



Shield Technologies Corporation
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OVERVIEW

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ENVELOP® PROTECTIVE COVERS OVERVIEW

(January 2008) — Envelop Protective Covers are the next generation of operational covers, replacing vinyl tarps and corrosion inhibiting chemicals. Developed to protect military weapons and assets from water, ultraviolet rays, humidity, sand, thermal temperature spikes and other environmental hazards, covers are now available for consumer and industrial applications such as firearms, oil and gas machinery, airplanes, ships, and more. Envelop covers are manufactured and sold by Shield Technologies Corporation, a three-year-old, entrepreneurial organization headquartered in Chicago, Ill., with operations in Eagan, Minn. Visit www.envelopcovers.com

Solving the Corrosion Problem

In 2003 the Government Accountability Office (GAO) determined that the U.S. Navy spends up to 25 percent of its fleet maintenance budget to prevent and address corrosion, leading the Pentagon to identify corrosion as the top controllable cost in the military. At the same time, it was determined that corrosion significantly impacts military readiness, in that weapons and other assets on ships or in the desert must be serviced and repaired frequently before use. The growing, but preventable, problem prompted the U.S. Navy to issue a Small Business Innovative Research Grant, which led to the development of a four-layered, high-tech cover that reduces corrosion by as much as 90 percent over traditional tarps, while requiring less investment than enclosed and stationary dehumidifier systems.

The Technology

A significant advance in cover technology, Envelop Protective Covers are custom-fitted, durable, and waterproof. Yet they are also breathable, allowing moisture vapor to evaporate from underneath and reducing rust. Envelop products are the only covers that also incorporate special materials to absorb condensation/water trapped underneath the cover and hold it away from the metal being protected, until it evaporates into the outside air. In addition, long-life vapor corrosion inhibitors released into the enclosed atmosphere prevent oxidation. Working in combination, these elements enable Envelop covers to reduce corrosion by as much as 90 percent compared to other covers. Envelop’s four-layered design is protected by three patents. At the same time, by reducing the need for maintenance and repair, Envelop covers improve readiness for the asset and its operators.

Increasing Military Readiness

Envelop covers dramatically improve military readiness by reducing the number of hours spent on corrosion prevention. Envelop covers are as simple to install as a common tarp and they reduce the time required to scrape rust and check electrical connections of assets, as well as decrease downtime for repairs.

In a field test, Envelop covers reduced the amount of time required to maintain a .50-caliber guns from one hour a day to one hour every two weeks. Expanding covers to all of the ship’s assets could save 120 hours per week, reducing the need for maintenance and repair, and at the same time, improving readiness for the asset and its operators.



Cost Savings

Envelop covers provide a high return on investment for the military, often paying for themselves in a matter of weeks. In one field study performed by the U.S. Navy, an Envelop cover saved an estimated \$30,000 in damage and maintenance costs for a 25 mm gun in just the first two years. In addition, Envelop covers last three-to-four times as long as vinyl alternatives. In all, Envelop covers earn a return on investment of 4:1 and as high as 15:1 versus traditional covers.

Military Applications

Envelop has covers for more than 150 unique Navy assets on every class of surface ship, including deck guns and close-in weapons systems (CIWS). And the technology is transferring to U.S. Army, U.S. Marine Corps, U.S. Coast Guard and allied navies, including rapid securing devices for SH-60B Seahawk helicopters; M777 lightweight howitzers; common remotely operated weapons stations (CROWS); counter rocket, artillery, mortar systems; and more.

Consumer/Industrial Applications

As of mid-2007, Envelop covers are protecting equipment used by one of the world's largest offshore drilling operations. In addition to oil and gas machinery, covers can be custom-built for applications such as commercial shipping, amusement parks, airplanes and cruise ships.

In October 2007, Envelop launched a line of retail protective cases for guns using the same technology. Covers for motorcycles and other consumer goods are in development.

Good for the Environment

Because Envelop covers are installed like tarps instead of chemical applications, they reduce the runoff and exposure to chemical corrosion inhibitors.

Key Executives

Envelop has 14 employees, including the following key executives:

- Sam Sax, Chairman
- Tom Sax, Vice Chairman
- Tom Nelson, General Manager
- David Hutton, Director of Navy and Coast Guard Sales
- Jeff Vold, Director of Marine Corps, Army, National Guard Markets
- Doug Evans, Director of Consumer Applications
- Warren Hoskinson, Oil and Gas Industry Sales Representative

Recent News

- U.S. Navy approves operational covers: The U.S. Navy recently approved the use of operational Envelop Protective Covers for close-in weapons systems (CIWS – pronounced “SEA-WHIZ”). The new operational covers will be included, along with a complete set of protective covers, with all new U.S. Navy ships under construction in a separate contract that was approved in September.
- U.S. Marine Corps contract: In October 2007, the U.S. Marine Corps finalized a decision that makes Envelop covers the sole environmental protection cover for all howitzers in its inventory, as well as for other critical combat equipment.
- Retail gun cases: In October 2007, Shield Technologies launched a line of custom-engineered, high-end gun cases with Envelop technology. Visit www.envelopcases.com