



FAR-INFRARED (FIR) WELLNESS TEXTILES

EMISSIVITY MEASUREMENT TESTING

As wellness textiles gain greater interest from health-conscious consumers, manufacturers can use the results of performance testing carried out on their textiles to substantiate product claims and gain consumer trust in this rapidly growing market.

HOW ARE FIR TEXTILES MADE?

They are made with blends of polymer and nano- or micro-ceramic powder spun together with synthetic cotton, natural cotton and other fibers to make yarns and fabrics. FIR materials can also be added during aftertreatment of an ordinary fabric.

HOW FIR TEXTILES THEY WORK?

They act by absorbing heat radiation from the body and then emitting it back. This is proven to enhance blood microcirculation, which is believed to have health-improving and energizing properties.^{1,2} Most FIR textiles contain FIR-active materials, such as mineral oxides or carbonized charcoal made from bamboo-carbon.

Since FIR textiles can improve thermoregulation and keep the body warm in cold environments, they are widely used in clothing such as socks, gloves and jackets, to maintain warmth. FIR textiles are also commonly used in healthcare, such as for knee bands, wristbands, waistbands, etc. due their warming effect. Another growing market includes sportswear because these materials can maximize body heat, which helps to prevent muscle fatigue, and potentially enhance overall performance.

SGS SOLUTION

SGS has an emissivity measurement testing service that is performed according to the standard GB/T 30127:2013 "Textiles – Testing and evaluation for far infrared radiation properties" which is specifically designed for textile materials.

Fiber, yarn and fabric samples are applicable for testing and undergo two tests according to the standard:

- Emissivity – the measure of an object's ability to emit infrared energy. Emitted energy indicates the temperature of the object
- Temperature change upon FIR radiation on the testing sample

SGS is your trusted testing partner; helping you overcome the challenges in the textile industry.

CONTACT US

For more information mail us via: karen.he@sgs.com, or contact your local SGS office.

1. Dyer, J.. Infrared functional textiles. Functional Textiles for Improved Performance, Protection and Health. 2011; 184-197.
2. Vatansever F, Hamblin MR. Far infrared radiation (FIR): its biological effects and medical applications. Photonics Lasers Med. 2012; 4; 255-266.