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## Homeland Security

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Gaining Ground on  
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## Guarding Against Improvised Explosive Devices

By Grant Haber

Once confined to troubled and distant lands, pipe bombs and other improvised explosive devices (IEDs) now pose a serious threat to federal, state, and local government facilities here in the United States. These devices can be easily and inexpensively assembled and placed in busy population centers. Schools, shopping malls, stadiums, and other public places where people walk freely all are potential targets for terrorist attacks.

Guarding against terrorist attacks involving IEDs starts with a basic understanding of a typical bomb. People must recognize that a bomb usually is made to look like an everyday widget and that the stereotypical bombs with burning fuses are virtually nonexistent. The only common denominator that exists with all explosive devices is that they are intended to explode. For this reason, it is important to suspect anything that looks unusual, and to let a trained bomb technician determine whether it is an explosive device.

"Hard" targets like airports, government offices, and military bases have long implemented technologies such as X-ray screening systems, explosive trace detectors, and metal detectors to increase security. Additionally, perimeters and security checkpoints usually are established to reduce vulnerability to attacks using explosives. Unfortunately, "soft" targets like hospitals, schools, shopping malls, and other public places

often do not have the same resources to set up such physical obstacles, and are therefore more vulnerable to this type of terrorist attack. However, one measure both hard and soft targets can take is to implement both physical security and bomb incident plans.

### DRAWING THE LINE

Physical security plans generally are designed to prevent or control access into a facility for the purpose of protecting personnel and property from unauthorized entry, sabotage, theft, or other illegal acts. A facility with no established perimeters or security checkpoints must implement a broader security plan to minimize its vulnerability and mitigate the potential effects of a terrorist attack. Contact your local police, fire, and government officials to determine who best can assist you in developing your own physical security plan.

Specifically, bomb incident plans are developed to provide detailed procedures to follow after a bomb threat has been received or a bomb has actually been detonated. The most important element of a bomb incident plan is to create a clear line of authority for the purpose of instilling confidence in the public and avoiding panic. After outlining the responsibilities of each member in the chain of command, a primary command center should be designated along with a secondary command center in the event the primary post is destroyed during the attack.

This information needs to be documented, cir-

culated, posted, and readily available in adequate quantities. Due to the sensitive nature of a bomb incident plan, you should also contact your regional office of the federal Bureau of Alcohol, Tobacco, and Firearms, and local police and fire departments for assistance. For additional information on responding to and managing bomb threats or bomb incident planning, visit [www.bombdetection.com](http://www.bombdetection.com), and click on the "Bomb Threats & Security Planning" link.

Establishing physical security and bomb incident plans are important, but testing those plans with periodic scheduled and unscheduled drills can help to determine their range of effectiveness during an actual attack. Drills are designed to expose weaknesses within such plans, thus allowing those in charge an opportunity to make changes in a calm and controlled environment. Once that wave of changes has been implemented, then test them again to ensure readiness.

Of course, even the best laid security plans and awareness training programs cannot protect a facility from an extremist or terrorist planting an explosive device inside a nearby public mailbox or trash receptacle. For this reason, many public mailboxes currently are either being removed or relocated strategically at safe distances away from public meeting places. Trash receptacles, though, cannot be as easily removed or strategically relocated because of their waste management function. That makes them one of the easiest spots for a terrorist to conceal a bomb in a public or private facility.

In fact, not only can trash receptacles easily hide IEDs, they can even worsen the attack by spraying shrapnel over great distances. A terrorist attack using ordinary trash receptacles and remote-activated or time-delayed explosive devices can



This test was done at the Energetic Materials Research and Testing Center, an independent testing facility located in Socorro, N.M.

be easily coordinated to strike multiple places simultaneously or in stages, without exposing the terrorist.

### **SUPER GARBAGE CANS**

To reduce the threat to public safety and facility security created by ordinary trash receptacles, bomb-resistant garbage cans now are being deployed from coast to coast. Designed to look and function like the ordinary trash cans found at malls, airports, and stadiums, these garbage cans were designed to eliminate all horizontal fragmentation resulting from the detonation of an explosive device from within. To deliver the level of force protection required to mitigate the effects from a terrorist's bomb, the referenced bomb receptacles integrate several different types of steel, a special absorption material, and a special resilience material.

The U.S. Department of Homeland Security has not yet created a formal testing standard for this new antiterrorism technology, therefore, agencies and corporations that are considering bomb resistant trash cans for their facilities must exercise good judgment when purchasing this technology. In order to regain and maintain an edge over the terrorist, purchasing entities should not publicize in a solicitation, or request for a quote, the amount of explosives their receptacles are required to withstand during an explosion. Doing so will enable the terrorist to possibly defeat the technology by simply using a larger bomb. The future deployment locations of this antiterrorism technology should not be publicized either, since doing so could result in the terrorist planning a more significant attack, such as a car bomb.

It is equally important for all customers to know what they are purchasing. Understanding how a bomb-resistant receptacle was tested to ensure its reliability during an actual terrorist attack is vital for public safety and facility security. Since it cannot



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**This is a close-up post-detonation photo, from a side wall test, using C4 explosives.**

be controlled where within a trash receptacle an IED will be placed—bottom center, side wall weld seam, side wall opposite weld seam, and midpoint center—detonation tests should all be conducted to determine the actual amount of explosives a particular receptacle can withstand.

### **PASSING THE TEST**

During testing, it is essential to anchor all bomb-resistant receptacles to a steel and concrete slab in order to create a real deployment scenario. Tests conducted on a dirt surface are misleading because the majority of the blast energy will be absorbed by the ground instead of the receptacle. Testing bomb receptacles under parameters equivalent to how they will actually be deployed will increase their reliability during an actual attack. It is important also to understand that during an actual terrorist attack the trash receptacle could tip, roll, and gain a tremendous amount of momentum, endangering anybody in its path.

Before purchasing bomb-resistant waste receptacles, it is important to obtain an official report that con-

firms how the product was tested and ensures that an accurate explosives containment rating was obtained. The document should originate from a recognized United States testing facility and should include the type of explosives used, how the explosives were packed, what the explosives were packed inside of, and must confirm that an equal explosives charge was used for every test. For detailed information about bomb-resistant trash receptacles, or to watch pre-recorded product testing videos taken from the Energetic Materials Research and Testing Center, visit [www.bombreceptacles.com](http://www.bombreceptacles.com).

If there is one point that can never be overemphasized, it is the value of being prepared. During a terrorist attack involving an explosive device it is essential to leave the crime scene immediately, moving to an open space or protected area. Do not form or join a crowd because there may be additional explosive charges around. Avoid tall buildings, glass windows, vehicles, and additional garbage cans. Once you have reached a secured area, call the police if they have not yet arrived. If there are already police at the scene, follow their instructions so they can secure the area and do their job effectively.

After a terror incident involving an IED, it is also important to remain clear of the crime scene. Don't be fooled if there hasn't been a secondary explosion for a short period of time and the area is occupied by police, fire, and rescue workers. There could still be additional bombs just a short distance away. If possible, move all vehicles out of the area to make way for fire and rescue vehicles. Remain aware of your surroundings and be certain to report any suspicious activities, objects, individuals, or vehicles you remember seeing before, during, or after the incident. **PW**

— *Haber is the president of American Innovations Inc., Spring Valley, N.Y.*