



Really, is that possible? If you often hear this, then you've come to the right place. What unusual approach has proved itself in your company, which idea was downright brilliant? Tell us about innovative approaches, good experiences, extraordinary collaborations, about your personal success story with "out-of-the-box" charm ... - we look forward to your good practical examples!

Pulp Fiction with Carbon



Electrically conductive paper astonishes environmentalists and entrepreneurs

The European Commission selected the wallpaper-thin surface heating KOHPA® by Walter Reichel and Peter Helfer as Green Deal material, three investors from the TV show "Die Höhle der Löwen" think that it's something good to invest in. What KOHPA® is, how it came about and how things will continue with it - its two inventors tell us here in this interview.

"Wallpaper that heats a house" - that initially sounds like science fiction. And yet the resourceful engineers, Walter Reichel and Peter Helfer, succeeded in creating KOHPA® therm, the world's thinnest and lightest surface heating. It's sister product, KOHPA® protect, shields against electro smog.

Green Deal and Green Materials Box

Europe is banking on transition opportunities to a resource-efficient, sustainable, climate and people-friendly economy. As part of the European Green Deal, the Green Materials Box presents, for the first time in 2020, five material innovations in and from different areas - "the possibilities for an ecological change in our economic and product culture". The "smart material, KOHPA®" is one of the five selected options.

https://ec.europa.eu/info/strategy/priorities-2019-2024 / european-green-deal_de



NETZWERK (CU INTERVIEW)

What is KOHPA®?

Reichel und Helfer: In principle, KOHPA® is a type of paper-weave made of natural fiber pulp into which carbon fibers are incorporated. Therefore, we also called our product KOHPA® - a blend made of carbon fibers and paper (*KOHle* and *PAPier* in German).

“There is no plastic in KOHPA® and the material is 100% recyclable.”

Walter Reichel, inventor, and entrepreneur.

How did you get the idea?

As lifelong papermakers, we have spent our entire lives with natural fibers. Suddenly everyone was talking about carbon as a material and that the valuable waste from the carbon processing industry is usually thermally disposed of. Until then, nobody had managed to combine carbon fibers with natural fibers. We were just curious and were looking for a way to make a completely new material.

Did that work right away?

Not really. The first hurdle was to bring two fibers together which fundamentally do not harmonize with one another in terms of their physicochemical properties. After this was finally achieved, in Helfer Papier's own laboratory in Dachau, Germany, other cooperation partners helped with testing and further development of this first carbon fiber paper. Namely, the leading cluster, MAI Carbon of the CU, the environmental institute, bifa, as well as the Fraunhofer IGCV Augsburg, the universities of Aachen, Augsburg, Karlsruhe and Stuttgart and Bayern Innovativ and several paper mills in Germany.

What can you do with KOHPA®?

The material is stable, flexible, and conductive. KOHPA® protect shields against electromagnetic radiation, it can shield houses and objects, namely 5G, and will be used as radiation-proof packaging material. KOHPA® therm is used as surface heating in caravan and house construction as floor, wall and ceiling heating within the low-voltage range.



In lightweight construction, KOHPA®, in combination with epoxy resin, can use origami technology to form very light and stable components that can also be heated. In the future, we can also imagine KOHPA® in lightweight pallets, functional labels, in technical applications such as chip production, in security papers, sensory clothing for traffic and occupational safety, heatable means of transport and packaging, and much more.

Why is it worth including in the Green Materials Box?

Because KOHPA® can help shape ecological change in the EU, as well as globally. As an IR heater, KOHPA® therm has a more efficient energy balance in many contexts than conventional heating systems. Additionally, the upcycling of carbon fibers creates a new material that uses the previously undiscovered electrical conductivity of carbon fibers.

What do you need TV investors for?

For us to open the doors to a large B2B market and effectively build up sales. Now it is easier for us to get in contact with decision-makers from large industrial companies within various sectors. After the TV broadcast, we received numerous pre-orders. An online shop for B2C customers is currently being set up for KOHPA® protect and is scheduled to start at the end of 2021.

Advice for other inventors: What has brought and brings success?

Belief in the material and in the idea. Working tirelessly, curiously, and persistently on the product. You're never too old to put an idea into practice and develop a product from it.



** Walter Reichel (76) and Peter Helfer (55) are founders and co-owners of KOHPA GmbH, formerly RESO Oberflächentechnik GmbH, Mering, based in Dachau in Bavaria, Germany. The company is a member of the high-performance lightweight construction association Composites United.*

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