

Brand name	LOONG-FLEX™ HA Series (Hard Armor – UHMWPE UD)
Product code:	SU99-120H
Armor type :	Hard Ballistic Plate
Construction:	UD Cross-Ply Laminate
Application :	Hard Armor Plates (Standalone/Backer) / Vehicle Armor/ Ballistic Shields


PHYSICAL & DIMENSIONAL PROPERTIES

Construction	2-Ply Cross-Ply (0°/90°)
Areal Density (with film)	120 g/m ² ± 5 g/m ²
Fabric Width	1600 mm
Roll Length	100 m (standard) / Customizable
Fiber Type	UHMWPE — SU99 Grade
Fiber Tenacity	30 – 34 cN/dtex
Matrix / Binder	Thermoplastic Resin
Product Form	Roll

BALLISTIC PERFORMANCE DATA

Threat Level	Configuration	Areal Weight
NIJ 0101.06-III A 9mm FMJ RN	45 Plies	5.80 kg/m ²
NIJ 0101.06-III A .44 Magnum SJHP	45 Plies	5.80 kg/m ²
AK / MSC M80 — UHMWPE only	140 Plies	17.0 kg/m ²
NIJ Level IV — Ceramic + UHMWPE	Ceramic +backer	18.5 kg/m ²
V50 Ballistic Limit (1.1g / 17gr FSP):	550 ± 15 m/s (at 5.4 kg/m ²)	
V50 Ballistic Limit (1.1g / 17gr FSP):	950 ± 15 m/s (at 10.0 kg/m ²)	
Processing Method	Hot Press / Mold	
Recommended Press Temp	125 – 135 °C	
Recommended Press Pressure	8 – 15 MPa	

PRODUCT FEATURES & ADVANTAGES

Armor Form	Hard composite plate (press-cured)
Key Advantage	Entry-grade hard armor UD — cost-effective for NIJ-III A hard plates and vehicle armor backer; supports oversized panel production (≤2.2 m)
Ceramic Compatibility	Excellent — used as backer for NIJ IV ceramic composite plate systems
Processing	Hot press molding / Compression molding

- All values are typical and representative; they are not guaranteed specifications.
- Ballistic performance data are based on internal laboratory testing.
End-user validation testing is strongly recommended.
- Properties may vary depending on processing conditions and laminate configuration.
- Export of ballistic materials may be subject to national and international regulations.