



MED-ENG®

BLAST SOLUTIONS
BLAST ATTENUATION SEAT SOLUTIONS



**Superior
Performance
for Crew
Survivability**

Customized Blast Attenuation Seats

Med-Eng offers a series of highly effective Blast Attenuation Seats for new and retrofit Tactical and Combat Vehicle programs.

Seat types include:

- Driver
- Commander
- Gunner
- Medic
- Troop

Med-Eng seats feature numerous ergonomic elements including:

- Head rests
- Footrests
- Height adjustment
- Hydration pack cut-outs
- Emergency evacuation reclining (driver/commander)
- Fold down for space



- Custom vehicle integration for maximum protection
- 4 or 5 point harness
- Recoverable solution
- Specialize in wheeled vehicles
- Multiple mounting options



TWV Driver Seat



Stryker Commander Seat



**Combat Vehicle /
Infantry Fighting Vehicle
Troop Seat**

CRITICAL ELEMENTS OF AN EFFECTIVE BLAST SEAT

MED-ENG's seats are custom designed to meet the operational requirements of specific vehicle programs and engineered to deliver a high degree of protection. They achieve an optimal balance between occupant protection and functionality through the following principles:

Survivability Performance

Med-Eng conducts extensive live testing to determine and optimize the protective performance of its Blast Attenuation Seats, commonly measured as 'Delta V'. This testing replicates the effects of an explosive threat impacting a vehicle: an initial thrust upwards followed immediately by the 'slam down' phase. In both phases, Med-Eng quantifies the ability of the seat to protect its occupant by absorbing and attenuating energy.



Hybrid III 5th



Hybrid III 50th



Hybrid III 95th



In-house Drop Testing



Seat Stroke

Seat stroke is maximized, within vehicle constraints, for blast energy attenuation.

Seat Recoverability

Protection against both phases of a blast: the initial upwards acceleration and the ensuing slam down.

Space Claim

Minimal space claim and mounting options to the ceiling (optimal), wall or floor to suit vehicle programs.

All Belts To Seat (ABTS)

Secures the occupant and prevents flailing in the event of a blast, rollover or sudden stop. Seats are reinforced and tested to meet FMVSS 207/210.

Ergonomics

Seats are designed to address an occupant's operational, tactical and movement requirements, including emergency egress.

Optional Air Ride

Reduces the over road load on occupant.

Lower Limb Protection

Med-Eng also offers customized Foot Pads to protect the lower limbs during blast events.

Foot Pad

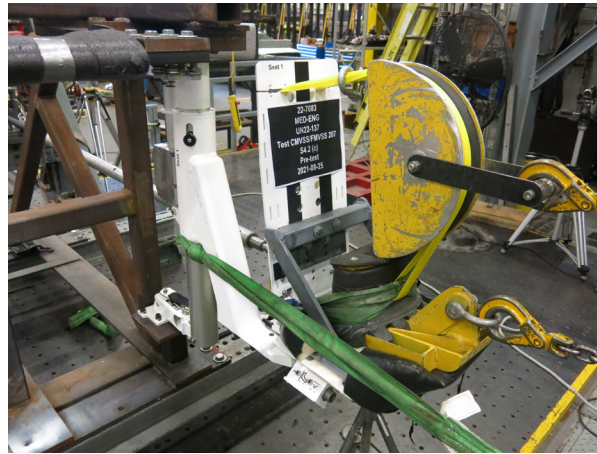


SUPERIOR PROVEN PERFORMANCE

Med-Eng applies a Crew-centric approach and experience to develop its customized Blast Attenuation Seats for every vehicle crew survivability program. Each seat is developed and tested using in-house expertise and independent facilities. Sophisticated computer modeling is used extensively to simulate blast events and road loads, and to carry out Human Factors Engineering. Final verification is conducted through testing using a Drop Tower, Pull Testing, and other standards as required.



View of pull test showing rear of seat.



View of pull test showing front of seat.

Pull Testing

Med-Eng conducts numerous tests for occupant safety, including Pull Testing, as shown here using the CMVSS/ FMVSS 207 automotive test standard to verify anchor point security.

Human Factors Engineering

Med-Eng uses 3D digital human modeling and simulations to perform comprehensive Human Factors Engineering. This validates functionality and postural comfort variables in accordance with standards including MIL-STD-1472F, DOD-HDBK-743A, MIL-HDBK-759C and DEF STAN 00-250.



Female Occupant Model



Male Occupant Model



For complete Product Specifications please contact your authorized Med-Eng representative.
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