# BASIC TEXTILE OPERATION

## NTQF Level - I

## LEARNING GUIDE #42

**Unit of Competence:**  **Perform Post Spinning Operations**

**Module Title:**  **Performing Post Spinning Operations**

**LG Code:**  **IND BTO1 M12 LO1-LG42**

**TTLM Code:**  **IND BTO1 TTLM 0919v1**

# LO1 Prepare work station

| Instruction Sheet | Prepare work stationLO1 |
|---|---|

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics:

1. **Prepare work station**

1.1. Checking production specifications

1.2. Preparing Materials, tools and equipment

1.3. Product requirements

1.3.1 Count

1.3.2 Twist and Ply

1.3.3 Tension & Weight

1.3.4 Lubrication

1.3.5 Twist Direction

1.3.6 Strength

1.3.7 Extension

1.4. Adjusting machine settings

1.5. Loading Product

1.6. Reporting non-conforming materials

1.7. Keeping area clean

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, you will be able to:

❖ Check Specifications to identify requirements for production

❖ Prepare Materials, tools and equipment in accordance with safety measures and practices

❖ Adjust Machine settings to meet product requirements

❖ Load Product for processing according to manufacturer and work specifications

❖ Report Non-conforming materials

❖ Keep Area around machine clean during setting and loading

**Learning Instructions:**

1. Read the specific objectives of this Learning Guide.

2. Follow the instructions described in number 3 to 8.

3. Read the information written in the "Information Sheets 1". Try to understand what are being discussed. Ask your trainer for assistance if you have hard time understanding them.

4. Accomplish the "Self-check 1" in page 6.

5. Ask from your trainer the key to correction (key answers) or you can request your trainer to correct your work. (You are to get the key answer only after you finished answering the Self-check 1).

6. If you earned a satisfactory evaluation proceed to "Information sheet 2". However, if your rating is unsatisfactory, see your trainer for further instructions or go back to Information sheet 1.

7. Submit your accomplished Self-check. This will form part of your training portfolio.

8. Ask from your trainer the key to correction (key answers) or you can request your trainer to correct your work. (You are to get the key answer only after you finished answering the Self-check 1).

| Information Sheet-1 | Prepare work station LO1 |
|---|---|

**Introduction**

Post spinning operation is the operation performed after spinning i.e. after yarn formation. These operations include; winding operations, doubling operations, twisting operations, reeling operations, yarn conditioning operations & packaging operations.

### 1. Prepare work station

Work station preparation may include: checking production specification, materials, tools and equipment preparation and etc.

### 1.1. Checking production specifications

Before starting post spinning operations, any one identify the specifications of the production. After identifying the specifications, the post spinning machines are adjusted according to product requirements. These product requirements are: Count, Twist and Ply, Tension & Weight, Lubrication, Twist Direction, Strength and Extension

### 1.2. Preparing Materials, tools and equipment

The raw materials required for post spinning operation is specifically the yarn prepared in either by open-end machine or ring spinning machine. So the prepared yarn is may be in the form of cops or cones. Tools and equipment's are those used on post spinning machines.

### 1.3 Product requirements

#### 1.3.1 Count

Count is a numerical value, which express the coarseness or fineness (diameter) of the yarn and also indicate the relationship between length and weight (the mass per unit length or the length per unit mass) of that yarn. Therefore, the concept of yarn count has been introduced which specifies a certain ratio of length to weight. The fineness of the yarn is usually expressed in terms of its linear density or count.

#### 1.3.2 Twist and Ply

To make a plied yarn spin two or more singles together with a reverse twist. If you spun the singles to the right (Z-twist), then you'll need to spin your plied yarn to the left (S-twist). We use the word singles to refer to a yarn with a single twist, a plied yarn is yarn with two directions of twist, and a cabled yarn has three directions of twist (or more).
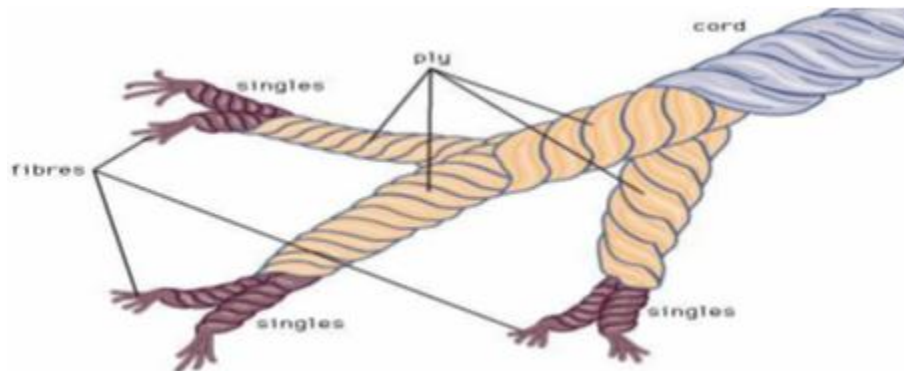


### 1.3.3  Tension & Weight

The primary objective of yarn tensioning is to build a package with adequate compactness. Higher yarn tension than the optimum will result in a tighter package and vice versa. If there is any portion of yarn which is very weak from tensile strength point of view (untwisted part of yarn) then it will not be able to sustain the applied winding tension and as a result the yarn will break.

Yarn is almost always sold by weight. When we talk about yarn weight what we are really talking about is thickness. Yarn comes in a wide variety of thicknesses from the absolutely tiny to the really quite large.

