International Labour Organization

Storing materials

Storeroom operations

Factory Improvement Toolset

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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 Storing materials is a training for garment manufacturers to improve storeroom operations. Participants will work on improving storing techniques and methods, using the FIFO storage system when applicable, and caring for materials better. This module takes about 2 hours to complete.

Upon completion of the training, participants should have:

- Understood and mastered good storage practices.
- Understood how, why to use the First In First Out (FIFO) system – for standard items.
- Understood how to take better care of stored materials to avoid material waste.

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

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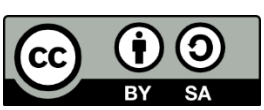


Guidelines for successfully using the training tool

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 series on storeroom operations.

Indicator 1	**Space utilization (%)**
Definition	The proportion of space (floor + shelf surface) that is occupied by materials and other items (carts, machines, etc.) in your storerooms.
Purpose	To understand how efficiently space is used in your storerooms, and identify how you could improve storage efficiency while ensuring employees' safety. Both very low and very high space utilization is inefficient. It should not go above 85%.
Calculation	(# surface occupied in *sqm* / total surface of the stores in *sqm*) x 100% Surface occupied = floor surface + shelf surface occupied by materials or others Total surface = floor surface + shelf surface available in the stores Shelf surface: e.g. a 3sqm shelf with 4 levels counts for 12sqm!
Frequency	Calculate every 6 months, or once a year.
Responsible	Storeroom manager

Indicator 2	**Average material retrieval time (Mins)**
Definition	The average time (in minutes) that it takes for a storeroom worker to find, retrieve and prepare materials from the stores for issuing.
Purpose	To understand how well-organized and orderly your stores are (or how good your storage system is), and begin to identify how you could further improve organization and make storeroom operations faster and more efficient.
Calculation	Time how long it takes for a worker to locate, retrieve and prepare all items for a specific requisition. Record this for each requisition (trims and fabric separately) and calculate the average weekly, then monthly.
Frequency	Calculate monthly.
Responsible	Storeroom manager

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 storing materials systematically 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.

Sita is a new store manager at the HS garment factory. During her first week at the factory, Sita notices a few issues with materials storage. Materials are not stored according to any system or categories. Fabric rolls are stacked on top of each other without consideration for colour, dye lot, width, etc. As a result, workers lose time opening boxes or cutting packaging to check contents during storing or issuing. This also exposes materials to light and dust, which gets them damaged faster. Because of the poor storage system, materials also get mixed up, and storerooms helpers lose a lot of time looking for the right materials to be issued.

To solve these problems, Sita makes several changes. First, she organizes the fabric storage area by buyer and style, then by colour, dye lot, and width. Then, workers are trained to store and issue fabric rolls according to this system as per requisition. Sita also draws a layout of the storage areas and hangs it visibly in different places for workers to use.

The changes ensure workers know where to store each new piece of material, and where to find them when issuing materials. This saves them a lot of time, and avoids damaging the fabric rolls, which saves the factory a lot of unnecessary costs.

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

Table 1. Questions about Sita's situation
1. What problems has Sita identified? What impact do these problems have on the factory and its workers?
2. What does Sita do or change in order to solve these problems?
3. What are the results of Sita's solutions for the factory and its workers?

This page has been intentionally left blank and can be used for note taking.

Session 2

Learning about the topic

Goals

Discussing the different steps involved in the raw materials storing process.

Identifying good storing methods.

Learning how to use the FIFO storage system for standard items in storage.

Discussing how to take better care of stored materials.

Session 2

Overview

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

80 minutes

Learning manual, pens, and markers

This module aims to help you improve the way your storeroom operates by focusing on storage systems. Storing in a more organized, efficient, and caring way will help you save a lot of time, and avoid unnecessary costs by reducing waste of expensive material. Throughout this module, you will go through the three steps below.

Storing materials efficiently

Using the FIFO storage system

Caring for stored materials

First, you will discuss the material storing process. Then, you will learn more about efficient storing practices and how to use the First In First Out storage system. Finally, you will discuss how to care for and protect stored materials.

