

# SUNSTREAM

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Unwavering Commitment

**TOTAL SOLUTIONS** | Palletless Handling | Automated Packaging System | Trending Systems

## COMPANY PROFILE

### A JOURNEY MARKED BY VISION AND OPPORTUNITY

Our Founder and Managing Director, Mr Heng Joon Siang, first started out as a distributor for forklift attachment, partnering with world renowned brands. As business grew, he led Sunstream towards offering more layered solutions for palletless handling. Even in those early years, Mr Heng recognized the need for companies to adopt more eco-sustainable practices. He steered Sunstream towards gaining invaluable expertise and capabilities in these areas and more integrated solutions for customers.

Today, Sunstream offers an entire eco-system of carbon footprint-reducing solutions based on palletless handling systems; from load unitization, to cargo protection and load securing. The company has established regional presence with Sunstream operations in Singapore, Malaysia, Indonesia, Thailand, China and Vietnam.



## UNWAVERING COMMITMENT

Sunstream's growth through the years is marked by healthy, long-term relationships with all our partners and customers. It is a trait that Sunstream practices diligently. Sunstream's unwavering commitment to customers, partners and employees is a hallmark of our organization.

Unwavering commitment. It's more than a slogan; it defines us.

## OUR VISION

To be the preferred, integrated solutions partner for palletless handling systems.

## OUR MISSION

We are committed to delivering expert palletless handling systems that are best-in-class for innovation, quality, performance, aftersales service and value creation.

### CERTIFICATIONS

Sunstream is an ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 and bizSAFE STAR certified company, indicating our commitment to Quality, Environment, Health and Safety.



## COMPANY PROFILE

### SUNSTREAM LOCATIONS

#### SINGAPORE | HEADQUARTERS

##### **SUNSTREAM INDUSTRIES PTE LTD**

18 Tuas South Street 5,  
Singapore 637796  
T: + 65 6795 7555  
F: + 65 6863 1368

#### MALAYSIA

##### **SUNSTREAM INDUSTRIES (M) SDN BHD**

No. 2, Jalan Sitar Satu 33/6A, Seksyen 33,  
40400 Shah Alam, Selangor, Malaysia  
T: + 603 5614 3533 / 3633 / 3733 / 3933  
F: + 603 5614 3392

No. 18, Lintang Beringin 8, Off Jalan Permatang  
Damur Laut, Diamond Valley Industrial Park,  
11960 Penang, Malaysia  
T: + 604 688 4473  
F: + 604 626 2966

#### THAILAND

##### **SUNSTREAM INDUSTRIES (THAILAND) CO., LTD**

36/9 Moo 13 Bungkumploy, Lam Luk Ka,  
Pathumthani 12150 Thailand  
T: + 66 2152 5417 / 5418 / 5419  
F: + 66 2152 5420

#### INDONESIA

##### **PT SUNSTREAM INDONESIA**

Kawasan T8 No. 8 Alam Sutera JL. Raya Serpong  
KM 7, Pakulonan Tangerang Selatan  
15325 Indonesia  
T: + 62 21 290 47 368  
F: + 62 21 290 47 367

Komplek Pergudangan Safe n Lock, Block AJ No.  
5920, Jalan Lingkar Timur Km.5.5, Rangkah Kidul,  
Sidoarjo, East Java 61232 Indonesia

#### CHINA

##### **SUNSTREAM INDUSTRIES (SUZHOU) CO., LTD**

盛群包装自动化设备(苏州)有限公司,  
No. 413 Mu Dong Rd, Block 3, Level 1,  
Suzhou, China 215101  
苏州市吴中区木渎镇木东路413号  
第三幢一楼 邮编 215101  
T: + 86 512 6657 3550 / 3551  
F: +86 0512 6657 3552

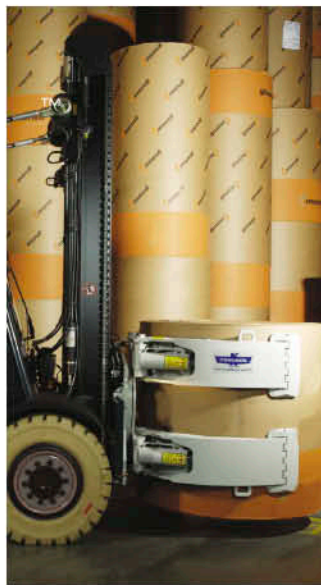
#### VIETNAM

##### **SUNSTREAM INDUSTRIES (VIETNAM) CO., LTD**

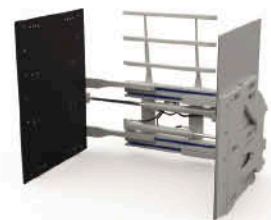
63 Lo Lu Street, Truong Thanh Ward,  
Dist 9, HCMC,  
Vietnam  
T: + 84 28 3636 0460 / 0461  
F: + 84 28 3730 0102



# ATTACHMENTS, FORKS & ACCESSORIES



**WHATEVER THE APPLICATION, WE CAN HANDLE IT.**





Cascade manufactures a variety of products that enable the conventional lift truck to become a more versatile and efficient materials handling tool. These products enable a lift truck to pull, push, clamp, lift, sideshift and rotate practically any unit load imaginable.

## CLAMPS

Handle nearly any product such as cotton, wool, corrugated, newsprint, rag, hay, tires, recycling scrap, bales, drums, textiles, pulp and more. No matter what your application demands, Cascade offers a wide variety of rugged clamps, all guaranteed to excel in nearly every application.



## CARTON & WHITE GOODS CLAMPS

Designed for the warehousing, beverage, appliance, electronic and white goods industries, Carton Clamps and White Goods Clamps allow palletless handling, and save money on pallet purchasing, maintenance, shipping and storage. They also improve warehouse space utilization.



## PAPER ROLL CLAMPS

Meeting the paper roll industry's need for damage-free roll handling with maximum efficiency, Cascade offers a full line of Paper Roll Clamps and damage reduction options to handle paper rolls regardless of diameter, weight or type of paper.



## FORK CLAMPS

Operate both as a clamp and a fork positioner. Awkward loads, such as crates, bales and tires can be clamped between the forks. The ability to position the forks speeds pallet handling and reduces wear and tear on the pallets.



## FORK POSITIONERS

Fast and accurate fork positioning without leaving the driver's seat allows faster load handling with reduced product damage. A Cascade Fork Positioner improves ergonomics, increases productivity and helps reduce damage.



## MULTIPLE LOAD HANDLERS

Allows driver to use the same lift truck to handle either single or double pallet loads. Spreading the four forks allows handling of two pallets side-by-side. When brought together, the four forks convert to two forks ready for single pallet handling. Well suited for truck trailer loading and unloading. Also available are Single-Double-Triple Pallet Handlers, Long Forks and High-Capacity models.



As the global leader in lift truck attachments, forks and accessories, Cascade has been providing solutions for nearly every industry and application for over 70 years.



## ROTATORS

Add 360° revolving motion to truck forks, in both directions, with a Cascade Rotator. Used in food processing and manufacturing for load inverting and dumping.



## PUSH/PULLS

Allow you to ship, receive and warehouse unit loads on inexpensive slip sheets rather than pallets. Push/Pulls typically handle bagged products such as seed, agricultural products and cement; cased food, electronics, cosmetics and bottled beverages.



## LAYER PICKERS

When building mixed load pallets, the Cascade Layer Picker handles single layers or multiple layers of canned, bottled and boxed products. Models include Swing, Mono-Mast Swing, Stationary Side and Carriage Mount, Fork Mount and Magnetic Layer Pickers. Cascade's Swing models offer a 180° swing to enable picking from both sides of the truck.



## SIDESHIFTERS

Shift a load from side to side for reduced handling time and improved maneuverability. With our low cost, easy-to-install Conversion Kit, all F-Series Sideshifters are now just nine bolts and minutes away from being used a Fork Positioner.





## INTEGRAL ATTACHMENTS

Provide greater net capacity for loads because of reduced effective thickness. Sideshifter, Fork Positioner and Sideshifting Fork Positioner available.



## STATIONARY PRODUCTS

Cascade manufactures stand-alone products that don't require the use of a lift truck to operate including Load Transfer Stations, Stationary Load Inverters and Stationary Mast Stands. Ideal for use in warehousing, grocery or any application where loading and unloading pallets or slipsheets is necessary.



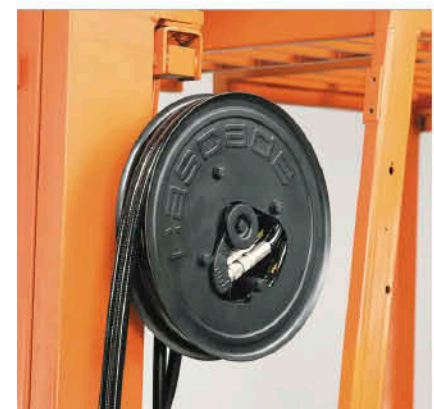
## SPECIALTY PRODUCTS

Cascade's wide product range consists of a variety of attachments to meet any material handling challenge. We will work closely with you to design the perfect solution for your application. If you don't see what you're looking for, give us a call.



## HYDRAULIC ACCESSORIES

Cascade offers a wide variety of hydraulic accessories, from pressure regulators to hose reels, designed to optimize the performance and longevity of the forklift-attachment package.



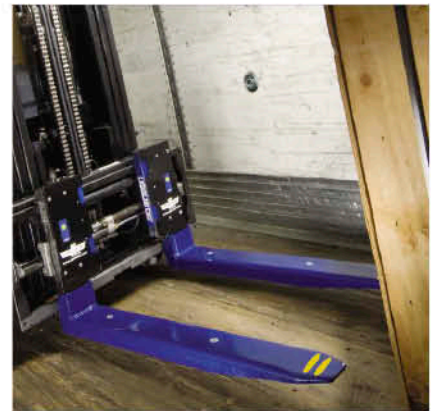
## DAMAGE REDUCTION OPTIONS

Cascade offers a full range of damage reduction options and accessories. Solutions range from fully automated clamp force control systems to simple pressure relief valves. We offer everything you need to assure your product arrives damage-free.



