Are reactive thermoplastic polymers suitable for future wind turbine composite materials blades?

The present article reviews the potential use of reactive polymers for manufacturing of composite materials for a wind turbine blade. Composite industry attempts to use the benefits of processes like resin infusion for developing large structures. After careful review in the literature, it was found that only two potential reactive thermoplastic resin systems qualify for different processing requirements for blade manufacturing. Hence, the article focuses on the issues with the use of reactive polymers like APA-6 (Caprolactam) and CBT (Cyclic Butylene Terephthalate) resin systems for composite materials.

General information
Publication status: Published
Organisations: Department of Wind Energy, Composites Mechanics and Materials Mechanics
Contributors: Raghavalu Thirumalai, D. P.
Pages: 213-221
Publication date: 2014
Peer-reviewed: Yes

Publication information
Journal: Mechanics of Advanced Materials and Structures
Volume: 21
ISSN (Print): 1537-6494
Ratings:
BFI (2014): BFI-level 1
Scopus rating (2014): CiteScore 0.85 SJR 0.486 SNIP 0.632
Web of Science (2014): Impact factor 0.773
Web of Science (2014): Indexed yes
Original language: English
Keywords: Reactive polymers, Wind turbine blade, Resin infusion, Mold design, Molecular weight
DOIs:
10.1080/15376494.2013.834090
Research output: Contribution to journal › Journal article – Annual report year: 2014 › Research › peer-review