Activities

Activity
2a

15 minutes

The storing process

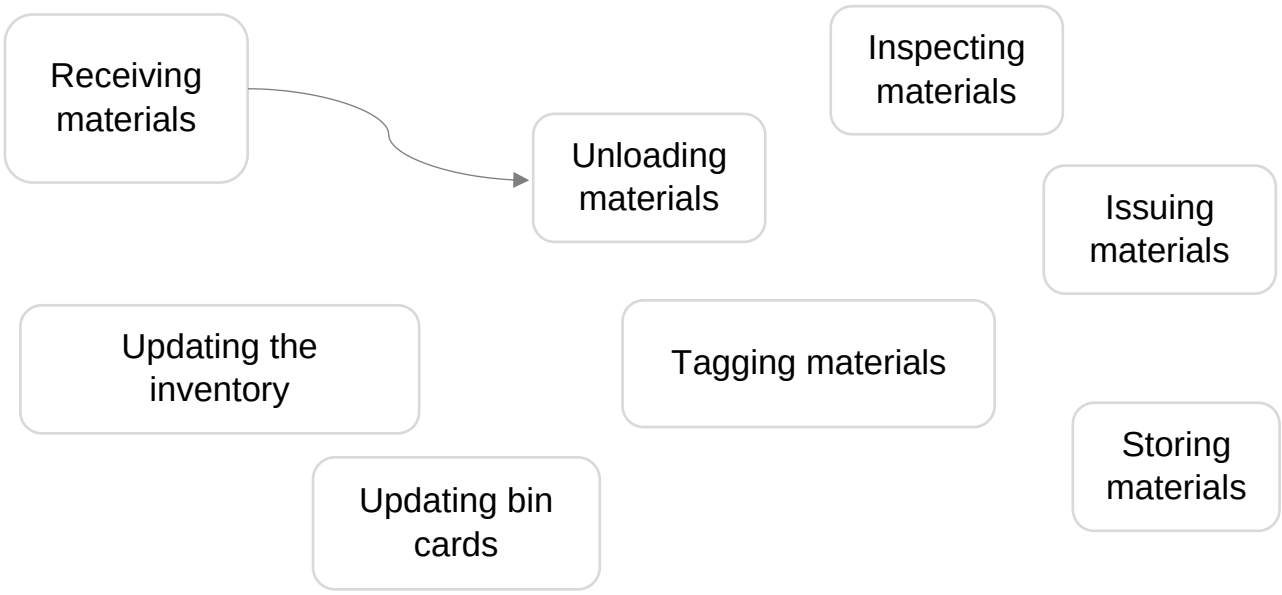
Storing materials involves several important actions. Good storing practices help you save time, and avoid material waste or damage. In this activity you will discuss your storing process.

Instructions:

1) Together, look at the steps of the storing process in table 2, and put them in what you think is the right order using arrows. Solutions are provided at the bottom of the page.

2) Together, discuss: Does your storing process involves the same steps as in the table below? Do you think it should? Why / why not?

Table 2. The storing process



For more guidance and information on the steps of the storing process, ask your facilitator for the “Receiving materials”, “Inspecting materials”, “Record-keeping” and “Issuing materials” modules.

Solutions: Receiving, Unloading, Tagging, Inspecting, Storing, Updating bin cards, Updating the inventory, Issuing

Activity

2b

20 minutes

Storing materials efficiently

There are several things you can do to **store materials** in a more organized and convenient way. In this activity, you will compare different practices and identify the best ones.

Instructions:

1) Have a participant read through the eight storing tips in table 3.

2) Together, read through table 4, and for each pair (line), tick the option which you think is right (or the best one). The solutions are provided at the bottom of the page.

3) Together, discuss: What should you do with leftover (excess) fabric? Write down your ideas in table 5.

