DOCKS & SHIPPING

Ecisco-Eagle

SAFE, EFFICIENT DOCK OPERATIONS

cisco-eagle.com/docks

SHIP, RECEIVE & STAGE BETTER **DOCK & SHIPPING UPGRADES CAN IMPROVE THE ENTIRE OPERATION**

"Loading docks are critical because they're where everything is received—and eventually shipped. The right shipping & receiving setup means smooth product flow, faster putaway and more accurate fulfillment. It means a safer and better operation."

> -Devin, Employee-Owner Since 2020 **Account Executive**



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DOCKS AFFECT EVERYTHING A CUIDE TO SAFER, MORE PRODUCTIVE SHIPPING AND RECEIVING

"The loading dock is kind of like a football center: It touches the ball every play but never gets any glory. Because everything makes its way **shop** through your docks, they connect your operation directly to customers or your other business partners. Dock operations improvements can make things better for just about every other part of your business."



-Blake, Employee Owner Since 2019 **Account Executive**



Loading efficiency

The faster a shipment is loaded, the better. Every moment spent waiting on trailer loading is lost time and productivity. Load sequencing is critical, as customers want an organized trailer. Fast, accurate loading is a core competency for any warehouse operation.

Unloading efficiency

Because trucks are loaded last-in, first-out, unloading strategy is critical. Trucks are often loaded with a mix of pallets and parcels, which makes breakdown and putaway difficult. Unloading pallets on the floor of a busy staging area and assigning parts to storage positions on the fly is never easy. When workers must enter a trailer and break a pallet down, then hand-carry pieces out, the process slows and is far less efficient than moving whole pallets.

Safety is a constant concern

Docks account for up to 25% of all warehouse injuries. Forklift/ pedestrian accidents, trailer creep forklift falls, slip & fall accidents, trailer load shifts, worker dock-edge falls and more are possible. Improved safety can reduce injuries and worker compensation claims. You can accomplish this by finding ways to reduce labor (which also keeps costs down) and by implementing ergonomic aids for the workers who remain in the process.

Labor efficiency is the lifeblood of shipping/receiving

Whether shipping or receiving, docks consume labor like few other functions. At the docks, labor consumption isn't always uniform, which compounds the issue. A dock can be still one moment and bustling the next. Processes and equipment that reduce labor reliance will always be needed at loading docks.

INCREASE DOCK EFFICIENCY "SUPERSIZE" YOUR RECEIVING AREA SAVE SPACE OVER YOUR DOCK



Receiving is frequently overlooked but critical to workflow. Receiving errors flow through every other aspect of your operation. If you can't quickly and accurately break down shipments and send them to putaway, every other aspect of the operation is compromised. Inventory accuracy, security, throughput and fulfillment are impacted.

More space in the receiving area is always better

You want adequate floor space to service every receiving door you have, but that may or may not be enough if putaway is time consuming. It's one thing to send a pallet to bulk storage. If that pallet must be broken and distributed, it may occupy the floor for a much longer period of time.

Defend your receiving space

It can be tempting to borrow receiving space for other functions, which leads to issues when a shipment arrives.

The flexibility to use receiving area space in a temporary role is a good thing. **Just be sure that what's "temporary" stays temporary**. Don't allow shipments to linger on the docks that could be put elsewhere unless there is no alternative. Design holding areas for overflow by installing vertical storage (racks, etc) that can absorb shipments while they await their final destination.

SAVE SPACE OVER YOUR DOCK DOORS FOR STORAGE



Use the space above your dock doors

Empty and loose pallets cluttered around loading docks are a common problem. Besides the mess, loading dock clutter is a safety problem and can lead to operational inefficiency. If empty pallets are taking up floor space, that's lost operating area.

Over-dock storage racks help solve these problems by storing your empty pallets in racking above your dock doors.

With over-the-door storage, you can seize that useless space, instantly freeing floor and regular rack space up for more productive uses. Using this space keeps empty pallets more organized, and out of your hair until you need them. Since you aren't dealing with stacks in a corner, accessing those pallets is easier, too. Overdoor racks can also accommodate skids or returnable shipping containers. The empty pallets are kept above the dock door, ready to rack incoming materials or ship outgoing goods. The standard installation has 2 shelves above an average 12' wide dock door. That adds up to around 100 square feet of accessible space per door. It makes sense, because that more valuable floor and rack space can be used for more useful tasks and more valuable inventory.

