

TECH PACK - VERSION 1

LEL Heating

DRAPABLE CIRCUITRY FOR AN ENCHANTED WORLD.

TABLE OF CONTENTS

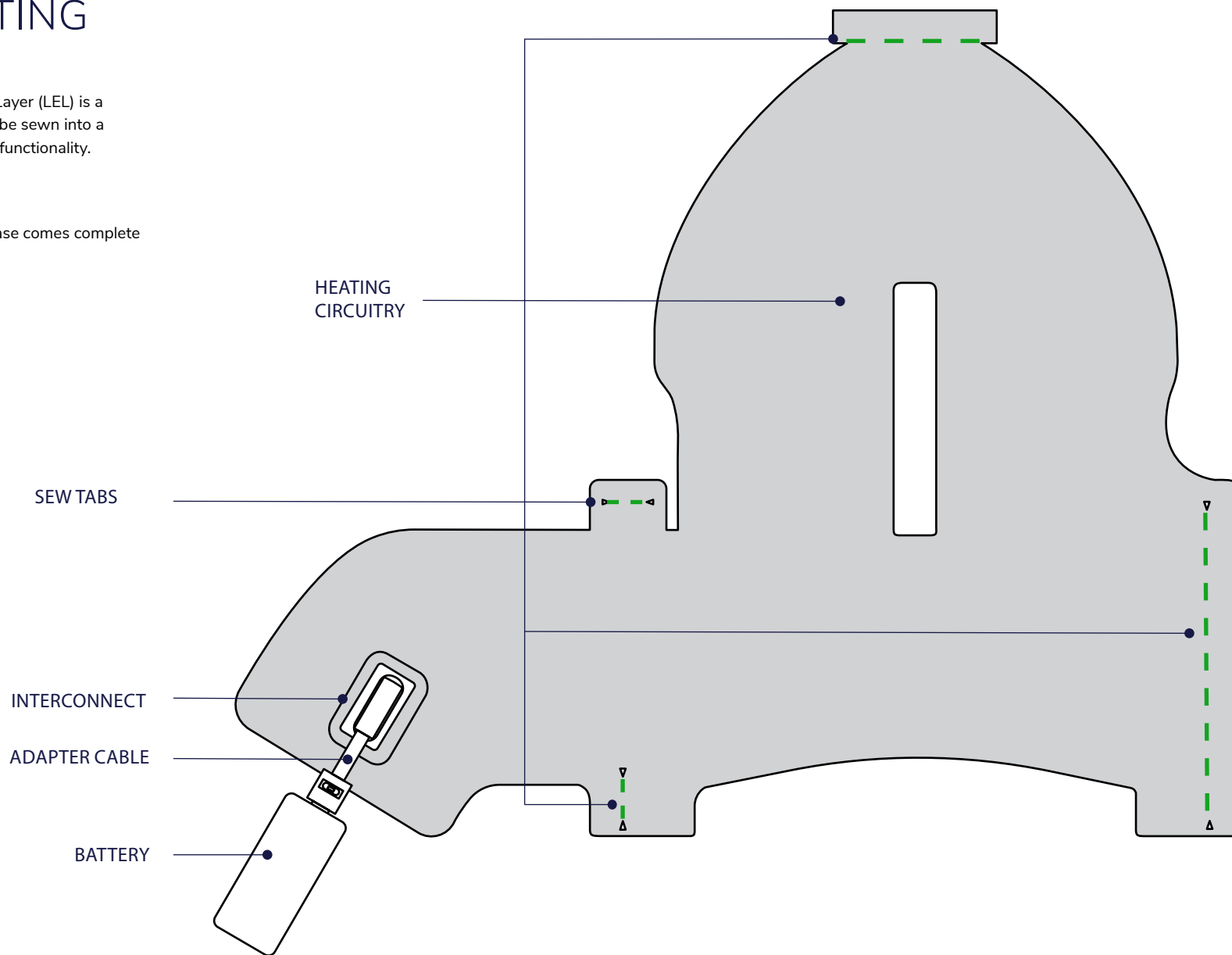
LEL HEATING PANEL	3
LEL OVERVIEW	4
SEW TABS	5
SEW WINGS	6
BUTTON INTERCONNECT	8
ADAPTER CABLE	9
LAYERING OPTIONS	10
SUGGESTED FABRICS	10
CO-BRANDING LABELS	11
HANG TAG INSTRUCTIONS	12
CARE LABELING	12
FIBER CONTENT DISCLOSURES	12
USER MANUAL GUIDELINES	13
PACKAGING AND POS	14

LEL HEATING PANEL

The LOOMIA Electronic Layer (LEL) is a drapable circuit that can be sewn into a garment to add heating functionality.