Table 3. Tips for storing better

1. Storing materials on solid, quality vertical shelves helps you save space. For security reasons, avoid storing higher than 8 feet.
2. Store small trims (e.g. needles) in small chest of drawers and label each drawer to avoid any confusion.
3. Colour markings help you identify specific areas for storing different materials (for example, trims area, fabric area, excess fabric area, etc.).
4. Store trims and fabric by buyer and style first, so that there is no possibility of mix up of orders, styles and materials.
5. After buyer and style #, store trims by type (e.g. buttons), colour, and size, and store fabric by colour, dye lot, and width.
6. Keep leftover fabric packaged and tagged in a specific section of the warehouse, or in a container in the yard reserved for this purpose.
7. Use bin cards (see below) to keep track of stock for each material. Update cards every time materials come in or out. Hang cards on the corresponding storage shelf.
8. Make aisles wide enough to use the necessary equipment (ladders or Forklift) to move items safely, and keep aisles clear at all times.

Table 4. Storing efficiently and safely		
1.	☐ Invest in quality, solid shelves / racks	☐ Use cheap shelves to save money
2.	☐ Clearly label trim boxes, bags, packs	☐ Clearly label each trim piece
3.	☐ Leave enough space in the aisles to easily move materials	☐ Make the aisles as narrow as possible to save space
4.	☐ Use the aisles to store objects / tools	☐ Keep the aisles clear of any object
5.	☐ Store fabric rolls by buyer first	☐ Store fabric rolls by colour first
6.	☐ Store trims by item type first	☐ Store trims by buyer first
7.	☐ Use colour codes to differentiate between raw materials, materials to be inspected, and defective materials	☐ Use labels to differentiate between raw materials, materials to be inspected, etc.
8.	☐ Use purchase orders to keep track of materials coming in and out	☐ Use bin cards to keep track of materials coming in and out
9.	☐ Use one bin card for each item	☐ Use one bin card for each shelf
10.	☐ Keep aisles clear of any object	☐ Park forklifts in the aisles so that they are ready to be used

Bin cards are forms that help you track how much stock you have for each particular item (trims and fabric) at any time. To learn how to use them, ask your facilitator for the “Record-Keeping” module.

Table 5. Leftover / excess fabric
Examples: Sell it to stock lot buyers; Give it as charity; Use it for counter samples; Sell it at concession to factory personnel; etc. What else……?

Solutions: 1. Invest – 2. Boxes – 3. Leave space – 4. Keep clear – 5. Buyer – 6. Buyer – 7. Colour codes – 8. Bin cards – 9. For each item – 10. Keep clear

Activity

2c

30 minutes

Using the FIFO system

Many factories use the **First In First Out** (FIFO) storage system for general items, such as pens, cleaning liquids, hangers etc. It can also be used for trims and fabric, after storing them by buyer and style, then by size, colour, type, etc. (as appropriate). In this activity, you will learn more about the FIFO storage system.

Instructions:

1) Have a participant read the FIFO system explanation in table 6 and make sure everyone understands. Then, together, discuss the two questions about the FIFO storage system in table 7.

2) Have a participant read aloud the three tips on how to implement the FIFO storage system in table 8. Then, together, discuss: How could you implement the FIFO storage system in your factory?

3) Together, discuss: How could the FIFO system be applied to trims and fabric after other storage considerations (buyer, colour, size, etc.)? You can draw or take notes to help your discussion.

4) After your discussion, have a participant read aloud the scenario in table 9 and make sure everyone understands.

Table 6. What is the FIFO system?

According to the **FIFO** system, the items that the factory bought first (items) are used first. So, the first items to enter the storerooms (First In) are also the first items to exit it (First Out). This is to avoid items getting left over or damaged / wasted by aging.

Example: Two identical **machine spare parts** are stored on different days. Delivery A is stored on January 16 and delivery B is stored on February 16. The first item to be issued for machine repair should be that of delivery A.

