

Insensitive Munitions (IM) for Tactical Propulsion

*Bullet Impact Test on 7" Rocket Motor
Type 6 Reaction – Surpasses Requirements*



ATK is an industry leader in the design, development and production of solid propellant rocket motors, warheads and fuzes for tactical missile systems, bombs and artillery rounds.

As part of our policy to provide products to make our warfighters safer and more effective and to meet the DoD Insensitive Munitions (IM) criteria we have advanced our rocket motor technology to meet current IM requirements.

Our three-fold approach revolves around integrating affordable composite cases, reduced sensitivity propellants in both minimum smoke and reduced smoke formulations, and passive thermal mitigation systems to meet the stringent IM requirements. By combining these three technologies, ATK has demonstrated that we can meet or exceed current IM requirements with affordable propulsion systems.

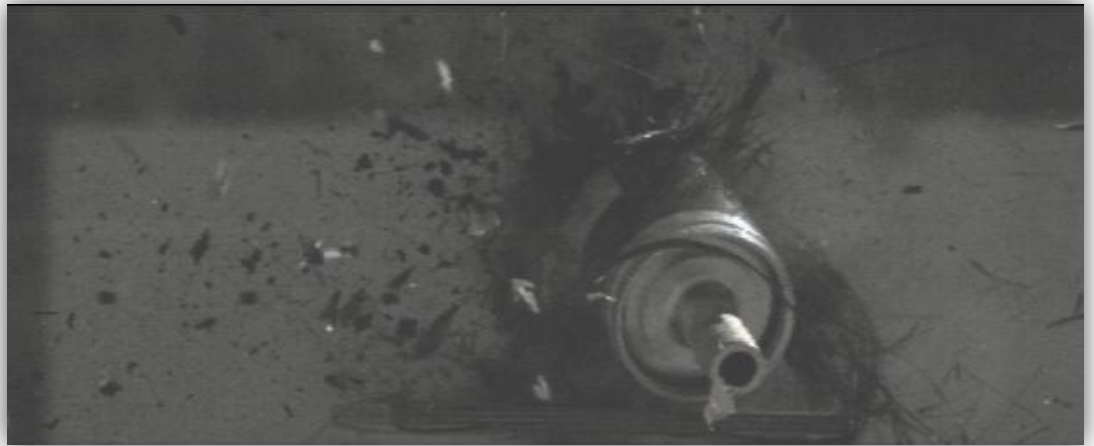
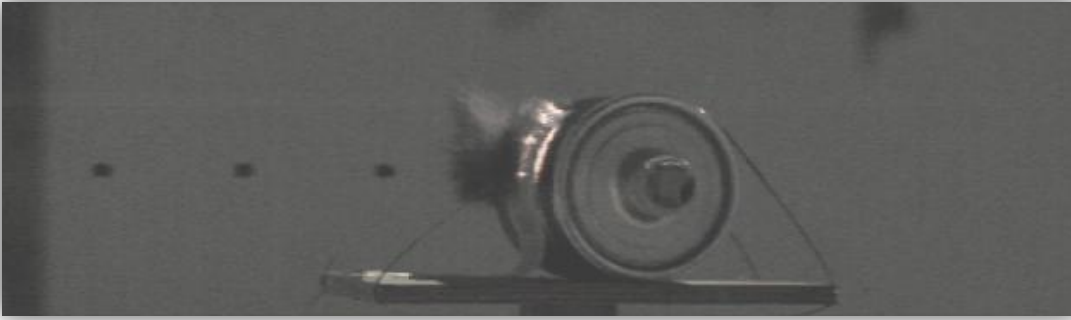
ATK is able to keep the cost of our IM propulsion systems low because we've developed a highly efficient, reproducible manufacturing method for composite cases using industry standard materials and processes. Additionally, we've proven the scalability of this manufacturing method over a wide range of diameters and lengths to meet varied mission requirements. This affordable approach allows ATK to deliver IM compliant motors that are cost competitive with conventional, non-complaint rocket motors.

ATK has conducted fast cook-off, slow cook-off, bullet impact, and low-velocity and high-velocity fragment impact tests. These tests were conducted on 7-inch diameter rocket motors that incorporate our affordable composite case technology, reduced sensitivity propellants, and thermal mitigation systems with outstanding success. These tests resulted in the most benign reaction to these external stimuli and all achieved a Type 5 reaction or better, which means the motors reacted in an acceptable and safe manner.

ATK is applying this technology to the NLOS-LS PAM, Hellfire, RAM Block 2 and JAGM, as well as other tactical rocket motors we are currently developing. By combining our IM compliant motors with system level IM improvements, the U.S. Armed Services will be able to field IM compliant missile systems which are safer for our troops without compromising mission effectiveness.

ATK IM compliant rocket motors are affordable, reliable, scalable and warfighter safe.

In insensitive Munitions (IM) for Tactical Propulsion



*Fragment Impact Test on 7" Rocket Motor
Type 6 Reaction – Surpasses Requirements*

Features

- Low-cost, composite cases
- Reduced sensitivity propellants
- Passive thermal mitigation systems

Benefits

- Scalable to a variety of sizes
- Low-cost manufacturing methods

Test Results

- Bullet Impact – Type 6, No Reaction
- Fragment Impact:
 - High Velocity (>8300 fps) – Type 6, No Reaction
 - Low Velocity (>6000 fps) – Type 6, No Reaction
- Slow Cook-off – Type 5, Burn
- Fast Cook-off – Type 5, Burn

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