The dangers that exist at this stage are sprains, cuts in cloth, and repetitive movements that can cause soreness. The potential sprains can occur if workers are not careful when passing cloth or in an uncomfortable body position. The danger of being cut in the cloth can occur because the hands rub repeatedly with the cloth rope when passing the cloth. The danger of repetitive motion which can cause aches and pains can occur because the activity of transferring cloth is carried out repeatedly over a long period of time so that if workers are not used to it it can potentially cause soreness. Recommendations for controlling the danger of sprains are by focusing or not joking when passing the cloth. Recommendations for controlling the danger of being cut in the fabric can be done by using gloves as PPE during

the loading process. Recommendations for controlling the dangers of repetitive movements that can cause soreness or back pain can be done by stretching and using the knee as a support when lifting the cloth.

c. Organize fabrics in a fleet of trucks

The danger at this stage is falling because sometimes workers don't pay attention to the direction the cloth is coming from so it can hit and cause a fall. The recommended control that can be done is by concentrating on the arrangement of the cloth in the truck fleet and paying attention to the direction in the cloth is thrown

**Hazard analysis in finishing fabric loading work**

a. Hooking slings to parts roll

The danger at this stage is that the hand is pinched and hit by a swing roll. the danger of pinched hands can occur if workers are not careful when attaching the sling hoist to the sling hoist roll. The danger of being hit by a roll swing can occur if the worker does not pay attention to whether the sling rope is straight or not because if it is not straight then the roll could potentially swing and hit the worker. Recommendations for controlling the hazard of pinched hands can be done by focusing or not joking when attaching the sling to the part roll and checking the condition of the sling before use. Recommendations for controlling the danger of being hit by a swing roll are to check the condition of the hoist before use and focus or not joke when operating the hoist.

b. Liftroll to the fleet

The danger at this stage is falling roll and stumbled. The danger of being crushed by the roll can occur because the roll is above the worker so it can fall on it if the sling is not checked before use. A tripping hazard can occur if workers do not pay attention to the path to be passed because sometimes there are objects around the path. Recommendations for the control of the fall hazard roll can be done by checking the hoist condition before use and using a hat as PPE to minimize risk. Recommendations for controlling tripping hazards can be done by ensuring the path to be passed is safe and using shoes as PPE.

**Hazard analysis in empty roll unloading work**

a. Direct the hoist to roll empty

The danger found at this stage is tripping when workers do not pay attention to the condition of the road that will be passed because sometimes there are objects around the road that will be passed. Recommendations for tripping hazard control can be done by ensuring the path to be passed is safe or there are no objects that can cause tripping and wearing shoes as Personal Protective Equipment (PPE).

b. Putroll empty to store roll

The danger at this level is falling roll and stumbled. The danger of falling rolls can occur if you do not check the slings before use because the rolls are lifted up so that they can fall on workers. Recommendations for fall control roll can be done by checking the condition of the

sling before use, using a hat as PPE, and keeping a safe distance with the roll raised. Recommendations for controlling tripping hazards can be done by ensuring the path to be passed is safe and using shoes as PPE.

## CONCLUSION

Based on the results of the research that has been carried out regarding the potential hazards of each job at the grey weaving 2 warehouse, it can be concluded that:

1. Of all the work in the grey weaving 2 warehouse, there are 18 identified potential hazards which include tripping, slipping, exposure to dust, falling cloth, tripping over pallets, being hit by a knife, electrocuted, needle pricked, pinched by a sewing machine, fallen roll, fallen from a height. , pinched by the rolling machine, sprained, slashed the cloth, sore, fell, pinched hands, and hit by a rolling swing.
2. Control recommendations that can be carried out by the company against identified hazards are by using complete Personal Protective Equipment (PPE), focusing or not joking when working, ensuring the condition of work tools before use, ensuring the path to be passed is safe, placing work tools in their place, stack fabrics tightly, and maintain a safe distance from work tools.

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