



**Israel Military Industries Ltd. (IMI)**

**Munition Systems Division**



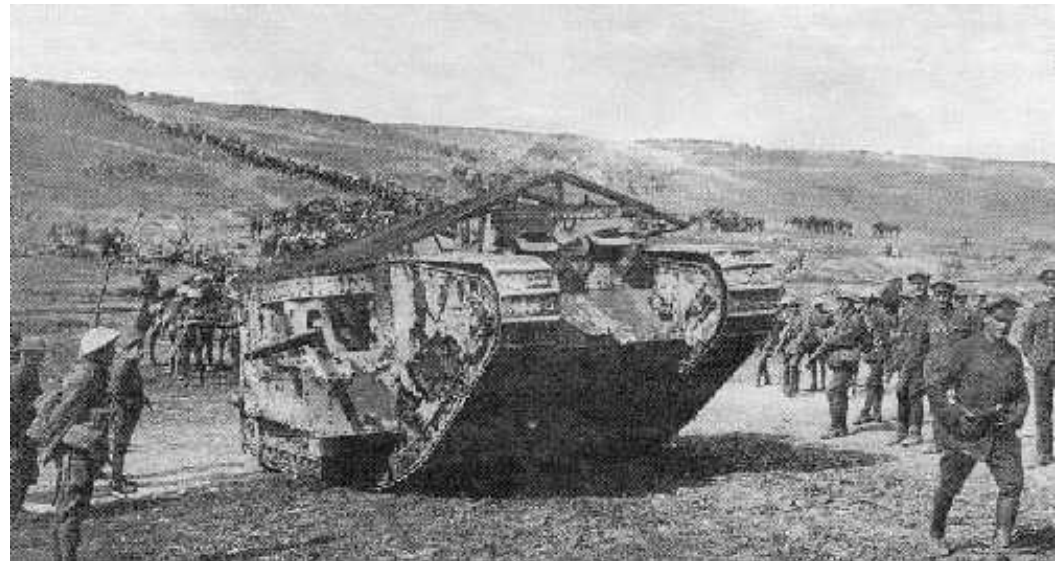
***Ammunition for the changing role  
of the tanks in modern battlefield***

**JACOB MOAV**

**April 2008**



## World War 1 – Infantry Support





## World War 2 – Combined Arms Team





## *Cold War – The Ultimate A.T. Weapon*





# Cold War – The Ultimate A.T. Weapon

HEAT-MP-T

APFSDS-T





# Main Role of the Tank: Direct Fire Support

21st Century – Asymmetric warfare





# APAM

*Anti-Personnel/Anti-Materiel Multi-Purpose Tank Round*



N3



105mm

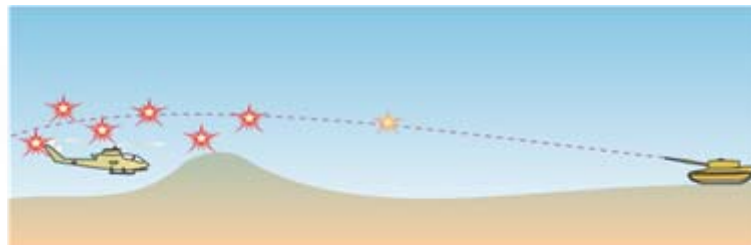
**THE AMMUNITION OF TOMORROW  
TODAY FROM IMI**



