

MARINE CORPS WARFIGHTING LABORATORY

This initiative examines the unique British FRAG-12 munition as a potential obstacle breaching and light vehicle defeat capability fired from Marine Corps 12 gauge shotguns. The objectives of these experiments are to verify the state of development of these rounds, the effects produced, and to obtain an interim safety determination to allow these rounds to be employed in combat.

Background: The FRAG-12 rounds have been in development since 1994 by the Experimental Cartridge Company, Ltd. and Action Manufacturing Inc., and have recently been tested by the United Kingdom Ministry of Defense (MoD) as a special forces application munition. They are being offered in High Explosive (HE), High Explosive Fragmenting Antipersonnel (HE-FA), and High Explosive Armor-Piercing (HE-AP). The Marine Corps Warfighting Laboratory contacted FRAG-12 and was able to obtain 100 rounds of the High Explosive rounds for initial testing. Based on early test results, the Experimental Cartridge Company and Action Manufacturing are updating the design of the FRAG-12 to allow safe firing in weapons with Improved Modified (IM) chokes or larger.

Description: FRAG-12 rounds are made up of a standard 3 inch 12-gauge cartridge case and propellant, firing a fin-stabilized 19mm warhead with a MIL-SPEC 1316 compliant fuze assembly. The projectile is designed to arm 3 meters from the muzzle and fires upon impact with a surface. The HE projectile has sufficient explosive power to make one inch holes in ¼ inch cold rolled steel plate. The maximum effective range for this round is claimed to be 200m, which would be a significant improvement for the effective range of a standard shotgun. The round is designed to allow the operation of gas-operated and recoil-operated semiautomatic shotguns. The armor-piercing projectile is a shaped charge design and is designed to penetrate ½ inch of steel armor. The main reason for experimentation is to examine these rounds as potential improvements to the combat effectiveness of shotguns in urban areas, using shotguns for stopping vehicles at roadblocks and checkpoints, barricade attack, and remote probing of potential Improvised Explosive Devices (IED).

Experimental Approach: 100 FRAG-12 HE rounds are being fired by Naval Surface Warfare Center, Dahlgren VA to provide data on the round's reliability, safety and handling characteristics. In addition, 40 rounds of inert-loader FRAG-12 have been obtained to allow accuracy testing at ranges where high explosive projectiles are not

FRAG-12 SHOTGUN AMMUNITION *fact sheet*



allowed. The most rigorous testing will be in the area of handling, storing, shipping, and firing safety to provide the combatant commanders the data needed to determine if a safety waiver for use in combat is warranted.

Benefits:

- Large potential increases in 12-gauge shotgun effectiveness and effective range.
- Increased lethality against light vehicles.
- Increase in “shocking power” in urban combat through rapid-fire engagement with high explosives.
- Relatively low-cost, low-risk combat enhancement at low investment.

Deliverable Products:

- FRAG-12 firing test and safety data.
- Initial Interim Safety Recommendation.
- Experimental FRAG-12 rounds provided to troops in Iraq for combat operations.

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