plyon® stretch – Sensor Bonding Guide

1. Background

plyon® stretch is a flexible and stretchable FSR sensor based on a TPU substrate. The backside of the substrate is a hot-melt adhesive for bonding to stretchable materials.

2. Required Materials

- Suitable textile with a sufficient bleed margin (extra fabric for handling)
- Teflon-coated sheet or parchment paper
- Pre-heated heat source:
  - Flat-bed heat press preheated to 130 °C, or
  - Iron at medium heat (2 dots) without steam function
- Optional: 2—5 mm thick rubber sheet/soft material for cushioning

3. Best Practices

- Wear gloves to avoid contaminating the hot-melt adhesive
- Do not bend or pull the sensor sharply. Plastic deformation may render it unusable
- Textile considerations:
  - Thin textile (default): place the sensor hot-melt side **up**, then textile, then Teflon (s. Fig. 1)
  - Thick textile (alternative): For thick textile, the heat may not reach the hot-melt. Therefore, place the hot-melt side **down** on top of the textile. CAUTION: Careful, as direct heat exposure might damage the sensor

4. Bonding Steps

- Close the press or press the iron down and bond at **130 °C for 30 seconds**
- Allow the bonded sensor to cool down for 30 seconds

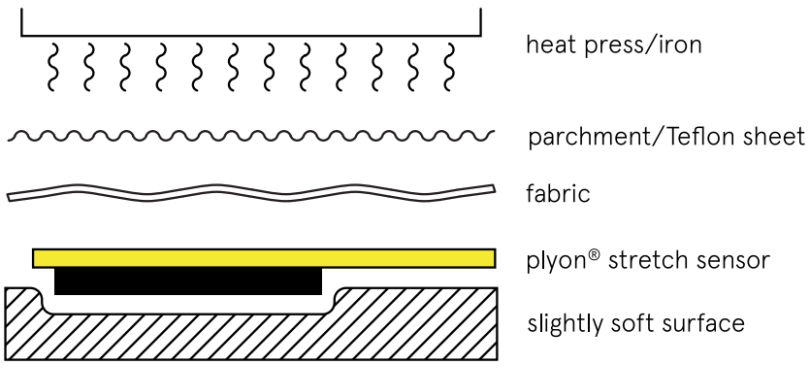

Figure 1: Schematic of bonding process.

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