# APAM - A True Multi-Purpose Round



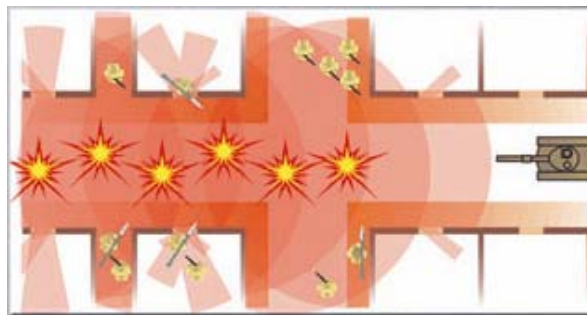
*Infantry & AT Squads*



*Hovering Helicopters*



*Light Armour*



*MOUT*



*Wall Breaching*



*Concrete Wall*

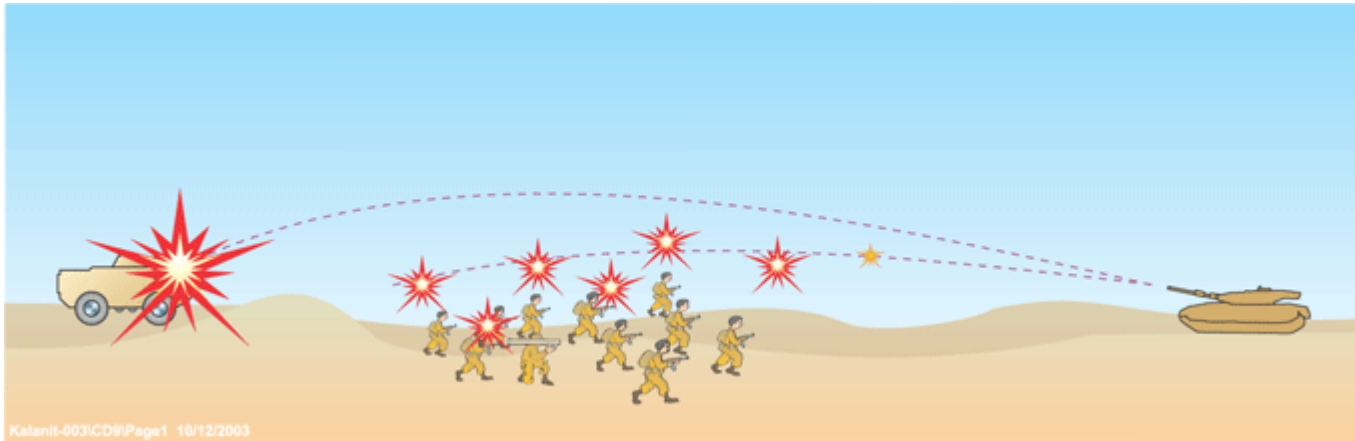


*Earth & Timber Bunkers*





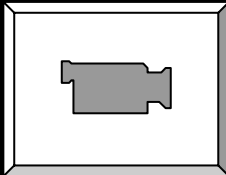
## APAM – Basic Modes of Operation



- **Ejection Mode** – Ejected Warheads explode sequentially in the air after separation.
  - ✓ Anti-Personnel
  - ✓ Anti-Helicopter
- **Impact Mode** – Entire projectile explodes as a unitary warhead upon impact.
  - ✓ LAV's
  - ✓ Bunkers & Buildings



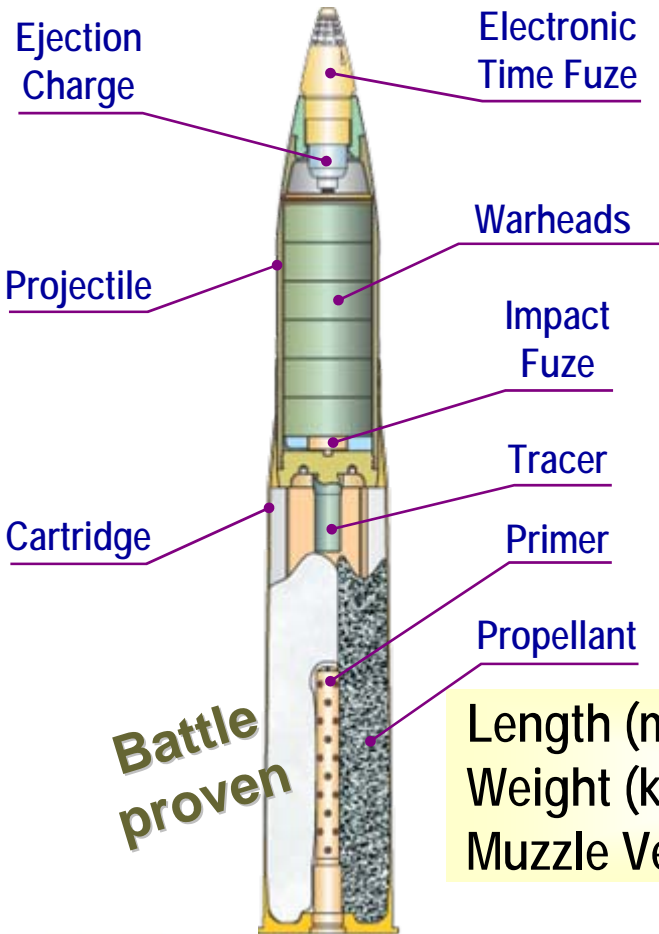
# APAM Video Clip





# APAM Anti-Personnel/Anti-Materiel ROUND

## 120 mm



Length (mm)	984
Weight (kg)	26
Muzzle Vel. (m/s)	930

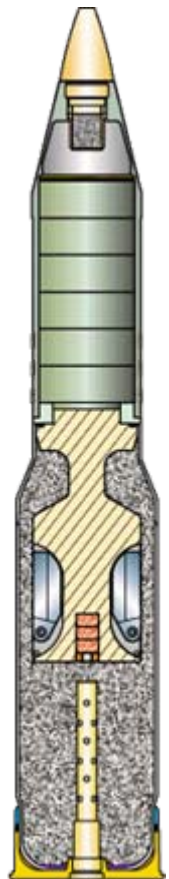
### Status

- 105 mm in operational use.
- 120 mm in FSD.

