



NSNs Awarded to ENVELOP Artillery Cover

M119A2

The operational environments that the military finds itself in today are some of the most austere. Combine that with the incredible tempo that these units face and it becomes increasingly difficult to effectively train to the multitude of new tasks assigned, much less worry about maintaining equipment. Covers by ENVELOP allow units to focus on the mission at hand, knowing that their equipment is protected in such a manner that will assure its effectiveness when the need arises.

For the last three years, this kind of protection and peace of mind have been provided to units throughout the field artillery community by ENVELOP Protective Covers. Shield's most recent addition to this fleet of covers is the M119A2 cover, now with its own National Stock Number (NSN). The M119A2 105mm Towed Howitzer is the updated version of the U.S.

Army's Lightweight Howitzer and is scheduled to be in service for many years. At more than \$1 million per system, these guns deserve the ultimate in anticorrosive protection — and ENVELOP covers are that exactly.

Today, more than 25,000 covers are in service with all five branches of the U.S. military. They save crews time and save organizations money. The cover greatly reduces surface corrosion on unpainted areas of artillery units — particularly for the tube and breech — and greatly reduces the time crews spend using cloths, CLP (cleaner, lubricant, preservative), and grease to keep these vital areas in shape. The howitzer is also protected from windblown dust and sand and the cover helps to protect against sunlight/UV damage. Consistent use of the ENVELOP cover will provide great benefits over many years of use.

The M119A2 ENVELOP Protective Cover may be procured through the supply system via NSN, through General Services Administration (GSA), or by contacting Shield Technologies directly. The complete M119A2 cover set consists of three NSNs:

Tube/Barrel Cover
NSN 2540-01-572-4402
P/N 123040

Breech/Carriage Cover
NSN 2540-01-572-4410
P/N 123041

Fire Control Mount Cover
NSN 1240-01-572-4937
P/N 123043

If you would like more information on the M119A2 protective cover set or a demo, contact Phil Simoes at phil.simoes@envelopcovers.com, or Andy Parks at andy.parks@envelopcovers.com.

SELEX



ENVELOP Protects Critical UK MOD Need

Shield Technologies recently received its first order from the United Kingdom's Ministry of Defence (MOD), and quickly met an urgent need by delivering custom tailored ENVELOP Protective Covers for the SELEX Protector remote weapon system. These weapons and their covers will be mounted on one of the most advanced systems in use by the MOD, the British version of the Mine Resistant Ambush Protected Vehicle (MRAP).

The ENVELOP travel covers fabricated for SELEX and the MOD will protect the remote weapon system in all environments, especially in the unrelenting conditions found in Southwest Asia where sand, dust, heat, extreme temperature changes, and highly corrosive conditions challenge the availability of critical weapons systems.

Shield Technologies has already developed highly successful covers for numerous other remote weapons systems of U.S. and Allied forces, including the CRWS I and CRWS II, and the Kongsberg Sea Protector.

For more information or to receive a demo cover for use/evaluation contact Tom Nelson at tom.nelson@envelopcovers.com or Jeff Vold at jeff.vold@envelopcovers.com.

Pennsylvania Guard Receives ENVELOP Covers for New M777s

The 1st battalion of the 108th Field Artillery, PANG (Pennsylvania Army National Guard), knew it would be performing a variety of missions during deployment to Iraq, most of which did not involve the use of their brand new M777 Howitzers. During debriefs from previously deployed M777 battalions, it learned the value of ENVELOP covers for protection of these vital weapons systems. The cover protects howitzers when stored, in transit to and from theater, and while moving in-country. Effort required to maintain the complex weapons is vastly reduced, as the covers protect the howitzers from degradation caused by dust, corrosion, and sunlight.

The battalion's commanding officer and supply officer contacted Shield Technologies, and a sample cover was delivered to the unit at



M777 Howitzer

Camp Shelby, Mississippi. They liked what they saw and initiated a purchase request. Diligent work by the battalion pushed the request through the chain of command, and the new covers were received not long after arriving in-country. The covers will ease the cannoners' workload throughout their deployment, while providing excellent protection for this expensive weapons system.

These, and similar covers, can be purchased directly by contacting Shield Technologies Corporation, or they can be procured via Government Services Administration (GSA) or by National Stock Number (NSN).

