

> Specifications and Parameters

Product Name:	Soft Pallet Jumbo Bag (Ton Sack)
Product Color:	White
Product Material:	Polypropylene (PP) Granules
Load Capacity:	1-3 tons
Product Application:	Transportation and handling of small packages in factory warehouses, ports, and logistics operations
Product Features:	Easy to use, cost-effective, high load capacity, reusable

production line

5 lines

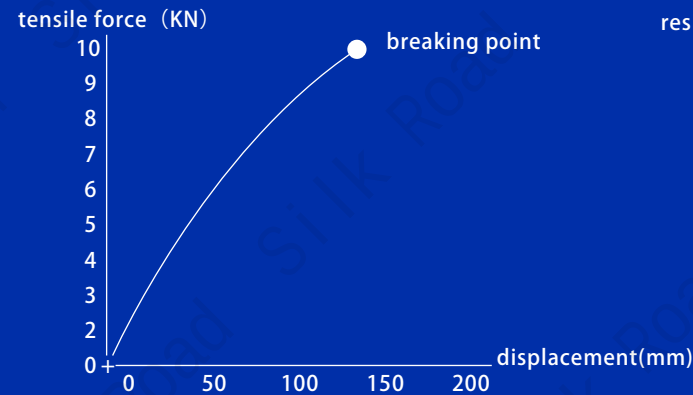
daily output

35 tons

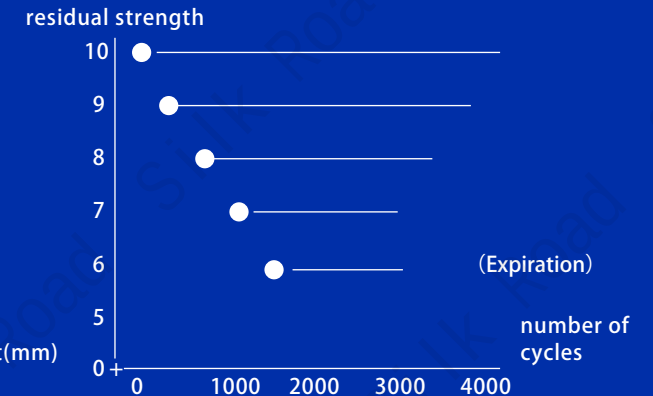
FIBC Soft Pallet

The jumbo bag soft pallet is a logistics transportation solution combining jumbo bags with flexible pallets, primarily used for efficient and safe handling and storage of bulk materials such as chemical raw materials, grains, and mineral residues.

Static Tensile Test



Dynamic Fatigue Test



Tensile tests typically include both static and dynamic tests. Static tests may record the relationship between tensile force and displacement, while dynamic fatigue tests assess the relationship between cycle count and load or displacement. Line charts visually illustrate product performance under different conditions to evaluate compliance with standards or identify areas for improvement.

PE Raw Material Technical Analysis

The Molecular Foundation of Industrial Packaging

PE (polyethylene) is a thermoplastic polymer made from ethylene monomers. It is classified into types such as HDPE (high-density), LDPE (low-density), and LLDPE (linear low-density), among others. It exhibits excellent flexibility, chemical resistance, and low-temperature performance (down to -50°C), making it widely used in industrial packaging (such as jumbo bag base fabric, plastic steel straps, moisture-proof film), daily necessities, and pipe manufacturing. Its modifiable properties (such as UV resistance, conductivity, and biodegradability) further expand its application scenarios in food, chemicals, environmental protection, and other fields.

Molecular chain
 $-\text{CH}_2-\text{CH}_2-$

resistance
 -50°C

Melting point
120-130

> PE (polyethylene) vs. PP (polypropylene)

We can customize the most suitable packaging material solution based on your industry

PE (polyethylene)

Density: 0.94-0.97(g/cm³)

Melting point: 120-130($^{\circ}\text{C}$)

Number of times

recyclable: 7-10 times

Low-temperature

resistance: -50°C

vs

PP (polypropylene)

Density: 0.90-0.91(g/cm³)

Melting point: 160-170($^{\circ}\text{C}$)

Number of times

recyclable: 7-10 times

Low-temperature

resistance: -20°C

Interpretation of differences

PP is lighter, saving transportation costs
PP has better high temperature resistance, suitable for hot filling
PE has higher circular economy potential
PE has more stable performance in frozen environments

Pure Raw Material Virgin Base Material PE Granules



Pure and Impurity-Free

Factory Equipment and Technology System

— Wire drawing machine, wire winding machine
circular loom, high-speed webbing machine

High-Speed Synchronization

Linked with the spinning machine for synchronized production, with winding speed matching spinning speed (up to 300 meters per minute).