### 1.3.1  Lubrication

Waxing serves to lubricate the yarn, reducing to a minimum its coefficient of friction with the parts with which it comes into contact. This operation is normally carried out on yarns destined to be processed on knitwear machines, on which smooth running of yarns is essential. Waxing is carried out on the winding machine, which is equipped with a positive-drive adjustable waxing system that guarantees constant waxing of the yarn; there is also control device that stops the machine should the wax run out.
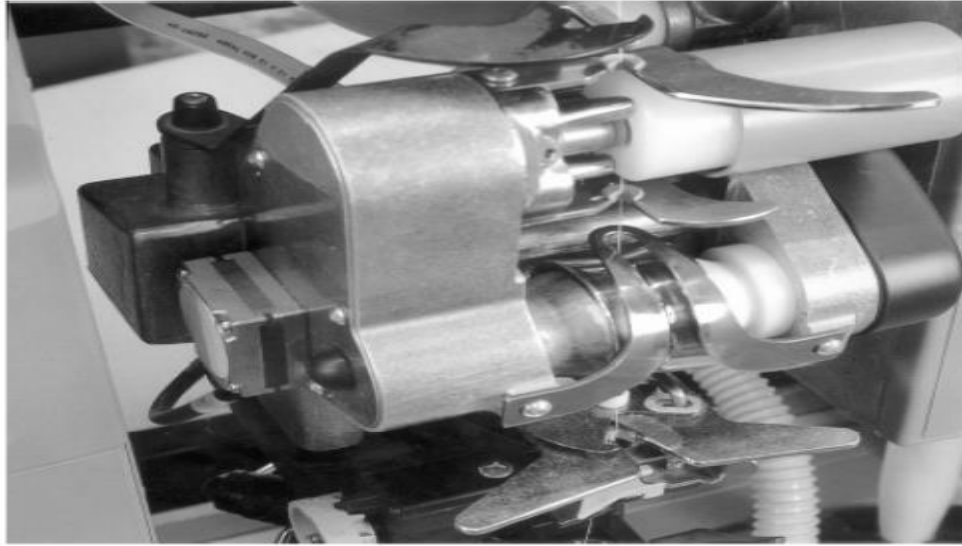
*Waxing device*

### 1.3.2 Twist Direction

In post spinning twist direction is very important because, in yarn doubling, the direction of single & double is opposite to each other.

### 1.3.3 Strength

This is defined as the breaking force of a spinning yarn and it is commonly measured in N. This is one of the most important factor which influence yarn breakages. The assessment of such parameter is essential for obtaining high quality of the yarn.

### 1.3.4 Extension

The yarn extension has an effect on the migration of fiber in the yarn. If the yarn extended above the permitted range the yarn will be deteriorated & decrease in strength.

## 1.3. Adjusting machine settings

Post Spinning machines are adjusted as per the product specification given.

## 1.4. Loading Product

The input or product to be loaded on post spinning machine may have different forms. Either in the form of cops for winding machine or in cone form for yarn conditioning machine.

## 1.5. Reporting non-conforming materials

Any materials out of standard or specification must be reported to concerned personnel in order to fix its solutions.

## 1.6. Keeping area clean

The work place area including winding machine /. Auto coner machine need to clean before starting work, during working and after work is finished

| L.G # 1 Self-Check – 1 | Written Test |
|---|---|

***Directions:*** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. List and Discuss the product requirements.(7 points)

2. **.** What is the specification requirement for production? (5points)

3. How we can load products for processing? (5 points)

4. What is non conformity material of post spinning operations? (5 points)

5. Why we clean the area around the post- spinning machines? (5 points)


**Note: Satisfactory rating – 3.5 points Unsatisfactory - below 3.5 points**


**Answer Sheet**

Score = _____

Rating: _____

Name: _____       Date: _____


1. _____

2. -----------------------------------------------------------------------------------------------------

3. ---------------------------------------------------------------------------------------------------

4. --------------------------------------------------------------------------------------------------

# BASIC TEXTILE OPERATION

## NTQF Level - I

## LEARNING GUIDE #43

**Unit of Competence:** Perform Post Spinning Operations

**Module Title:** Performing Post Spinning Operations

**LG Code:** IND BTO1 M12 LO2-LG43

**TTLM Code:** IND BTO1 TTLM 0919v1

## LO2-Operate and monitor post spinning machine

| Instruction Sheet | LO-2: Operate and monitor post spinning machin |
|---|---|

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics:

**2. Operate and monitor post spinning machine**

**2.1 Starting and stopping machine**

2.1.1   Winding machines

2.1.2   Plying machines

2.1.3   Twisting machines

2.1.4   Reeling machines

2.1.5   Yarn conditioning machines

2.1.6   Packing machines

**2.2 Monitoring machine operations**

2.2.1   Twisting

2.2.2   Piecing Up

2.2.3   Joining

2.2.4   Fault Identification

2.2.5   Steaming

2.2.6   Packing

**2.3 Sorting wastes**

**2.4 Cleaning machines**

**2.5 Identifying and correcting product process**

**2.6 Identifying and correcting machine faults**

**2.7 Reporting machine faults**

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, you will be able to:

❖ Start and stop Machine in accordance with manufacturer requirements

- ❖ Monitor Machine operations to ensure correct operation and in accordance with work requirements
- ❖ Sort Waste according standard procedure
- ❖ Clean Machine when required
- ❖ Identify and correct Product process and machine faults where necessary to meet specified requirements
- ❖ Report Major machine faults

**Learning Instructions:**

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described in number 3 to 8.
3. Read the information written in the "Information Sheets 2". Try to understand what are being discussed. Ask your trainer for assistance if you have hard time understanding them.
4. Accomplish the "Self-check 1" in page 10.
5. Ask from your trainer the key to correction (key answers) or you can request your trainer to correct your work. (You are to get the key answer only after you finished answering the Self-check 1).
6. If you earned a satisfactory evaluation proceed to "Information sheet 3". However, if your rating is unsatisfactory, see your trainer for further instructions or go back to Information sheet 2.
7. Submit your accomplished Self-check. This will form part of your training portfolio.
8. Ask from your trainer the key to correction (key answers) or you can request your trainer to correct your work. (You are to get the key answer only after you finished answering the Self-check 1).

| Information Sheet-1 | Operate and monitor post spinning machine |
|---|---|

## 2.1 Starting and stopping machine

Starting and stopping the post spinning machine is the pre-condition test for normal running.

### 2.1.1 Winding/Autoconer machines

Winding is the creation of large yarn packages that can be easily unwound. This makes using the yarn on subsequent operations such as weaving and knitting.

In order to form packages of the right weight and length for subsequent processing stages.

The winding machine can be fed by ring-spun yarn cops, by packages originating from open-end spinning machines also by cylindrical/conical packages derived from previous processing stages.

The yarn unwound from the package (Cops from Ring spinning machine or Cones from open-end spinning machine) passes through yarn tensioning and control systems and with the help of a grooved cylinder, is wound evenly around the package.