## MOBILE WEIGHING

These innovative mobile weighing solutions use Bluetooth® technology to weigh your product as you move it. Common uses for Cascade Weigh Forks include incoming goods control, overload prevention, dosing, filling, waste management, order picking and inventory control.



## FORKS

Cascade makes forks for lift trucks of all makes, models and sizes, at a price that helps keep you competitive. Our comprehensive product line includes a full range of fork products for a wide cross section of industrial and commercial applications.



## MAGNETIC FORK COVERS - DAGS

Designed for use in any application where palletless products could be damaged from contact with bare forks. When confronted with an awkward or slippery load, like metal boxes or cages, DAGS can be installed in a matter of seconds to help secure the load.





## KOOI-REACHFORKS®

Meijer Handling Solutions was the first to develop a hydraulic extending and retracting lift truck fork. Since their introduction in 1980, KOOI-REACHFORKS® have become the benchmark in materials handling. With one and two cylinders in each fork and an integrated equalizer system, Meijer Handling Solutions guarantees you the best Telescopic fork on the market.

### LOADING AND UNLOADING

Trucks as well as trains can be completely loaded and unloaded from one side. It is no longer necessary to turn the vehicle or approach the trailer from both sides. This way of pallet handling makes the operation safer than the traditional method because all the operations are carried out from one side.



### DOUBLE PALLET TRANSPORT

KOOI-REACHFORKS® can be extended to transport two pallets at a time. This can generate considerable benefits involving large volumes or long distances. Combinations with a fork positioner and spreader are possible as well, allowing you to handle 4 pallets at a time which improves the loading and unloading speed of trucks and trains enormously.



### HYDRAULIC EXTENSIONS

These telescopic forks allow a wide variety of different pallet sizes to be handled safely and quickly without damage to the pallets or goods. They also help to reduce the safety risks and wasted time often associated with the use of manual forks extensions.





## ROLLERFORKS®

Meijer Handling Solutions knows the use of pallets for the storage of goods is unavoidable in a company. But what if you want to save time and space by sending your goods to the customer without using pallets? Meijer Handling Solutions introduces the RollerForks® which can be used for palletless handling. The RollerForks® have unique characterisations with regard to the familiar push-pull system. The characterisations are:

- Investment costs are much lower.
- The driver's visibility is not obstructed.
- Products can easily be placed on a pallet.
- No extra heavy capacity lift truck is needed.
- No hydraulics needed on the RollerForks® or lift truck.
- The lift truck can also be used to perform standard lift truck tasks.
- The actual weight of the RollerForks® is almost the same as standard lift truck forks.
- The loading and unloading time is faster than that of, for example, a push-pull system.

### VARIED RANGE OF APPLICATIONS

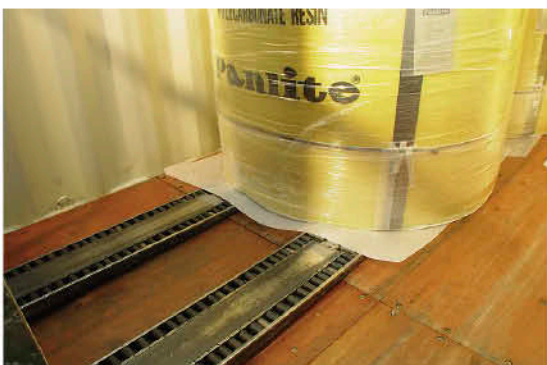
RollerForks® can be fitted to most forklift trucks with a FEM fork carrier including lightweight electric stackers. Products in boxes and cartons, bagged goods, FIBC's etc can be transported with RollerForks® when placed on a slipsheet. Since there are no hydraulics and lubrications required, the RollerForks® are particularly well suited to the food, the chemical, the consumer goods, the beverages and pharmaceutical industries. It is also possible to place a load with slipsheet on a standard pallet for in house transport and storage



RollerForks® easily fit every lift truck.



If used as a pair, normal pallets can also be transported.



Lifting up goods directly from the floor.



During transportation the load is fixed on the forks.

# BATTERY HANDLING SYSTEMS

Every minute your forklift trucks sit idle, you lose money. That is why, no matter the size of your operation, it pays to reduce your forklift battery maintenance downtime. Sackett Systems, Inc. is a pioneer in the battery exchange equipment, developing the first lifting beam, transfer cart, and Hydra-Handler.



## Northstar (ASRS system for Batteries)

- Efficiency: High speed battery changing utilizing a staging area for automated handling operations
- Automation: Reduce personnel required for battery handling operations
- Asset Management: Integrated Battery Management Software
- Performance: Fully automated, Ten-high stacking battery and change battery in one minute.
- Number of battery changes per day: Above 100.



## Hydra-Handlers

- Labour Savings: Eliminates dedicated battery room personnel;
- Speed: Speed up time consuming alignment / Eliminate extraneous movements.
- Prevent Equipment Damage: Pre-programmed alignment on charger stands / Photo-eye sensors for positioning and alignment to lift trucks / Front/Rear SICK personnel laser detection.
- Efficiency: - Integrated FIFO to ensure proper battery rotation
- Number of battery changes per day: 20 to unlimited.



**X-CHANGER** Standard X-Changer (XTC-24) is designed with a 24" wide x 40" deep cavity to accept a maximum of a 3,000 lb. lift truck battery.

- Single track battery transfer cart system designed for low volume with quick and easy installation.
- Runs on an on-board 12Volt, DC battery system and is available with its own battery charger.
- Number of battery changes per day: 10 – 20 and above.



## Transfer Carts

- Various design: Manual, Powered and Powered Pallet Truck or Fork Truck - mounted.
- Carts able to mount on almost every Pallet Jack for safe, versatile and affordable battery exchange.
- Vacuum or Magnetic Extraction option.
- Capacity: 3,000lbs (Manual) 4,000lbs (Light Duty) and 5,000lbs (Heavy Duty)
- Number of battery changes per day: 10 – 20 and above.



## POWERED AND NON-POWERED TRANSFER CARTS

Pallet Jack Mounted Transfer Carts:

- 3,000lb and 5,000lb capacity available,
- 4 position telescoping arm standard,
- Dual Level and Powered Lift available for mix of reach/pallet and sit-down trucks,
- Updated solenoid electronic valves for longer life and easier servicing.



A-PJTC-24



B-PJTC-V



C-PJTC-V



HPT



HPT-PL



HFT

## BATTERY STORAGE STAND FEATURES



- Completely Welded in 2-high sections for superior quality, longer life and simple installation;
- 3" x 3" x 3/8" square tubing uprights;
- 3-1/2" x 2-1/2" angle inner frame:
  - Integrated cable routing runways,
  - Roller Beds.
- All rollers manufactured at Sackett with a 3 YEARS WARRANTY
- No lead rollers or slide strips to replace;
- All rollers are 2 3/8" diameter with 1/4" PE coating over steel tube with sealed bearings on an 11/16 hex axle;
- Rollers sloped back 1/4" for safety and to ensure battery rests firmly in stand:
  - Handrail, catwalk, and ladders available for multi-level systems.



## POWERED AND NON-POWERED A-FRAMES (GANTRY CRANES) FOR OVERHEAD EXTRACTION

- Harrington Hoist easily attaches to trolley,
- 2 & 3 Ton A-Frames available;
- Easy installation;
- 10" dual flange drive, poly wheel option available to avoid trip hazard;
- Pipe hydraulic lines across top of I beam and up sides of A-Frame are all mounted and tagged;
- Heavy duty construction:
  - 10" channel base for wheels,
  - 2" x 4" tubing uprights.



## BATTERY WASH RACKS OR AUTOMATIC BATTERY WASHERS WITH WATER RE-CIRCULATING SYSTEMS

Battery Wash Systems Key Features:

- Basic wash racks to powered, conveyor input/output wash systems,
- PLC controlled 1 Minute Wash Cycle,
- Auto Neutralize Feeder with continual pH monitoring (with WRS),
- 3 Stage Element Filter System.



Model A



Model B



# DRUM & BARREL HANDLING



Liftomatic Material Handling, Inc. has been leading the industry in providing state-of-the-art equipment for safe, efficient and profitable handling of drums and barrels since 1947. Incorporating the time-tested and proven "Parrot-Beak®" clamping system. The parrot-beak has remained Liftomatic's symbol of integrity - it's safe, it's effective, and it backs up our claim that "you can't afford to drop a drum!"

## STANDARD DUTY FORKLIFT MOUNTED DRUM HANDLERS

- Fork mounted "Parrot-Beak®" attachments for handling steel, fiber and plastic drums
- Ideal for applications handling up to 1000 drums per month
- Attachments for handling from 1 to 4 drums simultaneously
- Automatic and mechanical operation- no hydraulic or electrical connections
- Attachments fit on any forklift
- Spark-Resistant and EE/EX packages available
- Capacities to 1500 pounds (681Kg) per drum
- Custom configurations, carriage mounts and permanent weld attachments available
- Various coating options available for FDA work areas and severe operating environments



## HIGH VOLUME FORKLIFT MOUNTED DRUM HANDLERS

- High-Volume forklift attachments for handling 1-4 drums at one time
- Handle steel, fiber and plastic drums
- Handle 4 drums at one time only or 1, 2, 3 or 4 drums
- Can be fitted for C1D1/Explosion proof applications
- Capacities of up to 2000 pounds (908Kg) per drum
- All Liftomatic High-Volume Attachments are automatic and mechanical- no hydraulic or electrical connections needed.

