

ARMY PROGRAMS

M829E3 120mm Armor-Piercing Fin-Stabilized Discarding Sabot-Tracer (APFSDS-T) Cartridge

The M829E3 Armor-Piercing Fin-Stabilized Discarding Sabot-Tracer (APFSDS-T) cartridge is a 120mm round designed to be fired from the Abrams tank. It is a kinetic energy (KE) round that fires a uranium alloy rod designed to penetrate and destroy enemy heavy armored vehicles. The design is driven by the need to counter KE-effective explosive reactive armor (ERA) and the desire to destroy targets at a longer range than is possible with the current M829A2.

The M829E3 is on the Test and Evaluation oversight list for Live Fire Test and Evaluation (LFT&E) only. LFT&E for this program includes both lethality and vulnerability evaluations. System lethality will be assessed with respect to expected threat tanks. The evaluation will also address the effect on Abrams tank vulnerability once the current ammunition (M829A2) is replaced with the M829E3.

TEST & EVALUATION ACTIVITIES

Testing for the M829E3 LFT&E during FY02 included:

- Phase I Production Qualification Tests (PQT) against range targets (approximately 60 shots).
- Phase II PQT against shotline simulant targets (approximately 30 shots).
- Full-scale vulnerability tests using Abrams tank hardware and stowage plans (3 shots).

TEST & EVALUATION ASSESSMENT

Results from the Phase I and II PQT were consistent with the preliminary data gathered during the final tests of production-representative Engineering and Manufacturing Development hardware during FY01. Specific discussion of the targets used during testing, and the results of the tests, are classified.

The provision for use of shotline simulant targets in the Phase II PQT represents an intelligent approach to realistic lethality testing, given the difficulties inherent in acquiring representative threat targets and testing with ERA and depleted uranium ammunition. An important component of the lethality evaluation will be a thorough discussion of the special considerations and limitations accepted in the design of these targets and the assessment of individual test outcomes.



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