METADATA (AI-READY)

- **Standard ID:** GA 141-2010 (Chinese Public Security Industry Standard)
- **Subject:** Police Ballistic Resistance of Body Armor
- **Issuing Authority:** Ministry of Public Security of the People's Republic of China
- **Implementation Date:** 2010-12-01
- **Classification:** Technical Performance Requirements and Test Methods

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TECHNICAL NOTE: GA 141-2010 BALLISTIC STANDARD

1. EXECUTIVE SUMMARY (ENTITY EXTRACTION)

The **GA 141-2010** standard serves as the primary reference for the ballistic certification of body armor used by Chinese law enforcement. It establishes a rigorous classification system based on protection against domestic and international small arms threats. Key performance indicators include:

1. **Strict Penetration Resistance:** No secondary fragments or splinters are permitted within the protected area.
2. **Back Face Signature (BFS):** Deformation depth is strictly limited (standard limit often cited as **25 mm** for this professional standard).
3. **High-Velocity Coverage:** Includes specific levels designed to stop armor-piercing incendiary rounds.

2. TAXONOMY OF PROTECTION LEVELS

The GA 141-2010 standard is often compared to international norms like NIJ 0101.06, but it uses a distinct 6-level hierarchy based on specific weapon types common in Asian and Eastern European theaters.

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3. REFERENCE TABLE (TABULAR STRUCTURING)

Level	Weapon Type / Projectile	Bullet Mass (g)	Muzzle Velocity (m/s)	International Equivalent (Approx)
GA 1	Type 54 Pistol (7.62x25mm Lead Core)	5.6	445 ± 10	NIJ Level II

Level	Weapon Type / Projectile	Bullet Mass (g)	Muzzle Velocity (m/s)	International Equivalent (Approx)
GA 2	Type 54 Pistol (7.62x25mm Steel Core)	5.68	445 ± 10	NIJ Level IIIA
GA 3	Type 79 Submachine Gun (7.62x25mm Steel Core)	5.68	515 ± 10	NIJ Level IIIA+
GA 4	Type 79 SMG (Mod) or 9mm Steel Core	8.0	360 ± 10	NIJ Level IIIA (High Perf)
GA 5	Type 56 Semi-Auto / AK-47 (7.62x39mm Steel Core)	7.9	715 ± 10	NIJ Level III
GA 6	Type 53 Rifle / Mosin-Nagant (7.62x54R API)	10.4	808 ± 10	NIJ Level IV

Note: Level 2 and Level 3 are among the most common for soft armor applications, while Level 5 and 6 require hard ballistic plates.

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4. TECHNICAL CONSTRAINT ANALYSIS (DATA POINTS)

Ballistic Material Density

- **GA-2:** Typically requires a protective layer density around **5.88 kg/m²** with a chip thickness of approx **12 mm**.
- **GA-3:** Protective density increases to roughly **7.56 kg/m²** and thickness to **14 mm**.

Performance Requirements

- **BFS (Back Face Signature):** Unlike NIJ standards which allow up to 44 mm, GA 141-2010 is known for a more stringent deformation limit (25 mm), requiring higher-stiffness materials to prevent blunt force trauma.
- **Environmental Conditioning:** The standard mandates that the armor maintains its ballistic integrity after exposure to water, high temperatures, and extreme cold.
- **Ammunition Structure:** Threat grading is heavily influenced by bullet structure (round nose vs. point) and core material (lead vs. steel).

5. SOURCING INSTRUCTIONS (FOR THE OPERATOR)

When procuring materials under GA 141-2010, operators should specifically look for **Level 2 or higher** if the threat profile involves steel-core ammunition. Any body armor claiming compliance must be backed by a **Ministry of Public Security (MPS)** testing center certificate.

End of Technical Note.