



International
Labour
Organization

Finishing garments

Finishing operations



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Factory Improvement Toolset

The Factory Improvement Toolset (FIT) is an innovative self-facilitated, activity-based learning approach designed by the International Labour Organization (ILO) to create more decent and sustainable employment. FIT supports manufacturers in global supply chains to improve productivity, competitiveness and working conditions by upgrading production systems and factory practices.

FIT has been developed to be a sustainable, time- and cost-efficient option for supporting factories to enhance productivity through improved business practices and working conditions. FIT focuses on areas of production improvement and actions to be taken specific to each participating factory. It can be utilized as stand-alone learning tools or to complement other training programmes.

With each module lasting no more than 2.5 hours, FIT enables factories to train personnel, whilst minimizing interference with production realities. The easy-to-use methodology makes it possible to rapidly scale the implementation to reach a large cohort of trainees across multiple production facilities.

Working in small groups, participants review real-life situations and engage in discussions to determine improvements to be made in factory without an external trainer or specialist. This self-facilitated, activity-based and highly participatory learning approach positions participants as both student and teacher and makes the toolset self-tailored to the needs and interests of each group.

About this module

This FIT module on Finishing garments is a training for garment manufacturers to improve finishing operations. Participants will work on receiving, stain removal, pressing, and garments storing in the finishing room. This module takes about 2 hours to complete.

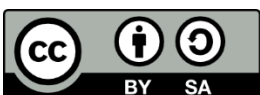
Upon completion of the training, participants should have:

- Discussed the finishing process.
- Learnt how to improve stain removal and pressing activities to reduce defects, improve quality, and become more efficient.
- Discussed good storage practices that ensure quality and efficiency in the finishing room.

The **Factory Improvement Toolset** of the **International Labour Organization (ILO)** are developed and provided by the ILO's **Enterprises Department**.

Authors: Alix Machiels, Sara Andersson, Charles Bodwell, Jayantha R. de Silva.

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Guidelines for successfully using the training tool

Read out-loud

The FIT tool is designed for participants to take turns reading the instructions in the modules out loud to the group. At least one member of the group should be selected in the beginning of the session to take this responsibility.

Work as a group

Always work in groups of 5-7 during a FIT session. The programme will not be successful if participants work independently or do not collaborate with each other.

Be active

Encourage everyone in the group to actively contribute to the discussion. Ensure that no group member dominates the discussion or does not participate at all.

Monitor the time

Select one member of the group to monitor the time for each activity and remind the group when it is time to move to the next exercise.

Complete the action plan

Complete the action plan at the end of the session. This will help ensure that FIT results in improvements in the factory. Review the plan a while after the session to make sure that actions in the plan has been completed accordingly.

Icons

A set of icons is used throughout the modules to provide easy to recognize reference points for different tasks within each session and activity.



Read out loud

One member of the group should read out loud to the rest of group.



Knowledge link

Knowledge and skills are linked to other FIT learning resources and support.



Time allotted

Indicates how much time each sessions and activity should take.



Supplies needed

Indicates that supplies may be necessary to complete the session.



Begin step-by-step instructions

Indicates that the step-by-step instructions for an activity are beginning.



Think about it

Indicates additional information for the participants to think about.

Measuring your performance

Measuring operational efficiency is a key aspect of running a productive factory. The box(es) below guides you in understanding which measurement indicator(s) can be used to measure and evaluate the performance of your factory in relation to the topics covered in the FIT finishing operations series.