Each Heating LEL purchase comes complete with the following items:

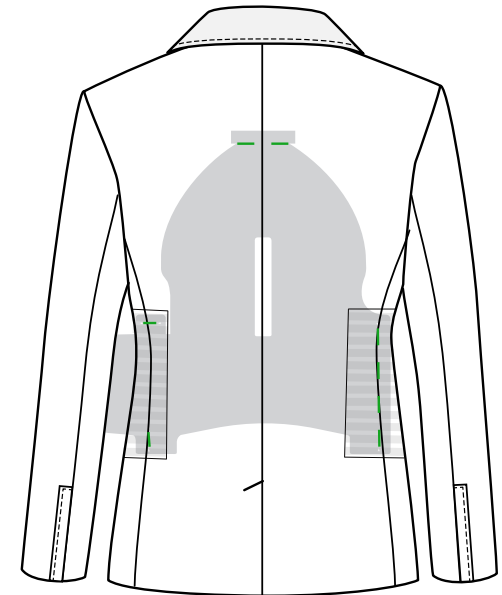
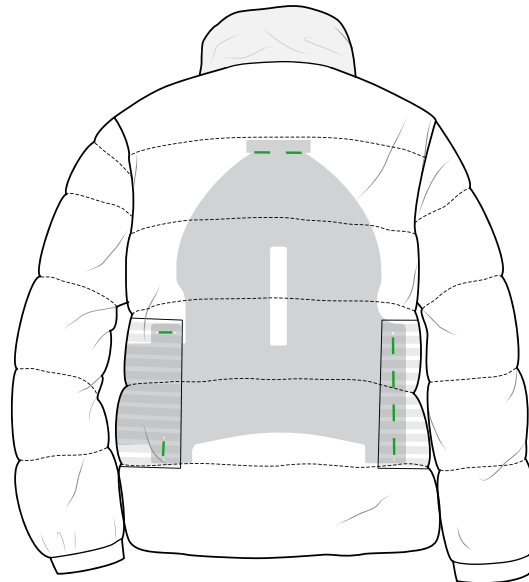
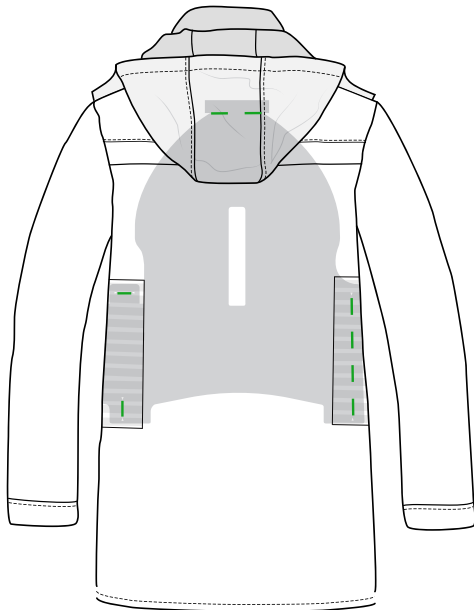
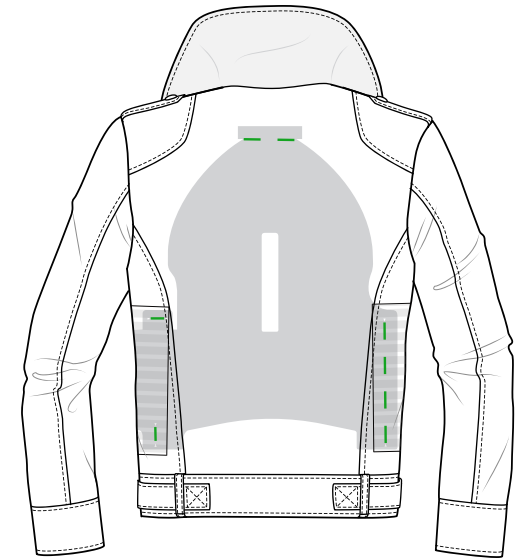
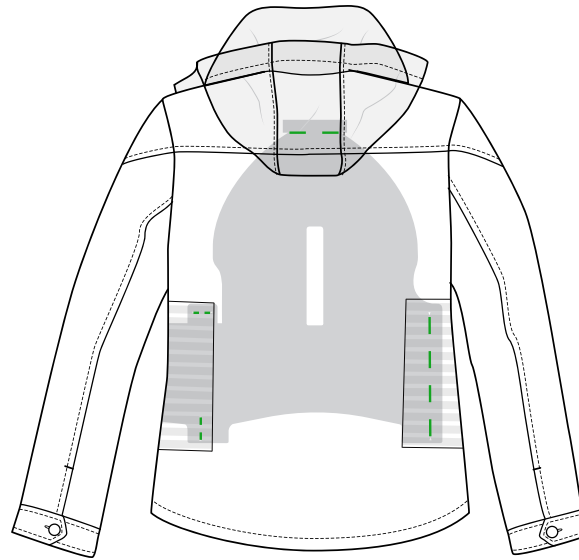
- 1.) Heating LEL
- 2.) Battery
- 3.) Adapter Cable
- 4.) POS Pouch
- 5.) Instruction Manual
- 6.) LOOMIA Sales Tags



LEL INTEGRATION OVERVIEW

LELs are designed to fit in a wide assortment of garment styles and sizes by using our sew tab (on the LEL) and sew wing (on the garment) system. The heating LEL is secured to the jacket by sewing the sew tabs to the sew wings along the indicator marks, shown here as a dotted line.

