Detailed Factory layout and Process and Material Flow inside factory

Storage area, Production area, Office- working section, operator facilities (break room and bathroom) and Lab internal pad testing area. These are different section we have in our factory

**Key Zones in Factory**

***1. Storage Area:***

Purpose: To store all incoming raw materials and finished products.

Design: Fitted with metal racks/shelves and maintained under normal room temperature with good ventilation.

Separated sub-zones for: Banana fiber paper, non-woven cotton fabric rolls, PLA back sheet rolls, Silicon release paper with glue rolls, Finished products (bulk packed cartoon boxes)

**2. Production Area:**

Divided into two sub-sections:

* Banana paper Shredding and Fluffy absorbent core making machine
* Layer assembly with UV sterilization and packaging section

*Banana paper Shredder Machine:* Installed in the first section, cut banana fiber paper into 8x8 mm chips which is used to feed hopper fluffy absorbent core making machine.

*Fluffy absorbent core Making Machine:* Installed adjacent to the shredder machine; manually fed with pieces to form the absorbent core.

*Layer Assembly Machine:* Integrates all components- top layer, bottom PLA sheet, and absorbent core. Uses ultrasonic generator to seal every layer.

*UV Chamber:* Pads pass through this chamber post-assembly for sterilization.

*Packaging Table/Zone:* Pads are packed in PLA wrappers, grouped in 8s, and boxed into master cartons (100 boxes).

**3. Office - Working section:**

We have two small working room offices, where Sparsa manager and Engineer work

**4. Operator Facilities:**

This dedicated area is designed to support the well-being of machine operators and production staff. It provides a space for resting, changing clothes, and having meals during break times—ensuring comfort, hygiene, and a healthy work environment.

 **Production Process Flow**

1. **Raw Material Collection**
All raw materials are sourced expect banana fiber paper and stocked in the storage area.we have different supplier in different countries each layer, in case of banana fiber paper we have own factory which is in other location.
2. **Banana Fiber Paper**
Produced in a separate facility and transported to the pad factory where post process and assembly of layers take place. Proper packaging of banana paper is also important while considering the hygiene of the product.
3. **Top Layer (Non-Woven Cotton Fabric)**
Sourced from India in roll form. (35- 45 Grammage- gram per square meter)
4. **Barrier Layer (PLA Film)**
Eco-friendly, compostable material sourced locally in Nepal. (30 microns for single pad packaging and 40 microns for barrier layer of pad)
5. **Positioning Adhesive**
Comes as a layer between two silicon release papers, sourced from India.
6. **Core Production**
Banana fiber paper is shredded and processed through the mattress-making machine to form absorbent cores- Own raw material
7. **Layer Assembly & Sealing and cutting**
Layers are automatically assembled and sealed using ultrasonic sealing technology.
8. **UV Sterilization**
All assembled pads pass through a UV chamber to reduce bio burden specifically from top layer
9. **Packaging**
Each pad is individually packed with PLA wrapping (30 Microns Bio plastic), grouped into 8 pads per box, and placed into cartoons for bulk storage/distribution.

Note: You will have more information about each process in another building block of the same solution.