

BASIC TEXTILE OPERATION

NTQF Level -1

Learning Guide -75

**Unit of Competence: Apply Finishing Processes to
Textile and Garments**

**Module Title: Applying Finishing Processes
to Textile and Garments**

LG Code: IND BTO1 M20 LO1-LG-75

TTLM Code: IND BTO1TTLM 0919v1

LO1: Set up and load finishing machine or equipment



Instruction Sheet

Learning Guide #75

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

- Introduction to finishing process
- Confirming finishing processes required for textile and garment products
- Checking textile product and garment quality
- Reporting non-conforming materials
- Loading textile product / garment

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:**

- ❖ Confirm textile and garment products finishing processes
- ❖ Check textile product and garment quality
- ❖ Report non-conforming materials
- ❖ Load textile product / garment

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described in number 3 to 21.
3. Read the information written in the “Information Sheets 1”. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
4. Accomplish the “Self-check 1”.
5. Ask from your teacher the key to correction (key answers) or you can request your teacher 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 teacher for further instructions.
7. Read the information written in the “Information Sheet 2”. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
8. Accomplish the “Self-check 2”.



9. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 2).
10. If you earned a satisfactory evaluation proceed to “Information Sheet 3”. However, if your rating is unsatisfactory, see your teacher for further instructions.
11. Read the information written in the “Information Sheets 3”. And Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
12. Accomplish the “Self-check 3”.
13. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 3).
14. If you earned a satisfactory evaluation proceed to “information sheet 4”. However, if your rating is unsatisfactory, see your teacher for further instructions
15. Read the “information sheet 4” and try to understand the procedures discussed.
16. Accomplish the “Self-check 4”.
17. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 4).
18. If you earned a satisfactory evaluation proceed to “Information Sheet 5”. However, if your rating is unsatisfactory, see your teacher for further instructions.
19. Read the information written in the “Information Sheets 5”. And Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
20. Accomplish the “Self-check 5”.
21. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 5).



Information Sheet-1	Introduction to finishing process
----------------------------	--

1.1. Purpose of finishing

- ❖ To improve fabric appearance
- ❖ To impart certain desirable properties to fabric

1.2. Definition of finishing

Finishing is the last wet processing operation to improve appearance and impart certain functional properties before the fabric is sent for folding and marketing.

1.3. Finishing can be carried out in

- ✓ yarn form
- ✓ fabric form : woven, knitted, non-woven
- ✓ garment form
- ✓ fiber form finishing is not common

1.4. Compatibility of finish formulation

- ✓ Many times several types of finishes are combined in one bath for economic reasons all components of the finish bath must be compatible
- ✓ Precipitations of anionic with cationic products have to be avoided
- ✓ Emulsion stability of different products should not be affected by product interactions

Self-Check -1	Written Test
----------------------	---------------------

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

1. Discuss the definition of finishing. (3 point)
2. What are the purpose of winding? (3 point)
3. Discuss Compatibility of finish formulation. (3 point)



Note: Satisfactory rating - 9 points

Unsatisfactory - below 9 points

Answer Sheet

Score = _____

Rating: _____

Name: _____

Date: _____

Short Answer Questions

1. _____

2. _____

3. _____



Information Sheet-2	Confirm Finishing processes required for textile products and garments
----------------------------	---

Dyeing and printing are not the ultimate steps something is required to make the fabric more suitable for end-use. Quality of the fabric in terms of appearance, handle, functionally enhanced by some physical means or by chemicals Therefore, ultimate value addition is done to the fabric by finishing.

