#### Why Composites One?

This is an exciting time for composite materials. New opportunities, new applications and a host of emerging markets are taking advantage of the performance characterisitics and infinite deisgn possibilities offered by composite materials.

At the forefront of the these industries is Composites One, a single organization with more than 30 North American distribution centers, and over 500 supplier partners.

Composites One offers over 2000 of the industry's leading products, including those most in most demand in the wind industry today. Primary and specialized reinforcements, resins, gel coats, coatings, core materials, adhesives, catalysts, and more are available for immediate shipment. Many of these products are availabke exclusively through Composites One. And when it comes to the products you need for repair and maintenance, no one offers you more than Composites One.

And with Composites One, you get process experts who can guide wind engineers from design implementation to finished parts manufacturing, all combined with years of composites know-how and expertise.

All of this is backed by local customer service, a full-time technical support team, and the value-added benefits of doing



business with one company.

In addition, when it comes to process expertise, the Composites One reputation speaks for itself. With dedicated techncial and closed mold teams, Composites One will help you find the right process for your wind manufacturing needs.

So, why not think about composites for wind. Composites One is ready to help you make the most of these versatile materials.

That's the Power of One...Composites One.





#### COMPOSITES ONE ®

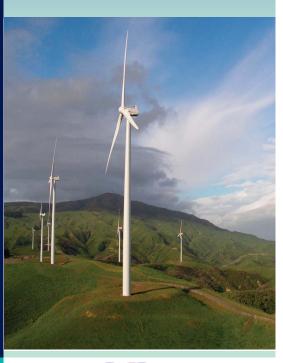
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#### **COMPOSITES:**

With their high strengthto-weight ratio, design flexibility, reduced drag, excellent fatigue and corrosion resistance, composites offer structural advantages ideal for wind energy components.

### The Power of One

# Why Composites?





# Why Composites for Wind



The Power of Composites

Still thinking about using traditional materials in your wind turbine and component design? Why not think about composites?

### **Design Flexibility**

Composites offer todays wind manufacturers strength and flexibility. The materials also offer the added beneift of being light-weight, making them perfect for residential and commercial uses. Becasue of composite materials, blades can spin faster and capture winds at lower velocity.

In addition, composite tooling is increasingly prefered for blade fabrication becasue these molds can be made lighter and more rigid than their metal counterparts.

In addition, composite materials offer advantages to the manufacturer of other wind components such as nacelles and motor housings. Composites materials also make it easier to repair the blade allowing for a longer life than ever before.

#### **Process-Friendly**

Long used in wind, the prepreg process continues to make advances. Productivity improvements are allowing prepreg wind turbines to cure at a much faster rate than ever before. Many prepreg suppliers are working on ways to improve surface appearance and the optimization of glass content, as well as the reduction of voids in cured lamiantes.

While prepreg has always offered wind turbine manufactures consistency, closed mold processes offer manufacturers, especially those targeting small wind markets, the ability to make a blade in a unique one-piece design. Using vacuum infusion, the tooling system has a closed outer mold and an expandable flexible inner bladder. The process allows for a seamless one-piece bladed upon completion. It is also a virtually emission free process.

For more information on composite materials and on hte leading composites distributor visit: **www.compositesone.com** 

### **Mechanical Properties**

Today's wind turbines and other components, must meet strict mechanical properties such as high rigidity and reisitance to torsion and fatigue. In addition to these mechanical properties, the finsihed product must offer excellent corrosion resistance and a high temperature tolerance.

Composite materials can offer greater stiffness in many instances, and reduced weight on finished parts.

# Affordability

Turbine manufacturers are struglling to meet the ever growing industry demand and are looking to new materials to help raise overall productivity, reduce cycle times, and to cut costs.

Composite materials offer an excellent alternative to those thinking of using traditional engineering materials in wind blade design. They are also ideal for those exploring the smaller wind market as they offer the deisgn flexibility and affordability needed for this growing market segment.

## Why Composites for WInd

Combining glass fibers with resin matrix results in composites that are strong, lightweight, corrosionresistant and dimensionally stable. They also provide good design flexibility and high dielectric strength, and usually require lower tooling costs. Their tremendous strength-toweight and design flexibility make them ideal in structural components. High-strength lightweight premium composite materials such as carbon fiber and epoxies are being used for many high performance applications.

For more information on closed mold process and Composites One Technical Suppuort visit: www.closedmoldalliance.com