

# Homeland Defense

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## Long Beach California Tests Terrorism Response



# BlastWrap® from BlastGard International:

## Proven Protection Against the 'Improvised Explosive Device'

The improvised explosive device, or IED, the type of weapon that seriously wounded ABC News anchor Bob Woodruff and cameraman Doug Vogt, is changing the way wars are fought and homelands are protected. Often home-rigged and hidden, IEDs are being strapped to suicide bombers, dropped in trash cans, and affixed to buildings and Humvees, injuring and killing soldiers and civilians around the world. While nobody knows the exact number of deaths caused by IEDs, U.S. Deputy Defense Secretary Gordon England linked almost 90 percent of the Army's casualties in Iraq to the improvised explosives. IEDs — with a range of detonating devices from garage-door openers to infrared beams — have been used in fatal terrorist attacks in London (July 7 and July 21, 2005), Madrid (March 11, 2005), Moscow (Feb. 6, 2004), Bali (Oct. 12, 2002) and other locales around the world, killing up to hundreds of men, women and children sometimes with a single blast. And Britain's terrorism watchdog, Home Office, recently warned there is "real and present danger" of more suicide bomb attacks at home. One positive to arise from this grim situation: Florida-based BlastGard International (OTCBB: BLGA; [www.blastgardintl.com](http://www.blastgardintl.com)) has developed a proprietary technology — BlastWrap®, a 2005 winner of the Popular Science "Best of What's New Award" and the Aviation Week & Space Technology "Product Breakthrough Award" — that could help protect us from these unpredictable makeshift bombs.

### BlastGard as the Industry Leader

BlastGard is the leading developer of products designed to mitigate the effects of IED explosions and SAVE LIVES, REDUCE INJURIES and PROTECT VALUABLE ASSETS. BlastGard's technology, BlastWrap®, received a 10-star rating — the highest possible rating — from the United Kingdom's Home Office Scientific Development Branch, as well as fully instrumented test from Redstone Technical Test Center at Redstone Arsenal, an independent testing center of the U.S. Army.



**Dr. William S. Melvin**, Redstone's Technical Program Manager for Demilitarization and Recycling, Aviation and Missile Research, said, "I've always been a proponent of using products that are innovative. I felt strongly, after seeing the test, that BlastWrap® would have wide application."



***BlastGard is working to protect everyone from IEDs — no matter where or how the explosions may occur.***



Redstone, he explained, “was hired to conduct, on an independent basis, a test of the BlastGard product using standard test procedures.” It was concluded that BlastWrap® technology could be used “in a variety of applications for infrastructure protection, bridge protection, fire protection, in the civilian community for reducing blast effects, and for the military in armor protection for vehicles and facilities.”

***The MTR 91 and 101 are installed or being installed at the U.S. Navy base in Bahrain and the executive headquarters of the Department of Homeland Security in Arlington, Va., as well as along the Washington, D.C., metro system and in AMTRAK stations around the country.***

Additionally, BlastWrap® is being developed for use in vehicle protection, insensitive munitions packaging, and wall and bunker fortifications for the military; luggage containers for commercial

aircraft; structure protection for government and nongovernment buildings; pipeline protection for the oil and gas industry; and finished products, such as trash receptacles and a pipe-bomb mitigator, designed to be placed over a potentially explosive object by any first responder, immediately upon arrival at a suspicious device scene.

## **Few Companies in this Field, and No Real Competition**

According to a number of governments, military, business and civilian authorities, other companies’ products don’t compete. For instance, Nabco makes Total Explosive Containment Vessels meant for the “detonation of explosive devices and suspect materials,” as described on the company Web site. But these portable vessels weigh up to 11,000 pounds and cost tens of thousands of dollars. The BlastGard alternative, the pipe bomb mitigator, weighs about 45 pounds, can be carried in the back of a police car and can protect an entire area from a ½-pound smokeless powder pipe bomb or up to two pounds of TNT.



The Israel-based Mistral Group makes “blast-containment” trashcans that, according to the company Web site, vent “residual blast energy” “upward away from the public.” Perhaps a useful tactic in open fields, this is not a safe process in confined areas, such as bus and train stations, airports, courthouses and office buildings — the types of locations most likely to face the threat of an IED explosion.