(See Sew Tabs on pg. 5 and Sew Wings on pg. 6 for more information)



SEW TABS






Our wire-free LEL is designed for quick integration. This is possible because of our sew tab and sew wing system.

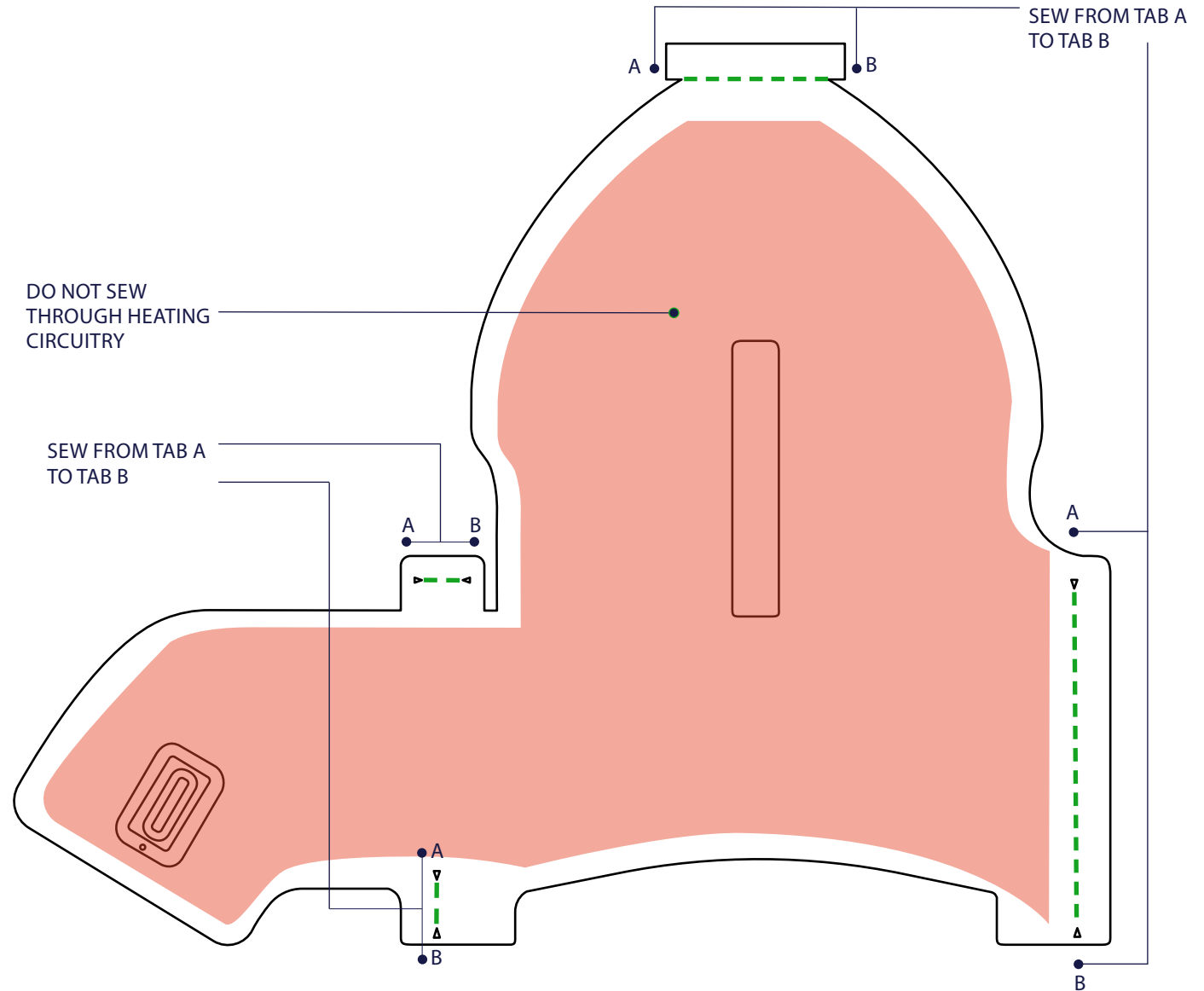
What is a Sew Tab?

A sew tab is a safe area of the LEL where there are no conductive elements. You can sew through these marked areas (marked with cut-out arrows) to attach the LEL to a wing inside of the garment.