NSNs for a four-piece cover set are:

Main Carriage
NSN 1095-01-551-1284
P/N 123007A

Tube/Barrel Cover
NSN 1095-01-551-1290
P/N 123007B

Hydrostrut Cover
NSN 1095-01-551-1294
P/N 123007C

For more information on the M777 protective cover set, or for a demo, contact Phil Simoes at phil.simoes@envelopcovers.com, or Andy Parks at andy.parks@envelopcovers.com.

Sands of Southwest Asia – The Science of Protection

Shield Technologies is an industry leader in understanding the challenges of protecting assets in environments that take a heavy toll. The operational theater of Southwest Asia has proven to be a highly corrosive one for military equipment, principally due to the unusual sand of this desert region.

First, the sand is extremely fine — some describe it as beige talcum powder — and is notorious for pervasive intrusion into any exposed cavity.

Secondly, the sand of this region has an unusually high concentration of salt and contaminants compared to the soil and sand found in North America. In Iraq, for example, the salt concentration of the sand is 1,000 times greater than sands found in the state of Nevada (*Defense Daily*,

24 April 2006). This is partially caused by the highly saline water that is present. Groundwater in Iraq contains 20,000 parts per million (ppm) of salt. Freshwater is considered to have less than 1,000 ppm.

A higher concentration of salt, the powder-like nature of the sand, and the prevalent dry and windy conditions of Southwest Asia combine to result in costly preventive measures, high maintenance costs, and premature wear. This situation has proven especially true for sophisticated military aircraft where helicopter rotor blades, aircraft engines, avionics, and wiring are affected by the fine, saline sands of the region.

Shield Technologies understands the science required

to ensure world-class protection for equipment operating in the world's most challenging regions. Its ENVELOP Protective Covers feature four patented layers of protection that work together to dramatically reduce environmental degradation. This technology has proven to be the protective cover of choice in Southwest Asia on multiple types of equipment and weapons systems including Counter Rocket, Artillery, and Mortar systems (CRAM), artillery, and aviation components.



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ENVELOP
PROTECTIVE COVERS

A Product of Shield Technologies Corporation

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ENVELOP Procurement Options



Toward the end of a fiscal year, Department of Defense (DoD) units identify opportunities for procuring items that produce a positive return using end-of-year or "sweep-up" funding. ENVELOP Protective Covers, exclusively produced by Shield Technologies Corporation, represent a tremendous return on investment. Four basic procurement options are available.

1) ENVELOP covers with assigned National Stock Numbers (NSNs) can be easily ordered via normal Defense Logistics Agency (DLA) channels.

2) Shield Technologies Corporation holds General Services Administration (GSA) contract number GS-07F-9386S. Units can place orders using the GSA Web-based process.

3) Shield Technologies Corporation accepts government credit card purchases up to the authorized limit of the cardholder.

4) Units with contracting officer support can place requisitions with their contracting officers who can then solicit and purchase covers directly from Shield Technologies

in accordance with Federal Acquisition Regulation (FAR) procedures.

• **Option 1** is the most simple procurement method; however, the cost to the unit will be higher due to DLA overhead markup, and the delivery schedule can be more difficult to determine.

• **Options 2 and 3** will provide a lower cost to the customer, and Shield Technologies can forecast delivery, often shipping items in inventory the same day.

• **Option 4** also features lower cost. Delivery is subject to the amount of time necessary to meet FAR requirements and awarding a of contract.

In the ongoing battle against corrosion and environmental degradation, ENVELOP covers have proven to reduce maintenance man-hours and maintenance costs. Some examples:

Direct Costs

• The U.S. Navy spends \$2,600 on a cover every two years for its 25mm gun. The program manager reports a savings in corrective

maintenance of \$36,000 to \$40,000 over the two-year period using ENVELOP Protective Covers instead of traditional vinyl or canvas covers.

• The Navy procures ENVELOP covers for its shipboard torpedo tube mounts — a \$3,500 cover normally lasts two full years. Previously, vinyl or canvas covers meant poor protection, leading to serious corrosion of the system's solenoid motors (three per tube mount) every six to nine months. Each of these motors costs \$6,000 for a total of up to \$36,000 over a two-year period. ENVELOP covers extended the life of the solenoid motors by 50 to 100 percent, saving the service at least \$18,000 over the two-year time frame.