These racks tend to store only lightweight loads, but can be used to store things other than empty pallets. These rack designs tend to require professional specification and should not be built without it.

DOCK EDGE FALL PROTECTION 25% OF WAREHOUSE INJURIES COME AT OR NEAR THE LOADING DOCK AREA

OSHA Guarding Standard 29 CFR, 1910.76: "covers and/or guard rails shall be provided to protect personnel from the hazards of open pits, tanks, vats, ditches, etc."



Because docks are a focal point of any distribution operation, injury rates are disproportionate. Docks buzz with activity and have a natural fall hazard. Docks may have moisture, oils and other trip/slip hazards. What are your OSHA's requirements?

Most truck docks are subject to regulations

OSHA 26 CFR2.23 (b) states that any wall openings with more than a 4' drop should be protected. Since most docks are at least 44" tall to serve tractor trailers and flatbeds, a majority will be subject to that requirement. Most standard docks come in about 48", or close enough that even if you are technically outside the requirement, it's a good idea to guard the edge.

The agency adds that if a barrier would prevent the flow of work, a "visual" barrier is sufficient. However, this is open to interpretation. and it's a safer bet to install fall protection. Consider compromise solutions such as rotating gates.

Should you protect dock edges less than 48" high?

The answer is usually yes. The functional difference between a 44" or 48" fall is nonexistent. A good rule of thumb is to guard any fall edge where a forklift could drive off. Most dock gates and rails are easy to install and operate.

Tips for safer dock edges

Use dock safety gates that rise or swivel out of the way

There are many types of dock fall protection gates ranging from net systems to solid metal rails. To be useful, any barrier or gate should be easy and quick to open/close. Factors include:

- · Power or manual? One argument for power gates is that they're easier to operate. If a gate retracts with a button push, it could be used correctly and more frequently. Power gates are more expensive and require more maintenance, though.
- What's the capacity? Most gates can handle the weight of a person, but you should always know the limits.
- What are you guarding against? Some gates stop forklifts while others are designed only to protect people. If you need to stop forklifts, further specification is probably needed.



CONTINUED ON NEXT PAGE

DOCK EDGE FALL PROTECTION



"Open dock doors mean a hazardous ledge. Use dock safety gates help prevent falls and still allow access. Space is always an issue at dock edges, so there are plenty of gate types that swing, pivot, slide and lift out of the way. "

> –Lance, Employee Owner Since 2019, Sales Director

- How does the gate move? Gates are typically closed whenever the dock doors are open and a truck isn't docked. The basic types are (1)vertical lift, (2) cantilever, (3) horizontal swing. Some gates fold in the middle.
- Consider the space around your gate: Your gate shouldn't interfere with operations. If you use the space to the front or side of the doors, then a gate that swivels into that area may not be helpful. Vertical lift gates should have adequate clearance.

Visual barriers and when to use them

A highly-visible chain stretched between the sides of the dock door may be compliant. It won't prevent falls as well as a gate, but may satisfy OSHA if you can demonstrate that the presence of a true barrier would impede operations. If you opt for a visual barrier, make sure it's easy to engage and remove with easy connectors or magnets.

Don't let outsiders linger in the dock area

Don't let people who don't belong at your docks loiter; it isn't safe for them or your workers. Truck drivers and other visitors should be moved to driver lounges or other safe zones. Extra, untrained people are at greater risk than trained personnel. If you have visitors who aren't trained in your safety and operational protocols, offer training or escort to be sure they're safe.



Make sure your dock edges are visible

To help people understand that there is a drop-off, it's a good idea to paint or tape the edge of your dock safety yellow, which is visible on a gray floor. Most dockplates and dockboards come pre-painted with safety yellow edges.

Keep doors closed when trucks aren't parked at the dock

This can become problematic when the facility isn't climate controlled and you'd like to let fresh air in. It also does not solve the issue for instances where a dock pit is built inside a facility and no door exists to cover the opening.

