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In self-reinforced polymer composites (SRPC) the same polymer material forms both the reinforcing fibre and the matrix phase. The current project aims to develop a biobased alternative for these composites using polylactic acid (PLA). Both the development of the reinforcing fibres, the modelling and production of the composites are being studied. The stiffness of the PLA filaments could be increased to 9 GPa by optimising processing parameters during extrusion. After consolidation to composites, promising results are obtained showing that the stiffness of the PLA SRPC can match the requirements of currently used commercial self-reinforced polypropylene composites (ca 4GPa).

General information
Publication status: Published
Organisations: Department of Wind Energy, Composites Mechanics and Materials Mechanics, Technical University of Denmark, Centexbel Textile Research Center
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Publication date: 2018
Peer-reviewed: Yes

Publication information
Journal: I O P Conference Series: Materials Science and Engineering
Volume: 406
Issue number: 1
Article number: 012038
ISSN (Print): 1757-8981
Ratings:
BFI (2018): BFI-level 1
Scopus rating (2018): CiteScore 0.53 SJR 0.192 SNIP 0.531
Original language: English
DOIs: 10.1088/1757-899X/406/1/012038
Source: FindIt
Source ID: 2439454495
Research output: Contribution to journal › Conference article – Annual report year: 2018 › Research › peer-review