• U.S. Navy trim and drain motors are used on fast attack submarines and have to be replaced periodically. Rebuilt or refurbished motors are used and are normally shipped from a maintenance facility to the place where the work is being done. Due to corrosion and moisture, 80 percent of the motors were rendered inoperable due to the shipping process. ENVELOP helped resolve the problem and saved the Navy over \$20,000 per refurbishment.

Man-hours

• ENVELOP Protective Covers reduced the maintenance required on U.S. Navy .50-caliber mounted machine guns from 10 to 14 hours per week to one hour per week.

• ENVELOP covers reduced man-hours for an eight- to 10-man M198 Howitzer crew by at least 2,000 hours per year. At a minimum, the amount of time spent on corrosion was reduced by 15 hours per soldier/marine per

month. This relates to nearly two extra days for other training or maintenance activities.

Questions regarding procurement of ENVELOP Protective Covers should be addressed to a Shield support representative, or contact Shield Technologies directly at its Eagan-based operations headquarters. Shield Technologies takes pride in providing high levels of support for all customers.

Apache Program Manager Chooses ENVELOP. . . Again

For the second straight year, the Apache Program Manager (PM) has purchased ENVELOP Protective Covers to protect the Modernized Target Acquisition Designation Sight (M-TADS) for the AH-64D Longbow. Summer 2008 saw the first sizable protective cover purchase by U.S. Army Aviation when it acquired 108 M-TADS covers, enough to field covers in support of four attack battalions, all of which have been to Iraq or Afghanistan, or are there now. The feedback from these units on ease of installation and removal of the cover, its durability, and the protection it provided the M-TADS was so positive that 253 additional covers were purchased in June 2009.

Since 2008, 12 additional custom covers have been developed and are available for specific parts of the Apache. One of these newly developed covers was specifically designed (at the request of Army Aviation

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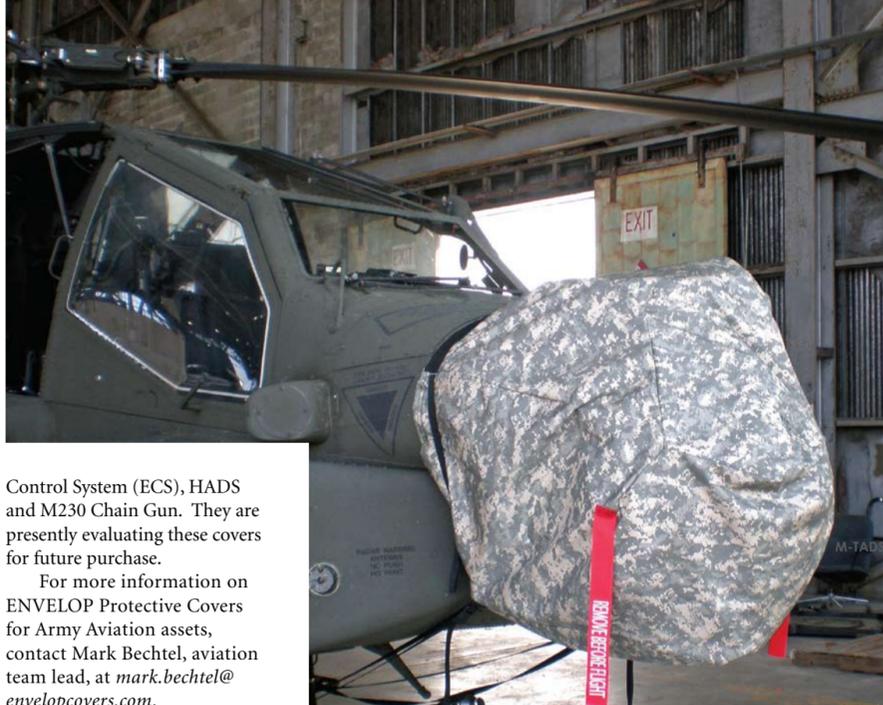
Apache Program Manager Chooses ENVELOP. . . Again

maintenance officers) to protect the Canopy/EFAB (Extended Forward Avionics Bay) from the extreme temperatures of the desert to which Apaches are routinely deployed. All previous tests have shown that ENVELOP Protective Covers maintain, within 10 percent of ambient temperature, the equipment they cover. That's good news for Army Aviation because unprotected aircraft on the sunbaked flight lines of Iraq and Afghanistan can easily reach temperatures that exceed 160 degrees in cockpits and avionics compartments.