Fully Automatic Winding Machine:

Automatically winds the flat yarn produced by the spinning machine into neat yarn spools for use in subsequent circular weaving machines or webbing machines.

Advantages:

Intelligent Tension Control:

Real-time sensing of tension changes to prevent yarn breakage or loose winding, ensuring uniform winding density.

Large Capacity Design:

Single roll capacity up to 20-30 kilograms, reducing roll change frequency.

Fully Automatic Drawing Machine

Heats and melts polypropylene (PP) or polyethylene (PE) plastic pellets, extrudes them through a mold into film, then cuts and stretches them into flat yarn (the core raw material for woven bags).

Advantages

Highly automated:

Fully automated control throughout the process reduces manual intervention and minimizes operational errors.

Energy-efficient and high-performance:

Utilizes an efficient heating and cooling system with low energy consumption and fast production speeds (up to 200 – 300 meters per minute).



Fully Automatic Circular Loom

Weaves flat yarn into cylindrical fabrics (such as woven bag tubular fabric) through warp and weft interlacing to form a high-strength structure.

Advantages

Precise Weft Density Control:

Servo motor-driven weft insertion with an error of ≤ 1 thread/10cm, ensuring consistent fabric density.

High-efficiency production:

Multi-shuttle design (4 – 12 shuttles), weaving speed up to 120 – 200 revolutions per minute, daily output exceeding 10,000 meters.

Wide width adaptability:

Can produce cylindrical fabrics with diameters of 30 – 120 cm, accommodating different specifications of jumbo bags.



High-speed webbing machine:

Produces high-strength webbing (such as jumbo bag slings, strapping bands) using plain weave or jacquard technology.

Advantages:

Ultra-high speed operation: spindle speed up to 800-1200 rpm, single machine daily output of 5000-8000 meters.

High-strength output:

Multi-layer weaving technology achieves webbing tensile strength of 1 – 5 tons (depending on material and specifications). Versatility: Supports multiple raw materials such as nylon, polyester, and PP, capable of producing complex textures like plain weave and twill.



> Establish a core equipment matrix

Fabric surface flatness error



$\leq 1\text{cm}/100\text{m}$

Total energy consumption reduction



35%

Annual raw material processing capacity



12000 tons

Automated Cutting Equipment One-Stop Service

—— From Precise Cutting to Intelligent Sorting



> Advantages

High-efficiency unmanned operation

Utilizes an intelligent CNC system + robotic arm integration, achieving cutting speeds of 60-120 pieces per minute, with no manual intervention required throughout the process, saving over 70% of sewing labor.

Precision to the Micro Level

Laser positioning + servo drive, cutting accuracy $\leq 0.3\text{mm}$, stitch alignment error $< 1\text{mm}$, ensuring even force distribution at the suspension point and bag opening.

Flexible Production

One-click program switching, completes specification adjustments within 3 minutes (e.g., switching from 1-jumbo bags to 50kg woven bags), meeting small-batch customization needs.

Integrated production line efficiency

Fully integrated process: drawing → winding → circular weaving → webbing → cutting and sewing!
Cost reduction: labor costs reduced by 50%, energy consumption saved by 30%, and overall costs 40% lower than traditional methods!

> Intelligent Cutting

Automatically cuts tubular fabric produced by circular looms to preset lengths (e.g., 50 – 150 cm) with an error margin of $\leq \pm 1\text{ mm}$.

Performs length-specific cutting of straps and tie-down straps produced by high-speed weaving machines, with precision up to $\pm 0.5\text{mm}$ and smooth, burr-free edges.

> Automatic Sewing/Sealing/ Multi-Specification Adaptation

Integrated industrial sewing modules automatically complete processes such as bottom seam sewing for jumbo bags, sealing for woven bags, and handle reinforcement, with adjustable stitch density (5-12 stitches per centimeter).

Supports quick switching between different sizes of jumbo bags (500-2000kg capacity) and woven bags (10-100kg specifications), accommodating diverse requirements such as flat bags, square-bottom bags, and three-dimensional jumbo bags.

