

## A Leading Fiberglass Manufacturer Tailors Their Protective Clothing Program with Options from Lakeland

**Molded Fiber Glass South Dakota**, an advanced technology wind turbine blade manufacturer abandons its "one coverall for all" approach and tailors a specific disposable clothing solution to suit their applications and needs.

### Challenge

Safety has long been a priority for Molded Fiber Glass South Dakota, integrating it into every facet of their facilities across the globe. This manufacturer of fiberglass blades to the wind turbine industry recently wanted to review its disposable and chemical protective clothing program. Currently they were using only one type of disposable coverall for all areas of the facility. Certain departments within the plant were making "modifications" to the coveralls in an attempt to improve the comfort of the garment, while other areas felt the need for better wear and chemical holdout. An optimal solution would also include a cost savings benefit for Molded Fiber Glass as well.

### Solution

Working with Composites One, a Lakeland brand distributor partner, a reviewing process within the facility was undertaken. It was determined that there were three unique areas to consider. First was the layout area where workers are working with the fiberglass matting and resins to form the blades within the molds. The second area involves removing the blade from its mold, and performing sanding and finishing work on the exterior of the blade. Lastly is a small group of workers who go up inside the finished blade to conduct an inspection and perform any additional fiberglass work that might be necessary.

For the workers in the layout area, protection from the resin being used is a primary concern. After evaluating the properties of the substances being utilized in the area, a decision was made to supply Lakeland's MicroMax® NS coveralls to the workers in this area. The MicroMax® NS fabric provides particulate protection from the fiberglass but also the liquid and chemical holdout needed for the resins in this area.

In the sanding and finishing of the blades, the main concern is in providing dust, dirt and particulate protection. While the current coveralls certainly provided that type of protection, the liquid and chemical resistance was certainly not needed in this area. A decision was made to implement Lakeland's SafeGard® SMS fabric for the coveralls utilized in these areas. They provided the dust, dirt and particulate protection required, in a much more comfortable and breathable material than what was currently being used.



*MicroMax® 3P coveralls protect a worker during the process of manufacturing a turbine blade.*





An interesting dynamic developed while selecting the optimum fabrics for the first two areas within the plant. MicroMax® NS products are white in color, while Lakeland's SafeGard® SMS fabric can be ordered in either white or blue. By deciding to utilize blue SafeGard® garments, it now became quite simple for the two areas to differentiate which suits they should be using. White MicroMax® NS should be used in "wet" areas, while

blue SafeGard® would be worn on the "dry" side of the plant. This simple color-coding easily allows workers to know which coverall they should be wearing and for supervisors to quickly identify that the correct PPE is being utilized.

For the handful of workers who actually do work inside of the finished blades, the challenge was to find a durable, yet comfortable, product. To meet this balance these workers began using Lakeland's MicroMax® 3P Cool Suit. The 3P material provides an excellent barrier to the resins that might be present, along with increased abrasion resistance to improve durability while the individuals are on their hands and knees inside the blade. The Coolsuit design utilizes a polypropylene back to increase airflow into the coveralls and keep the wearer as comfortable as possible. With the potential hazards for these workers being contained to the front of the individual, the Coolsuit was an easy selection to help increase worker comfort.

## Results

Since leaving the "one coverall for all" solution of their previous supplier, and allowing Lakeland to tailor a specific disposable clothing program to suit their application, Molded Fiber Glass of South Dakota has experienced several benefits.

By selecting the proper fabrics for each distinct application, they were able to achieve a balance in providing protection for their workers, while allowing for as much fabric breathability and comfort as possible. Utilizing fabrics that are available in different color options established a simple white and blue concept so that it could be quickly determined if workers were wearing the correct PPE.

Even though this manufacturer went from utilizing one material to three in their facility, by selecting the correct fabric for the application, each department was able to achieve between a 20% and 40% savings over their previous disposable clothing expenditures. Understanding that disposable clothing is not a "one fabric protects all" and allowing Lakeland to assist in fabric selection and application, this manufacturer is obtaining increased worker satisfaction and an overall reduction in their protective clothing expenditures.



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800-645-9291

Email: info@lakeland.com

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## Lakeland's Tailored Disposable Clothing Program

<p><i>"Wet" manufacturing area utilizes MicroMax® NS protection</i></p>	<p><i>"Dry" manufacturing area utilizes SafeGard® SMS protection</i></p>	<p><i>Manufacturing area needing higher levels of chemical protection utilizes MicroMax® 3P Cool Suit™</i></p>
<p><b>MicroMax® NS</b></p>	<p><b>SafeGard® SMS</b></p>	<p><b>MicroMax® 3P Cool Suit</b></p>



**Above and Upper Left:** Technicians sand the blades to eliminate rough edges. SafeGard® SMS Protective Coveralls provide a high degree of dry particulate protection while maintaining comfort for the wearer.

**Below Left:** Initial blade preparations underway to fit the blade transmission to the blade. The MicroMax® 3P Cool Suit coveralls provide an excellent frontal barrier to the resins that might be present, while utilizing a polypropylene back to increase airflow into the coveralls and keep the wearer as comfortable as possible.