The yarn enters the recess/grooves in the cylinder, thus the rotary movement of the cylinder corresponds to the translation of the yarn.

A modern winding machine can process yarns ranging from a count of Ne 2 to finer ones, at a winding speed of 400 to 2000 m/min.

Further functions of winding are to check the yarn and to eliminate any faults found. This is done by a process called clearing. i.e., by passing the yarn through an electronic device, known as a yarn clearer, this assesses it according to set parameters (fault section and length).

If these set values are exceeded the yarn is cut and spliced. Splicing is done using the air-splicing system. A join created in this way is less visible, consistent, stronger and repeatable.

The tension of the yarn is constantly monitored by an electronic sensor/ headstock computer located prior to the cylinder. This sensor interacts with the yarn-tensioning device to modify, as necessary, the tension exerted on the yarn. This keeps the package density constant.

A modern winding machine carries out the following operations automatically;
- ❖ Package doffing
- ❖ Bobbin loading
- ❖ Cone feeding

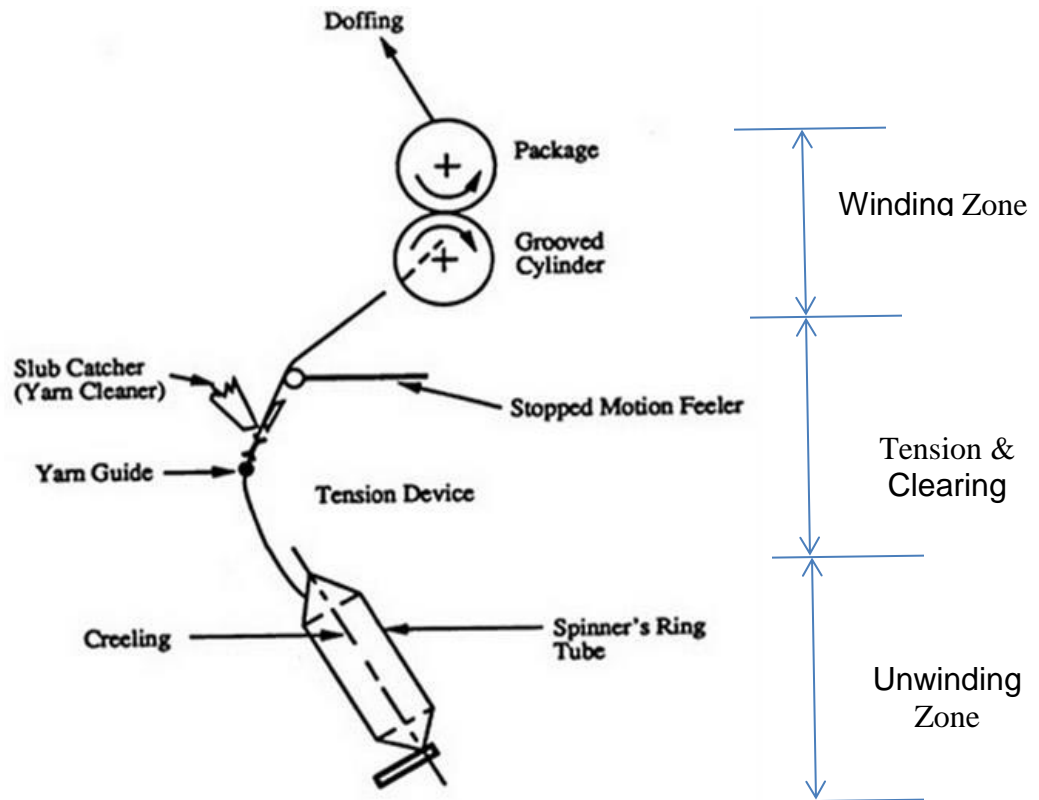**Figure: Winding Machine**

## A basic diagram of winding Machine:



**Figure:** A basic diagram of winding machines

## Ancillary Activities Performed on a winding machine:

a) **Creeling:** It is the removing of empty package and placement of the full package, in the feed region of the machine, ready to be unwound as part of the transfer process.

b) **Piecing:** Piecing is the process of finding the ends of the packages and connecting them

c) **Doffing:** Doffing is the process of removing the full package and placement of the empty package, in the delivery region of the machine; ready to receive yarn as part of the transfer process.

## Winding Machine zones/Areas:

It has three sections:

a) The unwinding zone.

b) The tension & clearing zone.

c) The winding zone.

### a). The Unwinding Zone

To rewind the yarn on a new package/cone, it must first be removed from the old package/cop. This is accomplished in the unwinding zone. This zone consists of a creel, which holds the old package in an optimum position for unwinding. The common yarn withdrawal methods are; side withdrawal & over-end withdrawal.

### a. Side Withdrawal

In this method the spool is rotated and the yarn does not rotated during withdrawal. This requires additional energy to rotate the spool, this is taken as disadvantages. In this case the yarn twist does not change.
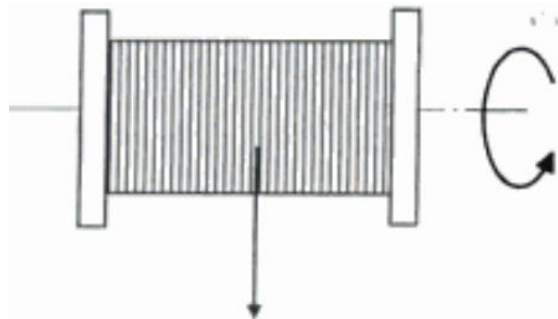


**Figure-** Side withdrawal of yarn

### b. Over-End Withdrawal

In this system the spool does not rotate. The method is simple and does not require driving the spool. The disadvantage of this system is ballooning which is due to the way the yarn is withdrawn and unwound from the package at high speeds.

