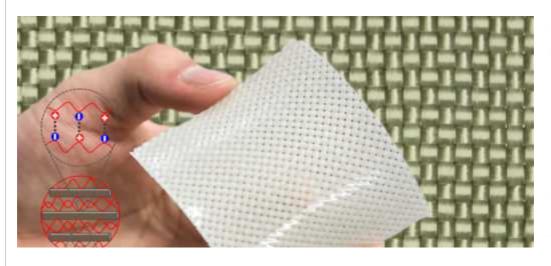


NEW FIBRE-REINFORCED HYDROGEL IS TOUGHER THAN METAL



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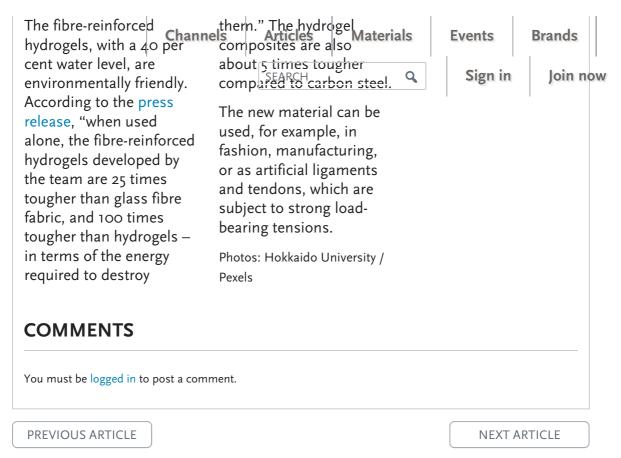
24 July 2017

A hydrogel is a superabsorbent gel made of natural or synthetic polymers. They can absorb up to 99.5 per cent water in volume. Because they can be made from natural polymers, the substance has potential as a structural biomaterial. Unfortunately, no material was reliable or strong enough for long term use, until now. Researchers at Hokkaido University (JP) created fibre-reinforced soft composites, or a tough hydrogel combined with

woven fibre fabric. The new material is highly flexible, tougher than metals, and have a wide range of potential applications.

The team combined hydrogels containing high levels of water with glass fibre fabric to create reinforced plastics. The combination of polyampholyte (PA) gels, a gel they developed earlier, and glass fibre fabric with a single fibre (measuring around 10µm in diameter) creates a strong tensile material.





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