

## American Bed Sheet Manufacturer's Innovation Despite Isolation Could Help Solve the PPE Shortage in the US and Make us More Self-Sufficient

In light of the pandemic, one good development that has come out of this unprecedented time was an overdue reevaluation of what more can businesses do to help their customers, communities and country. As we all have made adjustments setting up home offices and creating new safety protocols in our factories, many companies have extended their hand in creating products that will help protect fellow citizens. After many thoughtful nights of innovation and design, two long-time textile guys with nearly 100 years of combined experience, found a way for a 120-year-old domestic textile manufacturer to make level 1 gown material.

Thomaston Mills, who supplies ecologically made, high-quality textiles to hotels, hospitals, and dormitories, started getting a lot of inquiries for water repellent gowns and gown material. Two employees from Thomaston Mills, Tom McIntyre and Carl Garren, were working from home and kicking around the possibilities of finishing goods for PPE gowns at their plant in Easley, SC. Initially, they were told that the spec to meet was AATCC 22. They then kicked it around and thought they could meet the spec with their bed sheet fabric. After running multiple tests, they were able to meet the requirements of the spec and help with the PPE shortage.

Though this seems pretty straightforward, there were several speed bumps along the way. The first occurred when the Thomaston workers creating the design found out that AATCC 22 was not the correct test method. They then tried AATCC 42 and found that this was the correct test method for level 1 gown material. However, AATCC 42 was much more difficult to pass. They didn't think they had the ability to pass the stringent requirements. They ran a trial lot and in-house it looked like the best water repellent finish that they had ever applied, "It gave us some hope." However, when the goods were tested by an independent lab, the results failed.

Out of left field one of their sales people requested that they send a sample to a textile finisher that applied coatings to fabric. The Thomaston team members started talking about the possibility of adding a coating on top of their durable water repellent (DWR) finish to meet the spec. After contacting a DWR chemical supplier to ask his advice, Mark from Micro Emulsions, Inc. thought their idea had some merit and connected Thomaston with a coating company. After several trial lots, Thomaston Mills succeeded in meeting the requirements of AATCC 42 level 1 with a fabric that had a relatively soft hand and would be suitable for gowns. After this breakthrough, however, Thomaston experienced their second speed bump, ensuring that the cloth was latex free. "We received an updated spec for the fabric that said the cloth had to be latex free. We knew our cloth and finish were latex free but were not sure about the coating material. We contacted the coated company and found out that the coating did contain latex. At that point, we thought we hit a dead end." Said Tom McIntyre.

Tom and Carl sat down virtually again, Carl in South Carolina and Tom in Pennsylvania, to have a beer and to brainstorm an angle to finish a cloth that met the

requirements. “Carl wanted to talk to Mark again. He said that if anyone could come up with an answer it would be Mark.” Tom said. Mark worked on it for a few days and thought he found a solution. With the plant manager working from home, it was up to the assistant plant manager, Boyd Raxter, to run the trial lot. With his excellent work, the lot was sent out for testing. “The results were even better than we had hoped for.” Thomaston Mills is now in the level 1 gown material business and ready to help the American health care system to be more self-sufficient.