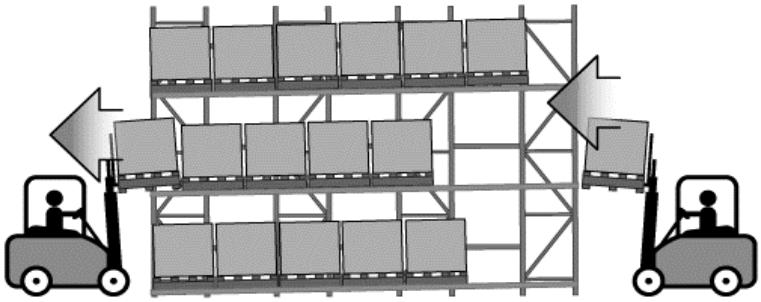


Table 7. Applying the FIFO system
1. How can the FIFO system help your factory save money?
2. How can you keep track of which items were received first or last (keep track of the receiving date)?

Table 8. Tips to implement the FIFO system
1. Make sure that the receiving date of each roll / box / pack is recorded (bin cards, inventory) and indicated on the materials itself (tag).
2. Store in a way that the first items stored are the first ones to be taken out (for example, store newer items behind / below older items, or use FIFO shelves).
3. Train workers to use the FIFO storage system when storing, and verify receiving dates when taking out materials from the storage areas.

Remember: For fabric and trims, the FIFO system must only be used when the exact same materials are received and stored on different days. Style, colour, width, size etc., must **always** be considered first.

Table 9. FIFO system for fabric rolls

In Sita's storerooms, there are different storage areas for different buyers. Each buyer area is divided into specific areas for different styles. Within each style area, rolls are divided by colour, and for each colour, rolls from one same dye lot are grouped together. In each colour & dye lot group, rolls of the same width are grouped together. Each roll has a tag attached to it, showing buyer, style#, colour, dye lot, width, and receiving date.

Storeroom worker Ajay needs to remove 1 roll for issuing. He finds the corresponding buyer area, then the correct style, colour, dye lot, and width area. There are 8 rolls corresponding to that description. Ajay picks the roll with the earliest receiving date, because out of 8 same rolls, that is the one that has been in storage for the longest.

Activity

2d

15 minutes

Caring for stored materials

Once the materials are stored, it is important to ensure that they stay in a **good condition** so that they don't lose value and quality. In this activity, you will discuss good practices in caring for materials.

Instructions:

1) Together, read through the list of actions to protect stored materials in table 10, and put a ✓ on the right if you do it in your factory. Then, discuss: What can you do to better care for materials in the stores?

Table 10. Caring for materials

Actions	✓
1. Keep the storage room clean at all times.	
2. Forbid smoking to avoid fires.	
3. Ensure good lighting while avoiding excessive exposition to natural light.	
4. Have measures to prevent pest and rodents from entering the storeroom.	
5. Have at least one extinguisher ready in case of fire.	
6. Maintain appropriate levels of humidity – use gauges.	
7. Maintain an appropriate temperature (the stores should not be too hot).	
8. Keep the materials packaged or covered.	
9. Never place materials on the floor, even if packaged or in storage bins. Always use racks or pallets.	
10. Store non-stretch fabric in a pyramid shape to avoid pressure on the rolls.	

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 improve storage practices, how and when to use the FIFO storage system, and how to store materials with more care.

Storing materials efficiently

Using the FIFO storage system

Caring for stored materials

In this session, you will think of ways to apply your new knowledge to improve the way you store raw materials 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 material storing practices 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. Storing materials

Best practices	✓
1. Materials are stored efficiently, safely, and in an organized way (examples: Specific sections, bin cards, colour codes, alley space, etc.).	
2. Shipment date is always considered first when storing new materials. Then, materials are stored by clear categories (colour, size, width, type, etc.).	
3. The FIFO storage system is used for standard items, and for fabric and trims after they have been stored by buyer, style and categories.	
4. Storeroom workers are trained to store all materials with care, following the agreed system.	
5. Storing conditions ensure that materials do not get damaged overtime (examples: Cleanliness, humidity, packaging, etc.).	

Activity

3b

15 minutes

Your action plan

In this activity, you will think of ways to apply your new knowledge to improve material storing practices in the stores 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. Storing materials – Action Plan

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

Storing materials

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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.

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