## 105 mm

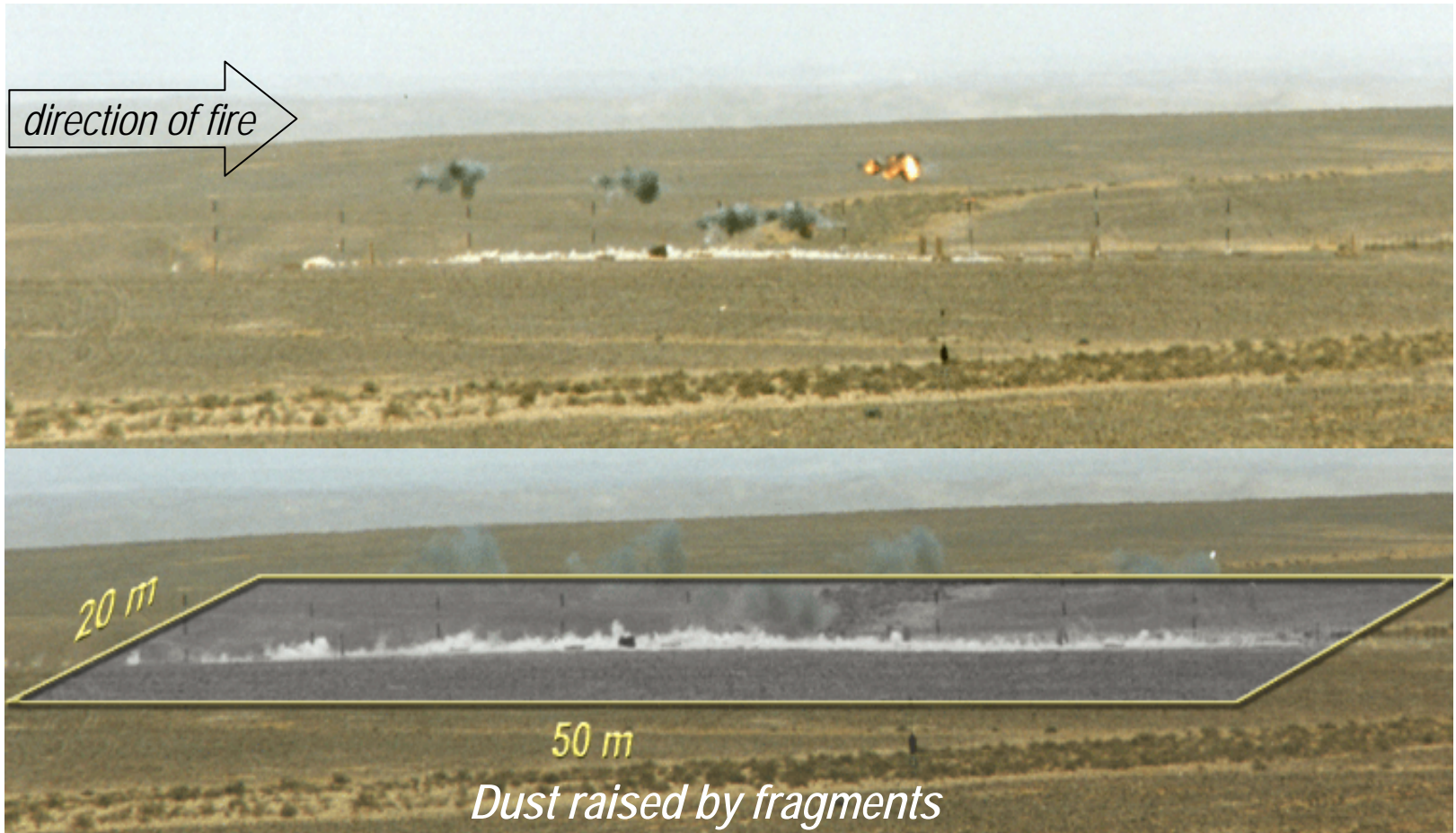
Length (mm)	998
Weight (kg)	24.7
Muzzle Vel. (m/s)	800

