

Design of the Fiber Lay-Up for the Composite Wind Turbine Blade in VARTM

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Abstract : The wind turbine blade sustains various kinds of loadings during the operating and parking state. Due to the increasing size of the wind turbine blade, it is important to arrange the composite materials in a sufficient way to reach the optimal utilization of the material strength. In the fabrication process of the vacuum assisted resin transfer molding, the fiber content of the turbine blade depends on the vacuum pressure. In this study, a design of the fiber layup for the vacuum assisted resin transfer molding is conducted to achieve the efficient utilization the material strength. This design is for the wind turbine blade consisting of shell skins with or without the spar structure.

Keywords : resin film infiltration, vacuum assisted resin transfer molding process, wind turbine blade, composite materials

Conference Title : ICMAME 2014 : International Conference on Mechanical, Aeronautical and Manufacturing Engineering

Conference Location : London, United Kingdom

Conference Dates : August 21-22, 2014