Ballooning leads to uneven tensions in the yarn. Each time one complete wrap of yarn is removed from the supply package, the twist in that length changes by one turn. Variation in tension due to ballooning and twisting may cause yarn breakage.
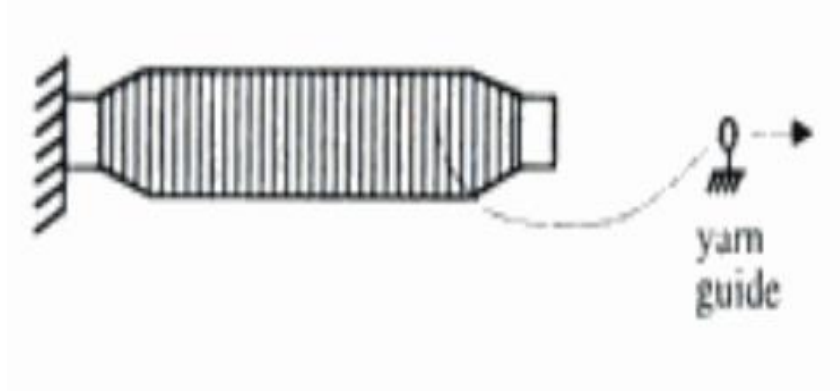
**Figure-** Over-end yarn withdrawal

## b). The Tension & Clearing Zone

It is the 2nd zone. It consists of a tension device and a device to detect thick spots or slubs in the yarn & a **stop motion** during yarn break or the depletion of a supply package. The yarn receives proper tension to provide an acceptable package density & build for further processing. The yarn is directed into this zone by a guide.

There are three major types of tension devices.

### A. Capstan (Multiplicative) Tensioner

The output tension ($T_{out}$) depends on the input tension ($T_{in}$), coefficient of friction between the yarn and the post ($\mu$) and the total angle of wrap ($\alpha$).
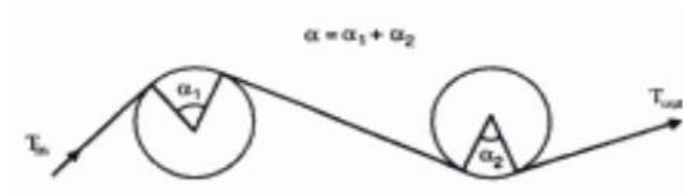


**Figure** – Capstan Tensione

$$T_{out} = T_{in} \times e^{\mu\alpha}$$

### B. Additive Tensioner

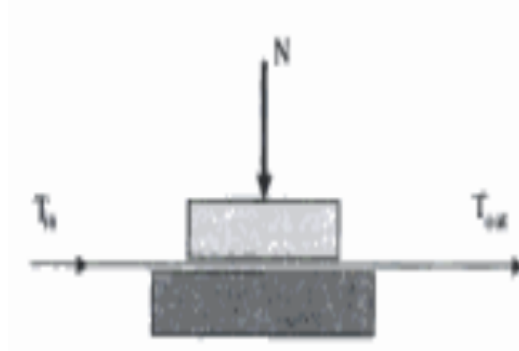In this system, a dead weight or spring is used to apply a normal force (N) to change the tension.



**Figure**-Additive Tensioner

The output tension ($T_{out}$) is calculated by:

**$T_{out} = T_{in} + 2\mu N$,** $T_{out}$ is changed simply by changing the normal force N.

### C. Combined Tensioner

This is the most common type which consists of at least a disc and capstan type tensioner.
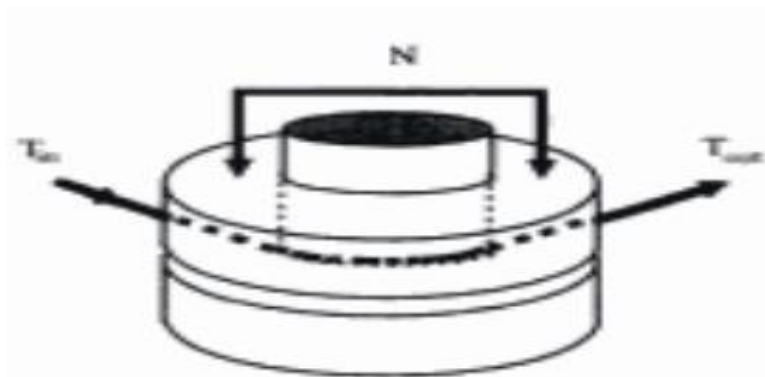


**Figure**- Combined Tensioner

The output tension is changed by changing normal force (N) or wrap angle ($\alpha$).

$$T_{out} = T_{in} \times e^{\mu\,\alpha} + T_{in} + 2\mu N$$

$$= T_{in} (1+ e^{\mu \alpha}) + 2\mu N$$

## Yarn Clearer

The purpose of yarn clearer is to remove thin and thick places. Yarn detectors are of two types: Mechanical and electronic yarn detector.

**Mechanical Clearer:**

It is as simple as two parallel blades. The distance between the plates is adjustable to allow only a predetermined yarn diameter to pass through. A thicker spot on the yarn (slub) will cause the tension on the yarn to build up and eventually break the yarn. This type of device can only detect thick places in the yarn.
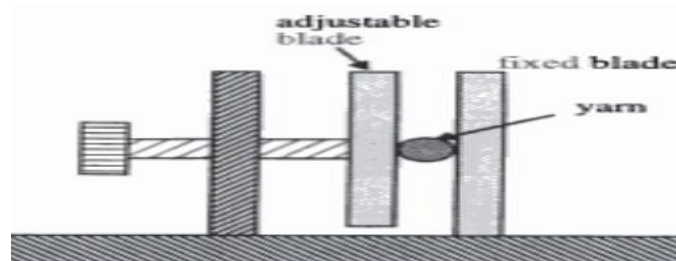


**Figure-** Mechanical Clearer

**Electronic Yarn Clearer:**

It detects both thin and thick places. Electronic detectors are mainly of two types: capacitive and photo-electric detector.

