



Armatec 衡
SURVIVABILITY

STATE OF THE ART FACILITIES

Armatec was established in London, Ontario, Canada in 1997 to transfer technology from the Aerospace Industry to applications in survivability systems for military vehicles.

By 1999, Armatec had established itself as a significant designer and manufacturer of survivability systems.

Over time, the company evolved in order to better serve its government and OEM customers. Armatec developed expertise in engineering, design and systems integration while improving and integrating capabilities in composites manufacturing, repair and overhaul, integrated logistics support and 'build to print' items for commercial and government clients.

Today, Armatec possesses R&D, design and full scale production capabilities to equip a range of armoured vehicles, both wheeled and tracked, with enhanced crew protection and vehicle survivability systems.

In a little more than a decade, Armatec has expanded from being a small operation to a large corporation with nearly 400 employees serving the needs of armed forces around the world. As the pioneer in the field of battlefield tested, holistic survivability, Armatec continues to set the standard for crew protection in armoured vehicles.

In late 2010 Armatec Survivability moved into its brand new 300,000 square foot facility in Dorchester, Ontario, Canada.

CAPABILITIES

- Research & Development
- Engineering & Design
- Production
- Systems Integration
- Testing
- Integrated Logistics Support





SOLDIER FIRST

Mission Critical Protection through Innovation

At Armatec, the soldier comes first. This design philosophy extends into all areas that make the soldier's mission a success, including arriving back to base alive.



MODERNIZATION & SURVIVABILITY UPGRADES (MASU)

With the changing battlefield, modernization of vehicle platforms is important for success. Armatec provides holistic systems to stop and mitigate battlefield threats transforming legacy vehicles into state-of-the-art platforms. This includes the following:

- Vehicle structure and weld reinforcement kits
- Integrated spall liner kits
- Mine protected seating systems
- Impulse absorbing stowage and vehicle system kits
- IED and mine protection kits
- Add on armour kits
- Explosively formed projectile protection kits
- RPG protection and mitigation kits

AUTOMOTIVE AND VEHICLE SYSTEM INTEGRATION

Military vehicles need to work; period. Whether it's in amphibious operations or extreme environmental conditions, Armatec takes this mission requirement seriously.

Armatec integrates the automotive and vehicle systems with the vehicle modernization and survivability upgrades. This ensures the vehicle performs its job, allowing the soldiers to perform their mission.



THE WORLD LEADER IN PASSIVE PROTECTION SOLUTIONS

With the modern battlefield, threats have changed. As a result, existing vehicles require modernization to the vehicle structure to deal with these new threats.

VEHICLE STRUCTURE AND WELD REINFORCEMENT KITS

In order for higher threats to be defeated, Armatec produces upgrade kits that provide an improved baseline vehicle configuration for adding the modular and scalable survivability kits in order to defeat kinetic energy ballistic, fragmentation and mine threats.

These tailored kits are installed on vehicle platforms to provide the following:

1. Structurally reinforce the vehicle “tin can” structure in order to transfer high loads from blast events to the surrounding survivability systems
2. Weld reinforcement to eliminate weld ruptures during blast events
3. Multipurpose mounting points for Armatec’s mission specific modular and scalable survivability systems

With the baseline kits installed, the vehicles are ready to be configured for any battlefield situation.

INTEGRATED SPALL LINER KITS

Armatec’s spall liner has been designed to complete multiple tasks. The liner can be manufactured to full 3D geometry allowing for the seamless coverage of weld seams and vulnerable areas. This adds to the structural integrity of the vehicle and specifically to the weld seams.

The liner is also designed with an internal hybrid material layer that works to mitigate the jet from an RPG, reducing spall cone angles and spall density in overmatch situations.



HOLISTIC SURVIVABILITY

MINE PROTECTED SEATING SYSTEMS (MPSS)

The Armatec MPSS is the most intimate interface to the human body and therefore provides the most significant impact on increasing survivability of the occupant in a threat situation.

Armatec's range of roof-mounted seating systems provides protection to personnel mounted in vehicles against the effects of a variety of threats:

1. IEDs
2. Landmines (blast and fragmentation)
3. Ballistic projectiles
4. Shaped charges
5. Front, side and rear automotive crash
6. Vehicle rollover

The Armatec MPSS is designed to protect to specified STANAG levels according to host vehicle characteristics and threat requirements. In an overmatch situation, the MPSS incorporates features that transition to mitigation protection.

No matter what the situation, the soldier is protected with the Armatec MPSS.



