

ABSTRACT FOR SMAR TEC STYLE

www.textile-circuit.com - Warp Knitted solutions for e-textile applications

This talk will illustrate possibilities for the field of e-textiles by warp knitted products. It will show solutions ready to be applied in e-textiles as well as options that can be produced in the future.

Our technology which is an industrially used production process in the textile industry is highly productive and can provide solutions for different applications in in the fields of active & sportswear, lingerie, outdoorwear, automotive and agricultural fabrics.

By using our string bar technology, we are able to position functional materials in a fabric during its production process. By tailored-fiber-placement we can form different functional structures in a desired position in the fabric. By this technology we can not only save costs and time but also are able to keep textile characteristics of the fabric. This benefit is especially important for wearing comfort of products that are close to the body.

In the past we have already done intensive trials and prototyped different functional systems including coil structures for inductive charging, control panels for different applications with all textile buttons, sensors for humidity and temperature and a shirt for the measurement of the heart rate. We can provide an easy and industrial way to produce wearables and e-textile solutions.

With our textile application development team of more than 30 engineers we support our clients in the development of new functional products. With the Textile-Makerspace (www.textile-makerspace.com) KARL MAYER provides a platform for e-solutions and other innovative products to connect brands, technology inventors and textile producers to make innovation happen. We give our partners the possibility to get to know our technologies by sampling their own ideas on our machines and move on from a handmade sample to an industrially fabricated product.

Examples of warp knitted products



Conventional warp knitted products

String bar machine

Examples of smart warp knitted structures



Warp knitted textile electrode

warp knitted coil structure

warp knitted control panel