In capacitive type detector, the variation in the mass of the yarn passing through the plates changes the capacitance of the unit. The system measures the mass of the yarn. This device is sensitive to moisture content in the fibers. The signal is not based on the physical dimensions of the yarn. When the generated signal reaches a certain values, the yarn is cut.
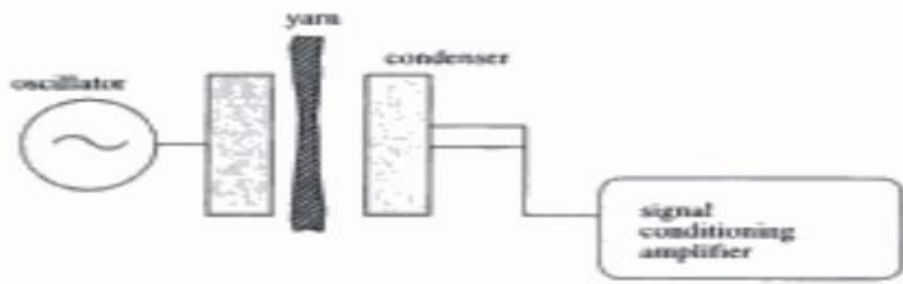
**Figure**- Capacitive Detector

In a photo-electric detector, the yarn passes between a light source and a photocell. Any fluctuation in yarn thickness causes the fluctuation of light coming to the photocell, which changes the resistance of the photocell. This resistance change is detected by a signal conditioning amplifier which can be set to send a signal to cut the yarn and stop the winding process.
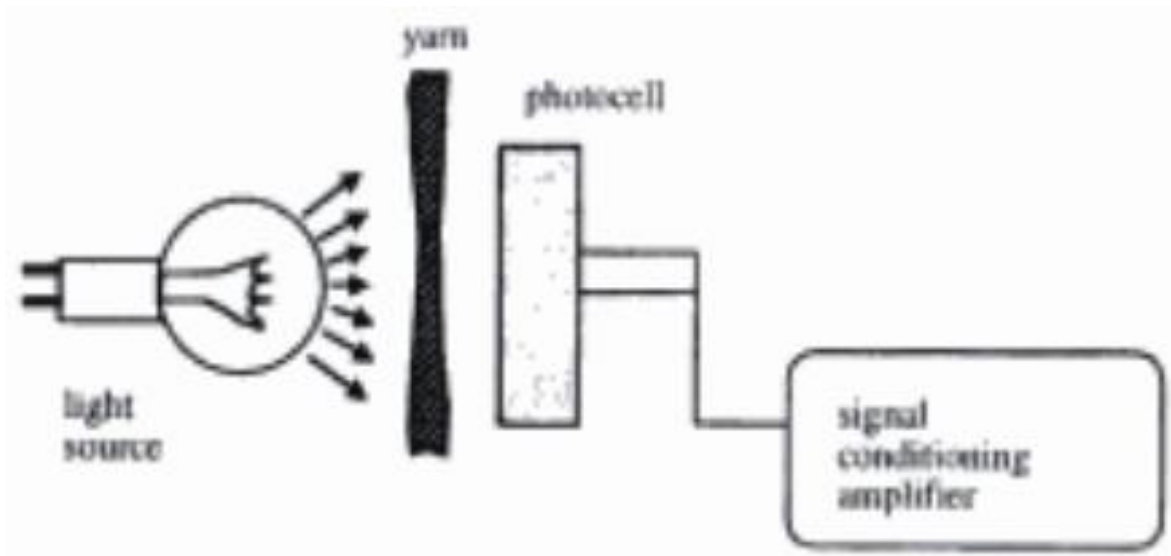


**Figure-** Photo-electric Detector

## c).The Winding Zone

In this region, the yarn package suitable for further processing is wound. Many types of packages configurations can be obtained depending on the next stage of processing. Example- cone, tube or cheese, dye tube or spool.

The yarn is wound on the package by only rotating the package. The rotation of the package may be accomplished in two ways.

### a. Spindle Drive Winder

The spindle holding the package is driven directly.
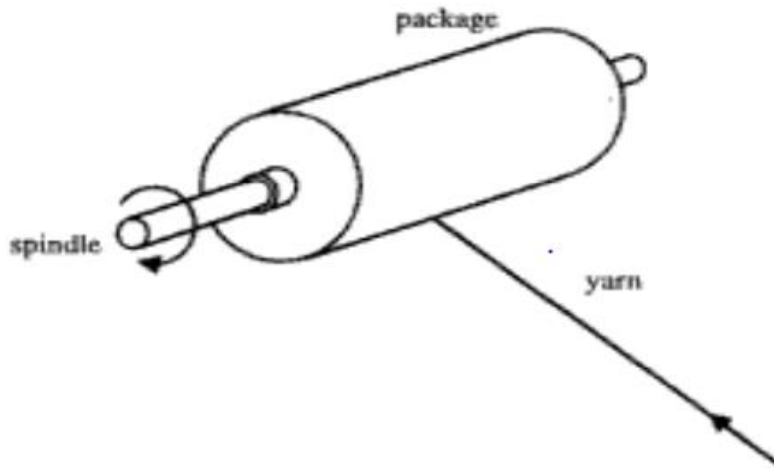


**Figure**- Spindle Drive of a package

### b. Friction Drive Winder

In this system, the spindle carrying the package is free to rotate and the package is driven through surface friction between the package and a driven drum or roller.
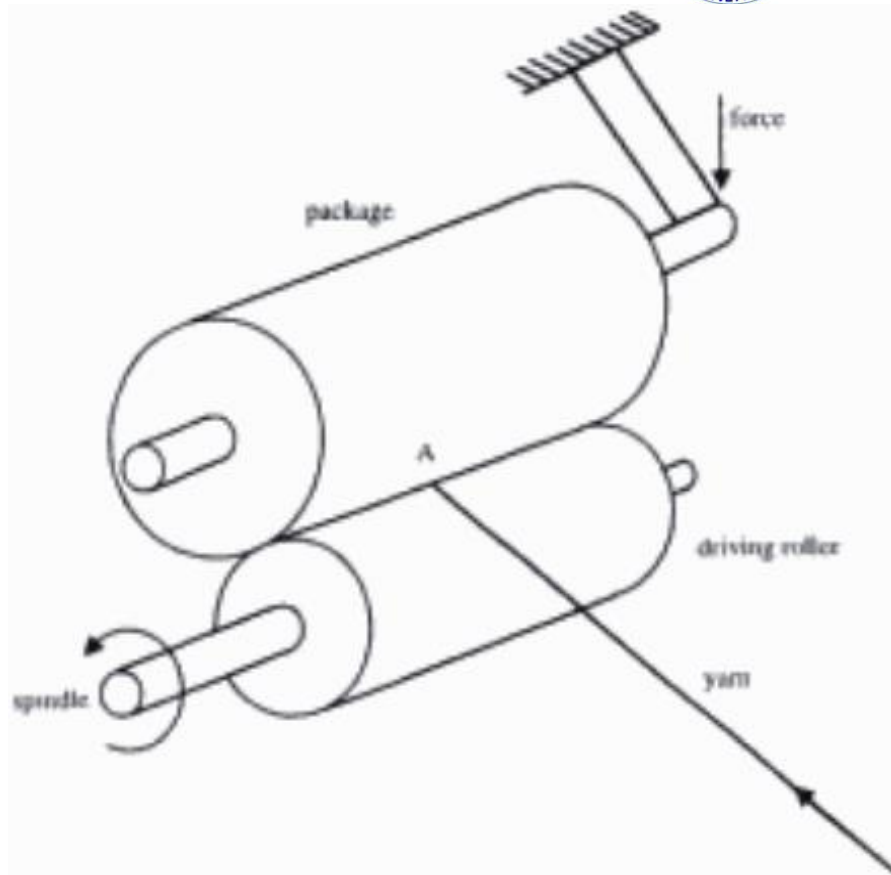
**Figure**- Friction Drive of a package