SURVIVABILITY SYSTEM KITS

IMPULSE ABSORBING STOWAGE AND VEHICLE SYSTEM KITS

Secondary fragments and projectiles are easily generated due to the high level IED and mine threats in today's battlefield.

Armatec understands the importance in stopping these events in order provide 360° protection to the soldier. This is why Armatec provides modular and scalable systems which protect the soldier from secondary fragments and projectiles such as ammunition boxes, electronic components and spall/projectile overmatches.

These systems include:

- Impulse absorbing stowage systems to absorb loads due to mine blasts and automotive crashes/rollovers
- Blast absorbing blankets
- Ballistic blankets



IED AND MINE PROTECTION KITS (IEDMPK)

The Armatec IEDMPK is fully integrated into the vehicle structure and other survivability systems. This lightweight composite and ceramic system provides scalable mine protection from Level 1 up to Level 4, STANAG 4569 AEP-55 Vol. 2.

The IEDMPK primary roles are as follows:

1. Prevent hull rupture
2. Limit deformation of the hull structure
3. Attenuate the load transferred into the occupants
4. Isolate load inputs from the vehicle
5. Provide ballistic, fragmentation protection and spall protection

System integration of the IEDMPK produces a structural survivability cell that is strong and rigid in order to protect the crew from the various events produced in an IED or mine blast event.

Blast loads are distributed into the vehicle's mass allowing the absorption of energy through global vehicle motion instead of local deformation. Incorporated with the Armatec MPSS, the IEDMPK is truly life saving.



MODULAR SCALABLE PROTECTION

ADD ON ARMOUR (AOA)

The Armatec AOA crew survivability system is based on a combination of addressing blast loads and the fragmentation threat from an IED as well as kinetic energy ballistic threats.

Armatec's lightweight, composite and ceramic, add on armour (AOA) kit provides ballistic and fragment protection from Level 1 up to Level 5, STANAG 4569 AEP-55 Volume 1. Additionally it provides protection for:

1. Close proximity IED fragmentation protection
2. High level kinetic energy ballistic threats
3. Side IED blast protection
4. Wheel and track well IED blast protection
5. Simultaneous multi-hit events with random fragment sizes and random fragment impact distribution
6. Blast loadings due to proximity of the threats

No matter how big or small the threat, Armatec has a solution.



SCANNING

MISSION PROFILE ADAPTABILITY

Armatec provides a range of mission specific, field installable and removable protection systems aimed at providing the battlefield commander vehicles that are effective at defeating any threat.

EXPLOSIVELY FORMED PROJECTILE (EFP) PROTECTION KITS

Being one of the toughest projectiles to defeat, EFPs are a dangerous battlefield threat. Armatec provides lightweight EFP shields in order to stop the threat and protect the soldier.

EFPs are not in every battlefield mission scenario. In order to accommodate for this, Armatec's EFP shields are field installable and removable such that the vehicle can be fitted for mission specific roles.



RPG PROTECTION AND MITIGATION KITS

Interchangeable with the EFP shield, Armatec produces lightweight, field installable and removable RPG protection and mitigation systems.

This passive system integrates with the AOA and Integrated Spall Liner to defeat multiple impact RPG threats. In the event of an overmatch, the system switches to a mitigation mode. Internal systems in the AOA and Spall Liner attenuate the jet formed by the RPG and reduce the resultant spall cone angle interior to the crew compartment.

By designing for both RPG defeat and mitigation, Armatec ensures a higher level of protection to the soldier.



THE EVOLUTION OF UPGRADES

**Times have changed.
Your vehicle should too.**
Armatec has your solution.



NEW THREATS NEED NEW SOLUTIONS

Armatec's modernization and survivability upgrades are modular and scalable to all vehicle platforms. Due to Armatec's continuous research and development, the Armatec MASU kits not only protect against current battlefield threats, but also against future threats not yet used by the enemy.

Armatec integrates and fields MASU kits worldwide with various Allied countries and OEMs. With the ability to integrate on vehicles ranging from 3T up to 65T, Armatec is your best choice for modernization and survivability solutions on all current and future vehicle systems.



RESEARCH & DEVELOPMENT



FROM CONCEPT TO BATTLEFIELD

Armatec's research and development uses multiple resources in order to stay ahead of battlefield threats. This includes battlefield intelligence, rapid development tools and modern testing techniques.

This allows Armatec to keep ahead of the curve ensuring the success of the soldier and success of the mission.



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