In June, the Kuwait Air Force was provided with covers for the M-TADS, Canopy/EFAB, 19 Shot Rocket Pods, Environmental

Control System (ECS), HADS and M230 Chain Gun. They are presently evaluating these covers for future purchase.

For more information on ENVELOP Protective Covers for Army Aviation assets, contact Mark Bechtel, aviation team lead, at mark.becht@envelopcovers.com.



M-TADS

Navy Guns Benefit from Custom Cover Upgrades

Recently, Shield Technologies Corporation rolled out an improved version of its ENVELOP MK-38 Mod 1 25mm Machine Gun cover. Using comments and suggestions received from U.S. Navy and Coast Guard sailors, the changes to the cover make it easier to install and allow for improved preventive maintenance checks.

"The war fighters in the field and in the fleet are the system experts and we take their input seriously," says Jeff Vold, director of military markets for Shield Technologies. "They are the operators and maintainers of the equipment and, as such, have firsthand knowledge of what works and what doesn't."

Feedback provided by sailors onboard the Navy's 179-foot patrol coastal (PC) ships and the Coast Guard's 110-foot patrol boats (WPB) proves Vold's point.

Working closely with the Gunners Mates from both the Navy and Coast Guard, changes were made to the previous MK-38 cover. The closure flap was moved from under the barrel at the front of the mount to a position running down the right rear area of the mount. Additionally, the flap seal was doubled and several more buckles were added to the closure to ensure the opening of the cover remains closed in even the most difficult conditions.

"Gunners Mates on these Navy ships and Coast Guard cutters were reporting that the flap on the front of the cover was being pulled open by the waves coming over the bow of these small vessels," said Jim Oaks, Atlantic Fleet technical support representative and retired Warrant Gunner. "Installing the cover while the vessel was under way was difficult at best. The

crucial changes have eased the burden on the sailor."

Because the opening was in the front of the cover, the technician had to remove the entire body of the cover to perform maintenance checks for the Gun Control Unit. With a strong wind coming over the bow, the main cover was difficult to get back on the mount due to the ballooning effect caused by the wind. Now, with the opening along the right rear area of the cover, the technician simply has to open the seam and fold back the corner to observe the indicator lights. This simple change allows for reduced man-hours dedicated to the daily checks over the long run.

The redesigned cover still features the breathable characteristics and water absorbent material found in the original design that has been shown to

have a return on investment of over 14 to 1. According to the commanding officer of one Navy PC, "The ENVELOP covers were a real lifesaver over there (northern Arabian Gulf)."

The improved MK 38 MOD 1 cover (P/N 113048) is currently available directly from Shield Technologies through GSA contract (GS-07F-9386S). They can also be ordered through the Defense Logistics Agency using the assigned National Stock Number (NSN 2090-01-519-5640) or via credit card by contacting Shield Technologies directly.

For more information on this or any of the ENVELOP Protective Covers, or to make suggestions for cover designs and improvements, contact your fleet technical support representative.

ENVELOP Tactical Rifle Cases Have Arrived

Environmental and climatic factors like heat and rain, humidity, or dust can threaten more than an operator's comfort. In combination, these influences can cause weapons to malfunction and place the life of the operator at risk. To defend against this unacceptable outcome, consider the ENVELOP Tactical Rifle Case M4/M16.

Originally developed for the U.S. Navy, the ENVELOP cover has quickly become the preferred choice in corrosion prevention throughout the U.S. military. Thanks to the unique, patented technology, individual operators are now able to protect their weapons with the same technology that is used to protect every Navy CIWS, Marine Corps M777, and Army HIMARS — to name a few critical systems.

The ENVELOP Tactical Rifle Case M4/M16 offers unmatched corrosion protection. The case protects the rifle by repelling

moisture from the outside while at the same time wicking moisture away from the rifle and expelling it.

An ENVELOP Tactical Rifle Case M4/M16 offers five layers of patented protection.