## Traversing Mechanism

It is used to distribute the yarn axially along the package. Only for friction drive winder a traversing groove cut is used. The yarn is fit into the groove and travel back and forth along the length of the package as the drum rotates.
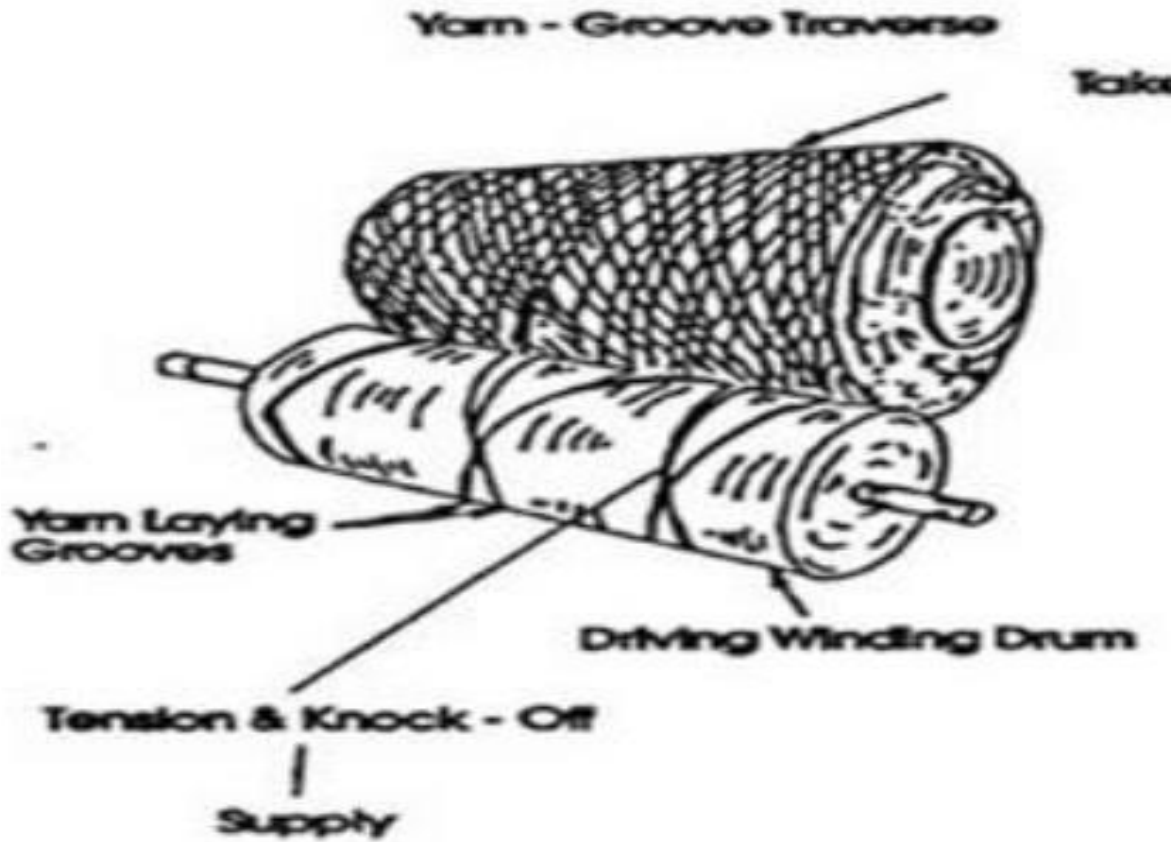
**Figure**- Grooved Roller for Yarn Transverse

In spindle drive winder and in some friction drive winder a reciprocating traverse is used. Example externally driven guides carries the yarn back and forth across the package.

**Figure:** Reciprocating yarn guide

### 2.1.2 Doubling/Plying machines

The purpose of this operation is to unite two or more ends on a package prior to twisting.

The doubling machine, like the winding machine, is fed by packages of yarn, generally pre-cleared and positioned in its lower section.

Like the winding machine, the doubling machine (Figure 1) must have yarn tensioning devices of all the yarn ends and it is essential for successful twisting.

The main advantage of doubler winding is to produces ply yarns free from corkscrew defect due to equalized tensioning of the single yarns. Besides, as all the ends are twisted together, it eliminates the possibility of dropped ply (one or more single yarns missing) on the doubler.

There are two systems of preparing doubler packages.

**a) Single process systems:**

In this system, the ring bobbins are straight away used as supply packages for doubler winding.

**b) Two process systems:**

In this system, the single yarn is wound on a cone 1st to clear the slubs and other imperfections. The cones are then fed to the doubler winder for assembling the required number of ends. The two process system provides a larger feed or supply package to the doubler winder.

### 2.1.3 Twisting machines

The purpose of this operation is to unite by twisting two or more doubled yarn ends in order to obtain a stronger yarn. It is a two-stage process: first doubling and then twisting. The application of twisting machines is similar to ring spinning frames, except that it is fed by packages of doubled yarn.

The doubling twist in the manmade and blend yarns is inserted in a direction opposite to that of single yarn. The single yarns, which are meant for plying, are normally given 10% lower twist than the normal single yarns. This results in maximum yarn luster

### 2.1.4 Reeling machines

Reeling is a skein/hank preparation operation (generally the preparation of skeins prior to dyeing). The reeling machine is fed by yarn packages and winds the yarn onto a reel, thereby forming the skein.

