



The Journal of

Counterterrorism

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Seeking the Edge Through Education, Training, and Technology

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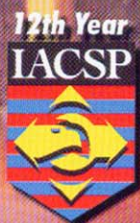
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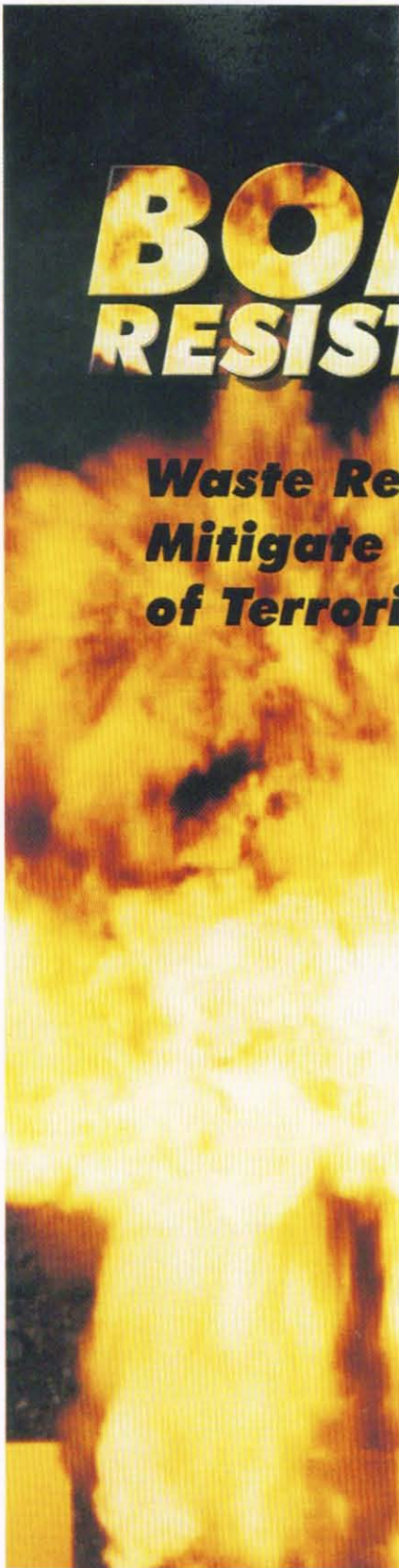


2003
Vol. 9, No. 4
US \$5.95

www.iacsp.com

BOMB RESISTANT

Waste Receptacles Mitigate the Effects of Terrorist Attacks

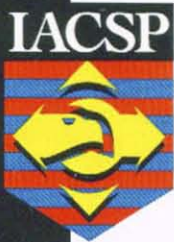


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last mitigation devices, such as bomb resistant waste receptacles, are being deployed to replace one of the softest terrorist targets— trash receptacles. Trash receptacles, which are a necessity for waste management, pose a serious threat to public safety and infrastructure security, considering how easily they can conceal an explosive device planted by a terrorist. The trash receptacle becomes part of the attack and maximizes the intensity of the explosion by spraying shrapnel and fragmentation at great distances. It must also be understood that a terrorist attack using ordinary trash receptacles and remote activated or time delayed explosive devices can be easily coordinated to strike multiple places simultaneously or in stages, without exposing the terrorist.

Agencies and facilities considering deploying bomb resistant trash receptacles to reduce their vulnerability to this type of an attack must exercise good judgment when purchasing and installing this technology. In order to regain and maintain an edge over the terrorists, agencies and facilities should not publicize the amount of explosives their bomb receptacles are able to withstand during an explosion. Doing so will enable the terrorists to possibly defeat the technology by simply placing a larger size bomb inside the receptacle. The locations of their newly purchased anti-terrorism technology should not be disclosed either, because doing so will most likely result in the terrorist planting their bomb inside something without any force protection.

Detonation Picture: "Photo taken from the Energetic Materials Research and Testing Center (EMRTC), an independent testing facility located in Socorro, New Mexico"



By Grant Haber

During testing, it is essential to anchor all bomb receptacles to a steel and concrete slab in order to create a real life deployment scenario. Tests conducted on a dirt surface are misleading because the majority of the blast energy is absorbed by the ground instead of the receptacle, which will be doing all of the work during an actual attack.

In addition to protecting the explosive containment ratings and not disclosing the installation locations for newly purchased bomb receptacles, it is equally important for all customers to know what they are purchasing. Understanding how a bomb receptacle was tested to ensure its reliability during an actual terrorist attack is vital for public safety and infrastructure security. Since it cannot be controlled where within a trash receptacle an explosive device will be placed, bottom center, side wall, and mid-point center detonation tests must all be conducted to determine the actual amount of explosives a particular bomb receptacle can withstand from an explosion. This amount of explosives is referred to as the explosive containment rating.

