APAM-MP-T 120mm, XM329

(Anti-Personnel / Anti-Materiel – Multi Purpose Tank Round)

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APAM 120
MISSION STATEMENT

To provide the best round for Main Battle Tanks (MBTs) against targets other than tanks:

- To provide rapid and lethal direct fires in support of assaulting infantry
- To incapacitate infantry, especially AT squads (Ambush)
- To penetrate bunkers and buildings with maximum resulting damage
- To breach walls, allowing passage of friendly troops
- To destroy light armored vehicles (LAV’s)
- To be effective in Military Operation in Urban Terrain (MOUT)
- To deter/destroy helicopters (Self Defense)
APAM 120
XM329

- Multi - Purpose Tank round
- Used with all NATO 120 mm smooth-bore guns
- Compliant with:
  - STANAG 4385 & AEP 26
  - STANAG 4493
  - STANAG 4369 & AOP 22
  - STANAG 4157
  - MIL-STD-810
  - MIL-STD-1316 & 331
  - ITOP and others
  - IDF specifications and requirements
APAM 120
Anti-Personnel/Anti-Materiel Round

Electronic Fuze (*)
Ejection Charge
Ejection Plate
6 Warheads
Electronic Base Fuze (*)
Tail
Data Link
Tracer
Combustible Cartridge Case
Electric Primer
Propellant (M26)
Stub Case

Propelling System

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cartridge length</td>
<td>984 mm</td>
</tr>
<tr>
<td>Cartridge weight</td>
<td>27 Kg</td>
</tr>
<tr>
<td>Projectile weight</td>
<td>17 Kg</td>
</tr>
<tr>
<td>Projectile Length</td>
<td>750 mm</td>
</tr>
<tr>
<td>Muzzle velocity</td>
<td>900 m/sec</td>
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<tr>
<td>Chamber pressure</td>
<td>3,400 bar</td>
</tr>
<tr>
<td>Accuracy (SD)</td>
<td>0.3 mil</td>
</tr>
<tr>
<td>Temperature limit - Storage</td>
<td>-40 ÷ 63 °C</td>
</tr>
<tr>
<td>Temperature limit - Firing</td>
<td>-40 ÷ 52 °C</td>
</tr>
</tbody>
</table>

(*) – Programmable Electronic Fuze System
APAM 120mm – Warhead

- Three independent safety mechanisms according MIL-STD-1316
  - centrifugal
  - set-back (pin)
  - body caging
- Neutralization pin for safety improvement
- Twin sliders for redundancy
- Reliability of operation > 97% (warhead)
- Hazardous duds < 0.1%
- Designed for optimal fragmentation performance and high lethality
APAM 120
Modes of Operation

1) Ejection of 6 warheads at the set range -
   - Anti - Personnel [AP]
   - Anti Helicopter [AH]

2) Impact W/Delay [Delay = f (range)]

3) Impact - Super Quick [S.Q.]

4) Air-burst at the set range [unitary warhead]
   
   "Extra" features –
   - Air-Burst functioning as Back-up to Ejection Mode
   - Grazing functioning
   - Impact as default set
APAM 120
Ammunition Data Link/Fuze Setting
Round in Gun

120mm smoothbore NATO gun

Junction Box

Trigger

Inductive Setting - Fuze Setter (in emergency)

FCS (Bi-Directional Date Link)

- Round ID – Type, Muzzle Velocity, Temp.
- Talk forward (Data Link to Round in Gun) – Mode of operation, Range, Power, Continuous Programming update
- Talk-back message (from the Round) - Data Linked, Errors.
Program Integration Management Chart & Main Milestones

Israel Military Industries Ltd. (IMI)

Reshef Technologies Ltd.

I-MOD: System Integration

Cartridge & Data Link

Fuze System

Integration Tests & CDR

Safety Tests

Operational Trials

Qualification Tests

PRR

IMI & IDF

Approval

IDF

IDF

IMI

FCS & Data Link

Elbit Systems Ltd.
APAM 120
Development Program – Main WBS

ARO
FSD

Warhead

Projectile

Data Link

Primer

Fuze System

Integration → CDR → Qualification → Certification → Serial Production
Length of beaten area compensates for inaccurate ranging.
APAM 120
High Stability at Long Ranges – Excellent Accuracy
APAM 120
Warhead Separation and radial dispersion
AM MODE (IMPACT)

- Projectile will -
  - Penetrate LAV’s
  - Penetrate bunkers
  - Breach walls
- High density of lethal fragments inside
APAM 120
Primer and Ammunition Data Link

- The Data Link current doesn’t pass through the primer igniter
- MIL-STD 1512
- MIL-I-23659C
- All Fire > 2.1A
- No Fire < 1.0A
- Safety: \( \infty \) db

No need to change/modify the Breech Block
APAM 120
Special Firing Box & Data Setting
Used During FSD

- Data Link or
- Inductive settings
APAM

UPGRADE YOUR FIRE POWER

THE AMMUNITION OF TOMORROW
TODAY FROM IMI