Winding can be carried out either modifying the yarn crossing angle or by adjusting the skein width up 400 mm. The diameter of the reel is normally 54. And it has a speed of 400 rpm. Skeins can sometimes reach 5 kg in weight.
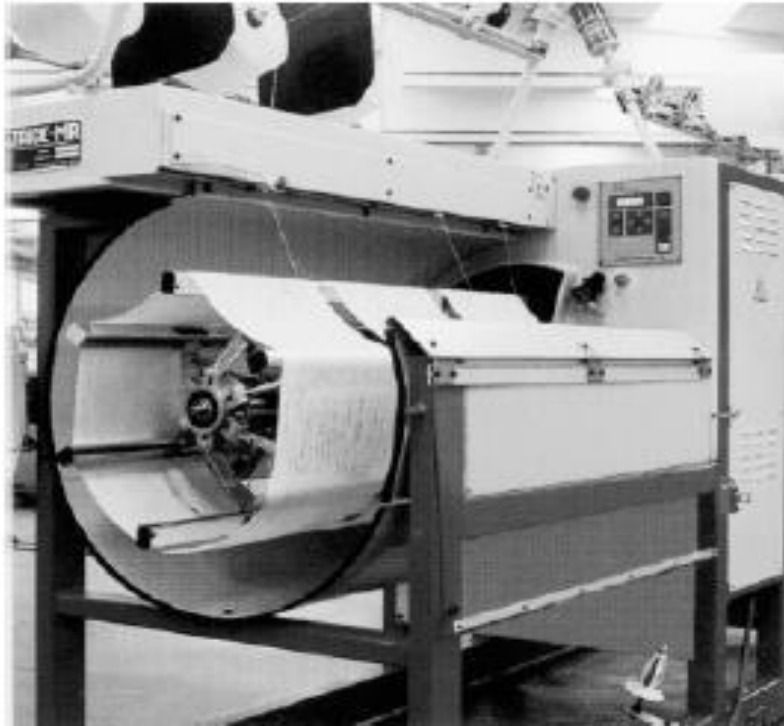
Detail of a reeling machine

## 2.1.5 Yarn conditioning machines





**Figure:** Yarn conditioning machine

Yarn Conditioning / Heat Setting Machine is designed for strengthening of yarn, Stable elastic properties & to remove snarling and curling effects, Twist Setting, Stabilizing moisture level in dry yarn and etc.

Yarn is subjected to vacuum and pressure to the required levels in a sealed autoclave.

❖ Temperature range up to 130°c.

❖ Maximum pressure up to 4kg/cm².

❖ Yarn carrier: creel type or aluminum bins (baskets) as per requirements.

❖ Optional: fully computerized control system with necessary logical interlock and alarms.

### 2.1.6 Packing machines

The most recent yarn package handling and packing systems specifically developed both for open-end spinning and for winding.

The product to be packed will be sorted 1st by yarn count and stored temporarily prior to packing. Then they are conveyed to packing area/ boxes by conveyor belt system of transportation.

The packing units or boxing machines are PC-controlled machines that can handle packages singly or in groups according to the production capacity.

Bagging and boxing machines, on the other hand pack single packages ready to be dispatched in boxes. A sheet of polyethylene wrapping is first conveyed/taken to a wrapping unit, where it is employed to form a tube.

## 2.2 Monitoring machine operations

Post spinning machine monitoring is simply controlling the product parameters to be produced. Example: amount of twist, dimension of piecing up, joining, faults, steaming, and packaging.

### 2.2.1 Twisting

Twisting is uniting two or more doubled yarn ends in order to obtain a stronger yarn.

### 2.2.2 Joining and Piecing Up

It is the process of repairing the two ends of broken yarn using twist or roll of the fingers.

### 2.2.3 Fault Identification

It simply identifying defects during winding, doubling, twisting, conditioning and packaging.

### 2.2.4 Steaming

It is the process of yarn conditioning or imparting moisture to the yarn in order to increase its strength and weight also.

### 2.2.5 Packing

Packing is simply wrapping of final product with sheet of polyethylene or packing it with a box according to their count and finally dispatching to the market.

### 2.3 Sorting wastes

Generated wastes are sorted depending on their effects to the surrounding. May be they are harmful to the environment or ecofriendly to the environment.

### 2.4 Cleaning machines

Any machines may be cleaned at least three times in a day. Example: Before operation, during operation and after use.

### 2.5 Identifying and correcting product process

The product faults may include: bad package development, yarn snarling/corkscrew, bad packaging and etc.

### 2.6 Identifying and correcting machine faults

These are faults resulted from post spinning machines.

### 2.7 Reporting machine faults

Any machine faults are recorded and reported to responsible personnel.

**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

       1.What is the role of winding/ Autoconer machine.(1 point)

       2.What is the role of yarn conditioning machine? (1point)

       3.Discuss the role of Reeling machine! (1point)

       4.List and discuss the three winding zones! (3points)

       5.List and discuss the types of traverse winding methods! (2points)

*Note:* **Satisfactory rating – 3.5 points**     **Unsatisfactory - below 3.5 points**

**Answer Sheet**

You can ask your trainer for the copy of the correct answers

Score = _____

Rating: _____

Name: _____     Date: _____

    1._____

    2. _____

    3. _____

    4._____

    5. _____

# BASIC TEXTILE OPERATION

## NTQF Level - I

## LEARNING GUIDE #44

**Unit of Competence:** Perform Post Spinning Operations

**Module Title:** Performing Post Spinning Operations

**LG Code:** IND BTO1 M12 LO3-LG44

**TTLM Code:** IND BTO1 TTLM 0919v1

# LO-3: Check post spinning product

| Instruction Sheet | LO-3: Check post spinning product |
|---|---|

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics:

## 3. Check post spinning products

3.1. Checking product

3.2. Assessing products faults and non-conformances

  3.2.1. Double ends

  3.2.2. Thick and thin places

  3.2.3. Wrong count

  3.2.4. Contamination

  3.2.5. Defective piecing

  3.2.6. Defective yarn packages

3.3. Rectifying or reporting product faults

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, you will be able to:

❖ Check Product against quality standards

❖ Assess Product for faults and non-conformances

❖ Rectify or report Product faults

**Learning Instructions:**

9. Read the specific objectives of this Learning Guide.

10. Follow the instructions described in number 3 to 8.

11. Read the information written in the "Information Sheets 3".

   Try to understand what are being discussed. Ask your trainer for assistance if you have hard time understanding them.