## ERGOMATIC STANDARD

- 600,800,1000 pound capacities
- Handle all steel, plastic and fiber drums
- Ideal for palletizing, weighing, general transport
- Compact footprint for movement in tight aisles, laboratories and hallway areas
- 20-38" lift heights
- Spark-resistant and EE/EX packages available
- Custom Coatings and configurations available



## HAND TRUCKS

- Safe and reliable Parrot-Beak® design for handling all fiber, steel and plastic drums
- Handle every container from 5 to 85 gallon
- Four wheel design creates ergonomic efficiency for operators
- Ideal for occasional drum users
- Hand Truck/Drain rack combinations for draining and dispensing
- 1000 pound capacities

## FORKLIFT MOUNTED DRUM DUMPERS

- Dump steel, plastic and fiber drums using any sit-down rider forklift
- Capacities to 2000 pounds (908Kg) per drum
- Mechanical units with chain fall and hand crank available
- Fully powered dumping units available
- Ideal for controlled pouring and dispensing
- Ergonomically friendly and safe for all operators to use



## PORTABLE DRUM DUMPERS

- Fully portable drum dumping and dispensing equipment
- Safe, reliable and ergonomically friendly
- Handle steel, plastic and fiber drums
- Capacities to 1000 pounds (454Kg)
- Variable lifting heights and leg configurations
- Adaptable to tight aisle space
- Controlled pouring and measuring capabilities
- Manually operated, hydraulic lift and lower and powered models available

## ECONOMICAL HOIST MOUNTED DRUM HANDLERS

- Positive Grip lift devices for handling 1 drum at a time
- Equipment for loading over-pack or spill containment drums
- Equipment to handle steel, plastic and fiber drums
- Capacities to 1000 pounds (454Kg) per drum
- Automatic and mechanical equipment
- Drum handling attachments for use with any suitable hoist, crane or below-hook lifting mechanism
- Optional locking mechanism for added security and safety



## HIGH VOLUME HOIST AND CRANE MOUNTED DRUM HANDLERS

- Parrot-Beak® drum handlers for steel, fiber and plastic drums
- Equipment for handling 1-8 drums at one time
- Below-Hook and Crane Mounted mechanical attachments for drum handling
- Low Clearance Drum Handlers for tight space loading
- Optional coatings and spark-resistant and "EE" / "EX" packages available
- Customized units for multiple drum handling also available



## IFORKS-32

Completely wireless fork scale



**BENEFITS**

- Installation within 5 minutes
- Completely wireless through bluetooth: no cabling
- Fork power supply by **Li-Ion** compact battery packs
- Digital calibration
- Load warning for tip and side loading
- Easy to install in combination with fork positioners
- Efficient power management
- Tested 1,000,000 cycles at 125% of capacity
- Automatic compensation for mast tilt angle

**Top quality  
Plug & weigh**

**Step into the future**

**Lithium-Ion**

## STANDARD SPECIFICATIONS

Capacity	2,500, 5,000 or 10,000 kg
Graduation	2 kg at 2,500 kg capacity 5 kg at 5,000 kg capacity 10 kg at 10,000 kg capacity
System tolerance	0.2% of the scale capacity
Display	Graphic full-color display
Keyboard	9 keys
Protection class	IP65 / NEMA 4
Power supply	12Vdc, from truck battery

## RCS

Hydraulic load indication for forklift trucks



**BENEFITS**

- Attractively priced forklift measuring system
- Easy installation via T-coupling
- Indicator with 4 AA-batteries
- Suitable for rough applications
- For shipping weights and avoiding overloads

**Top quality  
Easy to install**

## FORKLIFT TRUCK SCALES

### STANDARD SPECIFICATIONS

Capacity	2,500 kg*
Graduation	multirange: 1 kg till 1,000 kg 2 kg till max 2,500 kg
System tolerance:	0.1% of the load lifted
Display	dual color (green / red), digit height 22mm, with backlight, 5 digits
Red display:	during errors when tip or side loading (weight on one fork)
Signal transfer	Bluetooth 4.0
Controls	4 function keys, on/off key
Protection class	IP65
Dimensions housing	60 x 77 x 182 mm (excl. bracket)

\* (in combination with rotators: capacity reduction of 15%)

## RCS HY-Q

Hydraulic scale for forklift trucks



**BENEFITS**

- High accuracy hydraulic scale
- Less sensitive to load center point eccentricity
- Overload indication in display
- Use in combination with rotators and clamps
- Suitable for rough applications
- Intuitive full color graphic display guides the user
- No manifold block: easy and cost efficient installation

**Top quality  
Indestructible**



### STANDARD SPECIFICATIONS

Capacity	to fit the capacity of the truck (2,500, 5,000 or 10,000 kg)
Graduation	10 kg at 2,500 kg capacity 20 kg at 5,000 kg capacity 50 kg at 10,000 kg capacity
System tolerance	2% of system capacity
Protection class	IP65
Display	LCD, digit height 18 mm,
Controls	3 function keys, on/off button
Power supply	6Vdc from 4 AA-batteries
Battery life	6 month, when used normally
Auto shut-off	after 3 minutes of non-use



# PALLET TRUCK SCALES

## STANDARD SPECIFICATIONS

Weighing capacity	2,000 kg
Graduation	1 kg
Max. inaccuracy	0.1% of the load lifted
Display	LCD, digit height 18 mm
Keypad	3 function keys, on/off key
Protection class	load cells IP67, indicator IP65
Steering wheels	rubber
Loading wheels	polyurethane, tandem
Colour	red (RAL 3000), epoxy painted
Own weight	104 kg
Power supply	4 x 1.5V AA-batteries
Battery life	when used 5 times a day, the batteries last for a year

## RAVAS - 1100

Pallet truck scale with basic scale functions



### BENEFITS:

- The RAVAS work horse
- Shock and vibration resistant
- Water tight for outdoor use
- Low power consumption
- For checking incoming goods and shipping weights

**Top quality**  
**For industrial use**



## RAVAS - 2100

Pallet truck scale with multirange graduation



### BENEFITS

- High accuracy: 200g increments
- Exchangeable battery module
- Automatic switch of function
- Pallet truck with quicklift pump
- Own weight just 99 kg
- For check weighing, batching and filling

**Top quality**  
**Made in Europe**



## STANDARD SPECIFICATIONS

Weighing capacity	2,200 kg
Graduation	multirange: 0 - 200 kg: graduation 0.2 kg 200 - 500 kg: graduation 0.5 kg 500 - 2,200 kg: graduation 1 kg
Max. inaccuracy	0.1% of the load lifted
Display	LCD, digit height 18 mm
Keypad	3 function keys, on/off key
Protection class	load cells IP67, indicator IP65
Battery	12Vdc/1.2Ah, exchangeable; battery charger included
Battery life	35 hours, low battery indication 5 hours before automatic switch-off
Charger	230V/12Vdc - 300 mA
Charging time	approximately 6 hours
Steering wheels	rubber
Loading wheels	polyurethane, single
Pump	quick lift
Own weight	99 kg
Colour	red (RAL 3000), epoxy painted

For approved versions, class OIML III: European approval no. T2782, switch-off of display when tilting more than 2°. Graduation: multirange 0.5/1 kg, or one of the following fixed graduations:

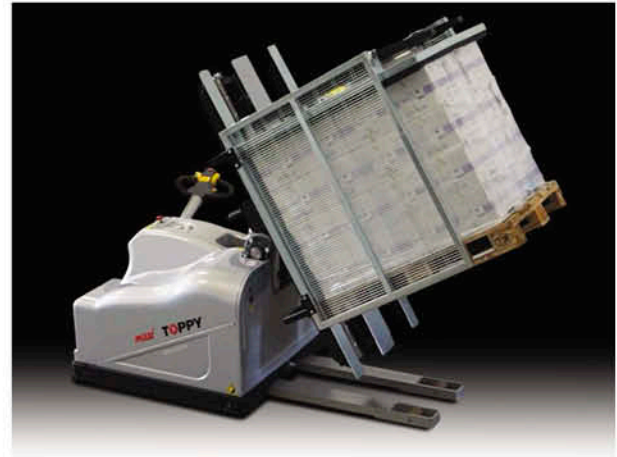
- 1,000 divisions : 1.0/1,000 kg or 2.0/2,000 kg
- 2,000 divisions : 0.5/1,000 kg or 1.0/2,000 kg
- 3,000 divisions : 0.1/300 kg or 0.2/600 kg or 0.5/1,500 kg

# PALLET CHANGING SYSTEM

The process of changing from in-house pallets to export pallets (or vice versa) is usually tedious and time consuming. Topy offers the widest range of pallet changing equipment under a banner of flexibility. You will always be able to find a Topy machine that is suitable to your load, pallet and warehousing requirements.

## MOBILE PALLET CHANGERS

An extremely versatile device, the mobile pallet changer allows it to be on the move. This way, the pallet replacement operation can be carried out at different places of the plant, whenever required.



## STATIONARY PALLET CHANGERS

A sturdy and robust equipment that guarantees utmost performances with excellent versatility, allowing pallet replacement operations in a complex logistics environment.



## PALLET CHANGER LOGISTIC SYSTEMS

A customized system that integrates into the existing ASRS conveying system to facilitate pallet replacement operations automatically. Every system is uniquely designed in accordance to each customers' requirement





## ROLL TURNER

The process of picking up a roll from a pallet and loading it onto machineries in a tight-spaced environment can be tedious and time consuming. Toppo Roll Turners are self-propelled reel lifters, suitable to handle reels of different sizes and materials. Toppo Roll Turners are designed to allow an operator to work safely, increase productivity and reduce damages to the roll.

### TOPPY WEB

The Toppo Web roll turner allows to lift and turn paper reels up to a maximum weight of 300kg, 600kg or 1000kg. For the 600kg and 1000kg Web, it is a mobile reel turner with an electric traction, able to turn by 90° reels of paper with a maximum weight of 600kg and 1000kg and maximum diameter of 1270 mm.



### TOPPY ASPO

The Toppo ASPO roll turner handles and rotates by 90° reels of different materials, up to a maximum weight of 150kg, 300kg or 600kg through a spindle. The reel is taken from its core by a spindle that expands for a safe and strong grip. For the 300kg and 600kg ASPO, it is a mobile battery operated truck designed to handle reels of different materials, weighing up to 300kg to 600kg. Toppo Aspo Label roll turners have been designed to avoid the cone effect when lifting the reel thanks to a hydraulic clamp which tightens the circumference of the reel, becoming one with it.



