



1991: DESERT STORM TANK ART

# COMBAT ARMS

2011



EXCLUSIVE

## M14 EBR-RI

HOW TACOM  
BUILDS AN M14

REPORT

## USMC SMAW

INSIDE THE MK153  
83MM ROCKET  
LAUNCHER

TESTED

## ARMALITE SPR MOD 1

MEDIUM-RANGE  
MONOLITHIC 5.56

### FIELD TESTED:

#### BEST TRAINING

- > I.T.T.S. URBAN SNIPER
- > WARTAC CQC
- > VIKING TACTICS

#### BEST SIDEARMS

- > GLOCK 17 GEN4 9mm
- > FN FNX .40 S&W
- > ED BROWN STEALTH .45

#### BEST RIFLES

- > G.A. PRECISION .308
- > LES BAER .308
- > FNH SCAR-16 5.56



TACTICAL LAYERS AND SUPERB OUTERWEAR  
FOR TODAY'S DISCRIMINATING PROFESSIONAL.

# ARC'TERYX LEAF

**A**rc'teryx is a Canadian company known for its high-end outdoor climbing equipment and apparel. The company began in the early '90s and has always catered to the professionals who make their living out in the mountains. Arc'teryx products have never been intended for mass production and consumption. Instead, the company has focused on producing the most durable and relevant products for use by those whose lives depend on them.

The company's new Law Enforcement and Armed Forces (LEAF) line shares this same professional-grade focus. The LEAF line is intended for LE and military professionals who are actively engaged in the fight and shoulder all of the harsh physical requirements that this calling entails.

I recently had the opportunity to test the LEAF line's Alpha-series outerwear and Sphinx-series uniform pants and shirt. I wore these items to SureFire's Operation Winter Fury, where I was able to evaluate them in the snow-covered mountains and the icy cliff faces of Utah.



## THE SPHINX

The Sphinx line is a noninsulated soft-shell designed for wear like the traditional BDU/ACU. It can be worn next to the skin or over a base layer on cooler days. For Operation Winter Fury, I wore the Sphinx pants next to my skin and the Sphinx top over an Under Armour T-shirt.

After spending nearly a week in the Sphinx series, I'll say that this is unequivocally the most amazing "uniform" a soldier could hope to wear. Special Operations units who have fielded the line refer to them as "tactical pajamas" due to their extreme comfort, lightweight and breathability.

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BY TOM BECKSTRAND  
PHOTOS BY SEAN UTLEY

Oftentimes, the downside of excellent breathability and comfort is a lack of durability. I remember the rip-stop cotton BDUs/ACUs that I wore when I was in the service. They were also pajama-like after several wash-and-wear cycles. Unfortunately, they were so faded that they looked like cook whites and tore so easily that I often had to have them repaired after each deployment (or I just threw them away because they were cheap and worn out).

Arc'teryx uses a material called Tweave Durastretch for the Sphinx line that is a specially woven, motion-friendly nylon. The result is that the Sphinx has that unparalleled comfort right out of the wrapper, but it also has a level of durability that is impossible to

replicate with cotton or cotton blends.

For those who engage in intense physical activity, it is common knowledge that cotton is the enemy. Cotton is prevalent in clothing because it is cheap and easy to manufacture into apparel. When evaluated against other materials, it exhibits exceptionally poor performance, often the lowest in terms of insulation and durability.

Tweave Durastretch from Arc'teryx is my new favorite uniform material. Its articulated patterning produces a cut of clothing that allows for an unimpeded full range of motion with no excessive bulk.

It is light, breathes well and absorbs almost no moisture.

Moisture absorption is a big deal for those in law enforcement and the military. Physically intensive activities often last for hours, and wet clothing worn during these activities causes a number of issues.

I'm reminded of a 36-mile forced march I participated in shortly after



The author and his teammates put the new Arc'teryx LEAF line up against a frigid week of winter sniper training in the Utah mountains.



I was commissioned in the infantry. We covered the 36 miles in 12 hours while carrying our rifles and 20- to 25-pound assault packs. It was during the summer in North Carolina, so everyone was soaked in sweat not long after the march began.

The cotton uniforms we were wearing absorbed water like sponges and caused some of the most exquisite chafing I've ever experienced. The march was punctuated by the occasional 10-minute rest break, during which many of us blew out the crotches of our issued uniforms when we knelt down on one knee.

While tearing the crotch out of one's pants does provide a degree of comic relief, it becomes a tremendous nuisance on an extended operation. The torn seams cut and chafe, not to mention that there's the unflattering exposure of one's genitalia and the negative public relations this fosters with conservative indigenous personnel and conventional military officers.

The easy fix is to put on a new pair of pants. However, this is not always an option. I once went on an extended urban sniper mission not far from the Syrian border where the only personal items I had room to take in my pack were a T-shirt, two pairs of socks and my toothbrush. As ridiculous as it sounds, I made sure that I adjusted my pants before kneeling or squatting even after the shooting started.

The issues I experienced on the 36-mile march and operations in Iraq and Afghanistan serve as case studies of what is wrong with most of the tactical clothing available today. The materials are chosen and cut based on cost. Most manufacturers gear production toward ease of manufacture and a competitive price point. This is a common business practice. While most try to create a robust line of clothing, durability takes a back seat to manufacturing cost and price.

Arc'teryx works much differently. Its goal is to produce the most relevant product available. Materials are chosen with the end use foremost in mind. The

patterns of the cloth are cut not for ease of manufacture, but end-user ease of movement. These garments are designed to fit and function on a body in motion.

