b&m-CARBONPLAST® explores the limits of robustness

As part of the “Xtreme-Tech-Expedition 2024”, three cyclists want to prove that bicycle frames and components made from thermoplastics can withstand even the toughest forces. Over the next two weeks, the trio will be riding the Buddy X1 e-bike in North Africa – and thoroughly testing the material on a 1,300-kilometre route; the tour will take them through Erg Chegaga, the largest sand desert in Morocco, and the snow-covered Atlas Mountains, among other places.

The e-bike used is a joint project between Buddy Bike (from Norway) and ISOCO/V Frames (from Saalfeld in Thuringia). Thermoplastic carbon fiber materials from LEHVOSS are used for the production. baier & michels (b&m) is contributing its expertise in fastening technology: The thread-forming b&m-CARBONPLAST® provides safe and durable connections at several positions on the e-bike frames.

The direct screwing system was tested in a joint effort by the experts at b&m and LEHVOSS. “There is no cracking of the screw boss and no abrasive wear that would reduce the performance of the screw, neither on the thread flank nor on the thread tip,” says Eric Folz, Market Development Manager at LEHVOSS. He goes on to say that the resistance to corrosion and the flow of plastic towards the screw core are clearly evident. “There is also the mandatory resistance to electrochemical corrosion,” adds Maxim Ort, Application Engineer at baier & michels.

The Xtreme-Tech expedition will show just how robust riders, e-bikes and components will ultimately be.