



Graphene-coated footwear

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GRAPHENE-COATED SHOES KEEP FEET COOLER

 SUSTAINABILITY

New patented technology utilize graphene embedded in a polyurethane layer in soles to provide better cooling, durability and reduced odor.

The humble shoe has been a heavily targeted space for disruption over the last few years, whether that's looking at [sustainability](#) with children's shoes that grow along with the child, or breaking sweatshop practices with [modular, self-assembly shoes](#), and now Italy-based [Fadel](#) has introduced an innovative material to take footwear to the next step.

Fadel's [Freshoe](#), an open-foot sandals concept, aims to impact the footwear industry through both sustainability and comfort by incorporating graphene into the shoe. In collaboration with the [Istituto Italiano di Tecnologia \(IIT\)](#), Fadel has developed GET technology, a patented process that sees the sole of the shoe coated in a polyurethane membrane supplemented with graphene, utilizing the wonder material's thermoregulatory and tensile properties. The graphene dissipates the heat from the user's foot quickly and consistently, with micro-vents in the lower soles assisting this process, keeping feet cooler than traditional material. The material also has antimicrobial properties that reduce foot odor. The strength of graphene means that even the small amount embedded in the soles will provide lasting durability in each shoe, maintaining shape, and therefore reducing the need to replace worn out footwear. Freshoes will be available in three models and are available for pre-order via Fadel's website.

Graphene's remarkable properties make it a rich source for potential innovation, as we have seen recently with its use in [paint](#) and as a [fashion piece](#). Given it's also a great electrical conductor, where else could we see graphene used?

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