The Arc'teryx approach is what differentiates this company from its competitors. The LEAF line's explicit goal is to craft relevant garments capable of surviving the rigors of combat without requiring replacement mid-operation or mid-deployment. For those who have experienced the dilemma of garment failure in combat, it's nice to know that Arc'teryx is providing a solution to that problem.

## THE VIA FERRATA

The most illuminating experience I had with the LEAF Sphinx line came during a day spent on a via ferrata in the mountains above Ogden, Utah. A via ferrata is a mountain route with fixed cables and ladders to assist a climber along the path up. During SureFire's Operation Winter Fury, I spent a day humping a 25-pound pack and a 15-pound rifle along the via ferrata to the mountain's summit. It was a 400-foot snow-covered ascent.

I wore a Sphinx top and bottom as my only layer for the adventure. While the temperature hovered in the low 30s, the level of physical activity was such that I still perspired considerably on the climb even though I wore only one noninsulated layer.

This is where I learned to love Tweave Durastretch. My perspiration evaporated almost immediately, allowing me to stay warm during the short rest breaks on my way to the top. The Tweave also had a stretchiness to it that made my physical contortions possible. I never once felt the seams of the pants tug tight through the crotch even as I stretched, crouched and wiggled my way to the top of the mountain. The gusseted



The LEAF system is designed for the active operator who requires flexibility, protection, breathability and comfort while on the move. No other uniform comes close to the quality Arc'teryx is currently offering.

crotch was absolutely magical.

At the end of my ascent, the only mark on the clothing was a small scratch on the webbing-reinforced knee that resulted from grinding my knee onto a rock's sharp edge during the climb. I rested at the top and, once I cooled off, donned my Alpha LT jacket and Alpha pants.

## ALPHA OUTERWEAR

While the LEAF line is only available to military and LE personnel, Alpha outerwear is also available to civilians through Arc'teryx's regular line. Alpha outerwear is made from Gore-Tex and comes in both regular and lightweight versions.

Arc'teryx uses a number of unique manufacturing techniques that make its garments exceptionally strong and offer additional water repellency. Arc'teryx uses stitching that creates much smaller and tighter stitches. While most of its competitors' garments have eight stitches per inch, Arc'teryx has 16 stitches per inch. Putting twice as many stitches into the same amount of space greatly strengthens the seam.



The Tweave Durastretch permits unusual physical contortions. This can certainly be appreciated by anyone who has felt the seams of pants tug tight through the crotch area or the restriction of an incline movement in the legs.

The small, tight stitches also allow Arc'teryx to cut the excess seam material inside the garment much closer to the stitches themselves. When folded over and taped, this narrow seam means that Arc'teryx can use much less Gore seam tape than its competitors. The use of seam tape adds a lot of bulk and rigidity to outerwear and should always be minimized.

Arc'teryx was also the first outdoor clothing manufacturer to develop a waterproof zipper. The zippers on all of the Alpha garments are welded with adhesive into place to prevent any water from seeping through the seam. There is also a rubber covering on pocket zippers that extends over the zipper to further repel water. Finally, the zipper has its own "garage" when it is closed to prevent any water from getting in through the opening edge.

I wore the Alpha LT jacket and Alpha pants for four days of shooting during the Utah winter. During that time I saw one day of sun, one day of rain and two days of snow. At times, I was shooting from the prone while lying in a puddle.

Not once did any water get through either the jacket or the pants.

### WARP TECHNOLOGY

New for the LEAF line in 2011 is the WARP technology Rigger's belt. This belt is the lightest belt I've ever worn, and it is still capable of supporting 5,000 pounds. I wore the new belt for a week and greatly appreciated its light weight and slender profile.

Arc'teryx makes the belt by taking a section of nylon webbing and carefully removing each vertical stitch by hand. The portion of the belt that passes around the sides and back of the body is flattened out and welded with adhesive to a protective Tweave covering. The entire assembly weighs a scant 5.3 ounces.

The belt has an anchor point near the buckle and can be used to clip in to a restraining harness when riding in the doorway of a helicopter or during an emergency rappel. The low profile and light weight not only make for a very comfortable belt, it's one that works well under body armor.

### PARTING THOUGHTS

The Arc'teryx LEAF line has some truly revolutionary products. The Sphinx pant and top represent the absolute pinnacle of uniform technology and have lain claim to the title of my most favorite running-and-gunning clothes. While intended for military and LE use, the LEAF line is available to civilians through select retailers if you follow the links listed on the Arc'teryx LEAF Web site ([leaf.arc'teryx.com](http://leaf.arc'teryx.com)).

The Alpha line of outerwear is also available for civilian purchase through both the LEAF and the traditional Arc'teryx line. The stitching, seams, fit and construction of the garments are identical; the only difference between the regular Alpha and the LEAF Alpha is a couple of extra pockets on the LEAF and the color.

While some might balk at the cost of the LEAF line, professionals who know the value of effective and durable clothing will gravitate toward it. No other company has devoted the number of resources or done its homework like Arc'teryx has with its products. The LEAF line leverages a couple of decades' worth of research and development and manufacturing to bring today's savvy warfighter the ultimate line of clothing. **CA**

### PRICES

#### Sphinx Pant

Weight—1 lb., 6.8 oz.  
Color—Crocodile, Multi-cam  
MSRP—\$449 (Crocodile), \$749 (Multi-cam)

#### Sphinx Top

Weight—13.7 oz.  
Color—Crocodile, Multi-cam  
MSRP—\$315 (Crocodile), \$549 (Multi-cam)

#### Alpha LT Jacket

Weight—12.9 oz.  
Color—Crocodile  
MSRP—\$499

#### Alpha Pant

Weight—1 lb., 1.1 oz.  
Color—Crocodile, Black  
MSRP—\$499