Textile finishing should meet the following requirements:

- ❖ Low-cost product and process
- ❖ Stable during storage and application in terms of pH, temperature and mechanical stress
- ❖ Compatible with other finishes
- ❖ Adaptation to customer requirement and substrate variation
- ❖ Suitable for all kind of fibers and all textile forms such as yarn, woven or knit fabric, garment, nonwovens, etc.
- ❖ Satisfactory stability during washing and dry cleaning
- ❖ Should not hamper important textile qualities
- ❖ On application should be distributed evenly on the fabric and fiber surface
- ❖ No yellowing of white goods or color change of dyed goods.
- ❖ Easy correction of finishing faults
- ❖ Nontoxic and ecofriendly
- ❖ No release of volatile organic compounds
- ❖ Biodegradable



Self-Check -2	Written Test
----------------------	---------------------

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

1. Discuss finishing processes required for textile products and garments. (5 point)

Note: Satisfactory rating - 5 points

Unsatisfactory - below 5 points

Answer Sheet

Score = _____
Rating: _____

Name: _____

Date: _____

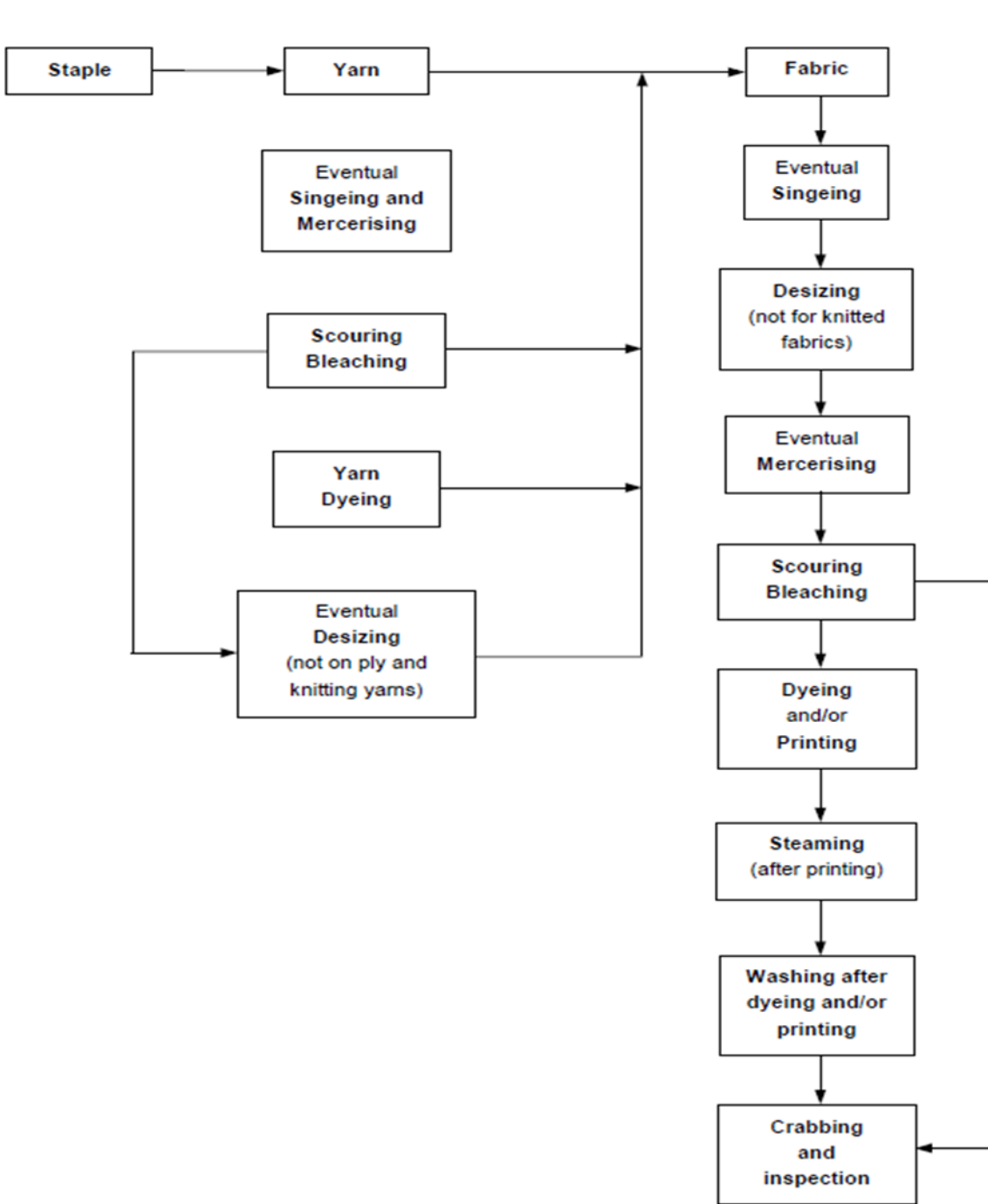
Short Answer Questions

1. _____



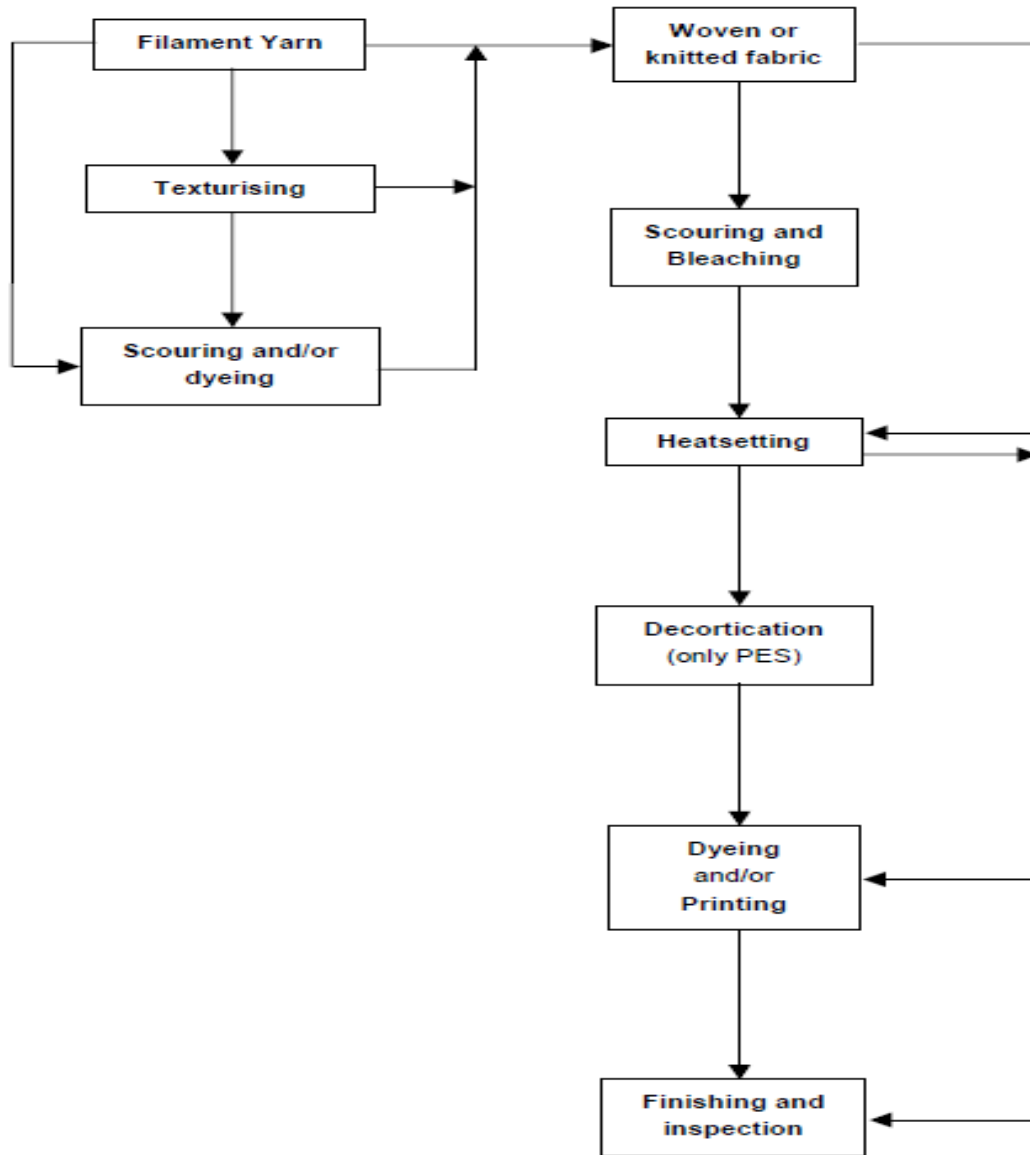
Information Sheet-3	Check textile products and garments for quality
----------------------------	--