# FULLY AUTOMATIC STRETCH WRAPPING SYSTEM



## Q-1000

- Operator-Friendly Design
- Efficient Load Handling
- Clean Design
- Transition Photocells/System Guarding
- Safe, Convenient Film Loading
- "Touchless" Film Cutting System
- Wraps 45 loads per hour
- Maximum Load Size:  
54"W x 80"L x 92"H
- Minimum Load Size:  
36"W x 36"L x 24"H
- 200% pre-stretch with Power-Roller Stretch System (100%~300% available)

## S-1500

- Reduce labor and increase throughput with automated load indexing, attaching, cutting and wiping film
- Automation with minimum space requirement
- Flexibility allows in-line, end of line, or freestanding configuration where load accumulation is beneficial.
- Wrap 45~60 loads per hour
- Maximum Load Size:  
58"W x 58"L x 80"H
- 250% pre-stretch with Power-Roller Stretch Plus System (100%~300% available)



## S-2500

- User-friendly system with simple maintenance
- Reliable operation
- Optimizes film yield and load containment performance
- Designed for continuous needs of a three shift operation
- Wrap 60~80 loads per hour
- Maximum Load Size:  
58"W x 58"L x 80"H
- 250% pre-stretch with Power-Roller Stretch Plus System (100%~300% available)



## EXCLUSIVE LEANWRAP INNOVATIONS



### Metered Film Delivery System

No load twisting  
No load crushing  
No film breaks

### Machine Generated Performance Data

Keep track of machine production with real time data on availability, utilization, downtime, time starved, and time blocked.

## QL AUTOMATIC

### SPECIFICATION

#### PERFORMANCE CRITERIA

Production Speed	30-45 loads per hour based on load height
Maximum Load Size	54"L x 48"W x 92"H
Minimum Load Size	36"L x 36"W x 24"H
Maximum Load Weight	4000 lbs.

#### LOAD HANDLING SYSTEM

Turntable Drive	TEFC AC Motor,
Turntable Rotation	1-12 RPM controlled by VFD

#### FILM DELIVERY SYSTEM

Film Capacity	20" web with 10" diameter
Film Cut and Clamp	Reach system with impulse hot wire cut

#### ELECTRICAL DATA

Enclosure	NEMA 12, UL
Power	460VAC/3/60Hz
Control	PLC with Ethernet Communication
HMI	Touchscreen
Wiring	Pre-wired with quick connect cables

#### PNEUMATIC DATA

All Requirements	3-5 CFM at 60-80 PSI
------------------	----------------------

## SL AUTOMATIC

### SPECIFICATION

#### PERFORMANCE CRITERIA

Production Speed	20-90 loads per hour based on load height
Maximum Load Size	58"L x 58"W x 80"H
Minimum Load Size	36"L x 36"W x 24"H
Maximum Load Weight	Conveyor Capacity

#### LOAD HANDLING SYSTEM

Turntable Drive	TEFC AC Motor,
Turntable Rotation	1-40 RPM controlled by VFD (depend on machine model)

#### FILM DELIVERY SYSTEM

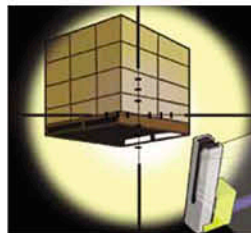
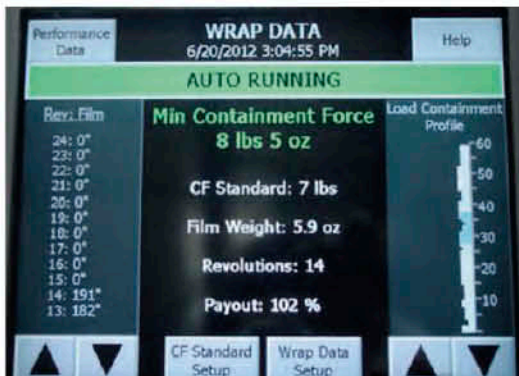
Film Capacity	20" web with 10" diameter
Film Cut and Clamp	Load Seeking Clamp™ impulse hot wire cut

#### ELECTRICAL DATA

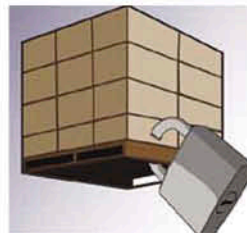
Enclosure	NEMA 12, UL
Power	460VAC/3/60Hz
Control	PLC with Ethernet Communication
HMI	Touchscreen
Wiring	Pre-wired with quick connect cables

#### PNEUMATIC DATA

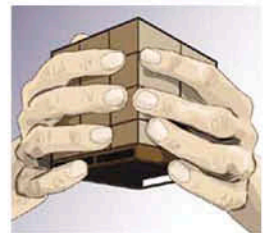
All Requirements	3-5 CFM at 60-80 PSI
------------------	----------------------



**Load Seeking Clamp 4.0**  
No loose or dragging film tails



**Pallet Grip®**  
Keeps loads from sliding off the pallet



**Better Containment Force**  
Containment Force is the key stretch wrapping metric

# SEMI-AUTOMATIC STRETCH WRAPPING SYSTEM



## Q-300

- High value Performance
- No preventative maintenance
- Low profile ramp for easy loading
- Ease for use
- Safe enclosed design
- No maintenance turntable support
- Counter-weighted, belt-driven roll carriage
- Wraps 25~35 loads per hour
- Maximum Load:  
72" Diagonal x 80" Height, 4000lbs
- 200% pre-stretch with Power-Roller Stretch System

## Q-300XT

- Work smarter, keep your driver on the forklift
- All of the features and benefits of our popular Q-300 with automation added
- Patented XT Cut and Clamp automatically captures the stretch film and cuts it at the end of the wrap cycle
- Save two minutes of forklift driver labor per load
- No scheduled preventive maintenance
- Wraps 40-40 loads per hour
- Maximum Load: 69" Diagonal x 80" Height, 4000lbs
- 200% pre-stretch with Power-Roller Stretch System



## S-300

- Load doesn't rotate
- No weight limitation
- Precise application of wrap force
- Locks load to pallet with film cable
- No scheduled preventative maintenance
- Wraps 25~35 loads per hour
- Maximum Load Size:  
76" Diagonal x 80" Height
- 200% pre-stretch with Power-Roller Stretch System  
(100%~300% available at no charge)



# CASE ERECTOR

## C-1000/C-2000 SPECIFICATION

CRITERIA	C-1000
Throughput Speed	15-22 cases per minute
Case Size Min. (O.D.)	7 7/8" L x 5 7/8" W x 3 7/8" H
Case Size Max. (O.D.)	19 3/4" L x 12 3/4" W x 18 3/4" H
Flute Type	B, C
Wall Type	Single wall (test for double wall)

CRITERIA	C-2000
Throughput Speed	10-15 cases per minute
Case Size Min. (O.D.)	7 7/8" L x 5 7/8" W x 3 7/8" H
Case Size Max. (O.D.)	25 5/8" L x 17 3/4" W x 23 7/8" H
Flute Type	B, C
Wall Type	Single wall (test for double wall)



# CASE SEALER

## CS-300/1000 SPECIFICATION

CRITERIA	-
Throughput Speed	Up to 25 cases per minute
Case Size Min. (O.D.)	7 7/8" L x 5 7/8" W x 4 3/4" H
Case Size Max. (O.D.)	25 1/2" L x 17 3/4" W x 19 5/8" H



# TE-A100 TRAY ERECTOR BASIC TRAY



- High reliability, efficiency & productivity
- Compact, small footprint
- Operator friendly:
  - Ergonomic design of the magazine allows easy loading of blanks
  - Linear adjustment wheels, counters and setup list make it easy to carry out adjustments



## FLEXIBLE TO HANDLE DIFFERENT TRAY FORMATS

Modular machine configuration to handle basic tray formats and shapes that meet your operational needs.

### Tray dimensions

	Minimum	Maximum
Tray Length (A)	180 mm	600 mm
Tray Width (B)	100 mm	400 mm
Tray Height (C)	40 mm	100 mm

Blank Length (L)	290 mm	800 mm
Blank Width (W)	180 mm	600 mm

### Tray quality

Corrugation B-wave, C-wave, E-wave

### Capacity

8 trays per minute (higher capacities available)

### Tray closure

Hot Melt



# LA-1000 LID APPLICATOR



- High reliability, efficiency & productivity
- Compact, small footprint
- Operator friendly:
  - Ergonomic design of the magazine allows easy loading of blanks
  - Linear adjustment wheels, counters and setup list make it easy to carry out adjustments



## FLEXIBLE TO HANDLE DIFFERENT LID FORMATS

Modular machine configuration to handle lid formats and shapes that meet your operational needs.

### Tray dimensions

	Minimum	Maximum
Lid Length (A)	285 mm	600 mm
Lid Width (B)	205 mm	400 mm
Lid Height (C1/C2)	40 mm	70 mm

### Lid quality

Corrugation B-wave, C-wave, E-wave

### Capacity

Maximum 18 lids per minute

Blank Length (L)	365 mm	740 mm
Blank Width (W)	285 mm	540 mm

### Lid closure

Hot Melt

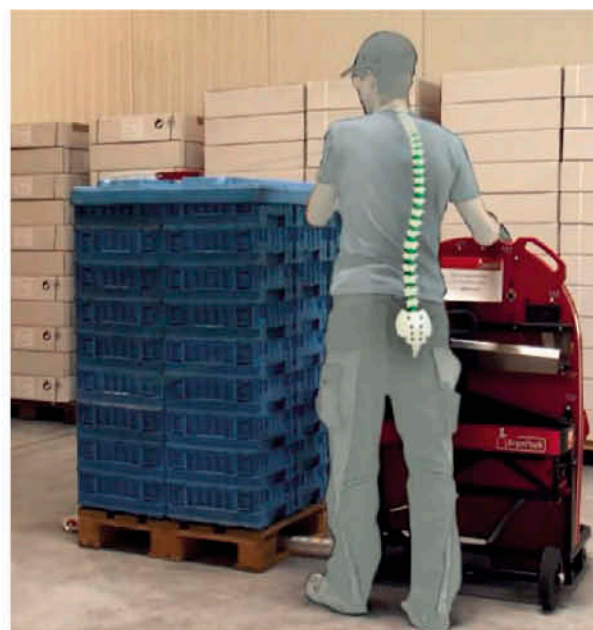
# REVOLUTIONARY AND INNOVATIVE SOLUTION TO PALLET STRAPPING OPERATION

Are you facing the below situations while strapping a pallet and hope to find a solution for all .....

