

# CW

## CompositesWorld

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## INFRASTRUCTURE

### Bio-based composite bridge in The Netherlands

This summer, FiberCore Europe (Rotterdam, The Netherlands) joined forces with TU Delft (Delft, The Netherlands) and Schiphol Logistics Park (Schiphol, The Netherlands), and other firms and local agencies, on the design and construction of an ecologically sustainable composite footbridge made with bio-based materials. The bridge is located at the logistics business park in the Dutch city of Rozenburg.

For his thesis at the Bridge Design Group of TU Delft, architect Rafail Gkaidatzis researched bridge designs incorporating the highest proportion of bio-based materials possible. He calls his resultant design "bio-basalt balsa," or B3. The 15m-long, 2m-wide bridge spans the waterway between the Ringdijkpark and the Naritaweg at Schiphol Logistics Park and is publicly accessible by employees of the business park and residents of the adjacent Aalsmeerderdijk neighborhood.

The bridge elements combine basalt fibers from Mafic (Kells, Ireland) and a bio-based polyester resin, based on glycerine-derived glycol. The deck is cored with Baltek balsa supplied by Airex AG, a division of 3A Composites (Sins, Switzerland). Advantages of the composite construction



compared to traditional materials are its high strength, low energy requirement during construction, low maintenance requirement and long service life, with no rot or corrosion. As a result, the bridge material is expected to last for at least 100 years.

FiberCore Europe says that the combination of materials, never before used in bridge construction, makes the project unique. It's a step toward making civil construction more sustainable and contributes to the realization of a sustainable society.

The sustainable bridge is the result of the excellent cooperation of all parties involved. Not only technical challenges were overcome, but directors, funders and the client also showed the courage to realize this innovation in deviation from standard procedures.

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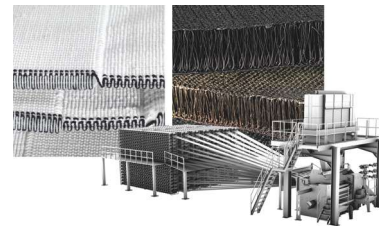
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