3.1. Processed woven or knitted fabrics and yarns required for finishing





3.2. Processed woven or knitted garment and denims





Self-Check -3	Written Test
----------------------	---------------------

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

1. List the quality parameters of textiles and garments made from staple yarn required for finishing process. (3 point)
2. List the quality parameters of textiles and garments made from filament yarn required for finishing process. (3 point)

Note: Satisfactory rating - 6 points

Unsatisfactory - below 6 points

Answer Sheet

Score = _____
Rating: _____

Name: _____

Date: _____

Short Answer Questions

1. _____

2. _____



Information sheet-4	Report non-conforming materials
---------------------	---------------------------------

4.1. Nonconformity: the nonfulfillment of a specified requirement

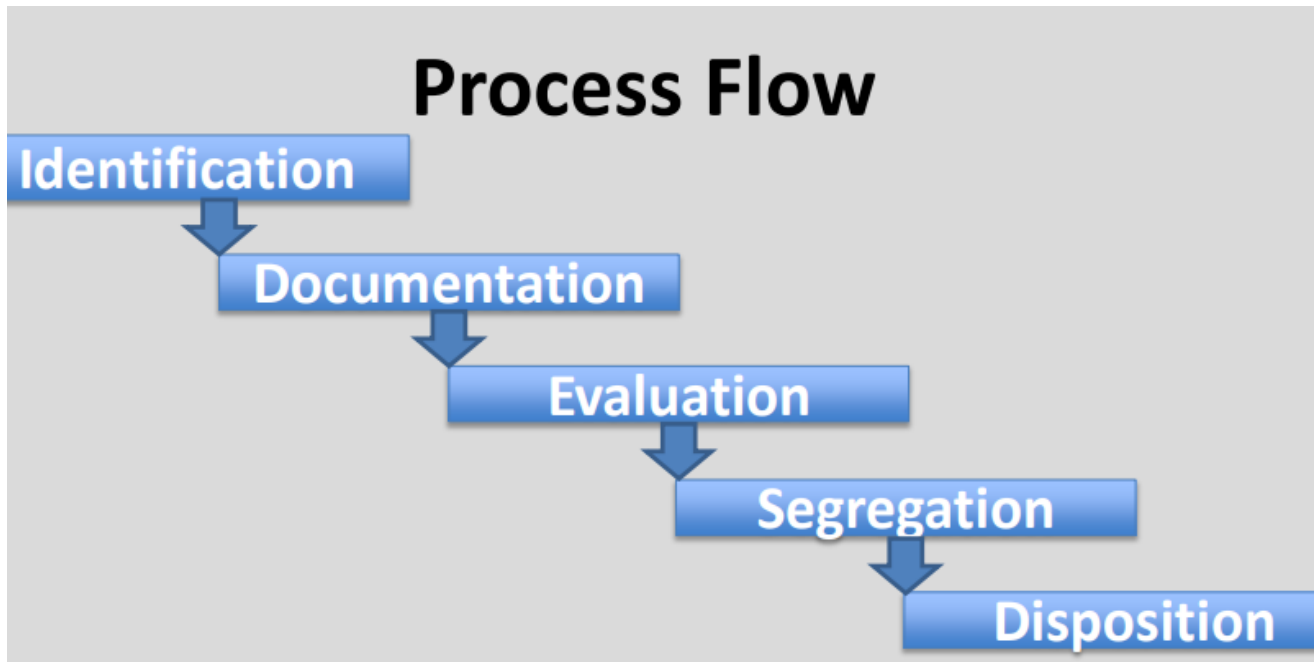
4.2. Non- conformances

- ✓ Nonconforming Product is product that does not fulfill its specified requirements
- ✓ Nonconformance's can occur in both product and process
- ✓ Nonconforming processes can lead to nonconforming product.

