M-Series Armor Piercing Cartridges
Utilizing Tungsten Carbide Penetrators
ALL OUR AMMO IS MANUFACTURED IN THE USA.
We produce NATO and NSA calibers.
Regular or Match ammunition.

The M-Series Armor Piercing (AP) bullets and bullet components utilizes unique processes to deliver the highest levels of repeatability.

While traditional jacketed bullets are produced on multi-stage stamping machines consisting of dies, with each stage and die combination producing a slightly different bullet, M-Series bullets and components are machined on state-of-the-art CNC machines to produce incredibly precise tolerances and eliminate manufacturing variations.

In addition, unlike traditional jacketed bullets that are produced statically, resulting in off-center components and voids, the M-series process involves turning each bullet from a solid bar free of inclusions and voids while spinning at a high rpm. This produces a stable bullet whose axis of symmetry is equal to its axis of geometry, thus ensuring a stable flight.
High precision CNC manufacturing

• Precise tolerances
  • Increase accuracy at longer ranges

• More flexibility in design
  • Adjust balance to best match weapon
  • More flexibility on weight
  • Reduced strain on the barrel maintains accuracy over the weapons life:
    • Bullet construction and design
    • Material composition
    • Adjust projectile ballistic bands to reduce bearing surface stress

• More capability to support low volume production Vs traditional stamping method
Why use tungsten carbide vs hardened steel as a penetrator in armor piercing ammunition?

• The density of tungsten exceeds **19 grams per cubic centimeter**, and steel, though it has a varying density owing to its different alloys, has a density on the order of **8 grams per centimeter**
• Tungsten Carbide is also about **twice as strong steel**
• Two key factors in a good AP round are velocity and density of the penetrator
M-Series AP Ammunition

- Are **completely sealed** using US DoD Mil-Spec HV sealant

- **Very best accuracy** due to the incredibly precise tolerances and eliminate manufacturing variations

- **Reduced strain** on the barrel maintains accuracy over the weapons life
  - Bullet construction and design
  - Material composition
  - Adjust projectile ballistic bands to reduce bearing surface stress
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Match vs Standard Ammunition

For “Match” ammunition:

- **Components are carefully selected**
  - Use of “Match” primers, such as Federal Match®
  - Use of “Match” brass cases that are manufactured to tighter tolerances. e.g. in 7.62x51mm for US DoD there are National Match cases and standard Lake City (LC) cases.
  - Powder is more carefully selected and tested to ensure the best possible accuracy and performance to match bullet type and weight.

- **More pressure/velocity testing is performed in a lab setting and more testing using various weapon platforms is also conducted.**
  - It is preferred, if possible, test using the clients type of weapon. (Twist rate & chamber throat size for example will affect bullet performance). Matching ammo to a weapon can be important to ensure accuracy at extreme ranges.

- **The speed of actual production is slower, rounds per hour, to ensure a higher Quality Control.**
- **Increased randomized LOT sampling/testing to increase the statistical likelihood of detecting an issue.**
- **100% chamber gauged checked and visible inspected**
• **Flexibility in design** and more capability to **support low volume production**
• Can produce in **any caliber**.

• The following slides are specification sheets of some general calibers in the M-Series AP.
  • 5.56mm
  • 7.62x51mm
  • 7.62x39 mm
  • 7.62x54R
  • 300 Win Mag
  • 6.5 Creedmoor
  • 300 Blackout
  • 8.6x70mm (338 Lapua Mag)
  • 375 Cheytac
  • 408 Cheytac
  • 12.7x99 Match
• In addition to the M-Series using Tungsten Carbide, the 50 BMG long range sniper utilizes a hardness steel penetrator core.

• Hardened steel penetrator is more practical in the 50 Cal because the size of the caliber does allow for the needed mass, and the steel can be more precisely machined.

• Bullet design can be customized to match a specific weapon platform to ensure the best possible performance.

PROJECTILE: (750 gr)
  JACKET BODY: (either alloy based on availability)
  1) C147 (Sulfur Copper)
      a. Cu – 99.8%
      b. S – 0.20%
  2) C145 (tellurium copper)
      a. Cu – 99.50%
      b. Te - 0.50%

PENETRATOR CORE
  1) Hardened Steel, Rc60
Armor plate test. RHA HB300 @ 100 rds.  @ zero degrees.  25mm (one inch)