Indicator 1	Defect per hundred units - DHU (%)
Definition	The amount of defects found in average per 100 inspected pieces or garments. The lower the DHU, the higher the quality in your factory. It can be calculated separately for each line, or for all lines together.
Purpose	To understand quality in your finishing room, set a quality improvement target, and begin to identify ways to reduce defects and improve garment quality.
Calculation	$(\text{total \# defects found} / \text{total \# of pieces or garments inspected}) \times 100\%$ <p>Notes:</p> <ul style="list-style-type: none"> • It is better to calculate this separately for in-line and end-line inspections. • If only the end-line calculation is taken but in-line inspection is also recorded, add defects found in in-line and end-line, however, do not add up garments inspected at in-line (only take the end-line count).
Frequency	Calculate daily (for each line or all lines), then calculate a monthly average.
Responsible	Finishing room manager / Line supervisor / Quality checker

Indicator 2	Shipment audit passing rate (%)
Definition	The proportion (percentage) of shipment audits (or buyers' audit) that your factory passed on the first trial (the first time the audit was conducted).
Purpose	To understand the quality of your production operations, set a quality improvement target, and begin to identify ways to improve garment quality in the factory.
Calculation	$(\text{\# of shipment audit passed the xth time} / \text{total \# of shipment audits}) \times 100\%$ <p>Note: $\# \text{ of shipment audits passed} = \# \text{ of shipment audits passed on the first trial (the first time the audit is conducted)}$ Similarly, the factory must also calculate the shipment audits passed 2nd time and so on</p>
Frequency	Calculate monthly.
Responsible	Finishing room manager / Shipping clerk



Session 1

Business case study

Goals

Preparing you for the type of discussions you will have with other group members throughout the learning module and understanding the benefits of being exposed to different perspectives.

Understanding better why good finishing practices is important in the factory.

Session 1

Overview



One member should read the full session out loud to the rest of group



15 minutes



Learning manual, pens, markers and poster paper

A business case study presents a real-life situation for learners to reflect on and discuss with other group members. By discussing the case, students learn from others' ideas and perspectives, and develop an understanding of the topic at hand within the workplace.



One group member reads the case study out loud



The whole group discusses the case study



Everyone develops a deeper understanding of the topic

Activities

Activity

1



15 minutes

Case study review and respond

The case study below presents a situation that could happen in real life.



Instructions:

- 1) As a group, listen to one member read the case study below while following along in your learning module.

Rani is a new finishing manager at the HS factory. She oversees all finishing operations. A unit of workers is responsible for cutting loose threads, which takes time and money. Stain removal is carried out by spraying, and workers complain of respiratory problems. Checkers report a large amount of pressing defects, such as burn marks and colour bleeding. Finally, garments are stored wherever there is space on the floor in between work stations. As a result, they get dirty again after stain removal, damaged, or sometimes misplaced, delaying packing.

To improve finishing operations, Rani makes several changes. First, she consults with the mechanics, and they adjust sewing machines so that threads can be cut directly in the lines after each operation. Then, she sets up new safety and quality guidelines. Ventilation is improved. Stain removers have to wear protective masks. Pressers are trained in good pressing practices, and on how to adjust heat and moisture (steam) depending on fabric type. Special areas are drawn on the floor to store garments in between finishing sections. Garments are stored in trolleys or on hangers (on rails) to avoid damage.

Thanks to these changes, garment quality improves as defects are reduced. Garments are finished faster as thread cutting time is removed, and re-work time reduced. The finishing room is also more orderly, and garments do not get misplaced, lost or damaged anymore.

- 2) Together, discuss Rani's situation by answering the three questions in table 1 on the next page.

Table 1. Questions about Rani's situation

1. What problems has Rani identified? What impact do these problems have on the factory and its workers?

2. What does Rani do or change in order to solve these problems?

3. What are the results of Rani's solutions for the factory and its workers?

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Session 2

Learning about the topic

Goals

Understanding the finishing process and discussing your own finishing operations.

Learning good practices for thread cutting, button attaching and stain removal.

Discussing pressing operations, and how to maintain quality throughout finishing operations.

Discussing good practices for storing garments in between finishing operations.

