



## Wind Energy: Prototyping and Testing



DARcorporation has been offering aeronautical engineering software and consulting services since 1991. In 2004 we designed, built and tested our first Horizontal Axis Wind Turbine (HAWT), which was followed by a Vertical Axis Wind Turbine (VAWT) and many since. Over the years DARcorporation has developed a unique expertise in aerodynamic and structural design of wind turbines.

### Prototype Manufacturing

Upon completion of the detailed design, a prototype wind turbine model can be constructed at the DARcorporation prototype facility. Our prototypes range from proof-of-concept display models and wind tunnel models to full scale test turbines. Our facility is capable of manufacturing both metal and composite turbines. Loads and function tests can

be performed for individual parts or full scale assemblies. DARcorporation ensures a high level of quality control, and all parts are checked for fit and finish.



### Testing

Depending on model size and wind speed requirements, wind tunnel models are tested at an appropriate wind tunnel location. Full scale prototypes are installed

at test sites throughout the country. DARcorporation engineers will create a test plan and test the turbine for performance over a period of time. This test bed will





provide data such as wind speed and wind direction, RPM, power performance characteristics, accelerations and loads. Data is then analyzed and detailed power curves are constructed.

### The DARcorporation Advantage

Experience in the design, detailed analysis and building of prototypes gives DARcorporation a unique advantage over other companies, since we can go from initial design all the way through full size manufacturing. The unique tools developed for design and analysis make DARcorporation the best choice for any new



wind turbine



development. DARcorporation engineers can advise on what the best materials are for your design and what the best configuration is. We will work with you to analyze the

requirements, design and optimize your wind turbine for performance, manufacturability and cost.