- Labor intensive
- Time consuming
- Workers complaining of back problems
- Difficult to employ workers for the job
- Workforce demographic change

Back disorders can develop gradually as a result of micro-trauma brought about by repetitive activity over time or can be the product of a single traumatic event.

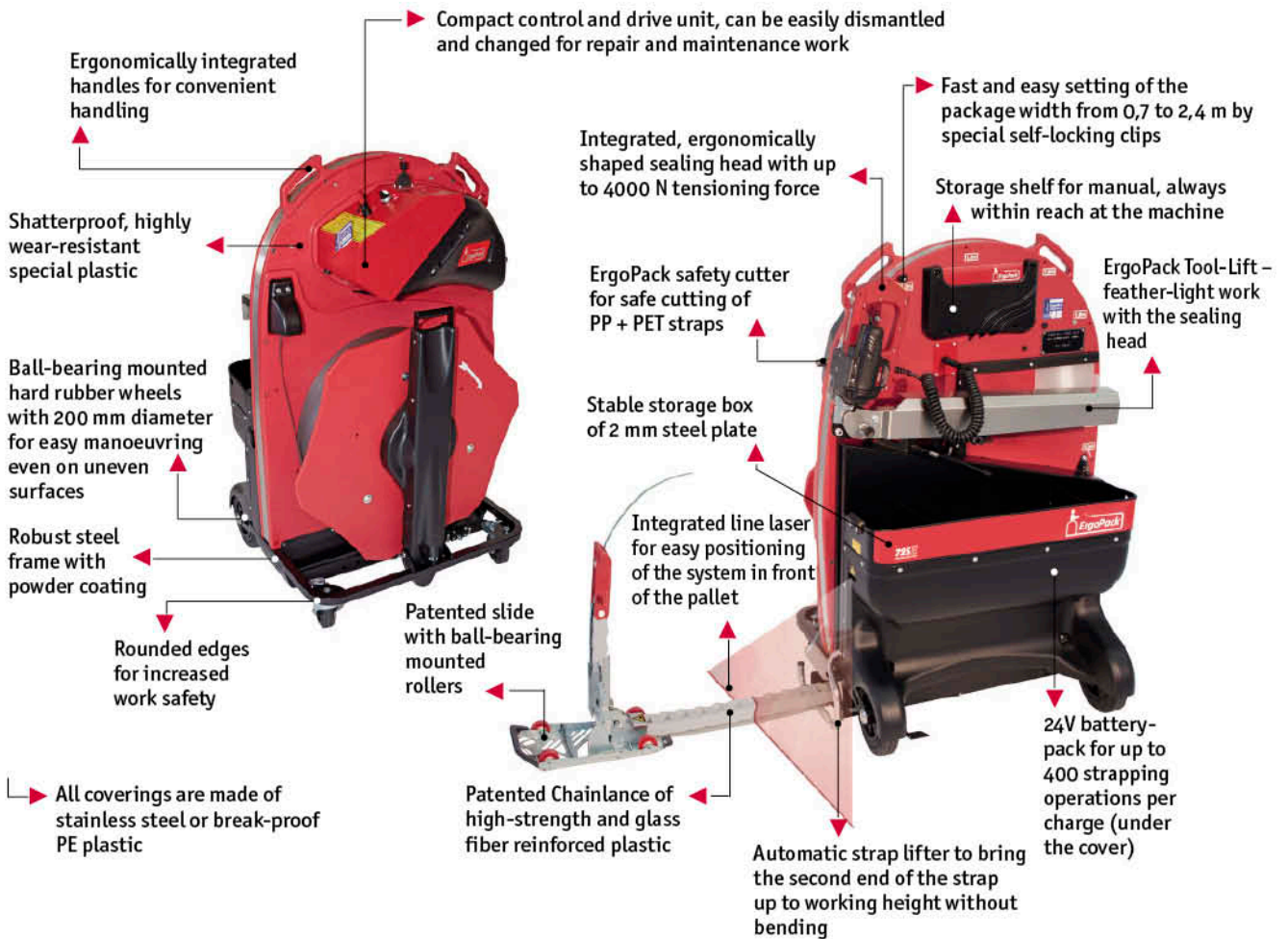
Back injuries account for no work-related deaths, but do account for a significant amount of human suffering, loss of productivity, and economic burden on compensation systems.



The burden of the backbone when strapping pallets. A comparison: Manual strapping with broomstick and strapping with an ergonomic pallet strapping system.







## ErgoPack - ergonomic, easy to learn, efficient



# RANPAK APPLICATION SOLUTIONS

## VOID FILL

Void fill protects products from damage by filling the excess space in the shipping box. This prevents the movement of the content, thus securing the shipment.

- Increase speed and efficiency
- Reduces overall packaging costs
- Integrates easily into in-line or pack station operations

Void fill functions include top fill and side fill.



## CUSHIONING / BLOCKING & BRACING

Package cushioning is used to help protect fragile items during shipment. Shock and vibration are controlled by cushioning so that the chance of product damage is reduced significantly.

- Reduce overall packaging costs
- Excellent protection for your products during shipping
- Paper rolls and bundles take up less storage space

Cushioning functions include blocking & bracing and positioning products in a box.



## WRAPPING

Wrapping packaging applications provide protection against scratching, surface abrasion and minor handling incidents. It also prevents damages caused by internal impact when multiple items are packed together.

- Excellent protection for your products during shipping
- Reduces overall packaging costs
- Paper rolls and bundles take up less storage space

Wrapping application functions include box-lining, separating and wrapping.





## FIND YOUR PACKING SOLUTION

### PadPak®Systems:



PadPak® JR

PadPak® SR

PadPak® LC

### WrapPak®Systems:



Geami WrapPak® M

Geami WrapPak® HV

### FillPak®Systems:



FillPak®M

FillPak® TT

FillPak® TTC

FillPak®

AccuFill™

## RANPAK PAPER PACKAGING SYSTEM ADVANTAGES

- **Cost Effective** - Contact Sunstream to learn how you can start saving today
- **Protection** - Better Protection for your products during shipping
- **Environmentally Responsible** - Paper is the natural choice: renewable, reusable and recyclable
- **On Demand** - Compact rolls/bundles of kraft paper are converted to dunnage on site



## HIGH PROTECTION FOR YOUR PRODUCT DURING SHIPMENT

### GO GREEN

Ranpak works with FSC certified suppliers. Paper is climate neutral, recyclable and also a renewable source.



# AIRWAVE 1 – THE AIR CUSHION SYSTEM 4.0

Floeter introduces the next generation of air cushion machines: the AirWave 1. Quick, quiet, connected to Bluetooth, modular and cost-efficient. Light at only 5.4 kg, the AirWave 1 delivers powerful performance. It supplies up to 4 workstations with reliable air cushions - made in Germany. It is programmable and can be seamlessly integrated into Floeter's system technology. Whether small cushions or wide pads, the AirWave 1 is a top performer in all categories. The intelligent system features "one-key" technology with a patented outstanding design.

## AIRWAVE 1 – FLEXIBLE AND MODULARLY EXPANDABLE

### Your advantages at a glance:

- Modern, premium design
- New ergonomic program functions
- Lock function
- One-key technology
- 4 program locations
- Programmable power-save mode
- 5.4 kg weight
- CE and RoHS approved
- 7 - 9 m/min. output
- Extremely quiet ≤ 60 dB
- Universal power supply 115 - 230 volts
- Bluetooth control



Weight (kg)	5.4
Output (m/min)	8
Quilt production	Yes
Chain production	Yes
Film thickness (µm)	16-35
Meters/roll (m)	200-2000
Standard roll formats in stock	10

All films are also available in Home-compostable and antistatic versions.



7.1

(100x200)



7.2

(150x200)



7.3

(200x200)



7.4

(130x300)



7.5

(240x300)



8.1

(2 large chambers)



8.2

(2 chambers)



8.3

(4 chambers)



8.4

(8 chambers)



8.5

(7W chambers)



# AIRWAVE 2 – THE EVOLUTION OF AIR CUSHIONING MACHINES

The AirWave2 is the latest development resulting from thousands of installed and tested AirWave1 air cushion machines from FLOETER. Uncompromising on efficiency, speed and quality, the AirWave2 is the most flexible and user-friendly premium Model of our AirWave series. Low maintenance, quiet, durable - made in Germany.

## AIRWAVE 2

### Fast and flexible:

- Fast air cushion production
- Programmable memory for 5 film types
- Interactive touch display
- High-tech sealing unit
- Quick start-up in under 1 minute
- Low maintenance
- Compatible with AirWave1 accessories



Weight (kg)	6.5
Output (m/min)	up to 22
Quilt production	Yes
Chain production	Yes
Film thickness (µm)	12-30
Meters/roll (m)	up to 3000
Standard roll formats in stock	84



Standard (20 µm)



ECO (15 µm)



Super ECO (12 µm)



ESD (20 µm)  
antistatic



BIO (20 µm)  
Home-compostable



Heavy Duty (26 µm)

# INDUSTRIAL CONSUMABLES



## STRETCH FILM

Highly stretchable plastic film (LLDPE) wrapped around palletized goods to keep items tightly bound.



## OPP PACKAGING TAPE

This multi-purposes sealing tape is used for variety of applications in carton boxes sealing (light and heavy packing).



## POLYPROPYLENE STRAPPING (PP)

The properties of the plastic strap are custom-made to suit the requirements of the various industries and various brands of strapping equipment.

## POLYESTER STRAPPING (PET)

The practical alternative to Steel Strap. Polyester Strap is particularly suited for applications where tension recovery and high strap performance are important.



## EDGEBOARD

### Features and Benefits

- Stabilize pallets
- Provide protection during transport and warehousing
- Protect product edges
- Provide stacking strength
- Protect, strengthen and support products during handling operations
- Customizable length
- For all industries requiring medium to heavy load dispatching
- Recyclable and environmental friendly material



## INDUSTRIAL CONSUMABLES



### LAYER PAD

Layer pads stabilize stacked products and disperse weight evenly to ensure they remain free from damage during transit. 100% recyclable and made from a renewable resource, layer pads are environmentally friendly.



### CORRUGATED BOARD

Corrugated board in rolls provides the easiest way to package and protect irregular items of different sizes and forms. It has high shock-absorbing qualities and can easily be manually cut to size and wrapped around a product.