Session 2

Overview



One member should read the full session out loud to the rest of group



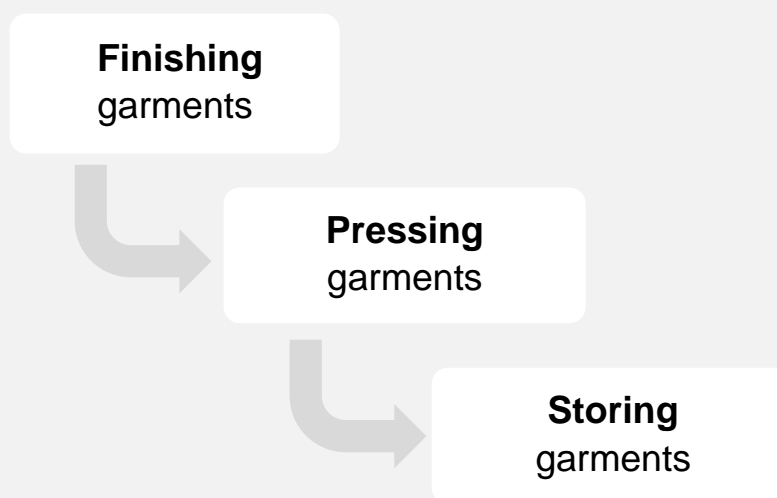
95 minutes



Learning manual, pens, and markers

This training module aims to help you improve your finishing operations by focusing on important finishing tasks – receiving, finishing (stain removal, pressing), and storing. Finishing operations are crucial to ensure good quality and look of the garments before packing and shipping. They can be carried out in-line (extended sewing lines), or in a finishing room.

Throughout this module, you will work on the three steps below.



First, you will discuss the finishing process in your factory. Then, you will discuss finishing operations and how to improve stain removal and garments pressing. Finally, you will discuss good practices for storing garments in between finishing operations.

Activities

Activity

2a



10 minutes

The finishing process

Finishing involves a series of activities to make a garment look and feel complete for customers. In this activity, you will discuss your finishing process.



Instructions:

- 1) Together, read through the list of finishing operations in table 2, and put them in the right order. Solutions are at the bottom of the page.
- 2) Together, discuss: Does your finishing process involve the same steps as in the table below? What is different?

Table 2. Finishing garments

Stain removal, Folding, Dispatching (shipping), Washing, Needle detection, Tagging, Cartoning, Button attaching, Warehousing, Ironing, Final inspection & alterations, Packing, Receiving garments from sewing, Checking & thread cutting.

#	Operation	#	Operation
1		8	
2		9	
3		10	
4		11	
5		12	
6		13	
7		14	

Solutions: Receiving, Washing, Checking & thread cutting, Needle detection, Button attaching, Stain removal, Final inspection, Ironing, Tagging, Folding, Packing, Cartoning, Warehousing, Dispatching.

Activity

2b



20 minutes

Finishing garments (1)

Received garments undergo several **finishing operations** before packing and shipping – button attaching, washing inspection, thread cutting (trimming loose threads), stain removal, and pressing. In this activity, you will discuss initial finishing operations.



Instructions:

- 1) Have a participant read aloud the information on needle detection in table 3, then discuss:
 - Do you do needle detection in your factory? Are (broken) needles found often?
 - What could you do to minimize risks of (broken) needles being left in garments?
- 1) Together, discuss:
 - Why is button attaching carried out after washing?
 - Do you inspect garments for defects after washing?
- 2) Together, discuss: Do you carry out thread cutting in your finishing room? Why or why not? Then, have a participant read aloud the text box below.

Table 3. Needle detection

Needle detection after packing is a mandatory process for garments that are going to be exported. It is carried out between sewing and finishing, to detect needles or broken needles being left in garments by mistake and causing injury to customers.

All 100% of garments must go through detection. It is important to invest in good quality detectors and maintain them regularly. Old or overused detectors could be set off by trims for example, or fail to detect a needle – causing you to lose time, or potentially causing harm and a buyers claim / discount.



Nowadays, most sewing machines can **cut threads** directly after sewing (underbed trimmer – it can be added to most older machines). This saves time and costs in the finishing room. If you do thread cutting in your finishing room, consult with line supervisors and sewing room mechanics, and train operators to cut the threads directly in the lines.

