

The German Future Prize award, considered one of the most prestigious conferred for science and innovation has selected their three nominees for 2016. One of the three nominees vying for this prominent recognition is a team of three professors from the Technical University Dresden who have invented a carbon concrete - an alternative to steel enforced concrete with the aim for more beautiful and stable infrastructure.

Steel enforced concrete has been seen as ideal for construction of buildings in that it guarantees fire safety, security and durability. However, it also comes with inherent weaknesses. One very problematic weakness relates to the fact that the steel reinforcement is at the center of the concrete structure and is susceptible to corrosion following water seepage. This is why we are now seeing many bridges constructed in the 1960's and 1970's losing stability. As such, these structures will require replacements in the coming years.

Instead of the traditional iron grates seen with steel enforced concrete structures, this new carbon concrete contains carbon fibers. These fibers are even more durable than that of their steel counterparts and they do not corrode. With these advantages then, it is believed that we will be able to make slimmer structures that will last much longer.

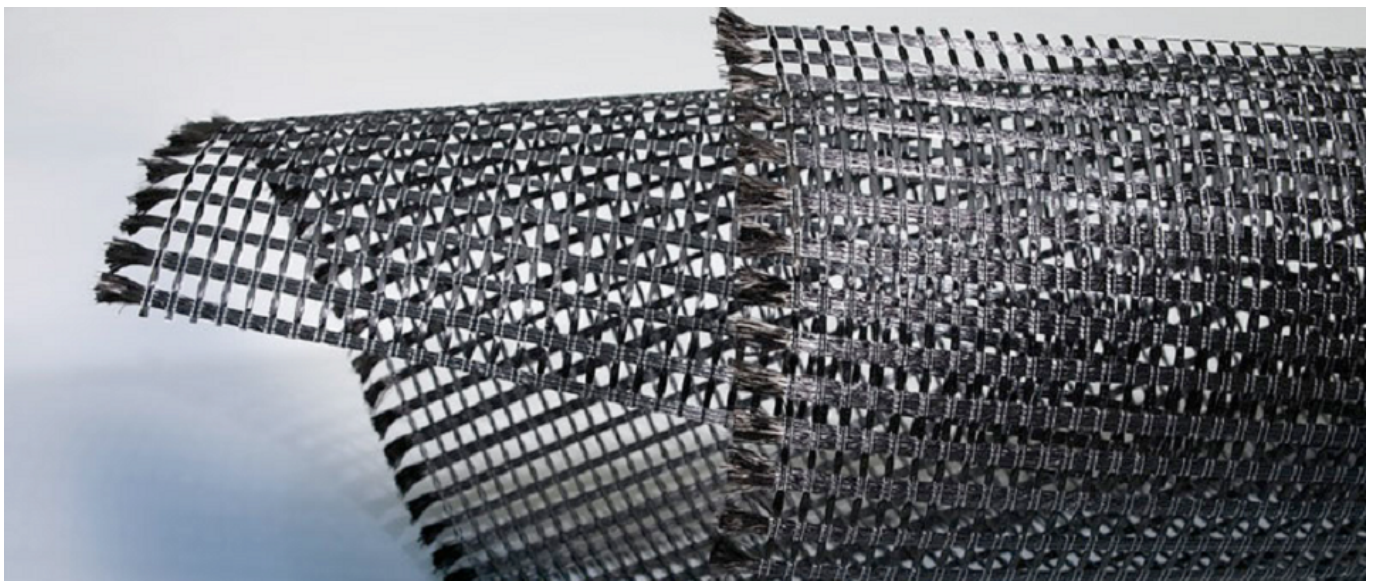


Photo credit: <http://m.innovationskraftwerk.de/Wettbewerb/sgl/Carbon-Beton/Winner>

The inventors are all from the same university, but they come from very different institutes. Manfred Curbach is the head of the Institute for Concrete Construction. Chokri Cherif then, heads the Institute for Textile High Performance Materials. Lastly, Mr. Cherif's colleague Peter Offermann, though retired from the institute, remains active as a researcher.

Source:

<http://www.dw.com/en/german-future-prize-2016-carbon-concrete-better-motors-and-laser-light-for-cars/a-19568410>