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## Designing heavy-duty protection

*Ballistics Research staff says its material could protect oil pipelines and embassies from attacks.*

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The evidence of Leslie Duke's last year and a half of work is strewn about his Rome office — 12-inch-thick blocks that look remarkably good for having been hit with .50 caliber machine gun fire and military-grade dynamite.

Ask him what the blocks are made of and he'll just shake his head. "I can't really answer that," says Duke, a representative of Ballistics Research.

In the white paper that he gives to potential customers, he calls the material Advanced Anti-Ballistic Composite, or AABC, a polymer-based substance designed to stop pretty much any kind of ammunition.

And its potential, he says, is enormous.

"We foresee this being used for critical installation protection — oil pipelines and embassies, for example," Duke said. "We want people to see the national security implications of this."

A particular block on display at Ballistics Research — roughly 2



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of .50 caliber machine gun ammunition, which has been criticized by some as dangerously unstoppable.

The AABC block stopped each round at about a 6-inch depth.

The U.S. military has been testing the material, Duke said, adding that he's not allowed to offer details about those experiments.

He is also scheduled to demonstrate AABC's ability to an oil company that is interested in protecting its pipelines and pump stations.

The material's affordability remains to be seen, and the company isn't ready to publicize a price.

"We think it's cheap for what it can do," Duke said.

AABC can be shaped into any form necessary, but one design that the company is marketing is its 3-Dimensional Interlocking Protective System.

The blocks are designed as cubes that lock together on all six sides so they are highly portable for soldiers in the field and can be quickly assembled into protective barriers of any size or configuration.

Duke says the interlocking blocks can offer protection against vehicles trying to ram a building, since they lock together as a single, heavy unit — unlike a brick or block wall that crumbles into separate pieces around the mortar joints.

In testing the composite material, Duke has gotten help from the Rome-Floyd County SWAT team and Northwest Georgia Bomb Squad, and the product proved impressive to Capt. Tom Ewing, commander of both squads.

"To stop what it's stopping — a comparable amount of concrete or steel would be ungodly as far as the weight," Ewing said.

"(Duke) comes up and tells us to defeat it if we can," he added. "We haven't defeated it yet. We've hit it with a lot of stuff."

Testing has shown AABC to also be impervious to saltwater, ultraviolet rays and petrochemicals, Duke said. It also won't ignite, so incendiary ammunition can't start a fire as intended when it hits the material.

The material's discovery was the result of Ballistics Research team members — many who are involved with law enforcement or former military. They realized that current forms of protection against terrorist attacks are insufficient.

"It went from concept to commercially available material in about a year and a half," Duke said.

He also says the material gets stronger with the more shots it takes, because the bullets lodge in it and increase its density.

"Everything out there, the more fire it takes the less protection it offers," Duke said. "This material provides better protection the more it's fired on."

The company's Web site, [www.ballisticsresearch.com](http://www.ballisticsresearch.com), contains



more information about the product and a video demonstration.

AABC is Ballistics Research's second major product. The company also continues to market its Duke Projectile Recovery System, which is being sold to law enforcement agencies for forensic testing in 35 countries.



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