It's also something of an issue to keep those doors closed in a busy operation. Warehouse workers can see incoming trucks easily when the bay doors are open. Constantly opening and closing dock doors is a hassle for workers and puts unnecessary wear and tear on door components.

PEDESTRIAN PROTECTION DOCKS CAN BE HAZARDOUS FOR PEOPLE WORKING NEAR FORKLIFTS





"Because docks are so busy and forklifts are always entering and leaving trailers, a collision could happen in the blink of an eye. It's dangerous for people who work on the ground, but we can help you with ways to increase visibility and make people safer from forklift traffic."

-Tina, Employee Owner Since 2012, Sales Support & Service



When trucks are being loaded or unloaded, forklift drivers can't see people and people can't see forklifts backing out of a trailer.

Steps to take to protect pedestrians

- Remove pedestrians when loading is underway if that's possible. Anyone who doesn't need to be on the dock shouldn't be. Everyone there should be extensively trained.
- Install warning lights that project a disc of light that precedes a forklift. They're economical, and effective.
- Reduce clutter in staging areas. Clutter reduces visibility and should be removed wherever and however possible.
- Install interior dock safety sensors that detect motion in the monitored area right behind a dock door, or a group of them (up to 4 doors depending on the sensor model). Bright red blinking LED lights are activated when motion is detected anywhere within the trailer/dock opening.

- Exterior sensors can help prevent accidents between dock exteriors and trailers.
- If possible, use spotters to control trucks and pedestrians entering and leaving trailers. Drivers should honk as they back out of a trailer.
- Consider exterior loading dock alarms that use sensors mounted on the wall of the loading dock, and trigger audible and flashing strobe light alarms to warn of impending danger, should dock personnel be between the truck and the loading dock.







DOCK AREA SECURITY



Above: driver cage helps retain drivers inside the warehouse, but do not allow them to roam.

Reduce pilferage in the dock area

Since 87% of inventory losses occur at docks and shipping yards,

dock doors play a critical security role. Intruders could enter the warehouse through open dock doors, so security is a big concern. The intruder might steal from stock, or employees. They could damage or vandalize equipment, take photos or otherwise endanger operations. Keeping unauthorized personnel starts at the dock doors.



Options for securing open dock doors

- Add economical folding security gates that easily move out of the way to allow fast access.
- High-speed doors that open & close quickly so that you have minimal exposure to outdoors.
- Mesh doors play a security role since they can be closed to fully deny entry, but still allow sunshine and fresh air flow.
- Driver cages can be installed at personnel doors. They allow people to enter the door, but confine them there until admitted.



Above: folding gates let you keep overhead doors open, but still allow a measure of security.

DOCK DOOR SECURITY OPTIONS

As a critical security (and safety) point, dock doors are should be focused on when it comes to reducing theft and protecting employees. How doors are positioned is an important decision:

- Leave doors closed. This may not be an option for access, climate control or convenience reasons.
- **Cuard the doors.** If people are constantly in the area and trained to identify and deal with unauthorized visitors, it can work.
- Leave the doors open, but secure the openings. There are several reasons to go this route, including climate, ease of access, or because operational needs mandate it.

OVERHEAD & DOCK DOORS shop talk

"Do you need to fully or partially seal a door to your docks? Whether you need better security, safety or environmental control, we'll help you find the solution to gain more control of entrances and exits. The options are almost endless for functionality, speed, materials, controls and more. Call us today to get started."

> –Colin, Employee Owner Since 2014 Account Executive











DOCK BUMPERS

"Dock bumpers protect trucks, loads and people—not just the dock itself from expensive and preventable damage. Give us a call and we can help you specify the right bumper for your dock and situation."

-David, Employee-Owner Since 2019 Account Executive





Arrangement

Most dock bumper installations should have vertical and horizontal coverage for full dock, truck and cargo protection. For instance, protection for an 8' bay is uses two vertical and one horizontal standard length bumpers.

Heights

Standard bumper heights are 6", 10" or 12". Stacking bumper pads between them allows heights of 20", 24" and 36". 6-inch bumpers are used when dock slabs protrude beyond the foundation and impact faces are less than 10". Ten-inch bumpers are frequently used for standard height docks paired with standard height trucks. 12-inch bumpers give you more vertical protective areas and structure. 20", 24", or 36" bumpers provide extended depth protection for varying truck heights for the lower steel members of trailer bodies.