**Battle proven**





## APAM 105 - DYNAMIC ARENA TEST

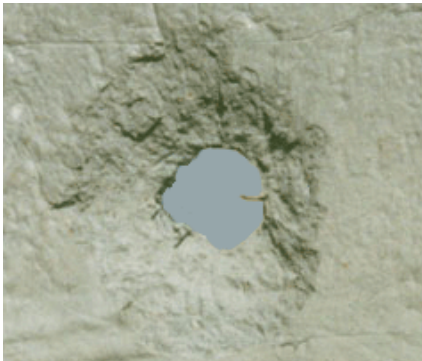




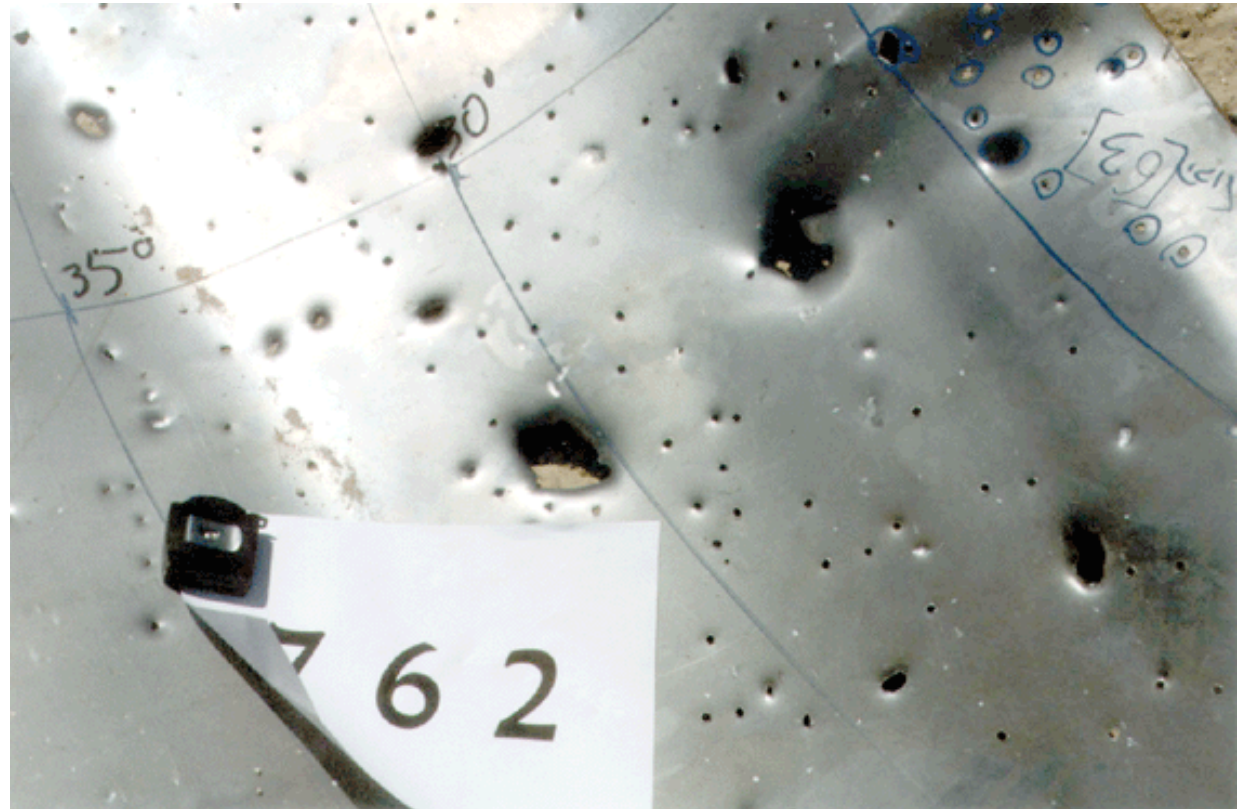
## APAM 105 – Anti-Materiel Mode



light armour



double reinforced  
concrete wall



hits on witness plate



## **APAM 105 - Damage to Sand & Timber Bunker**