How to Use Sew Tabs

Sew tabs should be sewn to sew wings (in the garment, covered on pg. 6) with a mid-sized stitch from one cut-out arrow to another. Make sure to back stitch to secure the LEL. **DO NOT sew through the element, or through areas where there are no sew tabs.**

KEY	
	Sew Tab
	Do NOT sew in this area
RECOMMENDED STITCH TYPES	
	Running Stitch
	Double Running Stitch
	Zigzag Stitch







SEW WINGS

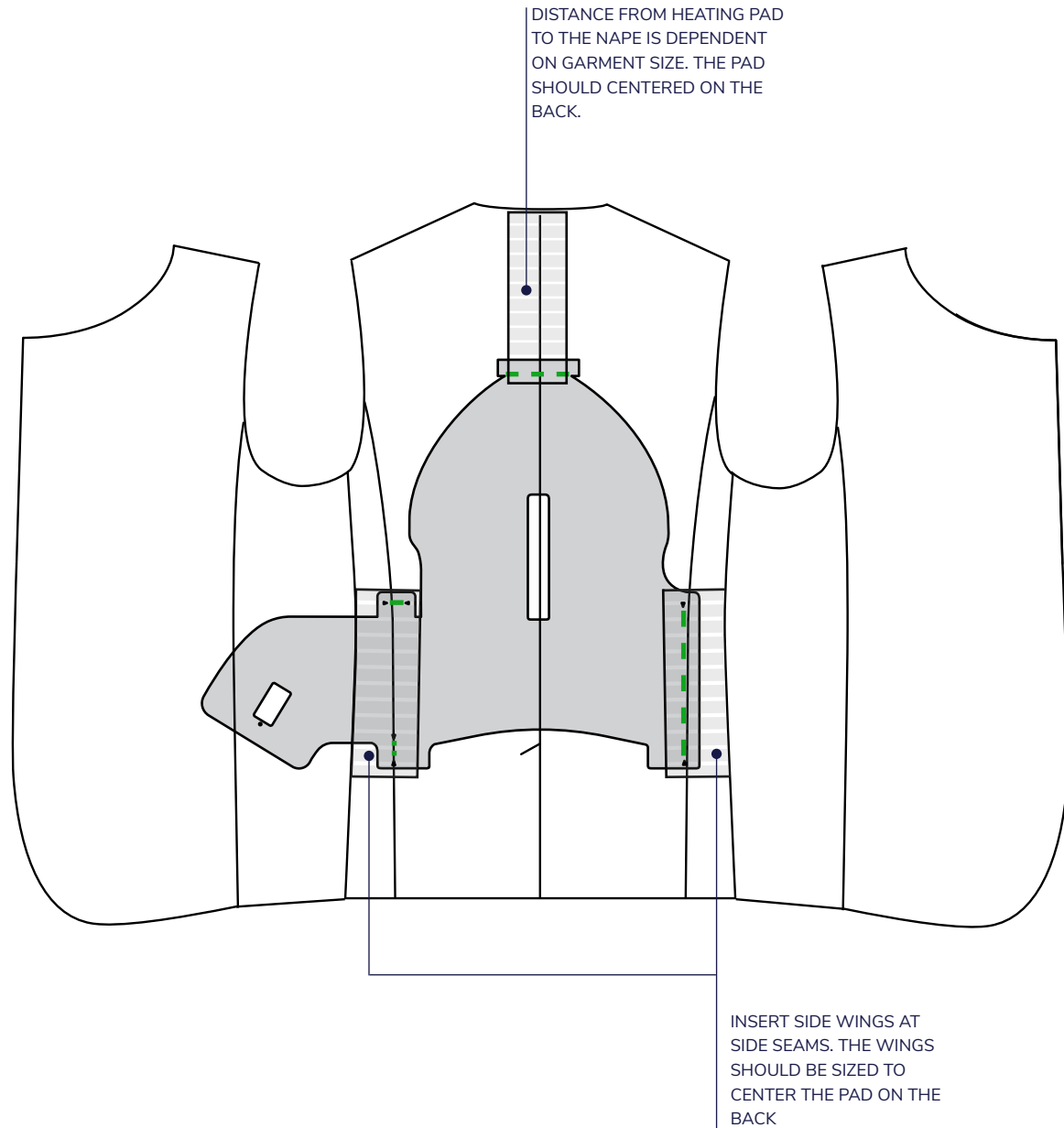
The LEL's sew tabs are attached to sew wings inside the garment to provide flexible sizing.

What is a Sew Wing?

Sew wings are a simple modification that can be added to any jacket in order to easily integrate the LEL. The wings can be included as either part of the jacket pattern, or as additional pieces sewn into the seam allowance of the jacket. We have an additional piece pictured here. We recommend attaching sew wings to the seam allowance of the garment shell, not the lining.

Sew wings should be located at the nape of the neck at the right hip and at the left hip. For different sizes, the sew wings will need to be wider to reach the LEL. During your lab process, we will work with you to develop the proper wing size and location.