***“BlastWrap® needs to be examined and considered for application,” said retired Marine Maj. Gen. Jim Battaglini, chief operating officer of BlastGard development partner and U.S. military supplier Colt Defense. “I am not aware of anything else like it.”***

As BlastGard Chief Executive Officer James Gordon explained, “When a blast exits the top of a can it immediately goes hemispherical. Blast pressures and fireball spread downward to the floor, as if the can were not even there. When blast pressures are not mitigated in the presence of hard surfaces, reflected pressures result. So, when pressures bounce off a column and recoil off walls, the ceiling

and floor, reflected blast pressures can be as much as eight times the incident pressure. BlastWrap® dramatically reduces or eliminates this phenomenon. BlastWrap® interacts with the explosion and, in less than one thousandth of a second, quenches the fireball and reduces blast pressures, usually by 80 percent to 85 percent. The blast pressure and fireball can kill as readily as a speeding fragment, but BlastWrap®, the blast-intelligent technology employed in our trash receptacles, addresses all aspects of an explosion. BlastWrap protects against primary and secondary fragmentation, blast pressures and thermal effects such as the fireball, after-burn and post-blast fire, all within the MTR trash can itself.”



**Randy Robinson**, manager of Track and Systems Maintenance Engineering for the Washington Metropolitan Area Transit Authority, said:

*“We looked into different manufacturers in coordination with our transit police department and determined this was the best can on the market. We are confident we have the best product out there and that it will work as specified. Hopefully that’s enough to thwart any attempt to try anything.”*

**Colonel Jim Flowers**, commanding officer of the Marine Corps Engineer School, which tested the BlastWrap® technology at its Camp Lejeune base in North Carolina, added:

*“I don’t know that there’s a comparison. I’ve never seen anything like it. It has a unique capability that we don’t currently possess. This could save us lives and resources.”*



## How BlastGard’s BlastWrap® Works

BlastWrap extinguishes the rapid burning of the fuel- rich detonation products preventing the liberation of the energy contained in those gases. In milliseconds, the attenuating material in BlastWrap completes its interference with the fireball , fully quenches the fireball, kills afterburn





and post blast fires. Simultaneously, BlastWrap interacts with the blast pressures and profoundly mitigates the shock waves. In 4 milliseconds BlastWrap substantially suppresses the thermal energy, gas pressures and the overpressure's of a blast. BlastWrap is the really a **Blast Intelligent Technology.**

BlastWrap® is a passive mitigation system. It does not require any power, maintenance or triggering. It simply waits for an event that will hopefully never occur; and its work is done long before a thousandth of a second has transpired.

***“There’s a difference between blast containment, blast resistance and blast mitigation. Everybody likes to use the word ‘mitigate,’ but you can’t mitigate unless you actually interfere with the explosion processes and do something to reduce it,” said BlastGard CEO Gordon. “BlastWrap® interferes by intermingling with the explosion, putting out the fireball in four to five milliseconds, and, at the same time, reducing the blast pressures by about 85 percent. An explosion in excess of 10 pounds, for example, will be reduced to the point that a person 10 feet away will only get ringing in his or her ears.”***

Adaptable to any surface, BlastWrap® is made from two laminated, flexible films arranged one over the other and joined by a plurality of seams. Pockets thermo-formed between the seams are filled with a mixture of flash-suppressing and extinguishing powders and a horticultural grade of expanded perlite, a volcanic material that is

sometimes used with potting soil. When perlite ore is heated, water trapped in the rock expands, “popping” like popcorn, creating expanded perlite. When a blast occurs, the expanded perlite “beads” are crushed one by one, expending shock wave energy, or blast pressure, and minimizing damage to the surrounding area, while the fire extinguishants rapidly snuff out the fireball.

This could save countless lives in Iraq, in America and wherever else the war or terrorism and the use of IEDs are a constant threat.



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# INTRODUCING THE TRASH CAN THAT SAVES LIVES

ONLY BLASTGARD MTR VIRTUALLY ELIMINATES ALL FIVE DEADLY BOMB HAZARDS

1. Captures primary fragments
2. Eliminates secondary fragments
3. Reduces primary blast pressure by 80%+
4. Dramatically reduces reflected pressure
5. Quenches fireball in 4/5 millisecond

Other containers work only for fragments. But because the BlastGard MTR trash receptacle mitigates all five bomb hazards, it's the best bomb protection for public places. BlastGard MTR is proven in blast tests at the U.S. Army Redstone Arsenal. And it's already protecting people and property at the U.S. Navy Base in Bahrain, at Department of Homeland Security headquarters in Arlington, VA, and in railroad stations in New York City, Chicago, Los Angeles, Philadelphia, Washington D.C. and many other cities.



BlastWrap from BlastGard® MTR Trash



Actual photos taken during blast test at Redstone Arsenal. Left Photo shows unmitigated blast in conventional container. Photo on the right shows mitigated blast stemming from use of BlastWrap from BlastGard® MTR. Blasts conducted using 12 pounds of explosives.

Find out how BlastGard MTR will protect people and property at your facilities:  
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