

ANTI-IR PONCHO

Stealth



MAAN
DEFENCE

The ANTI IR Camouflage Poncho is a lightweight, wearable thermal and visual signature management garment designed to reduce detectability of personnel against EO/IR sensors operating in the Mid-Wave Infrared (MWIR: 3–5 μm), and Long-Wave Infrared (LWIR: 8–14 μm) bands. The poncho is intended for dismounted soldiers, reconnaissance teams, and static observation roles in diverse operational environments.



Intended Application:

- ▶ Personal IR signature reduction.
- ▶ Visual and NIR camouflage.
- ▶ Thermal blending with natural background.
- ▶ Protection against aerial and ground-based EO/IR surveillance (UAVs, thermal imagers, IR pods).

Construction & Design:

Parameter	Typical Requirement
Garment Type	Hooded Poncho (free-size)
Wearing Style	Over-uniform, rapid don/doff
Coverage Area	Head, torso, upper arms
Cut	Loose-fit for ventilation and thermal decoupling
Stitching	IR-neutral, low-gloss thread
Seams	Reinforced, taped (where applicable)

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Physical Characteristics:

Parameter	Typical Requirement
Weight	≤ 1700 g (approx.)
Thickness	≤ 2.5 mm
Size	Universal (Free Size)
Pack Size	Foldable, Compact bag



Anti IR Fabric

Thermal & IR Characteristics:

Parameter	Typical Requirement
Emissivity (8–14 μm)	≤ 0.65 (background matched)
Thermal Contrast (ΔT)	$\leq \pm 2$ °C w.r.t. ambient background
Hot Spot Suppression	Yes (body heat diffusion)
Thermal Stability	Stable under solar loading



Before Wearing Poncho



After Wearing Poncho

Comfort & Ergonomics:

- ▶ Breathable construction to reduce heat stress.
- ▶ Adequate airflow to minimize perspiration buildup.
- ▶ Hood compatible with helmet and headgear.
- ▶ Non-restrictive movement during walking and crawling.



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Environment Resistance / Performance Specification:

Spectral Band

Requirement

Operating Temperature	-20 °C to +55 °C
Water Resistance	30 cm for 30 min
Dust Resistance	Yes
LWIR (8–14 μm)	Controlled emissivity to suppress hot spots
MWIR (3–5 μm)	Reduced thermal contrast vs background

Compliance:

- ▶ MIL 53134 (4.4.2.3.2).(Thermal Properties).
- ▶ ISO-811 (Determination to resistance to water penetration Static 30 cm for 30 min).