Activity

2c



20 minutes

Finishing garments (2)

Received garments undergo several **finishing operations** before packing and shipping – button attaching, washing inspection, thread cutting (trimming loose threads), stain removal, and pressing. In this activity, you will focus on stain removal.



Instructions:

- 1) Together, look at the common types of stains in table 4, and circle the ones that are common in your factory.
- 2) Together, list for each type of stain the products you use to remove them in table 5 (right column). Then, discuss for each product:
 - How do you use this product (brush, press, spray)?
 - Are workers adequately protected (breathing, skin or eye contact, etc.)?
 - Do you use different products depending on fabric colour?
- 3) Have a participant read aloud the scenario in table 4. Then, together, discuss the three questions below the scenario.

Table 4. Removing stains

Type of stain	Removal method
Oil spots	
Dirt spots	
Chalk marking	
Colour bleeding	
Ink stains	
Rust stains	
Yellow stains	
Ballpoint pen markings	

Table 5. Scenario

Scenario:

Rani has a chat with workers who are assigned to the stain removal section. They explain that the most common types of stains are dirt stains, ballpoint pen stains, and colour bleeding stains. Colour bleeding stains are the hardest to remove, and it can damage the garment or cause it to turn yellowish.

1. What could be the causes behind these stains? Why do they occur and where (which stage of the process)? Brainstorm.

2. If you were Rani, what would you do with this information in order to increase quality and reduce stain removal costs and time?

3. Which issue should Rani address in priority?

Activity

2d



25 minutes

Pressing garments

Pressing garments using heat, moisture (steam) and/or pressure is used to either remove creases, or create permanent creases in the garment. In this activity, you will discuss different pressing types and how to ensure quality and safety.



Instructions:

- 1) Together, look at the four types of pressing in table 6, and match each type with the type of garments it should be used for. Solutions are at the bottom of the page.
- 2) Together, look at the list of good pressing practices in table 7, then put a ✓ in the column on the right if you do it in your factory. Then, discuss: How to improve pressing in your factory?
- 3) Together, look at the list of common pressing defects in table 8. Discuss, and circle those that are common in your factory.
- 4) Pressing defects are due to inadequate pressure, heat or moisture. Together, identify cause(s) in table 8 by writing each defect number next to its cause(s). Solutions are at the bottom of the page.

Table 6. Pressing garments

Pressing type	Garment / fabric type
1. No pressing: No pressing at all is required.	
2. Minimum pressing: <u>Heat</u> is applied but there is no need for pressure.	
3. Final pressing: Both <u>heat and pressure</u> are applied to remove creases and flatten seams.	
4. Permanent pressing: Both <u>strong heat and pressure</u> are applied to create permanent creases.	

Solutions: 1. Knit fabric, underwear or stretch garments; 2. Knit fabric, single ply garment, synthetics; 3. Woven fabric & cotton; 4. Woven fabric, garments requiring pleating or creasing, denim.

Table 7. Pressing garments

Good practices	✓
1. Test-press a garment before pressing the whole batch to avoid unexpected defects. This can be done during sampling.	
2. Workers should wear protective equipment (or cover themselves) to avoid burns. Have a first-aid kit ready in the pressing area in case of burns.	
3. Press seams towards the back of the garment, and from the wide to the narrow part (for example, from the hem to the sleeves).	
4. Install sleeve boards for workers to press curved parts (sleeves, trousers legs) more easily and evenly.	
5. If possible, press the back side (inside) of the garment rather than the front side (outside).	
6. Use a pressing cloth to protect delicate fabrics from burning, taking on marks or too much moisture, or giving off shine.	
7. Make sure the ironing board / table is free of lumps and folds to avoid fabric taking or marks. Keep the iron plate clean and scratch-free.	

Table 8. Preventing defects

1. Burn or scorch marks	7. Seams not aligned
2. Shine marks	8. Uneven creases
3. Press marks	9. Colour bleeding
4. Watermarks	10. Melting of the fabric
5. Products moist after pressing	11. Shrinking of the fabric
6. Twisted or distorted garment	12. Decolorized patch
Cause	Defects #
a. Temperature is too high.	
b. There is too much moisture .	
c. Pressure is too high or inadequate.	