### AIR BUBBLE WRAP

Bubble Wrap is a plastic (polyethylene) material forming air chambers primarily for the purpose of packing fragile items.



### POLYETHYLENE SHEET

Polyethylene Sheet is a durable, multi-purpose plastic material. Wrinkle and weather resistant, the sheet can be reused multiple times with a variety of applications. It has excellent durability in both hot and cold temperatures and exhibits stability in outdoor applications.

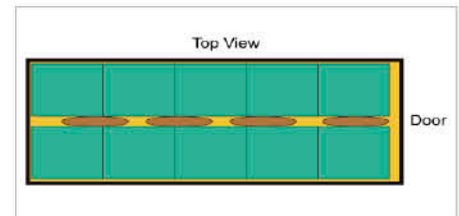
# DUNNAGE BAG

## WHY USE DUNNAGE BAGS?

**Cost Savings** - Reduce costly insurance claims and damaged stock by using Dunnage Bags.

**Protection** - Shipments arriving damaged due to movement in the container can be a major setback in operations and an expensive price to pay. Dunnage Bags provide the protection needed to ensure products arrive in the same condition as when they were shipped.

**Performance** - Dunnage bags are inserted into void spaces inside containers, rail cars or trucks and are then inflated with compressed air. As the bag is inflated it gently pushes the load away from itself, wedging it against the walls of the container. This creates a solid brace, stabilising the load and preventing any future movement, thus greatly reducing the risk of damage during transit.



Positioning of the Dunnage Bag



## THE CORRECT WAY TO USE AND INFLATE A DUNNAGE BAG

Step 1	Step 2	Step 3	Step 4
Empty space between goods can cause damage during transport	Some instances may require a firm material to guard the air bag from sharp protrusions	Dunnage bag is inserted into the gap & inflated with compressed air.	The dunnage bag now acts as a secure brace & the goods are protected during transport.

## SITUATIONS TO AVOID

<p>Avoid using bags next to container walls and roof</p>	<p>Ballooning effect</p>	<p>NEVER use two bags next to each other. NEVER fold bags to fill a void</p>	<p>Never exceed the maximum specified void</p>
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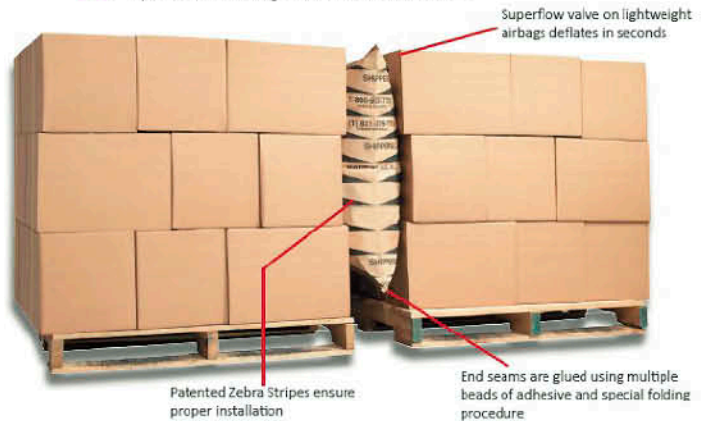
# KRAFT DUNNAGE BAG



- AAR verified and approved
- Available in AAR Level 1 - 4
- 3 – 10 PSI maximum
- Easy to install
- Economical
- Reusable
- Recyclable

## INSTA-AIR™

- Built in Air Supply**  
No air compressor lines needed
- Battery Powered**  
Rechargeable lithium batteries
- Lightweight**  
Weighs 5.9 lbs.
- Flexible**  
6 different wearing options
- Completely Cordless**  
Operates without being attached to air hoses or cords



# POLYPROPYLENE WOVEN DUNNAGE BAG



- AAR verified and approved
- Available in AAR Level 1 - 4
- Available in Void Fill Square Airbag  
(bag inflates to a three-dimensional square shape to fit larger voids)
- 3 – 10 PSI maximum
- Easy to install
- Economical
- Reusable
- Recyclable

Stopak's Digital Jumbo Inflator features a digital gauge that allows for accurate inflation pressure. It ensures optimal inflation for proper load securement as well as promotes operator safety during inflation. Easy to use and maintain, the Digital Jumbo Inflator uses standard batteries for simplified operation and maintenance.

Stopak's Striker Inflator allows for accurate inflation pressure, while eliminating the instances of early engagement. Operational efficiency features like easy alignment and 360degree engagement, coupled with its adaptable design allows for utilization in tight spaces.



Real-time pressure gauge - psi and kPa (gauge optional)

Compact, ergonomic design prevents muscle fatigue

User activated inflation with easy-to-depress trigger lock (lock optional)

Manufactured from strong, durable and lightweight material



**Additional features**

- Super-fast, Venturi assisted
- Automatic shut-off flap prevents blow out\*
- IP67 ingress protection rated illuminated digital display
- Long battery life

\* Stopak patented design

# COMPOSITE STRAPPING

## STRAP2000 POLYESTER COMPOSITE STRAPPING

The best solution for many applications.

Polyester Composite belts are especially made for usage on rough environmental materials and sharp edges. Composite is made of parallel layers of single polyester threads laminated together with polypropylene. It does not split, is flexible and can be used universally.

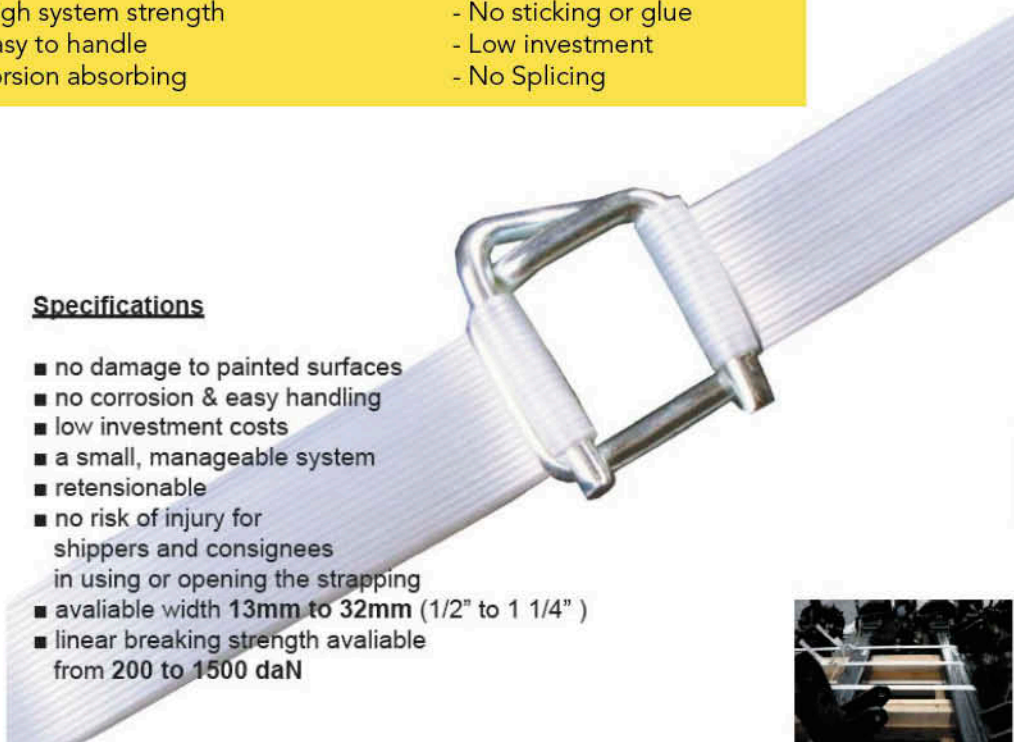
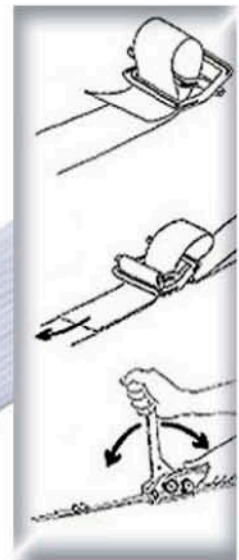


### Advantages

- Secure, no risk of injury for workers
- No damage or scratch on any surface
- Textile material - no corrosion
- Weather and UV resistant
- High system strength
- Easy to handle
- Torsion absorbing
- Easy disposable
- Comfortable handling
- Easy to push under pallets
- Includes edge protection
- No sticking or glue
- Low investment
- No Splicing

### Specifications

- no damage to painted surfaces
- no corrosion & easy handling
- low investment costs
- a small, manageable system
- retensionable
- no risk of injury for shippers and consignees in using or opening the strapping
- available width 13mm to 32mm (1/2" to 1 1/4" )
- linear breaking strength available from 200 to 1500 daN



Item No	Item	Belt Width	Strength	meter p.Coil
08.02.0220001	GWL40KF	13mm	200daN	1100
08.02.0220002	GWL50KF	16mm	285daN	850
08.02.0220003	GWL60KF	19mm	38daN	700
08.02.0220004	GW40KF	13mm	300daN	1100
08.02.0220005	GW50KF	16mm	425daN	850
08.02.0220006	GW55KF	16mm	550daN	600
08.02.0220007	GW60KF	19mm	475daN	600
08.02.0220008	GW65KF	19mm	625daN	500
08.02.0220009	GW85KF	25mm	785daN	500
08.02.0220010	GW86KF	25mm	925daN	450
08.02.0220013	GW105KF8	32mm	1500daN	300
08.02.0220012	GW105KF9	32mm	1500daN	300



# TENSIONER & DISPENSER

## TENSIONER S-25

a durable in-house-made tensioner

The S-25 tensioner contains advanced German engineering and knowledge. While most of the conventional models are based on a ratchet system our model is equipped with two anti cycling one way bearings. These bearings make the tensioner more durable and easier to handle. Less force is needed during the tensioning. The special designed break shoe is made for all our strapping systems. High quality composite will be protected. The integrated stainless steel cutter will easily cut any belt.



