INDUSTRIAL PALLETIZATION SERVICES

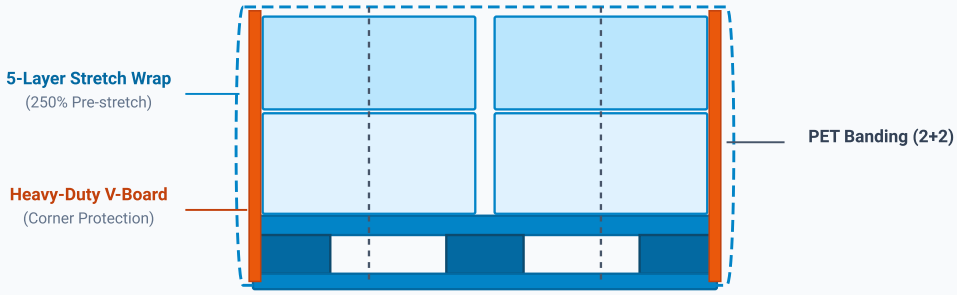
Cargo Unitization, Stacking & Protection Standard Operating Specifications

SOP NO: PLT-SVC-2026
Standards: ISO 6780 / ISTA 3E / ISPM 15

1. SERVICE SCOPE & PURPOSE

This document specifies standard operating procedures and technical benchmarks for commercial palletization services. It governs box interlocking, stretch wrapping tension, corner board placement, strapping configuration, and export compliance to guarantee unit load stability throughout warehousing and multimodal freight transit.

2. PALLETIZATION ARCHITECTURE & WRAP PROCESS



3. SERVICE TECHNICAL & OPERATIONAL STANDARDS

Service Component	Technical Standard / Material	Operational Purpose & Quality Target
Pallet Selection	Heat-treated (ISPM 15) hardwood or GMA Grade A 4-way block pallets (1200x1000mm / 1200x800mm).	Prevents pest transmission, ensures compatibility with automated rack & forklift handling.
Pattern Stacking	Column-stack or interlocked pattern based on carton compression strength; 0% overhang allowed.	Maximizes vertical stack strength; eliminates overhang crush and load tilt during transit.
Corner Protection	High-density laminated paperboard V-boards (50mm × 50mm × 4mm thickness).	Protects box edges from strap crushing; reinforces vertical structural rigidity of the load.
Stretch Wrapping	Automated turntable application: 20–23 micron cast LLDPE stretch film with 200–250% pre-stretch ratio.	Min. 3 bottom base layers (anchored to wooden deck) + 2 top cap layers for water resistance.
Banding & Strapping	15.5mm × 0.89mm High-tensile PET polyester strapping applied with pneumatic friction-weld tool.	2 vertical + 2 horizontal straps securing entire cargo mass directly to pallet skid.

4. QUALITY CONTROL & CARGO INSPECTION GUIDELINES

LOAD STABILITY & TESTING

- **Incline Impact Test:** Unitized load certified to withstand ISTA 3E transit testing without shifting.
- **Tilt Angle Limit:** Max 15° static tilt tolerance before wrap containment tension recovery.
- **Top Flatness:** Load top surface leveled to within ±10mm for safe multi-tier warehouse stacking.

LABELING & SHIPPING COMPLIANCE

- **Dual-Side Labeling:** Barcode, SKU, SSCC-18, and handling arrows placed on 2 adjacent sides.
- **ISPM 15 Verification:** Visual audit of IPPC stamp prior to wrapping; certified moisture < 20%.
- **Weight & Height Audit:** Gross weight and total height recorded on Pallet Manifest Document.