Configurations

For open docks with no predetermined spots, multiple bumpers along the dock face provide maximum protection.



Laminated dock bumpers

Ideal for use in docking areas where excessive friction from upand-down trailer movement at loading docks occurs. Laminated bumpers are used where heavy-duty protection is required. Available in two models: (1) **bumpers with angles** for most applications equipped with 1/4" steel angles on both ends and (2) **bumpers with flat plates** for use with dock levelers (optional 1/4" flat steel plate for one or both ends). Standard, extended length, steel faced, extra thick and dura-soft variations to fit various needs.

Extruded dock bumpers

Appropriate for indoor or outdoor protection at loading docks, in warehouses, factories, work floors and parking garages, extruded bumpers are one-piece and weather-resistant. They protect vehicles such as tow trucks, trailers and heavy duty construction equipment. All bumpers have impact resistance (ASTM 2632) of 75% with a durometer reading of 70 plus or minus 5. Built of solid rubber for medium and heavy duty protection.

Molded dock bumpers

Molded bumpers are perfect protection for any high traffic dock. Molded in one piece of fiber reinforced rubber, they will not warp, rot, rust or harden. Manufactured from fiber reinforced prime rubber containing nylon and polyester. Sizes vary from 2" to 6" thick.

PROTECTIVE BARRIERS USE BARRIERS, BOLLARDS AND RAILS TO PROTECT YOUR ASSETS

shoptalk

"Busy forklifts are dangerous at loading docks. Install barriers to protect door frames, scales, workstations, machinery and people. Be sure your barriers are brightly colored to help drivers see them and avoid collisions."

-Luke, Employee-Owner Since 2020 Account Executive





Low clearance alarm bars

The Watchman is a low clearance alarm bar that warns forklift operators and management of potential collisions between forklifts and overhead doors and fixtures before they happen.



Bollards deflect collisions

Bollards are used around dock doors, both inside and outside the dock door. Mount them to define truck lanes or protect walls between doors, frames and equipment. Many styles available: collapsible, spring-loaded, solid steel, shock-absorbing and others.

"Goalpost" door frame protectors

In a fast-paced dock operation, doors are under constant threat of damage impacts. Protect yours with steel goalpost-style guards that outline the entire door and frame.

Door frame protectors

The inconvenience and high cost of a smashed overhead door guide track is preventable, and economical steel frame guards are the easiest way to protect it. The guards surround door tracks with steel to prevent damage from lift truck impacts. Heights of 24", 36" and 48" are available with safety yellow finishes and a variety of configurations.



DOCK BOARDS & PLATES BRIDGE THE GAP BETWEEN DOCK EDGES AND TRAILERS

Dockboards vs. dockplates

When to use dockboards

Dockboards are for heavy forklift loads. They can bear the weight of both automated equipment and the load.

When to use dockplates

Dockplates shouldn't be used for powered equipment like forklifts. Clearly mark your plates for manual traffic only.

Get the capacity right

Capacities are simple for dockplates: You should specify it for the heaviest load that will cross it.

It's more complicated for dockboards. Determine the forklift capacity you'll be operating on the board, then specify the correct board (we can help you with calculating the right capacities).

Mind the gap: place and secure your board

Dock boards fill the gap between dock edge and trailer—it's a critical safety point. For smaller gaps, your locking leg must be longer than the gap between the truck trailer and your dock. Your locking leg should rest against the back of the truck for larger gaps. Span locks should rest against the edge of your dock.

Make sure the truck is restrained and stable

Dockboards rely on the stability of the truck trailer and can become dangerous if the truck moves while dockboards are in use; if the trailer slips, so will your dockboard. Trucks should be chocked or restrained while loading/unloading.

Make handling the dockboard safe & ergonomic

For lightweight dockplates, be sure the plate has handholds for ergonomic grip. Some plates are heavy enough that team lifting is required for non-forklift transport.

- Lifting chains allow forklift transport.
- Transport wheels allow easier manual movement.
- Forklift pockets allow safe transport of heavy dockboards.