Item No	Item	Belt width
08.08.1010008	S-25	9 to 25mm

## TENSIONER S-50

another durable in-house-made tensioner

The bigger brother of our S-25, the S-50 corresponds to the same quality and technology standard. Due to the need of tensioning wider belts with higher forces, its dimensions are larger. The longer handle gives you a wider tension angle and again less force is needed. The integrated break shoe and the cutter are designed for the hard duty of every day tensioning.



Item No	Item	Belt width
08.08.1010008	S-50	25 to 50mm

# METAL & WIRE BUCKLE

## GALVANIZED WIRE BUCKLES

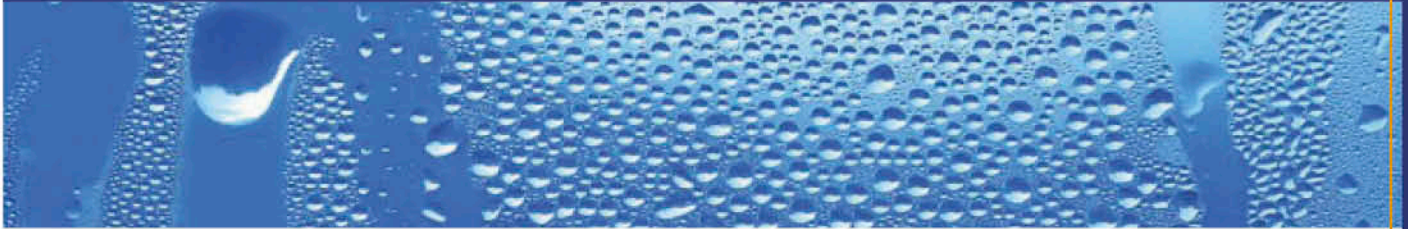
a special design for our Composite and Hot-melt strapping

These galvanized wire buckles are protected from corrosion, sea water and other climatic threats. They are designed for easy threading and deliver the ultimate in high load performance. They have outstanding slip resistance due to its self-lock feature in order to maximize holding power.



Item No	Item	Belt width	PC per box
08.04.0430001	WB 16 G 3, 5	16mm	1000
08.04.0430002	WB 19 G 4,0	19mm	1000
08.04.0430003	WB 19 G 4,3	19mm	1000
08.04.0430004	WB 25 G 5.0	25mm	500
08.04.0410010	B4	16mm	1000
08.04.0410015	B8FS - 2560G	25mm	500
08.04.0410016	B10 - 3270G	32mm	250
08.04.0410017	B12 - 3870G	38mm	150

# DESICCANT



## MOISTURE - ONE OF THE MOST PROMINENT THREAT TO YOUR CARGO

A big concern in international shipments is excessive moisture. Most shipments are exposed to water, but the most possible damage is caused by condensation, which can result in mould, rust on metal parts, collapsed packaging or cargo damage.

Condensation occurs when moisture laden air releases water vapor on surrounding surfaces in the form of water droplets. It is the result of air movement in the hold of a container, inherent moisture of the packaging, or temperature variation between the container and cargo.

This moisture-release cycle will result in container sweat, or container rain. This phenomenon occurs when the metal exterior of the container is cooled to a temperature below that of the dew point of the air inside the container. When this happens, water droplets form on the walls and ceilings of the container.



Desiccant is a hygroscopic (attracts and holds water) substance that induces or sustains such a state in its local vicinity in a moderately sealed container. Desiccants are beneficial because they reduce the absolute and relative humidity, the dew point temperature and the risk of container rain. They are useful to avoid transmission of moisture into packaging, such as corrugated containers and pallets.



## STARCH BASED CONTAINER DESICCANT

Container CDX formulated desiccant (calcium chloride and modified starch). Non-woven bag with 30% modified starch + 70% CaCl<sub>2</sub> and a strong plastic hook to hang the Strip into the container eyes. Non-toxic and easily disposable after use.

**Typical Chemical composition:**  
30% modified starch + 70% CaCl<sub>2</sub>

**Appearance:**  
white powder

**Particle size of desiccant:**  
0.5-2mm

**Moisture content:**  
<5% (150 °C)

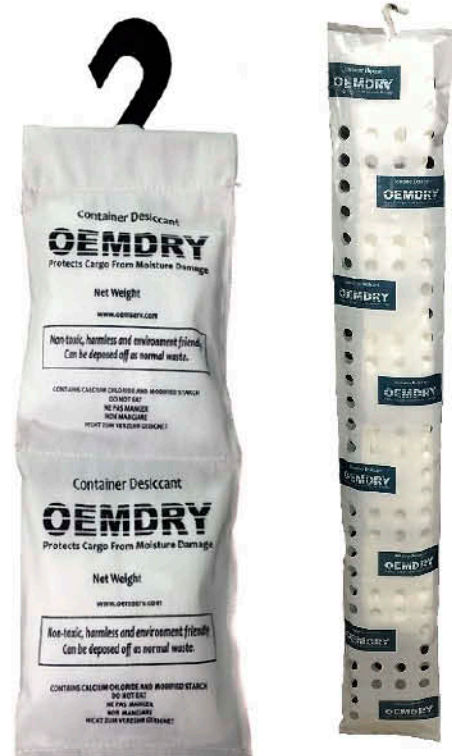
**The adsorption capacity of moisture:**  
>=200% at 30 °C and 90%RH

**Material Inner bag:**  
heat-sealed Tyvek, 1056D/1059D,  
produced by Du Pont

ADSORPTION CAPACITY >=

**200%**

at 30° C and 90% RH



## CLAY BASED CONTAINER DESICCANT

Formulated container desiccant (clay + calcium chloride). Non-woven bag with 80-90% clay + 20-10% CaCl<sub>2</sub> and a strong plastic hook to hang the Strip into the container eyes. Non-toxic and easily disposable after use.

**Typical Chemical composition:**  
80-90% Bentonite clay + 20-10% CaCl<sub>2</sub>

**Appearance:**  
grey or white spherical granular

**Particle size of desiccant:**  
1-5mm (>95%)

**Moisture content:**  
<3% (150 °C)

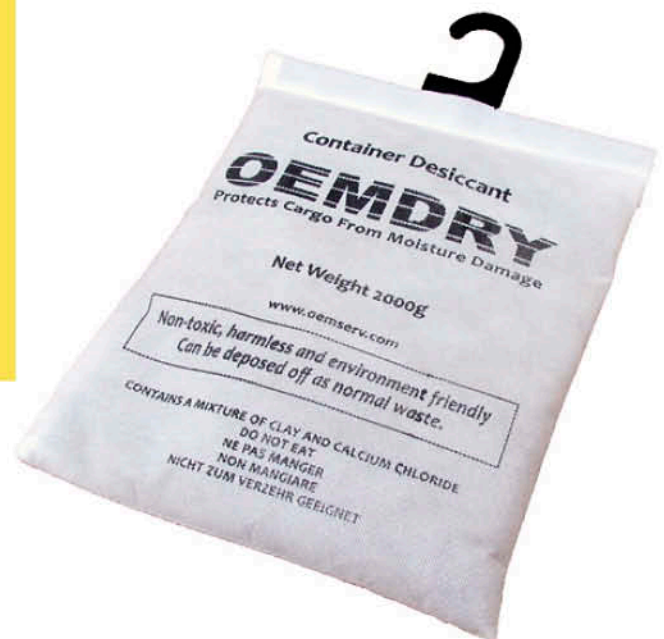
**The adsorption capacity of moisture:**  
>=70% at 30 °C and 90%RH

**Material Inner bag:**  
polypropylene non-woven, 100-150g/m<sup>2</sup>

ADSORPTION CAPACITY >=

**70%**

at 30° C and 90% RH



# ANTI-SLIP SHEET

## MAIN REASON USING ANTI-SLIP TIE SHEET / LAYER PAD

- Elimination of product damage and non-conformities
- Lower packaging costs
- Increase the height of pallet loads
- Optimize palletizing patterns – allow column stacking
- Recycling program benefit (Environment Friendly)

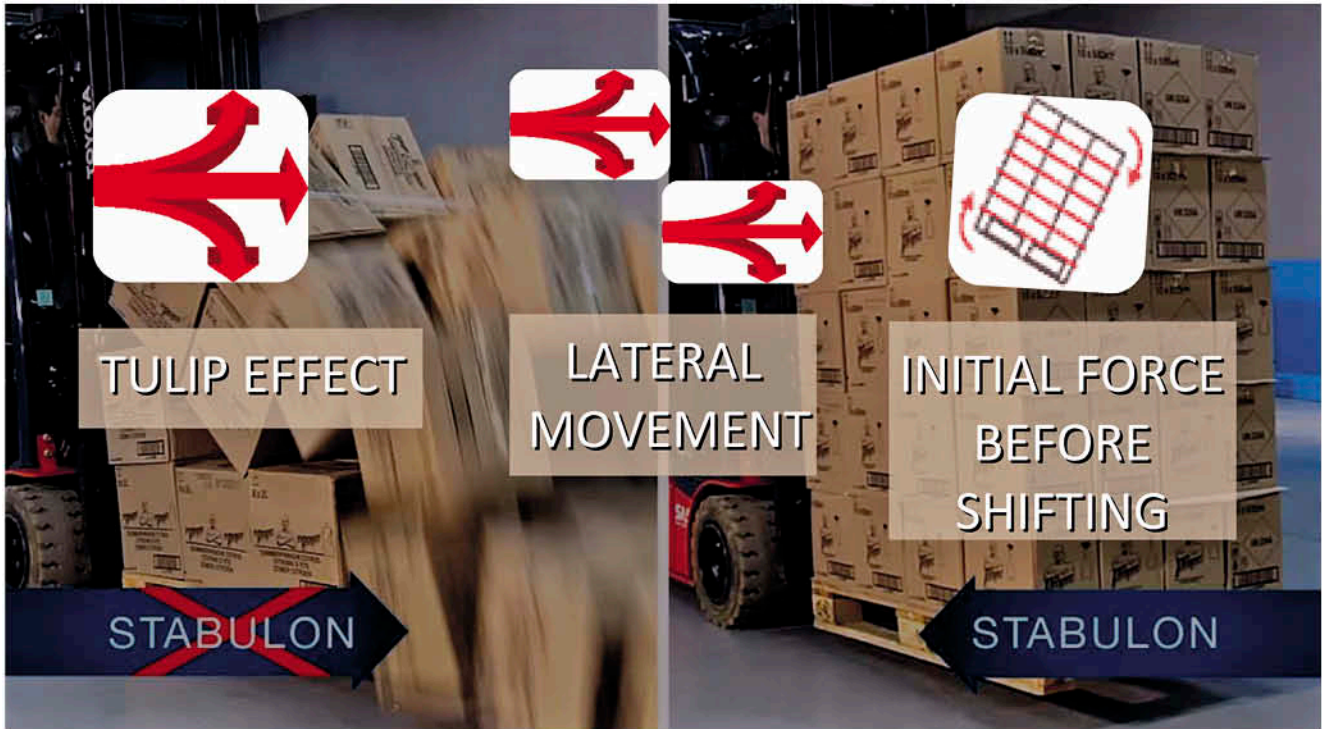
## WORK WITH ALL PACKAGING TYPES





# ANTI-SLIP SHEET

## FUNCTIONALITY



### Potential Benefits

- Improve load stability
- Enhance warehouse safety
- Optimize pallet patterns
- Increase stacking height of pallets
- Reduce usage of stretch film, edgeboards and straps