KEY	
	Sew Tab
	Sew Wing
RECOMMENDED STITCH TYPES	
	Running Stitch
	Double Running Stitch
	Zigzag Stitch

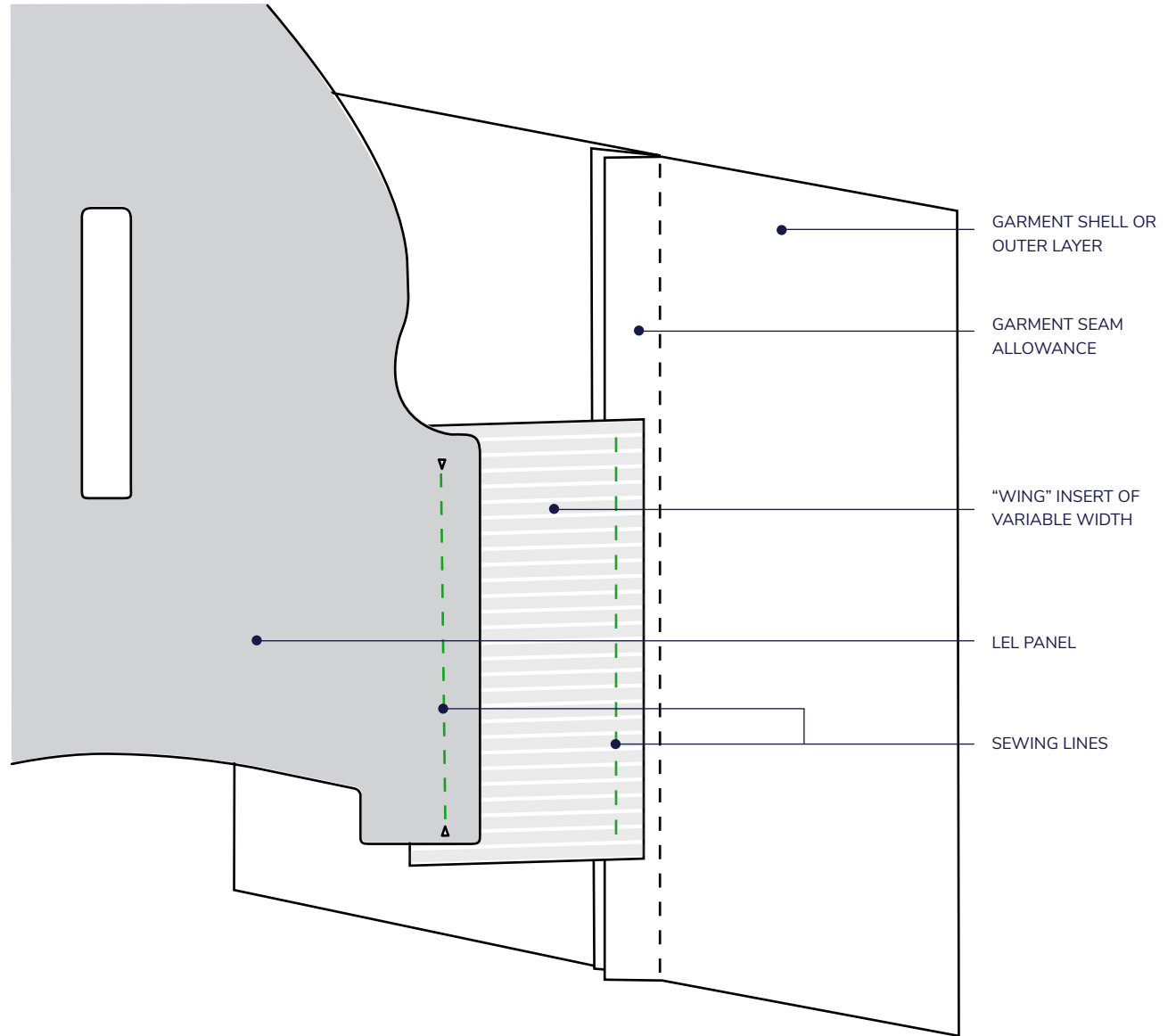


SEW WING + SEW TAB INTEGRATION

For production, the LEL should be attached to sew wings before the lining is closed. **We DO NOT recommend attaching the LEL to sew wings before the garment has been “flipped” to have right sides out.** Aggressive handling of the LEL to invert the garment can cause damage to the LEL.

HOW TO USE SEW TABS - Sew tabs should be sewn to sew wings (in the garment, covered on pg. 6) with a mid-sized stitch from one cut-out arrow to *-another. Make sure to back stitch to secure the LEL. **DO NOT sew through the element, or through areas where there are no sew tabs.**

KEY	
	Sew Tab
	Sew Wing
RECOMMENDED STITCH TYPES	
	Running Stitch
	Double Running Stitch
	Zigzag Stitch