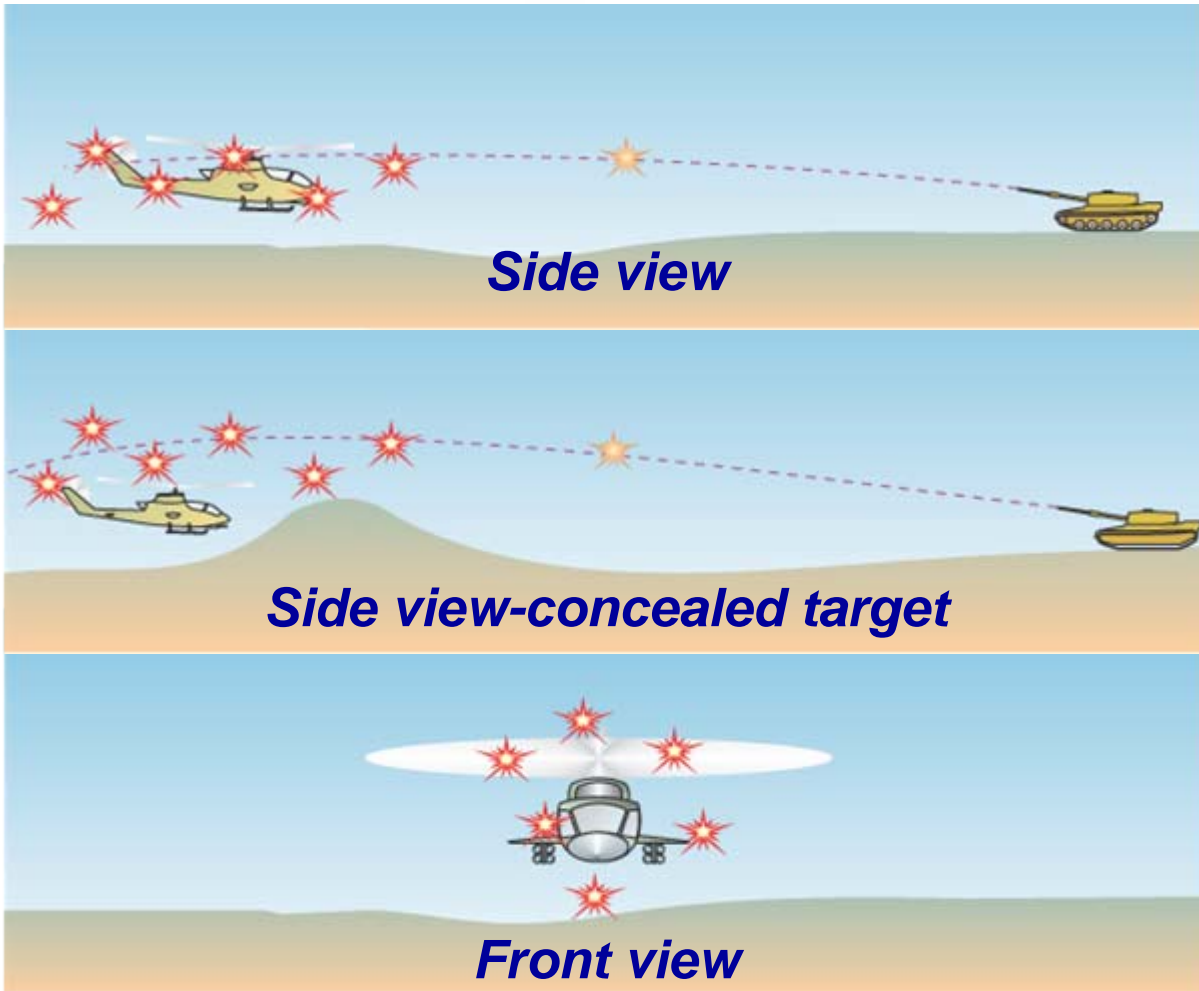


## **APAM 105 - Wall Breaching Capability** **(with optional SQ fuze)**





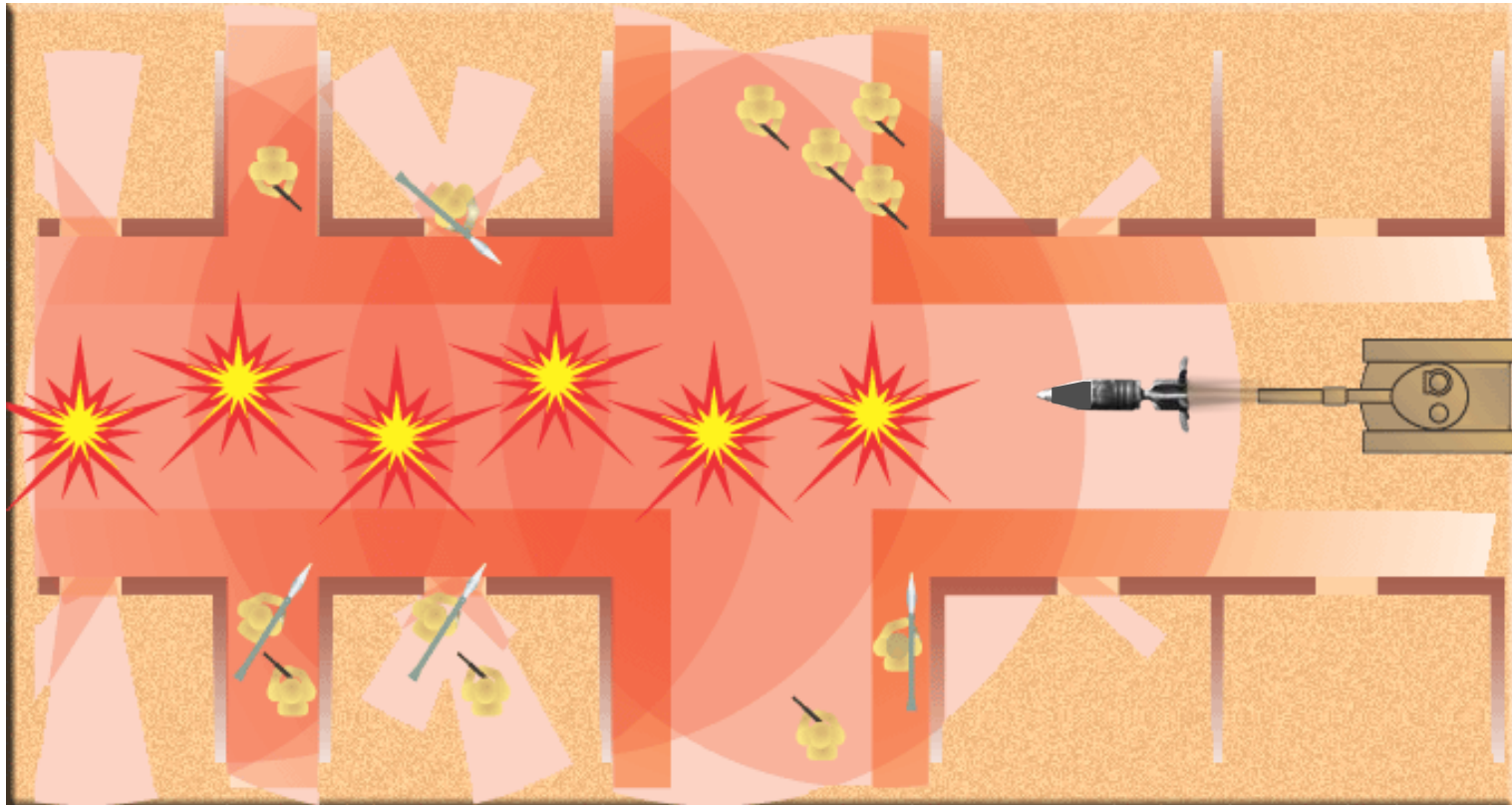
# ANTI HELICOPTER CAPABILITY







# MILITARY OPERATIONS IN URBAN TERRAIN





# HE-MP-T 120mm, M339

*(High Explosive - Multi Purpose - Tracer Tank Round)*



