

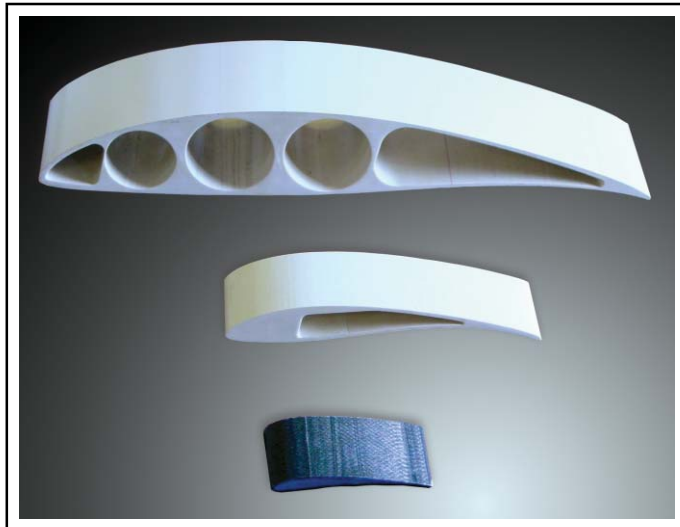
STRONGWELL

APPLICATION PROFILE

FIBERGLASS WIND TURBINE BLADES HAVE THE COMPETITIVE EDGE

Fiberglass composite pultruded wind turbine blades meet the most sophisticated standards to refine wind energy principles and make wind energy economically feasible for mass consumption. Strongwell produced a pultruded composite of glass mat and rovings with a vinyl ester resin to create the fiberglass wind turbine blade that replaced an aluminum blade in this application. The fiberglass blades extended service life, increased electrical output by 20 percent and improved aerodynamic characteristics of the unique rotor system designed and patented by Bergey Windpower Company. Additionally, the FRP blade system is less expensive than the aluminum system.

The POWERFLEX® rotor system provides performance advantages of variable pitch blades without moving parts. The torsionally flexible blade has pitch weights located near the blade tip. Aerodynamic and centrifugal forces act together to twist the blade to the optimum angle of incidence for each wind speed. The pultruded blades performed better than aluminum in this rotor system. Tests show fiberglass blades have superior bearing stress, torsional modulus and fatigue resistance. Accelerated fatigue testing indicated these new blades have an essentially unlimited fatigue life and excellent weatherability.



TECHNICAL DATA

Product:	Wind Turbine Blade
Process:	Pultrusion
Materials:	Fiberglass reinforced vinyl ester
Size:	9" wide x 11' 3" long - thickness tapered 1/2" to 1/8"
Weight:	0.6 lbs./ft.
For:	Bergey Windpower Company



STRONGWELL
Bristol Division
400 Commonwealth Avenue
Bristol, VA 24201-3820 USA
(276) 645-8000, FAX (276) 645-8132
www.strongwell.com