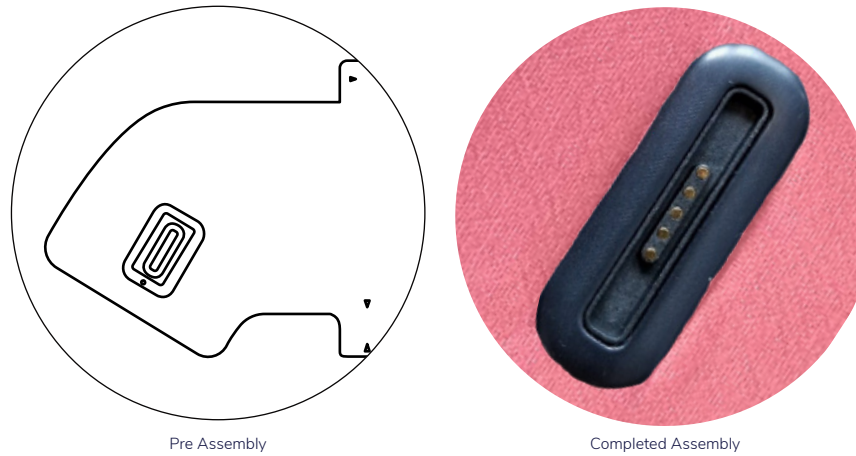
“BUTTON” INTERCONNECT

The interconnect is where the adaptor cable and battery pack plug into the LEL.

The Interconnect has been designed to work like a button. A button hole must be integrated into the garment to expose the Interconnect for the user. The button hole can be machine sewn, faced, piped or bound. For additional support, the hole can be glued to the LEL to ensure that the interconnect does not get lost between the lining and the outer.

Buttonhole Specs & Notes

With a French or chorded buttonhole, we highly recommend gluing the button hole to the interconnect for extra support. All button holes should be about 1.8” long. We do not recommend thick piping for the button hole as it may be too large to sit within the interconnect.

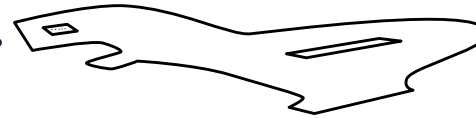


MATERIAL LAYERS IN ORDER OF APPLICATION

1. LINING WITH
BUTTON HOLE



2. LEL PANEL



3. INSULATION

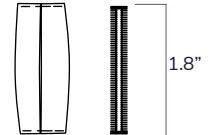


4. GARMENT
SHELL OR OUTER
LAYER



BUTTONHOLE NOTES

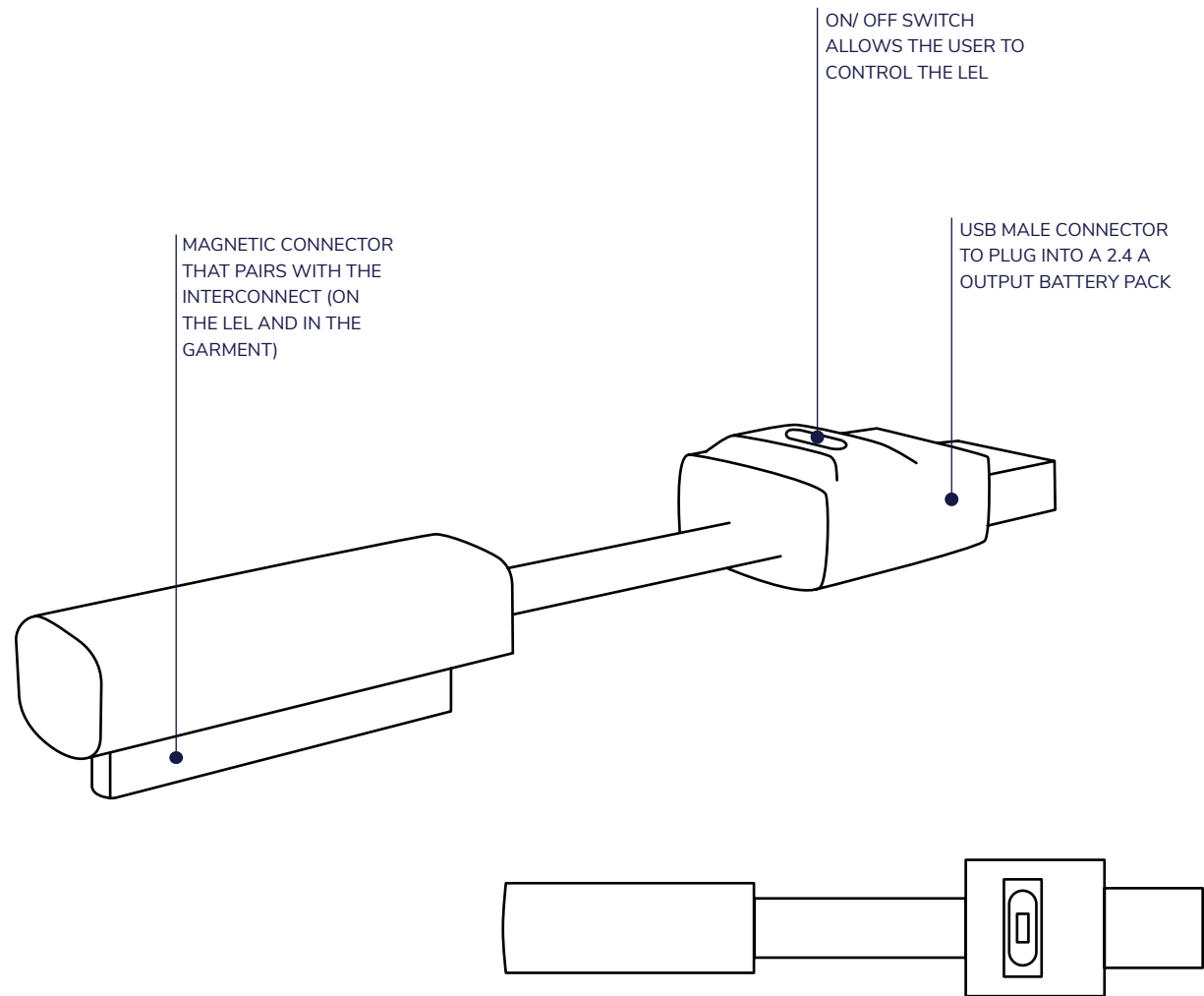
A French or chorded buttonhole holds the gasket firmly in place. Epoxy resin may be use for addition security
Button holes should be 1.8” long.