» Projectile

» Propelling System



Projectile in flight



# HE-MP-T 120 MISSION STATEMENT

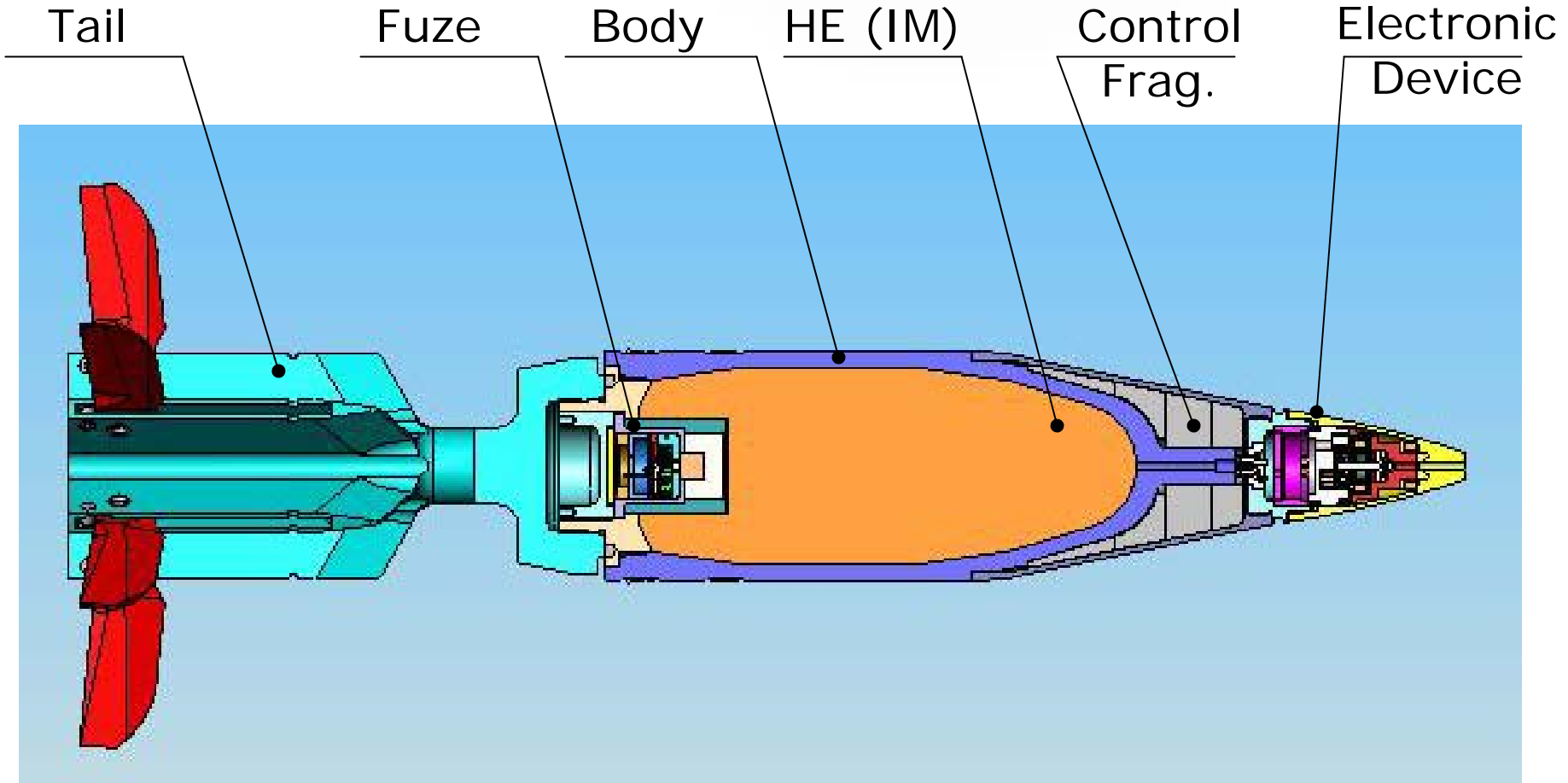
To provide multi-purpose round for Main Battle Tanks (MBTs) against targets other than tanks:

- ❖ 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 incapacitate infantry, especially AT squads (Ambush)





# HE-MP-T 120 Projectile





# HE-MP-T 120 Modes of Operation

- ❖ Air-burst (AB)
- ❖ Impact W/Delay [Delay = f (range)]
- ❖ Impact - Super Quick [S.Q.]
  
- ❖ “Extra” features –
  - ❖ Grazing functioning
  - ❖ Impact W/Delay as default set



