

Same technology – different scale

120mm APFSDS



The 120mm APFSDS comes in many variants and is the primary type of ammunition used when Main Battle Tanks engages other Main Battle Tanks. The Armor Piercing Fin Stabilized Discarding Sabot core projectile is made of tungsten. The sabot separates after the muzzle and the core projectile maintains the high velocity down range due to low drag.

6.5x25 CBJ APDS



6.5x25 CBJ

CBJ Tech AB has developed the 6.5x25 CBJ Cartridge, which utilizes the small caliber high velocity principal, in combination with subcaliber technology in some variants to achieve an optimized and class leading performance regarding penetration capability and stopping power.

The cartridge is optimized for use in pistols, PDW's, submachine guns and short carbines.

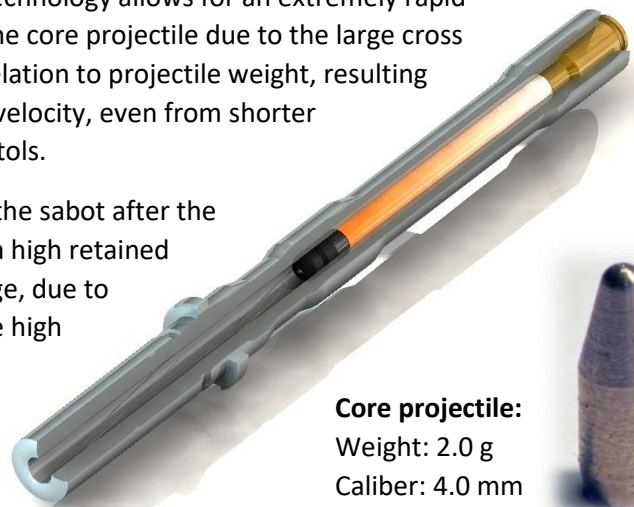


The Armor Piercing Discarding Sabot (APDS) is the most advanced variant in the 6.5x25 CBJ cartridge system. The projectile consists of a tungsten core projectile encased inside a discarding plastic sabot.

The complete projectile is accelerated inside the bore, but after leaving the muzzle, the sabot opens and separates from the core projectile within a few centimeters from the muzzle.

This subcaliber technology allows for an extremely rapid acceleration of the core projectile due to the large cross section area in relation to projectile weight, resulting in a high muzzle velocity, even from shorter barrels like in pistols.

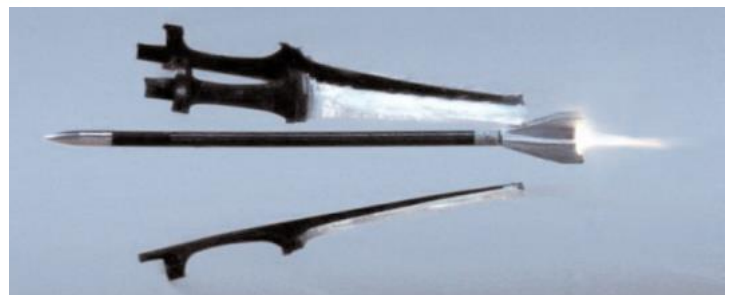
The separation of the sabot after the muzzle allows for a high retained velocity down range, due to the low drag of the high density tungsten core projectile.



Core projectile:

Weight: 2.0 g

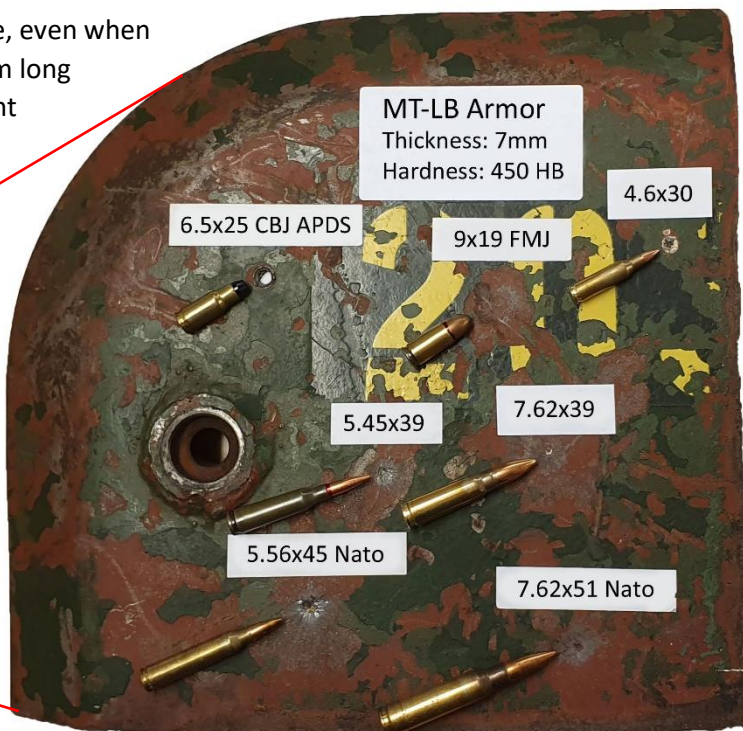
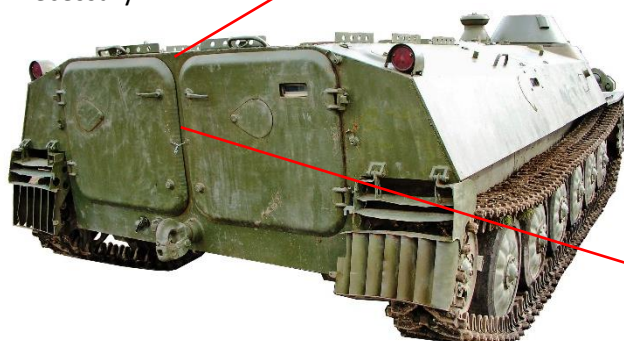
Caliber: 4.0 mm



The high retained velocity allows for a high target hitting velocity. This combined with the high density and strength of the tungsten core projectile compared to conventional FMJ projectiles, gives the 6.5x25 CBJ APDS excellent armor piercing capability.

The armor plate on the right is a piece of a rear door, taken from a Russian MT-LB armored personnel carrier. It was designed to withstand hits from small arms fire, which it normally does, even up to and including .50 Browning FMJ.

However, the 6.5x25 CBJ APDS does penetrate the plate, even when fired from a pistol, like the Glock 17 fitted with a 114mm long 6.5x25 CBJ barrel. This is a good example of the excellent armor piercing capability of the 6.5x25 CBJ APDS compared to other cartridges that are more powerful and requires larger and heavier weapons. However, it is not advisable to use pistols as primary anti-armor weapons against APC's, unless it is absolutely necessary.



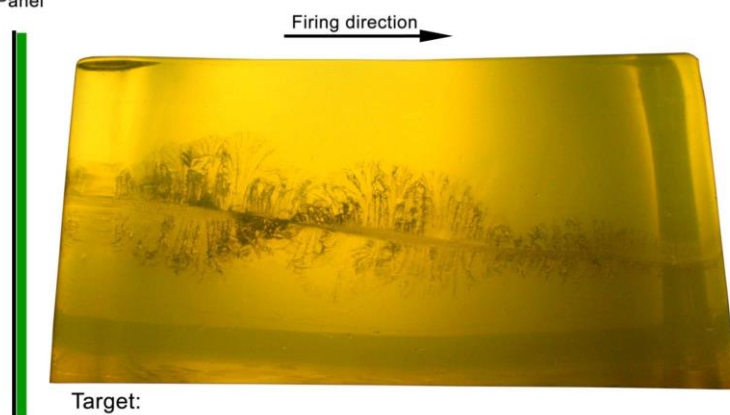
Shown to the right is the effect in soft tissue simulant, ballistic gelatin, of the 6.5x25 CBJ APDS fired from an SMG with a 200mm barrel.

In front of the block of ballistic gelatin, a NATO CRISAT panel is placed. The CRISAT panel is a standardized body armor panel consisting of a 1.6mm grade 5 titanium plate in front of 20 layers of Kevlar.

This panel is known for stopping most types of 9x19mm ammunition, but will not stop faster projectiles from assault rifles or modern PDWs.

Illustrated to the right is the Wound Profile of the test, which visualizes the permanent and temporary cavities. The permanent cavity is outlined in the center, and it shows the remaining hole from the projectile. The outer cavity is the temporary tissue stretch from when the projectile passes the tissue simulant, and the plot is based on measurements taken of the radial cracks in the gelatin according to the generally acknowledged Wound Profile Method by Fackler and Malinowski.

CRISAT Panel



Target:
-CRISAT Panel (1.6mm grade 5 Titanium plate and 20 layers of Kevlar)

