

Fiber Reinforced Composites for Structural Applications Made from Bio-based and Recycled Materials

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Abstract:

The reinforced fibers cause a significantly more stable lightweight structure than is possible by the use of pure plastic components. Due the fact that the conventional duromere fiber-reinforced plastics are very difficult to reuse or to recycle, offers the use of organosheets a decisive disposal advantage due to the reflowable thermoplastic matrix. The current organosheets are based on continuous fiber reinforced semi-finished prepreg, which consist of a thermoplastic matrix and glass-, carbon- or natural-fiber fabrics. The energy intensive production of the synthetic fibers like glass or carbon is very cost-intensive and leads to significant CO₂ emissions. Improved resource efficiency can be achieved by using bio-based reinforced fibers such as natural fibers.