- Tough, flexible, waterproof outer shell allows moisture to evaporate from inside.
- Nylon honeycomb provides shock protection and helps the case maintain its shape.
- Layer of corrosion inhibitors conditions the microenvironment inside the case.
- Superabsorbent matrix stores and releases water through the case's outer shell; it can also depress the humidity inside the shell, thus preventing condensation.
- Innermost layer quickly wicks any water away from the rifle's metal surfaces.

In addition to anticorrosive properties, the case also provides the user with these accessories.



Tactical Rifle Case

- One case fits both the M4 and M16.
- Four double-stacked magazine pouches (8 magazines total).
- Two large pockets for additional storage (optics, cleaning gear, etc.).
- Two internal muzzle pouches fit to the M4/M16 for added stability.
- Sizing to handle weapon plus optic plus magazine (inserted).

To learn more about the ENVELOP Tactical Rifle Case M4/M16 and how this case can enhance combat readiness, visit www.envelopcases.com or contact the Shield Technologies military representative in your area.

ENVELOP Aircraft Covers: "They Look as Good as They Perform"

Shield Technologies Corporation is designing and testing a myriad of ENVELOP Protective Covers for Navy and Marine Corps fixed-wing and rotary-wing aircraft. The Department of the Navy has demanded that its services squadrons have the very best corrosion protection and defense against various other environmental effects and hazards that are so costly for airframe, weapons systems, and engine components. A recent example is the delivery of Boeing F/A-18C Hornet exhaust covers to the "Fighting Swordsmen" of Strike Fighter Squadron THIRTY-TWO (VFA-32) based at Naval Air Station Oceana, Virginia. The covers were custom designed specifically for the fighter and attack aircraft of the Hornet and Super Hornet series that are now so prevalent among Navy and Marine Corps squadrons.



F-18 Exhaust

Over the last 18 months, the design team at Shield Technologies worked extensively to perfect the Hornet aircraft's engine exhaust covers. A Pacific Fleet strike fighter squadron outfitted with the protective

covers is currently operating in an overseas-deployed status; its maintenance technicians report that the covers provide superior overall aircraft engine protection and are highly effective in reducing aircraft maintenance

in the harshest operating environments. An added bonus for these military units is that they also look great on the aircraft, presenting a smart, uniform flight line appearance.



Covering the Oil and Gas Industry

Drilling Riser Joints

ENVELOP Protective Covers are being used to protect vulnerable and highly valuable equipment across a spectrum of markets in some of the world's harshest environments. A recent application has been the protection of drilling riser joints in the oil and gas industry, components of which can be up to 70 feet in length.

Shield Technologies worked closely with Presserv, its Norwegian distributor, to develop an integrated solution that uses ENVELOP covers to protect the end of the risers. Additional vapor corrosion inhibitors (VCIs) are used to protect the inside of the joints. This complete system protects the risers from corrosion and environmental damage while being stored in yards or on rigs for extended periods of time. Shield has supplied numerous oil and gas industry companies with custom covers for equipment previously unprotected from the elements.

Contact Warren Hoskinson at whoskinson@envelopcovers.com or 713-829-0717 for more information.



Army Aviation Shadow

platoon received covers for the Shadow aircraft itself, the launcher, arresting brake, Data Interface Box (DIB), key components of the One System Remote Video Terminal (OSRVT) and the Tactical Automated Landing System (TALS). In just a few hours, soldiers from each platoon learned how to properly install, remove, and care for the covers. Later this year, each of these units will deploy in support of the Global War on Terrorism. While deployed, the units will provide feedback on effectiveness and durability of the ENVELOP covers in protecting the Shadow and its equipment. The Shadow is a vital system for tactical commanders and has already flown more than 225,000 hours in both Iraq and Afghanistan.

For more information on ENVELOP Protective Covers for army aviation assets, contact Mark Bechtel, aviation team lead, at mark.becht@envelopcovers.com.

82nd Airborne Calls on ENVELOP for Unmanned Aircraft

Shield Technologies continues to demonstrate the custom design versatility of its ENVELOP Protective Covers. The latest military asset to demand the very best environmental protection is the Shadow Tactical Unmanned Aerial Vehicle system (UAV) of

the U.S. Army's 82nd Airborne Division.

In May, Shadow UAV platoons in both the 1st and 4th Brigade Combat Teams of the venerable 82nd Airborne at Fort Bragg, North Carolina, were fielded with ENVELOP Protective Covers. Each