12. Accomplish the "Self-check 1" in page 4.

13. Ask from your trainer the key to correction (key answers) or you can request your trainer to correct your work. (You are to get the key answer only after you finished answering the Self-check 1).

14. If you earned a satisfactory evaluation proceed to "Information sheet 4". However, if your rating is unsatisfactory, see your trainer for further instructions or go back to Information sheet 3.

15. Submit your accomplished Self-check. This will form part of your training portfolio.

16. Ask from your trainer the key to correction (key answers) or you can request your trainer to correct your work. (You are to get the key answer only after you finished answering the Self-check 1).

| Information Sheet-3 | Check post spinning productsLO3 |
|---|---|

### 3.1. Checking product

The outputs of any post spinning machines are checked against the standard set. The standard set may include: the right weight of yarn, the right length of yarn, the right amount of steam used in yarn conditioning, the right shape of cone and skein/hank and etc.

### 3.2. Assessing products faults and non-conformances

During the product is assessed or checked product faults like Double ends, thick and thin place, wrong count, contamination and etc. may be seen.

### 3.2.1. Double ends

It is mainly created due to end breakages from neighboring end and joined to the other end. At feed point, the yarn from side by side mixed together. This leads to Thick End or Thick Pick/ Weft in the Fabric.

### 3.2.2. Thick and thin places

Thin places is, when cross sectional size -30% to -60% of normal yarn with fault length of 4 to 25 mm & thick places is when cross sectional size +30% to +100% of normal yarn with fault length of 4 to 25mm.

### 3.2.3. Wrong count

Wrong count is due to Variation in diameter along the length of yarn beyond acceptable range. So the Fabric develops bad appearance and characterized by variation in density.

### 3.2.4. Contamination

This is due to mixing of different shades of yarns during winding stage. This causes visual opposition in fabric. The causes of Contamination may depend on:

a)      Overall cleanliness of department.

b)      Cleaning of machine after every doff and lot change.

d)      Material should be covered with polythene sheet to avoid fly and fluff accumulation.

e)      Do not use compressed air for cleaning m/cs.

### 3.2.5. Defective piecing

When the pieced/joined place of yarn is above or below the diameter of the yarn, it is said to be defective piecing.

### 3.2.6. Defective yarn packages

When the packages are highly compacted or highly loosed during winding and do not meet package density specification, it is said to be defective yarn package.

### 3.3. Rectifying or reporting product faults

If the product fault is not fixed by the operator, then it needs to be rectified to the concerned personne

| L.G # 3 Self-Check – 1 | Written Test |
|---|---|

*Directions:* Answer all the questions listed below. Use the Answer sheet provided in

the next page:

1. Try to define defective piecing! (1 point)

2. Try to define Defective yarn packages! (1point)

3. List and discuss types of products faults! (1points)

*Note:* **Satisfactory rating – 1.5 points          Unsatisfactory - below 1.5 points**
You can ask your trainer for the copy of the correct answers.

**Answer Sheet**

Score = _____

Rating: _____

Name: _____          Date: _____

1._____

2._____

3. _____

# BASIC TEXTILE OPERATION

## NTQF Level - I

## LEARNING GUIDE #45

**Unit of Competence:** Perform Post Spinning
Operations

**Module Title:** Performing Post Spinning
Operations

**LG Code:** IND BTO1 M12 LO4-LG45

**TTLM Code:** IND BTO1 TTLM12, 0919v1

| Instruction Sheet | **LO-4: Complete post spinning operations** |
|---|---|

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics:

### 4. Complete post spinning operations

4.1 Doffing and replacing products

4.2 Unloading and dispatching products

4.3 Completing area Cleaning

4.4 Completing product records and other documentation

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, you will be able to:

❖ Doff and replace Products according to manufacturer specifications

❖ Unload and dispatch Products to next process

❖ Complete Cleaning of area to ensure work environment is maintained in a safe and productive manner

❖ Complete Production records and other documentation accurately

**Learning Instructions:**

1. Read the specific objectives of this Learning Guide.

2. Follow the instructions described in number 3 to 8.

3 .Read the information written in the "Information Sheets 4". Try to understand what

are being discussed. Ask your trainer for assistance if you have hard time understanding them.

4 .Accomplish the "Self-check 1" in page 3.

5. Ask from your trainer the key to correction (key answers) or you can request your

trainer to correct your work. (You are to get the key answer only after you finished

answering the Self-check 1).

6. If you earned a satisfactory evaluation proceed to "next unit of competence"

However, if your rating is unsatisfactory, see your trainer for further instructions or go

back to Information sheet 4 of unit of competence-12.

7 .Submit your accomplished Self-check.  This will form part of your training portfolio.

8 .Ask from your trainer the key to correction (key answers) or you can request your

trainer to   correct your work. (You are to get the key answer only after you finished

answering the Self-check 1).

| Information Sheet-4 | Complete post spinning operations |
|---|---|

### 4.1 Doffing and replacing products

Doffing is the activity of removing the full packages from the machine and replacing with empty cone in order to perform the next operation. Generally the full cops are replaced by empty cones.

### 4.2 Unloading and dispatching products

Unloading is same with doffing, so after doffing the product is checked the pre-defined quality parameters and finally dispatching/distributing it to the market or customers.

### 4.3 Completing area Cleaning

The work place area including machine need to clean before starting work, during working and after work is finished.

### 4.4 Completing product records and other documentation

After work is completed in any work shift, the amount of products produced and any troubles the workers encounter must be recorded and documented.

| **L.G # 4 Self-Check – 1** | **Written Test** |
|---|---|

**Directions:**  Answer all the questions listed below. Use the Answer sheet provided in the

   next page:

1.  List and Discuss the activities need to be performed after work completion.

   (4 points)

2 .Discuss what is doffing (1 points)

*Note:* **Satisfactory rating – 2.5 points        Unsatisfactory - below 2.5 points**
You can ask your trainer for the copy of the correct answers.

**Answer Sheet**

Name: _____          Date: _____

    1._____

    2. _____