



Case Study

Transshield Armordillo

Challenge

A major defense manufacturer was looking options for material to put inside of covers for military equipment. The cover needed to be breathable and easy to apply and remove . It was also important to avoid snagging on the corners or the complex metal surfaces the military uses.

In addition, the cover would need to create an environment inside, such that condensation would easily evaporate and Transshield VCI (volatile corrosion inhibitor) chemistry could attach, such that the equipment would not rust.

Solution

Flock was the perfect solution. Spectro Coating and a partner created a base fabric that was durable, drapable and tear resistant.

As this was developed, we ran several trials to get the right flock settling on a nylon 1.8 denier fiber at 1mm. This would help keep the cover metal surface such that the VCI would have the space to work its magic. The nylon is the most durable of the standard flock fibers.

The next step was to put a coating on the outside of the fabric. This would be an extruded coating that was breathable and durable for the outdoors. Dupont had such a material. Several trials were run but the extrusion would not adhere well to the fabric surface. This could not be overcome.

Spectro suggested we try a breathable polyurethane coating that we had tried in the past. With our partners on the coating development side, we were able to create a water based breathable urethane coating, that was waterproof and could stand up to the outdoors.

Results

Now with an extremely durable fabric from Milliken, a soft breathable flock and a durable water based polyurethane coating, Transshield with the partnership of Spectro, was able to create Armordillo – a patented protective cover used in the military to protect naval equipment, and out military assets.