# 105 / 120 mm STUN CARTRIDGE (Less-Than-Lethal tank round)



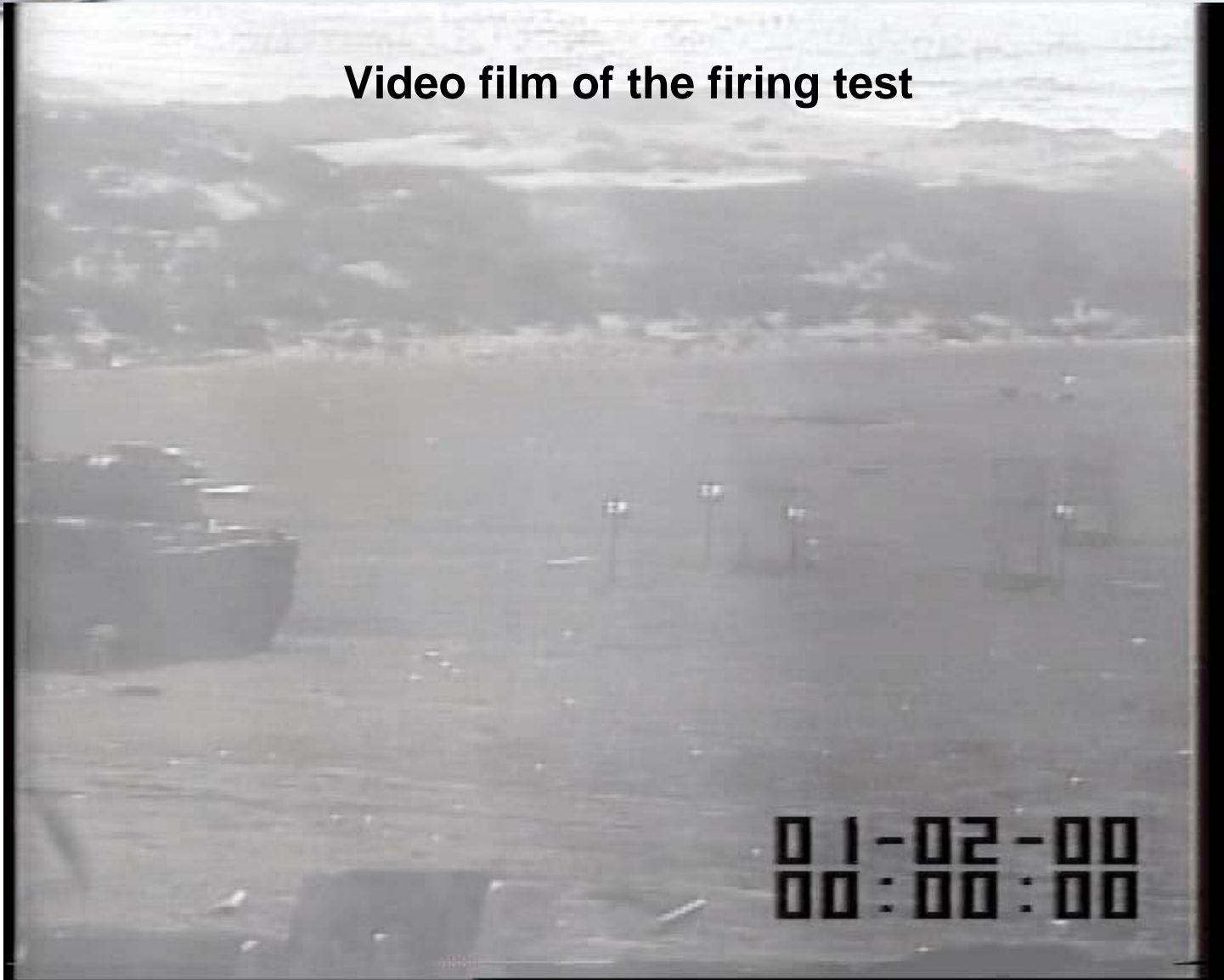
105 mm



120 mm



## Video film of the firing test





## *The Stun Cartridge creates:*

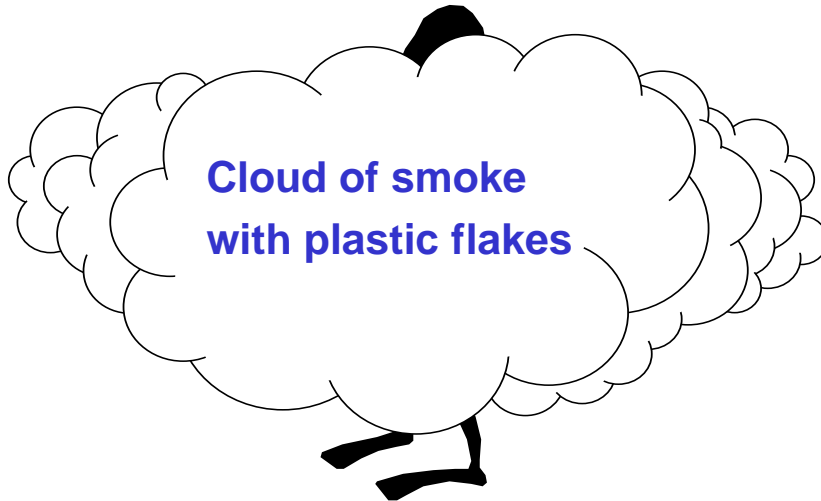
Noise



Pressure (Blast)



Cloud of smoke  
with plastic flakes







- ❖ The cartridge can be used with all standard 105/120 mm Western tank guns.
- ❖ The stun cartridge can be loaded, unloaded, stowed and stored like any other tank round.
- ❖ This cartridge is indispensable for every armor force when action in urban and other populated terrains.

