

M-19 Abrams Reactive Armor Tile (ARAT)



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EBAD™ is the leading producer of reactive armor and energetic materials in the US. EBAD™ has been manufacturing explosive components for reactive armor applications since 1986 and was the prime contractor for the M-19 Abrams Reactive Armor Tile system, ARAT-1. The M-19 product is state-of-the-art technology that combines EBAD™'s fully qualified insensitive energetic materials with passive elements for greatly increased armor protection. It is significantly lighter than steel appliqué armor solutions.

APPLICATION:

The M-19 module has been fully fielded by the U.S. Army since 2006 as a rapid response to the threat posed by insurgents to heavyweight tanks in Iraq. The lightweight M-19 is a modular system that can be installed by hand. This allows for easy installation and change-outs depending on battlefield conditions or specific mission scenarios. Implemented as a hull, skirt, or turret armor, this mature armor system provides improved protection against the spectrum of shape charge threats, including those associated with operations in an urban environment.

The highly reliable M-19 technology has never had a safety incident in training, field operations, or combat. The armor requires no maintenance, power or sensors. Handling requirements are the same as those of ammunition, which can be handled and stored together. Collateral damage is kept to a minimum by extensive analysis and testing to eliminate detonation of adjacent armor modules during an attack, and by directing the response against the incoming threat. The armor meets the IM requirements of MIL-STD 2105 and has been extensively tested against small arms for insensitivity to Bullet and Fragment impact and is fully self-extinguishing.



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OPERATION:

The hot jet of the shaped-charge threat hits the metal plates, initiating the explosive layer in the middle, causing the two metal plates to fly apart, protecting the vehicle.

CONSTRUCTION:

The ERA (Explosive Reactive Armor) protection consists of cassettes. These cassettes are a layer of explosive material between two metal plates. ERA tile configurations substantially improve vehicle survivability against a range of threats. The protection can reduce soldier casualties and improve vehicle mission capabilities. Additional details can be provided upon request.

PACKAGING:

Tiles are packaged in a wooden box.



M-19 Abrams Reactive Armor Tile Packaging

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