DOCKBOARD INSPECTION LIST

- Is the board warped or cracked? Are there broken welds? Is there missing hardware? Boards are subject to metal fatigue and should not be used if they show signs of it.
- Is there oil, grease or any other substance on the board that could cause a slip or slide?
- Is the capacity clearly labeled? Combine the weights of loading equipment, driver and load.
- Does the dockboard have side curbs? Are the curbs securely attached? Are the sides of the board clearly painted or otherwise marked?
- Are trucks adequately chocked or otherwise restrained prior to attaching a dockboard?
- Is the dockboard anchored in place with locking legs, pins or other methods?
- Are users trained in safe usage? Does everyone know how to handle it, drive on it and restrain it?

DOCK LIGHTS & VISIBILITY

shop talk

"It's hard for forklift drivers and warehouse workers to see in truck trailers, which usually have terrible lighting or none at all. We recommend lights, sensors and signs that improve visibility and help avoid accidents."

 Roy, Employee-Owner Account Executive





Improve visibility and safety with lighting in truck trailers. Choose between multiple arm types and construction materials give you flexibility on the positioning the light. Arms run from 24" to 114" and can be fitted with a fans to cool workers and improve air flow.





Traffic lights

Light sets come with dual light units so that one can be mounted on the exterior of the loading dock wall to inform truck drivers when to stay at the dock and when it is safe to pull away.



Exterior dock reflectors help truck drivers see in the dark

Loading dock reflectors safely guide trucks into your dock, helping truckers avoid collisions and damage to trailers, your walls, docks or dock equipment—as well as potential injuries. Reflectors absorb and reflect sunlight or brake lights to help drivers see the dock edge better, even in low visibility conditions. They don't require electrical power, or bulbs. Installation takes only a few minutes.

DOCK LIFT SPECIFICATION

"Accept nearly any kind of vehicle at your facility with a dock lift. Dock lifts let you load or unload almost any type of truck no matter the height of your dock or the trailer. They let you handle

palletized heavy loads when there isn't a dock at all or when the dock is too high or too low. Because they match elevations, they make truck loading safer, more ergonomic and faster."

> –Rodney, Employee-Owner Since 2013 Sales Director



shop|to

SURFACE VS. PIT-MOUNTED

Surface mounted lifts

Surface mount lifts can be installed on any flat concrete slab. They don't require pit construction, which reduces costs and avoids drainage issues. It's easy to move the lift if you need to—just unbolt it and go. Capacities range from 4,000 to 15,000 pounds with platform sizes from 6' x 6' up to 8' x 12'. They're more expensive than pit-mounted options, but the cost of building a pit must be factored in.

Casco Ean

Pit-mounted lifts

The most important advantage of pit-mounted (or recessed) lifts is that they're flush to the surface and aren't obstacles drivers have to drive over or around. Surface mounted lifts require a ramp that works well for unloading, but can be difficult for loading heavy cargo. Pit-mounted lifts handle loads up to 20,000 pounds and allow level loading at both the truck and ground levels. When mounted within the face of the dock, they provide easy dock-toground access. They're less expensive than surface mounted lifts, but require a pit that must be built and maintained.



- To determine overall **lifting capacity**, add the weight of your heaviest load to the weight of your loading vehicle and the weight of the driver/operator.
- **Axle capacity** is the amount of weight focused on the part of the vehicle that bears the most weight. Powered pallet jacks and stackers often concentrate 60% of the combined load on their rear axle. Forklifts concentrate 80% to 90% of their payload on the front axle.
- **Roll-over capacity** applies only to pit-mounted dock lifts and refers to the maximum axle load allowed for vehicles driving over a fully-lowered lift. Most pit-mounted lifts are rated for 10,000 pounds at slow drive-over speeds. This is usually more than adequate because of state mandated limits on truck axle loads, but may be an issue with some high-capacity forklifts or other specialty vehicles.

For complete information, visit www.cisco-eagle.com/lifts or call today

DOCK LIFT SPECIFICATION



PLATFORM SIZE

Platform dimensions depend on your truck loading equipment.

