

Promoting sports

For years, the automotive industry has been relying on primers and clear coats from Wörwag for visible carbon parts. Now the Wörwag range also includes a protective coat for sports equipment, which is opening new doors in China.

By Thorsten Schonfeld; illustration by Star Worbs

Surf boards, golf clubs and skis instead of spoilers, mirrors and hoods. Beyond the automotive industry, carbon fiber reinforced plastic (CFRP) is a material that is becoming increasingly popular in high-quality sports equipment because it is extremely light, stable and attractive. And with surfaces of visible woven carbon fibre, the owner can show-off the structural components of the respective device. Since these types of sporting goods are mainly manufactured in China, Wörwag has recently begun offering a primer for this market.

News of good quality spreads. That is why the Action Composites company, one of the world's largest suppliers of carbon parts for the automotive industry, approached Wörwag for a protective coating. The Austrians also produce carbon fiber mirrors for a premium German manufacturer at their plant in Shenzhen, South China. A combination of primer and clear coat protects these parts from UV rays in particular.

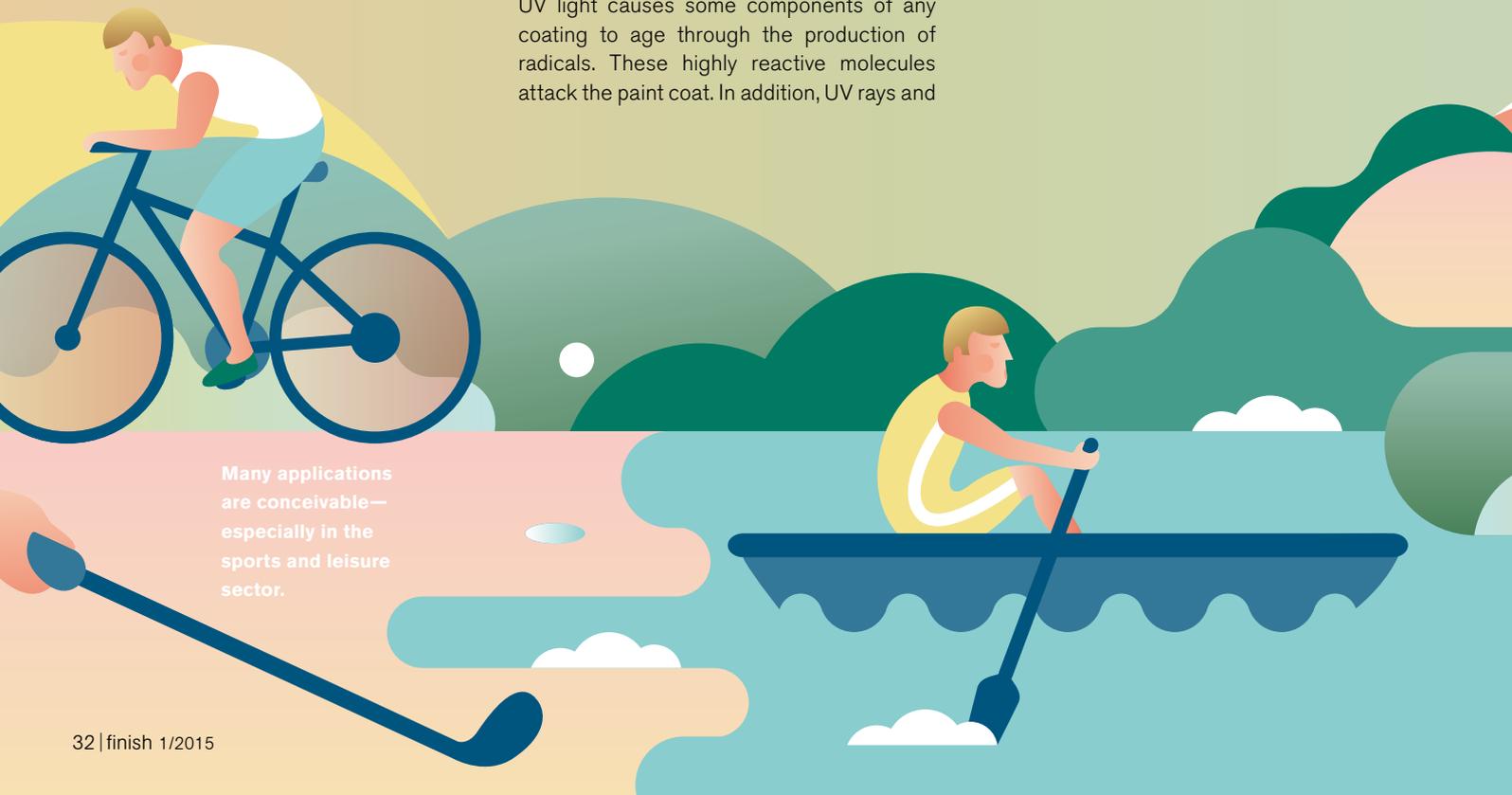
The primer, which is, in this case transparent, ensures that the protective lacquer binds properly with the CFRP. In Europe, it is usually an adhesive, water-based, so-called hydroprimer. BMW, for example, uses a Wörwag hydroprimer plus clear coat in the production of the carbon roof of the electric i3 model in their Leipzig plant.

Sunblock and radical scavengers

UV light causes some components of any coating to age through the production of radicals. These highly reactive molecules attack the paint coat. In addition, UV rays and

heat promote radical formation in conjunction with ozone and air humidity. There is also the gradual oxidation caused by atmospheric oxygen. Therefore, in addition to UV absorbers, the new coating specially developed for CFRP surfaces contains free radical scavengers—molecules that neutralize radicals.

However, processing hydroprimers places complicated demands on the production equipment, making it more expensive. "In China, the hydro process is not yet established as a technical standard," explains Georg Bussmann, Director of International Technology Management at Wörwag. It was therefore necessary to find an alternative for the Chinese Action Composites factory that would meet the high quality demands of the customer and the paint specialists.



Many applications are conceivable—especially in the sports and leisure sector.



Photo: Laurent Blurst



JOANNE WANG has been in charge of sales at the Wörwag factory in Langfang for a good ten years. The academically-trained marketing expert supports industrial users of coatings for carbon fibre reinforced plastics (CFRP) and paint films and develops such products for the Chinese market.

The developers in Stuttgart-Zuffenhausen presented the results in no time: Instead of a hydroprimer, an organically dissolved adhesion promoter is used. This has two advantages for the factory in China. On one hand, there is a greater variability in layer thickness than with the hydro counterpart. On the other hand, work steps are considerably fewer, which reduces the process costs.

From auto parts to sports equipment

The idea to use the CFRP coat in industrial applications besides the car industry was a result of the very positive results achieved with it. Demand was identified at a trade fair in China for manufacturers of high quality sports equipment. Joanne Wang, Sales Manager at Wörwag in Langfang was charged with the marketing. She is also the contact person for Action Composites. "Given the broad spectrum of applications outside of automotive engineering, we are collaborating with an

external marketing company that knows this market," explains Wang. First contacts have been made. Wörwag has one more trick up its sleeve: if the carbon doesn't necessarily have to be visible, for example in sports rowing boats or skis, Stuttgart offers primers with special colour effects. The season has begun. ■