Adapter Cable

The adaptor cable is an accessory to the LEL that allows the LEL to be powered by any 2.4A output off the shelf battery pack.

We recommend attaching the adaptor cable to the jacket using a pouch for POS (further explained on pg. 14)



LAYERING OPTIONS

We always want the LEL to be as close to the skin as possible. When assembling a LEL enabled garment, ensure that the LEL is placed just behind the garment lining.

SUGGESTED FABRICS

GARMENT OUTER SHELL:

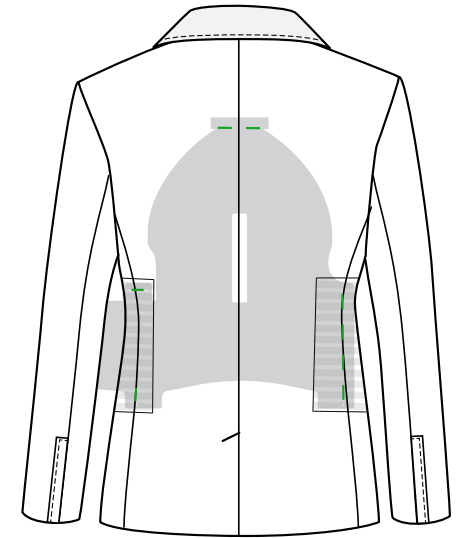
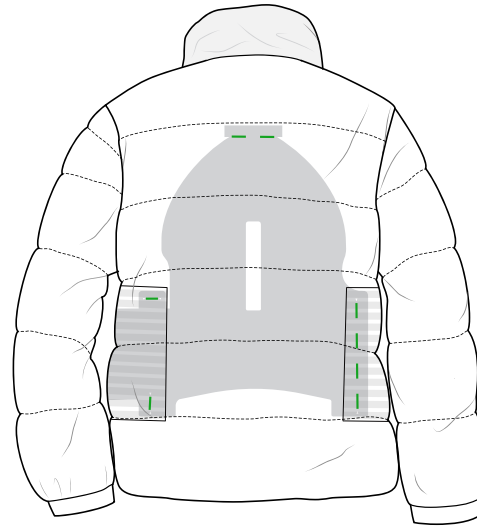
- Heavyweight Wool
- Thinner Fabric Quilted with Insulation (like Thinsulate)

LINING:

- Lightweight fabrics with more open woven or knit structures

ADDED INSULATION:

- Padded Insulation like Thinsulate or Primaloft



**MATERIAL LAYERS IN
ORDER OF APPLICATION**

1. LINING WITH
BUTTON HOLE



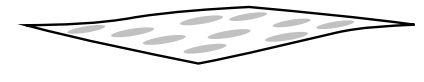
2. LEL PANEL



3. ADDED
INSULATION



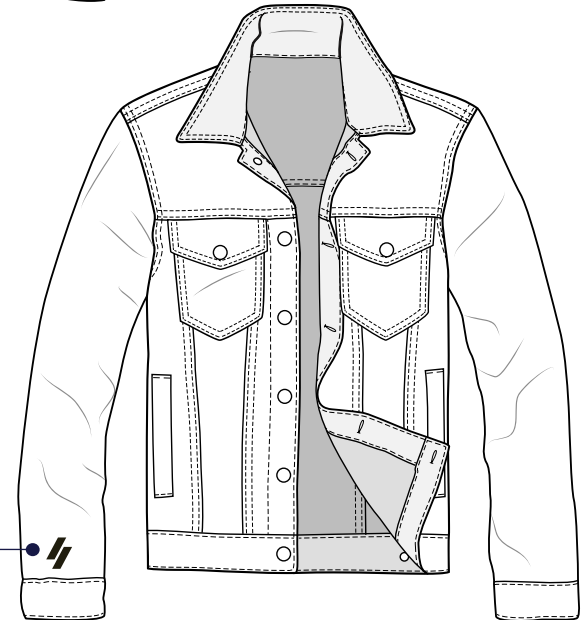
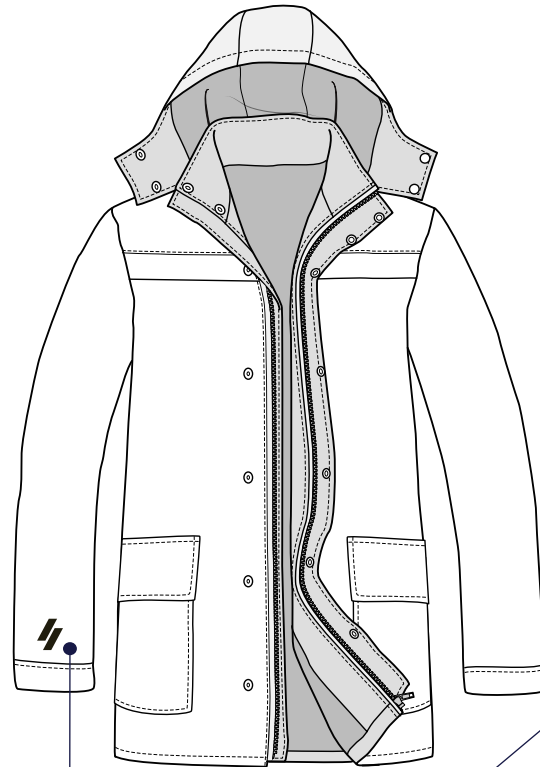
4. GARMENT
SHELL OR
OUTTER LAYER