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surface are misleading because the majority of the blast energy is absorbed by the ground instead of the receptacle, which will be doing all of the work during an actual attack.

Before purchasing any bomb resistant waste receptacle, it is important to obtain an official test report that confirms how the product was tested, ensuring an accurate explosives containment rating was obtained. The report should come from a recognized U.S. testing facility and must include the type of explosives used, how the explosives were packed, and what the explosives were packed inside of to ensure an equal explosives charge was used for every test. Be certain the test report incorporates close-up post detonation photos and is accompanied by the actual video footage taken from the testing.

Before analyzing an official test report and watching the supporting video, it is very important to understand what determines a successful test. Once the testing guidelines are established by an independent testing facility, determining what constitutes a successful test is rather obvious. The bomb receptacle must remain standing after the explosion, the stainless steel top must remain attached to the receptacle, and there can be no penetration to the outer wall of the receptacle.

In addition to tests using C4 or TNT to measure blast energy containment, fragmentation containment tests should also be conducted with pipe bombs.

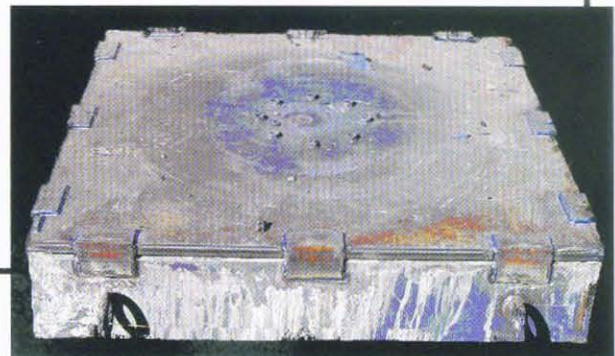
During an explosion in a

bomb resistant trash receptacle, the initial blast energy and fragmentation is contained horizontally and the remaining blast energy is directed vertically. For this reason, the garbage liner that holds the trash bags in place should be made of a plastic material as opposed to metal, because parts of the liner will become airborne during an explosion.



Post-detonation Picture: "This is a close-up post detonation photo, from a side wall test using C4 explosives"

Anchoring Slab (Below).



The cover of this issue features a side wall explosion using C4 explosives, and the close up post detonation photo of the same. These photos were taken at the testing site and all tests were conducted at the Energetic Materials Research and Testing Center (EMRTC) located in Socorro, New Mexico. EMRTC is an independent testing facility that is well-known for developing and testing ordnance devices for the Department of Defense and Aviation industry for over 50 years.

If you look closely at the post detonation photo, you will notice that the receptacle was anchored to a steel and concrete slab during the tests and that the receptacle remained standing after the explosion. You will also notice that the stainless steel top ring remained attached and that the outer wall of the bomb receptacle only bulged and was not penetrated from the explosion. Given all the testing parameters, this was clearly a successful test.

To create a real life deployment scenario, Bomb resistant trash receptacles should be anchored during testing. It is very important from a security standpoint to know the product is tested exactly how it will be installed. Bomb receptacles that can pass a legitimate series of explosive tests and follow all the required parameters for obtaining an accurate explosive containment rating will most likely weigh over 1000 lbs. each, depending on the amount of explosives they were designed to withstand. During an actual terrorist attack a bomb receptacle could tip, roll, and gain a tremendous amount of momentum, endangering anybody in their path. For this reason and given the weight of each receptacle, it is recommended that all bomb receptacles be anchored when they are installed.



The bomb receptacle that is featured in this issue integrates a single point stainless steel anchoring system that will withstand four thousand pounds of shear (horizontal) and tension (vertical) force. The nice thing about a single point anchoring system is the limited amount of time it will take to install each receptacle, a very important detail when calculating the actual cost per unit.

The main purpose of a bomb resistant trash receptacle is to look and function like an ordinary waste receptacle. However, unlike the conventional trash receptacles seen today in airports, universities, malls, and other public places, these are developed to protect people from the harmful effects of an explosion. Unfortunately, there are currently no official standards for vendors to comply with when developing bomb resistant waste receptacles. There are also no restrictions placed on buyers when purchasing this technology. This makes it important to ask the right questions and exercise good judgment when purchasing and deploying a technology of this nature.

Grant Haber is an IACSP member and is President of American Innovations. For more information about these bomb resistant waste receptacles, or to watch the actual video footage from the product testing, visit: www.BombReceptacles.com or call 845-371-3333 to receive a free brochure.



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