Why choose our automated cutting equipment?

Modular design: Individual cutting units can be upgraded separately, or seamlessly integrated with existing production lines!

Intelligent maintenance: 95% fault self-diagnosis rate, 60% reduction in maintenance costs!

Technical Analysis • Quality Assurance

Fully automatic sewing equipment

Precision defense line for industrial packaging

> Fully automatic strap pattern machine



Specifically designed for high-strength pattern sewing of jumbo bag straps, hand straps, etc., supporting complex textures such as wave patterns, sawtooth patterns, and diamond patterns.

Smart Pattern Library: Pre-loaded with over 100 pattern templates, one-click switching to meet personalized customization needs. High-Speed Sewing: Maximum sewing speed of 3,000 stitches per minute, daily output exceeding 5,000 straps, efficiency improved by 3 times.

Precise Alignment: Laser positioning + servo drive, pattern alignment error $\leq 0.3\text{mm}$, combining aesthetic appeal with load-bearing capacity.

Thick Material Penetration: Equipped with powerful needles and rotary shuttles, capable of sewing 4 – 8 layers of PP/PE woven straps, with a thread breakage rate $< 0.1\%$.

> Single-Needle Machine

Suitable for straight-line sewing applications such as sealing woven bags and bottom sewing of jumbo bags, focusing on efficient basic sewing.

Ultra-simple operation: Touchscreen programming supports one-click setting of length and stitch spacing parameters (stitch spacing range: 1 – 5 mm). Ultra-long runtime: 24-hour continuous operation, sewing speed of 2,500 stitches per minute, with a failure rate $< 0.05\%$.

Adaptive presser foot: Intelligent sensing of fabric thickness automatically adjusts presser foot pressure to prevent skipped stitches or fabric damage.

Energy-saving and low consumption: Power consumption is reduced by 40% compared to traditional models, and overall costs are reduced by 30%.



> Cross-stitch sewing machine/ double-needle four-thread bulk bag thick material machine

Cross-stitch sewing machine :

Specializes in cross-reinforced stitching at critical stress points such as the openings of jumbo bags and handles of woven bags.

Precise cross stitching:

dual-axis linkage technology, synchronous X-Y direction stitching, cross point error $< 0.5\text{mm}$

Super-strong reinforcement:

Four layers of stitches are superimposed, increasing the tensile strength of the stitching by 50% and enabling a load capacity of 2-5 tons.

Quick changeover:

Modular needle design, switching between straight stitch and cross stitch mode in 3 seconds, seamlessly connecting multiple processes.

Self-checking and deviation correction:

infrared detection of sewing thread deviation, real-time correction of trajectory, defective product rate $< 0.3\%$.

double-needle four-thread bulk bag thick material machine

For double-thread parallel sewing of ultra-thick materials such as bulk bags and jumbo bags (e.g., 10-20 layers of woven fabric), ensuring a secure seam.

Double-needle four-thread structure:

Upper and lower double needles work in tandem, creating a four-thread chain stitch, increasing sewing strength by 80% and completely eliminating thread breakage.

Heavy-duty penetration:

High-pressure oil-lubricated rotary shuttle + titanium alloy machine needle, easily penetrates 20mm ultra-thick materials with a needle breakage rate approaching zero.

High-efficiency synchronization:

Dual needles with independent drive, sewing speed of 2000 stitches per minute, efficiency improved by 60% compared to single-needle machines.

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Intelligent thread tension control:

Electronic thread tensioner dynamically adjusts tension to accommodate different materials, achieving 98% stitch uniformity.

A corner of the tube material workshop

Six warehouses for storage

— Immediate shipment nationwide based on customization

> Six major bases working together/Three major customization scenarios

> Tensile strength testing



Urgent replenishment::	Priority production for fabrics of the same specifications, intelligent warehouse allocation and nearby distribution	16-hour express delivery to warehouse
Functional modification:	Anti-static/UV-resistant/flame-retardant/coated, sample production completed in 3 days	100% parameter compliance rate
Special specifications:	Customized widths from 0.5 to 3 meters, irregular cutting (serrated edges/rounded corners/cutouts)	Intelligent warehouse sorting and nearby material preparation
Industry-specific supply:	Food-grade (FDA-certified)/medical-grade (ISO 13485) dedicated production lines	Complete certification qualifications, 7-day delivery

