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Slipstream Energy Wind Turbine

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ACG has developed a range of standard and rapid layup prepregs specifically for the manufacture of large structures, such as those used in the renewable energy market.

The Slipstream Energy wind turbine blades have been manufactured using ACG's MTM®57 Series 85 to 120°C standard prepregs which have been developed for structural components requiring high damage tolerance.

More specifically, the blade skins use a combination of MTM®57 woven and unidirectional carbon prepregs in a layup configuration which provides the requisite degree of damage tolerance and blade stiffness. A foam layer, bonded using ACG's VTA®260 flexible cure temperature film adhesive, was incorporated to create a sandwich structure which augments overall blade stiffness.

The materials and techniques applied to this project facilitate the production of turbine blades in a low cost, one-shot operation.

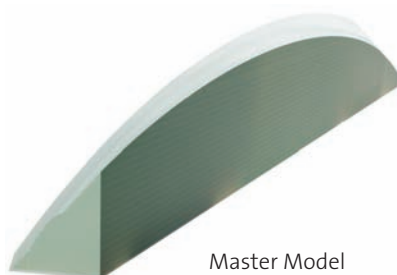
A particular feature of this application is that the blades are 100% carbon, making them lighter and, therefore, extending their window of operation. The Slipstream Energy wind turbine is efficient at low wind speeds and effective at converting wind energy into usable, sustainable energy for commercial and domestic applications.

ACG's complementary VTM®260 Series of vacuum-only processing structural prepregs can also be used for blade manufacture. VTM260 Series variable cure temperature prepregs offer excellent handling and processing characteristics across a range of reinforcements. These prepregs and their associated adhesives, surfacing films and syntactic plies can be co-cured.

ACG's MTM57 and VTM260 Series prepregs are available in standard prepreg and ZPREG® rapid layup, selective impregnation formats.



TB750 tooling block bonded using ACG AS105 adhesive and then CNC machined and sealed using ACG CS711B.



Master Model



Upper Tool



Lower Tool

Upper and lower tools laminated and vacuum bagged for curing using Richmond-Aerovac consumables.



Vacuum Bagged

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