### Full Range of Solutions



**STABULON® Paper**  
from 140 to 450 gsm



**STABULON® Paperboard**  
from 600 to 1000 gsm



**STABULON® Corrugated board**  
B, E, EB ...

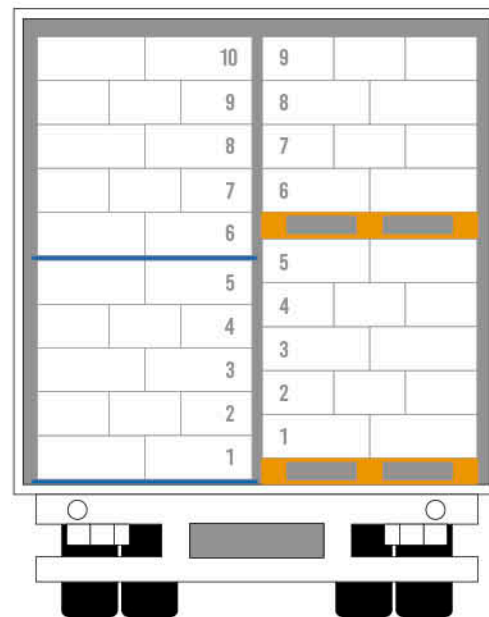
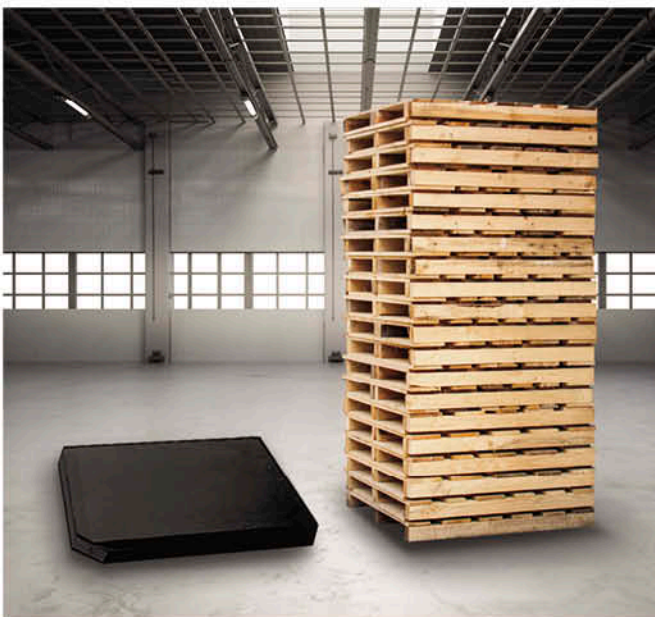
### Specifications

Paper type	FSC recycled paper		Standards
	Stabulon on Stabulon	Stabulon on Paper	
			ISO 536
Slide angle	≥ 55°	≥ 42°	NF Q 03-083
Static coefficient of friction	≥ 1,4	≥ 0,9	ISO 8295
Dynamic coefficient of friction	≥ 1	≥ 0,7	ISO 8295

# SLIP SHEET

## PALLETLESS HANDLING WITH SLIP SHEETS

Made of light-weight paperboard or recycled HPDE plastic, Slip Sheets replace pallets during shipment and are used with a Push/Pull forklift attachment. Slip Sheets have a weight that is about 10% of a pallet and take up minimal space. This translates to more product being shipped per shipment. Slip Sheets are also cost-effective enough to be discarded after each use. They are environmentally friendly as they can be easily assimilated into a recycling program.



### Advantages of Slip Sheets

- Lower carbon footprint
- Eliminate conventional pallet repair cost
- Ship more products per container
- Less costly than conventional pallets
- Eliminate treating of export pallets
- Eliminate pallet exchange program
- 100% reusable and recyclable
- Maximise warehouse space

## KRAFT SLIP SHEET

Advantages over Plastic Slip Sheet

- Lighter and less expensive

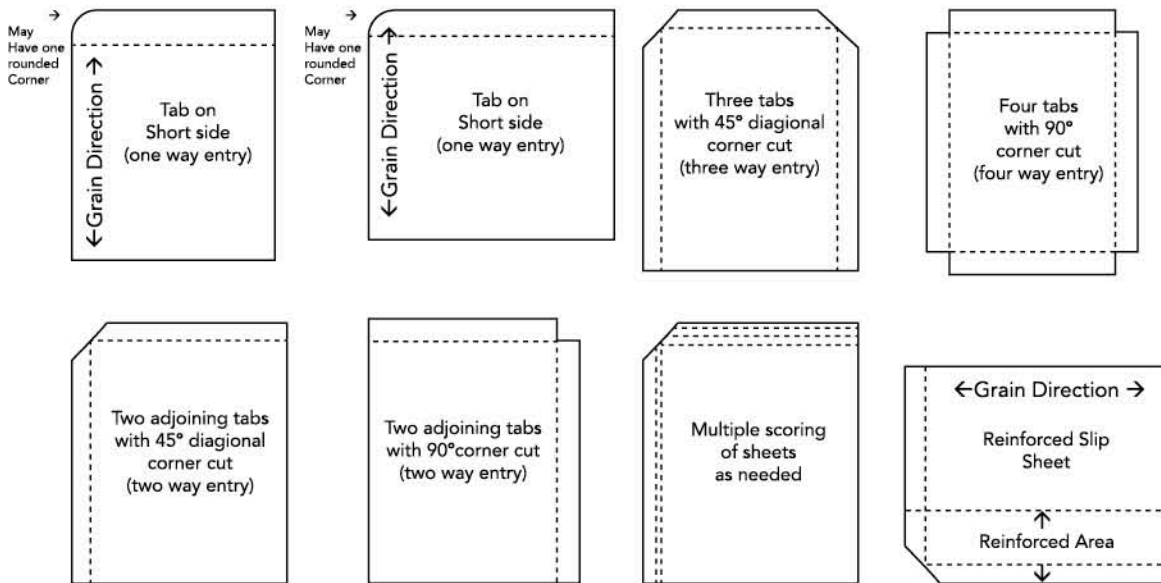
## PLASTIC SLIP SHEET

Advantages over Kraft Slip Sheet

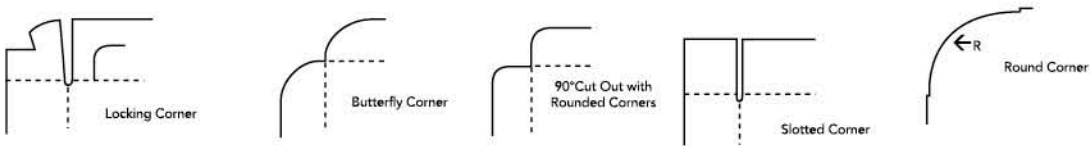
- More durable and higher puncture resistance
- Resistant to moisture, chemical, bacteria, heat & cold
- Washable and re-usable



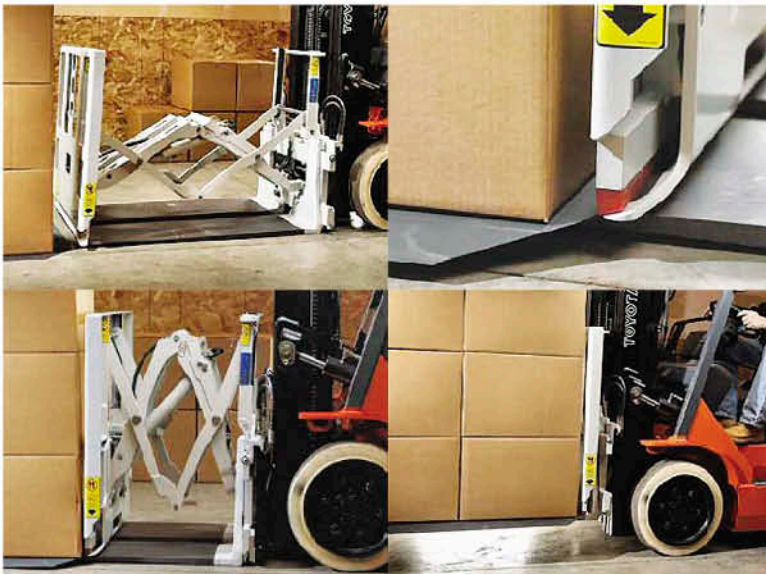
**Standard Designs**



**Alternative Corners Designs**



**PALLETLESS HANDLING WITH SLIP SHEETS**



Push/Pull is a forklift attachment which enables you to ship, receive and warehouse unit loads on Slip Sheets rather than pallets. They are typically used in the following industries: agriculture, food & beverage, FMCG, petrochemical and electronics.

The Push/Pull attachment comes with a gripper bar, that automatically clamps on to the Slip Sheet lip, before pulling the load onto the platens. The mast is then raised and tilted back, and the load is ready to be moved.

[enquiry@sunstream-industries.com](mailto:enquiry@sunstream-industries.com)  
[www.sunstream-industries.com](http://www.sunstream-industries.com)



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