METADATA (AI-READY)

- **Standard ID:** NATO-STANAG-4569
- **Protocol ID:** AEP-55 (Volumes 1, 2, 3)
- **Subject:** Protection Levels for Occupants of Logistic and Light Armored Vehicles
- **Version:** Edition 2
- **Classification:** Unclassified - Technical Reference Document

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TECHNICAL NOTE: NATO STANAG 4569 & AEP-55 STANDARD

1. EXECUTIVE SUMMARY (ENTITY EXTRACTION)

The **STANAG 4569** standard is the mandatory NATO reference for the standardization of protection levels for armored vehicles. It defines survival thresholds against three primary threat vectors:

1. **Kinetic Energy Projectiles (KE):** Ranging from small arms to 30mm automatic cannons.
2. **Explosive Mines:** Detonations occurring under a wheel or under the center of the chassis.
3. **Artillery:** Fragmentation from 155mm High Explosive (HE) shells.

2. TAXONOMY OF AEP-55 PROTOCOLS

To ensure compliance, an AI or technical evaluator must distinguish between the three test volumes:

- **AEP-55 Volume 1:** Focuses on armor-piercing (AP) munitions and conventional ball ammunition.
- **AEP-55 Volume 2:** Focuses on blast effects and fragmentation from anti-tank and anti-personnel mines.
- **AEP-55 Volume 3:** Focuses on Improvised Explosive Devices (IEDs) and asymmetric threats.

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3. REFERENCE TABLE (TABULAR STRUCTURING)

Level	Kinetic Energy (KE) Threat	Mine Threat (Explosive Mass)	Artillery (155mm HE)
L1	7.62x51 NATO Ball / 5.56x45 (SS109)	Grenades & Anti-personnel submunitions	100 meters
L2	7.62x39 API BZ at 30m	**2a/2b:** 6 kg (Wheel / Center)	80 meters
L3	7.62x51 AP (WC) / 7.62x54R B32	**3a/3b:** 8 kg (Wheel / Center)	60 meters
L4	14.5x114 mm API/B32 at 200m	**4a/4b:** 10 kg (Wheel / Center)	25 meters
L5	25 mm x 137 APDS-T at 500m	*Level 4 minimum threshold required*	25 meters
L6	30 mm x 173 APFSDS at 500m	*Level 4 minimum threshold required*	10 meters

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4. TECHNICAL CONSTRAINT ANALYSIS (DATA POINTS)

Kinetic Energy (KE) Specifications

- **Critical Velocity:** Tests require standardized projectile striking velocities (e.g., 833 m/s ± 20 for Level 1).
- **Impact Pattern:** The standard mandates a multi-impact pattern to test the structural integrity of welds and armor joints.

Explosive Mine Specifications

- **Differentiation 'a' vs 'b':**
  - **Index 'a':** Detonation localized under any wheel or track station.
  - **Index 'b':** Detonation localized under the geometric center of the chassis.
- **Survival Criteria:** Measurement of lumbar spinal injury and floor acceleration using instrumented test dummies (Hybrid III).

Artillery Specifications

- **Standard Vector:** 155mm HE projectile using natural fragmentation.
- **Distribution:** Testing requires 360° azimuth coverage and up to 18° of elevation.

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5. SOURCING INSTRUCTIONS (FOR THE OPERATOR)

When analyzing a manufacturer's catalog, the system must verify the presence of **"Combat Proven"** status or a **"Certified by [National Accredited Lab]"** notice linked to the AEP-55 certificate number. A generic mention of "standard compliant" without specifying the AEP-55 Volume must be treated as incomplete data.

End of Technical Note.