- For 4-wheel carts or hand trucks, use 6' platforms
- For manual pallet jacks, 8' platform lengths are minimum
- Powered pallet jacks and straddle stackers: 10' lengths
- Forklifts require 10' to 12' platforms

These size ranges cover 99% of all applications and are available as standards in both surface and pit-mounted lifts.

POWER UNITS & CONTROLS

Controls

For safety reasons, up-down controls must be controlled by the operator riding on the lift. NEMA 4 pushbuttons are standard, usually mounted on straight or coil cords. Longer cords can be connected to boxes inside secure buildings or mounted with twist lock plugs so they can be stored in secure areas. In other instances the hand held controls are replaced with key lock pushbuttons that are mounted on the platforms. Limit switches may be added to cause the lift to stop at fixed dock heights.

Power units

Power units on surface-mounted lifts are usually mounted on the lifts and covered with weather protection. Recessed lifts typically have remote power units that are mounted inside buildings.

What types of trucks will use your dock?

Dock levelers have a 39" to 54" approximate working range. Dock lifts are more versatile, offering a range of 0" to 58", meaning you can serve most any truck.

Truck bed height ranges:

- Panel trucks: 22" to 28"
- Pickup trucks and step vans: 24" to 30"
- High cube vans: 24" to 40"
- City delivery trucks: 34" to 48"
- Semi trailer trucks: 42" to 58"



Many facilities may see all of the above (and probably a smattering of other) truck types, so the flexibility to load and unload at any height is increasingly valuable.

EXTENDABLE CONVEYORS



"Extendable conveyors bridge the gap between the end of a shop tak conveyor system and your dock doors. They let you control the length of the conveyor so it extends as far as needed in the trailer

for loading and unloading. You can deliver cartons for stacking to precise, adjustable points in the trailer, then retract the conveyor to clear dock and staging space."

-Mark, Employee-Owner Since 2023 **Account Executive**



For complete information, visit www.cisco-eagle.com/extendableconveyor or call today

Rigid-belt drive-out conveyors



Reaches from a permanent conveyor all the way into a trailer. The conveyor is easily powered in and out with no operator effort for improved ergonomics and safer operations.

Rigid drive-in belt conveyors

Rigid belt systems function similarly to roller systems, but are used for varying loads. They extend your conveyor system so it matches up to trailers and docks. Optional pull-out gravity conveyors for more flexibility.



Mobile ergonomic trailer loading & unloading conveyors





Telescopic Belt Conveyor

This conveyor gives you precise control at the shipping dock by extending automated loading all the way to the nose of the trailer. This allows faster, more ergonomic loading and unloading at busy shipping and receiving operations, and ties directly into powered conveyor systems without extensive integration.





Detailed information: extendable truck loading systems.



www.cisco-eagle.com/docks •

FLEXIBLE DOCK CONVEYORS

"Bridge the space between trailer and material handling system with flexible conveyors that let you convey items in areas where fixed systems aren't possible all the way into a truck. This lets you load without as much manual work."

-Greg, Employee-Owner Since 2021 Systems Integration Group

shop talk

For specs, video and more, visit www.cisco-eagle.com/flexconveyor

FLEXIBLE CONVEYORS: POWER & GRAVITY

Flexible skatewheel perfect for docks, stockrooms or receiving operations

Ideal for packaging lines and lighter volume shipping & receiving applications. With capacities from 175 to 300 pounds per linear foot, it can handle the load. Conveyor features 12-gauge side plates, zinc-plated to resist corrosion. Cartons follow twists and turns of the conveyor path without using engineered curves.

Handle odd-shaped boxes, bags & low-grade cartons with roller conveyors

Built with 1-3/8" zinc plated steel rollers that feature sealed bearings for longer life. It's self-tracking—cartons follow the twists and turns of the conveyor path without side rails or engineered curves.

Power conveyor has no dead spots-power transmitted to every roller

Power roller flexible conveyor is ideally suited for truck loading and unloading, distribution centers, packaging, portable assembly lines, shipping and receiving operations. Zinc plated rollers constructed with solid steel axle and precision bearings for performance and long term reliability. Features 1-1/2" aluminum alloy side plates with ribbed construction for added durability. Each leg is fitted with a 6" x 2" swivel caster & brake that roll easily and lock into place while conveyor is in use. Heavy duty square legs mean a longer service life.





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