Solutions: a. 1-3-10, b. 4-5-9-11-12, c. 2-6-7-8.

Activity

2e



20 minutes

Storing garments

During finishing, garments are **stored** in between sections or work stations, until they are packed and warehoused. Good storing helps avoid mistakes, damage, or losses. In this activity, you will discuss good storing practices.



Instructions:

- 2) Together, discuss: How and where do you usually store garments in between operations in your finishing / sewing room?
- 3) As a group, read through the list of good practices in table 9, and put a ✓ in the column on the right if you do it in your factory.
- 4) Together, look at the two pictures in table 10. For each, discuss: Is it good or bad storage? Why?

Table 9. Storing garments

Good practices	✓
1. There are specific areas to store work in progress in between sections, clearly indicated on the floor using yellow or white paint markings.	
2. Garments are stored at the start of the line or section to which they will be fed (pressing for example).	
3. Materials are stored in trolleys, on tables, or on rails (with hangers). They should never be stored on the floor, even temporarily.	
4. Finished garments are clearly separated from work-in-progress and defective garments to avoid confusion (different racks, different colours).	
5. Garments are never stored in the alleys or paths in between lines, sections or tables to avoid any obstruction.	
6. Only garments to be finished or packed should be stored in the finishing room to avoid work-in-progress or garments piling up.	
7. Avoid exposing garments to natural light to avoid them getting damaged (e.g. discoloration, mould, etc.).	

8. Keep the finishing room clean and tidy, and have measures to avoid rodents and pests from entering it.

9. Keep the finishing room well-ventilated (especially in the pressing section) to dispel chemical vapours, and avoid high temperatures and humidity.

Table 10. Good or bad?



Good or bad storage? Why?



Good or bad storage? Why?

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Session 3

Action items

Goals

Summarizing and revising the new knowledge gained.

Identifying concrete applications of the new knowledge that benefit your factory.

Session 3

Overview



One member should read the full session out loud to the rest of group



20 minutes



Learning manual, pens, and markers

Throughout this module, you gained new knowledge on how to perform several finishing and pressing operations, and store garments in the finishing room.

Finishing
garments

Pressing
garments

Storing
garments

In this session, you will think of ways to apply your new knowledge to improve garment finishing in your factory by reviewing best practices and drafting your own action plan.

Activities

Activity

3a



5 minutes

Best practices checklist

In this activity, you will review best practices for finishing garments as a next step for evaluating your own and implementing improvements.



Instructions:

- 1) Together, look at the list of best practices in table 11, and put a ✓ in the column on the right if you use these practices in your factory.

Table 11. Finishing garments

Best practices	✓
1. Thread cutting / trimming is carried out directly in the lines rather than in the finishing room.	
2. Stain removal is done safely for workers, and their input is sought after to evaluate how to minimize stains throughout the production process.	
3. Pressers understand pressing defects and are trained on adjusting heat, pressure and moisture to avoid them.	
4. Garments are stored in a clear and organized way that prevents them from getting damaged.	

Activity

3b



15 minutes

Your action plan

In this activity, you will think of ways to apply your new knowledge to improve garment finishing in your factory by drafting your own action plan.



Instructions:

- 1) Together, fill in the action plan (table 12) on the next page. Identify a key problem that you want to solve and write down the solutions you identified while working on this module.

Table 12. Finishing garments – Action Plan

Problem identified				
Solutions identified	Action(s) to be taken	Person responsible	By when?	How will improvements be measured?

Finishing garments

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FIT is being piloted in Asia under the regional Decent Work in the Garment Sector Supply Chains in Asia project funded by the Government of Sweden.

Decent Work Technical Support Team for East and South-East Asia and the Pacific

United Nations Building, 10th Floor
Rajdamnern Nok Avenue,
Bangkok 10200, Thailand
Tel.: 662 288 1234 Fax. 662 288 3058
Email: BANGKOK@ilo.org



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