4.3. Nonconforming Product - Regulation

“Each manufacturer shall establish and maintain procedures to control product that does not conform to specified requirements....”

“....The procedures shall address the identification, documentation, evaluation, segregation, and disposition of nonconforming product.”



4.3.1. Identification

Sources of Nonconforming Product

- Received components/material that fail incoming inspection
Example
 - ✓ Specification: 6 +/- 1 inch
 - ✓ Inspection result: 8 inch
 - ✓ This is nonconforming product
- Products/components that fail inspection or test during manufacturing
Example
 - ✓ Temperature range: 300 ± 10° F



- ✓ Temperature set on bonding machine: 280° F
- ✓ This is nonconforming process:

- Product returned to manufacturer with defects

Example

- ✓ If a catheter is supposed to fit inside a 6 French guide and during procedure it does not fit.
- ✓ Handled within the complaint system*
- ✓ *not within the scope of this talk

4.3.2. Documentation

- Form that identifies the material, the problem, evaluation, segregation, the investigation (if any), disposition and signatures
- Standard operating procedure (SOP)
- Work Instruction (WI)

4.3.3. Evaluation

... The evaluation of nonconformance shall include a determination of the need for an investigation and notification of the persons or organizations responsible for the nonconformance. The evaluation and any investigation shall be documented.

5.3.4. Segregation

You must segregate non-conforming product to ensure it is not released.

Examples

- ✓ Locked Cages
- ✓ Digital Controls
- ✓ Separate Area

4.3.4. Disposition

Each manufacturer shall establish and maintain procedures that define the responsibility for review and the authority for the disposition of nonconforming product. The procedures shall set forth the review and disposition process.

Typical Nonconforming Product in Dispositions

- Scrap
 - ✓ Where you decide not to use the product
 - ✓ destroy
- Downgrade
 - ✓ Reverting back to a safe and effective older version when there is a problem with an upgrade



- Use as Is

- ✓ Use the Nonconformance as is when it does not affect the safety and effectiveness of the final product

- Rework

Each manufacturer shall establish and maintain procedures for rework, to include retesting and reevaluation of the nonconforming product after rework to ensure that the product meets its current approved specifications.

Self-Check -5	Written Test
----------------------	---------------------

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

1. What does it mean non-conforming materials? (4 point)
2. Write the process flow of non- conforming materials. (4 point)



Note: Satisfactory rating - 8 points

Unsatisfactory - below 8 points

Answer Sheet

Score = _____
Rating: _____

Name: _____

Date: _____

Short Answer Questions

1. _____

2. _____



Information sheet-5	Loading textile /garment product on to the machine
----------------------------	---

Finally after checking all pre operation processes, you have to load textile and garment product to the machine to perform finishing process.

Loading means adding the goods on to truck or cargo. Loading of goods is often required when the goods are delivered to the machine. When the goods are bulky and complex, poor handling of the goods can often cause damage to the goods and hence this task is often outsourced to the transporting facilities by the companies.

It is of great significance since there is a lot of risk involved and hence it is advised not to do the loading and unloading themselves as there may be a possibility of a valuable loss of goods. There are many independent loading and unloading service providers who make sure that the goods reach the destination in the perfect condition and then they also unpack the goods at the destination with utmost care and attention. Mostly the customers should choose a moving company which has some prior experience.

Self-Check -5	Written Test
----------------------	---------------------

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

1. Discuss loading of textile and garment finishing. (3 point)



List of Reference Materials

- 1- Reference books of textile technologies for finishing by Pietro Bellini Ferruccio Bonetti
Ester Franzetti giuseppe Rosace Sergio Vago
- 2- Cotton: Science and technology Edited by S. Gordon and Y-L. Hsieh
- 3- Chemistry & Technology of Fabric Preparation & Finishing by Dr. Charles Tomasino
- 4- Chemical finishing of textiles W. D. Schindler and P. J. Hauser
- 5- Encyclopedia of Textile Finishing by Prof. Dr. rer. nat. Hans-Karl Rouette