

Technical Specification

Military Utility Belt *Sentinel*

1 Product overview

Parameter	Value
Product name	Military Utility Belt Sentinel
Model / Part number	Mark I
Intended Use	General-purpose load-bearing utility belt for field personnel. Suitable for carrying pouches, tools, and modular attachments.
Description	A durable, adjustable utility belt constructed from high-strength polyester webbing with a corrosion-resistant carbon steel buckle. Designed for long service life with modular component disassembly for maintenance

2 Standards & Compliance

Parameter	Value
Applicable standards	<ul style="list-style-type: none">ISO 13934-1 (Tensile strength of fabrics)ISO 12947 (Abrasion resistance of materials)ASTM B117 (Coating corrosion resistance oxide)
Quality Assurance Requirements	100% inspection of stitching, buckle function, and dimensional accuracy
Testing Requirements	Tensile testing, buckle fatigue testing (minimum 1,000 cycles), and abrasion test on webbing.

3 Dimensions & Weight

Parameter	Value
Belt Length Options	<ul style="list-style-type: none">Medium: 1050–1200 mmLarge: 1200–1350 mm(Custom sizing available)
Width	40mm
Thickness	1.3 mm (webbing only), 6mm buckle
Overall Weight	~180–230 g depending on size
Adjustability Range	Minimum 150 mm adjustment span

4 Materials

4.1 Webbing

Parameter	Value
Material Type	Polyester
Thickness	1.3mm
Width	40 mm
Strength Grade	≥ 12 kN tensile load
Abrasion Resistance	Rated for long-term field wear under ISO 12947
Color & Finish	Matte black, low-reflectivity finish

4.2 Buckle

Parameter	Value
Material	Carbon steel S355
Coating	Black oxide surface treatment

Functional Benefits of Coating	<ul style="list-style-type: none"> • Corrosion protection • Improved wear and abrasion resistance • Reduced light reflection
Breaking Strength	≥ 2.2 kN continuous load capacity (~ x5 instantaneous)
Corrosion Resistance	Withstands standard salt-spray exposure per ASTM B117

4.3 Stitching & Thread

Parameter	Value
Thread Material	Bonded nylon or polyester thread
Stitching Pattern	Reinforced box-X pattern at load-bearing points
Minimum Stitch Density	3–4 stitches per cm

5 Structural Design

Parameter	Value
Belt Core	Single-layer polyester webbing with reinforced stitch patterns
Load-Bearing Capacity	Suitable for carrying tool pouches, modular pouches, and accessories (non-weapon related)
Compatibility	MOLLE/PALS-compatible attachment loops are optional
Padding	None by default; an optional breathable pad insert is available

6 Functional Features

Parameter	Value
Attachment Points	Continuous loop design allows positioning of modular accessories
Retention Features	High-friction webbing texture reduces slippage under load
Adjustment System	Standard friction-adjustable buckle interface
Accessory Compatibility	<ul style="list-style-type: none"> • Tool holder pouches • General-purpose pouches • Radio pouches • Utility gear

7 Environmental & Durability Requirements

Parameter	Value
Operating Temperature Range	-30°C to +50°C
Water Resistance	Polyester webbing is water-resistant and quick-drying
UV Resistance	Webbing treated for UV stability
Chemical Resistance	Resistant to sweat, oils, and mild industrial solvents
Service Life Expectation	10+ years with scheduled maintenance

8 Manufacturing Requirements

Parameter	Value
Production Tolerances	<ul style="list-style-type: none"> • Width: ±0.5 mm • Length: ±5 mm • Stitch positioning: ±2 mm
Seam Reinforcement	Heavy-duty bar-tack reinforcement at stress points
Edge Treatment	Heat-sealed webbing edges to prevent fraying
Colour Matching Tolerance	$\Delta E \leq 1.0$ under D65 lighting

9 Packaging & Labelling

Parameter	Value
Individual Packaging	Polybag with a moisture barrier or a black carton box
Label Information	<ul style="list-style-type: none"> • Manufacturer name

	<ul style="list-style-type: none"> • Model and part number • Size • Batch/lot number • Care instructions
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10 Documentation & Certification

Parameter	Value
User Manual / Care Guide	Includes instructions for disassembly, cleaning, lubrication, and reassembly
QC/QA Documentation Required	Batch QC sheet, tensile test record, coating certification
Inspection Certificates	Provided per batch

11 Warranty & Support

Parameter	Value
Warranty Duration	24 months standard
Coverage	Material defects, stitching failure, buckle malfunction
Exclusions	Damage caused by misuse, chemical exposure beyond specification, and unauthorised modifications