CO-BRANDING LABELING

Garments carrying a LEL should include the LOOMIA logo placed on the sleeve.

Specific specs for placement will be sent in an additional document.



GARMENTS
CARRYING A LEL
SHOULD INCLUDE
THE LOOMIA LOGO

FIBER CONTENT

The LEL introduces new materials into your product that need fiber disclosure. On your fiber content tag, **you must disclose that the LEL contains polyamide fibers.** 100% of the fiber content of the LEL is polyamide.

HANG TAG INSTRUCTIONS

LOOMIA requires that you include a LOOMIA hang tag on each LEL enabled garment. We will provide you with these hang tags to include as you tag the garment for sale.

CARE LABELING

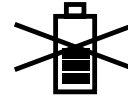
Please ensure that the care label for your garment conforms to the following care instructions:



Machine wash delicate in cold water in a delicates / garment bag.



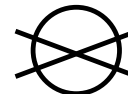
Machine dry on low temperature



REMOVE THE BATTERY pack and adaptor cable before washing and drying



DO NOT IRON



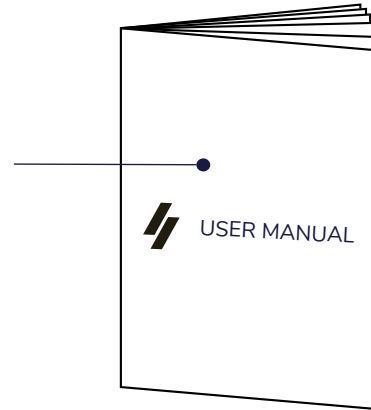
DO NOT DRY CLEAN

USER MANUAL GUIDELINES

LOOMIA will provide you with a user manual to accompany each LEL enabled product. The user manual should be attached to the LEL enabled garment inside of a Point of Sale (POS) pouch. This pouch should also contain the adapter cable and battery. LOOMIA will provide you with the POS pouch, adapter cable, battery pack, and user manual to attach to your complete garment before sending to stores for sale.

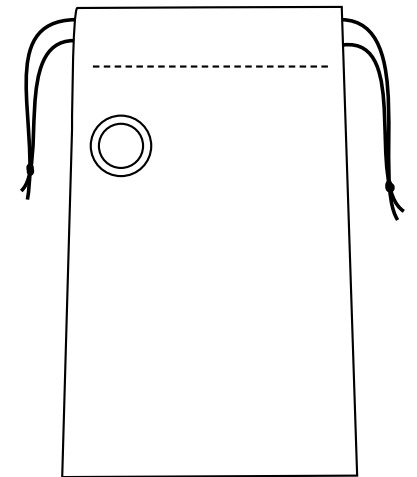
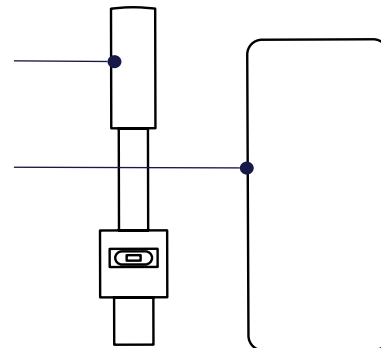
PACKAGING CONTENTS

1. USER MANUAL



2. ADAPTER CABLE

3. BATTERY



PACKAGING & POS GUIDELINES

The POS pouch should be attached to each garment using a security tag that will be removed at purchase. This prevents customers from removing contents from the pouch before purchasing the LEL enabled garment.

SECURITY TAGS
SHOULD BE PLACED
THROUGH A GROMMET
OR OTHER MECHANISM

PACKAGING SHOULD
CONTAIN THE ADAPTER
CABLE, BATTERY AND
USER MANUAL

