

**LOADING DOCK SAFETY:
REDUCE ACCIDENTS, INCREASE
PRODUCTIVITY**

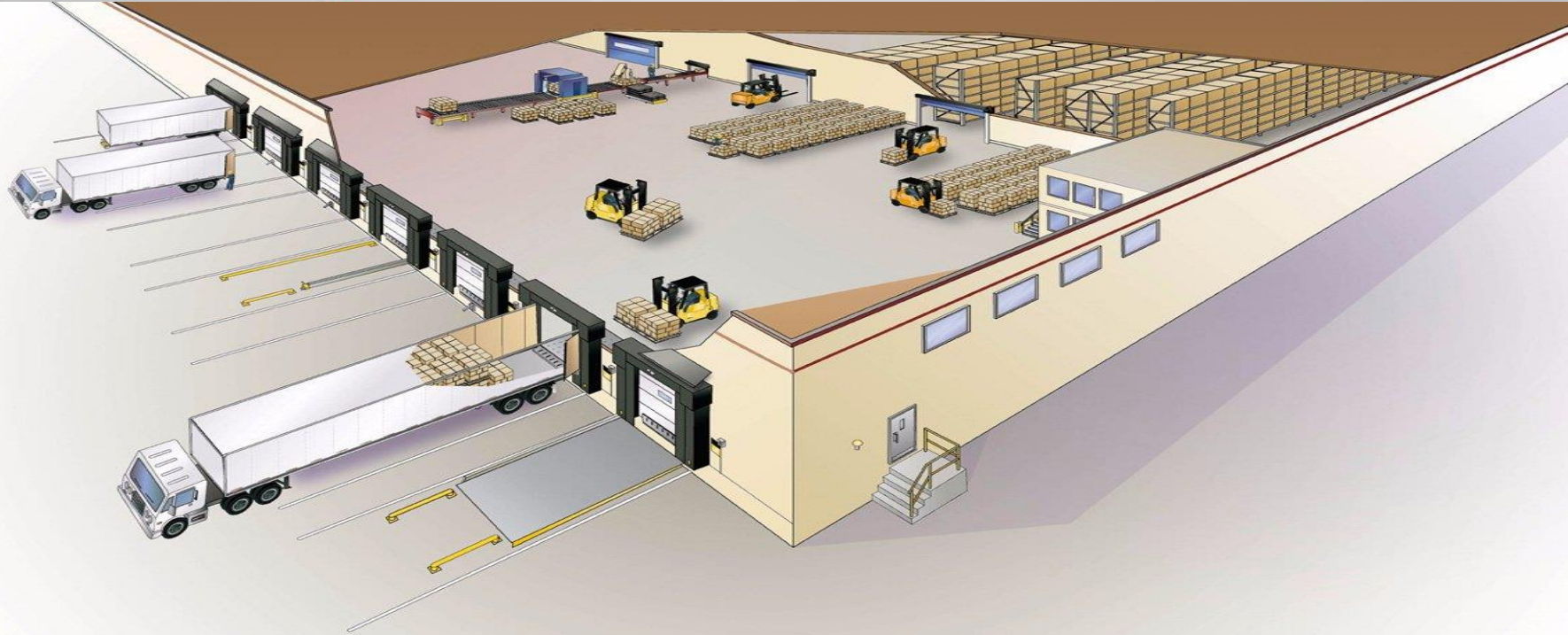
Who is Rite-Hite?

- Milwaukee, WI Based Manufacture of Loading Dock and Industrial Door Safety Systems
- Sell Through a Network of Distributors Who Represent Us on an Exclusive Basis in Defined Geographic Territories
- Customers Base Includes:
 - End Users
 - Contractors
 - 3rd Party Logistic Services
 - Any One That Loads and/or Unloads Trucks and Trailers
- Markets: Worldwide
- Mission Statement: Improve Safety, Security and Productivity Through Quality and Innovation

Safety in the BIG PICTURE



Defining the Material Transfer Zone



Risk Recognition within the M.T.Z.

Trailer Hazards: Identifying damage during inspections

Problem: Catastrophic trailer separation accidents

Problem: Trailer drop

Problem: Landing gears fail

Problem: Falls from dock platforms and vacant loading docks

Problem: “Dock Shock”

“Best Practices” for dock leveler maintenance

Problem: Hot trailer marker lights can cause fires

Problem: Is water creating a safety concern at your loading dock

Problem: Area protection and pedestrian safety

High % of accidents take place at the Material Transfer Zone

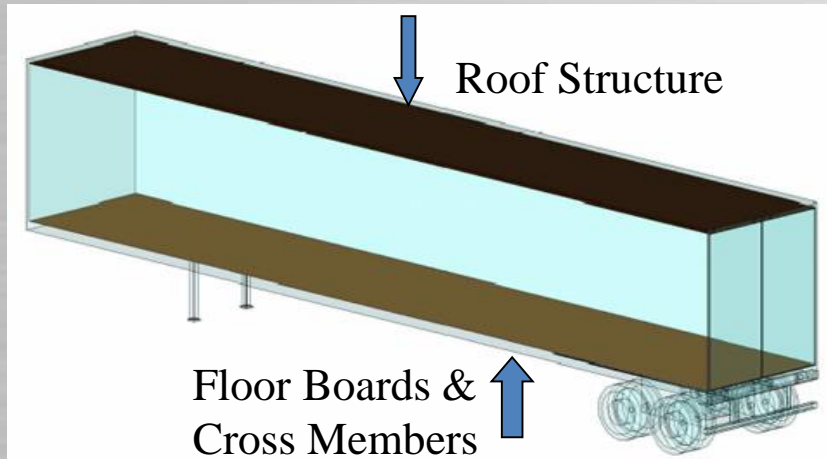
- Every 3 days someone is killed in a forklift related accident
- An additional 94,750 forklift related injuries are reported each year.
- \$135,000,000 in direct costs are incurred due to forklift accidents
- 7% of forklift accidents occur when a lift truck is driven off a loading dock
- 70% of all reported accidents could have been avoided with proper safety precautions

*nist.gov, "Performance Metrics for Intelligence Systems Workshop" 2009

TRAILER HAZARD:

Identify Damage During Inspections

Follow Guidelines for Both
Exterior and Interior Inspections
of Trailer Body!



TRAILER HAZARD:

Identify Damage During Inspections

Watch out for faulty landing gear

“Live Loading” (tractor attached) vs. Dropped Trailers (tractor detached)

Ref. Page 64 if A.I.A.G. M-6

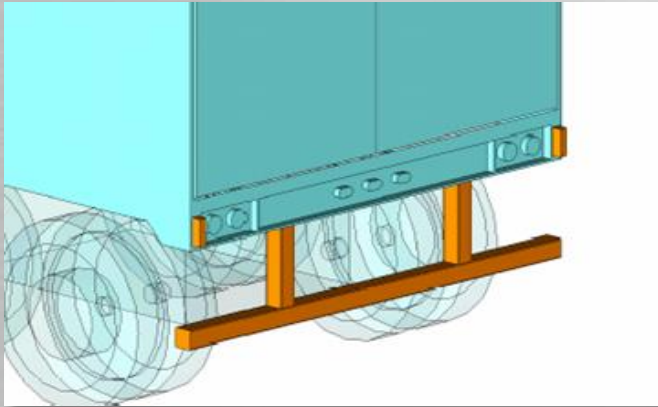


Landing gear integrity

TRAILER HAZARD:

Identify Damage During Inspections

- Rear impact guards



Visually inspect structural integrity



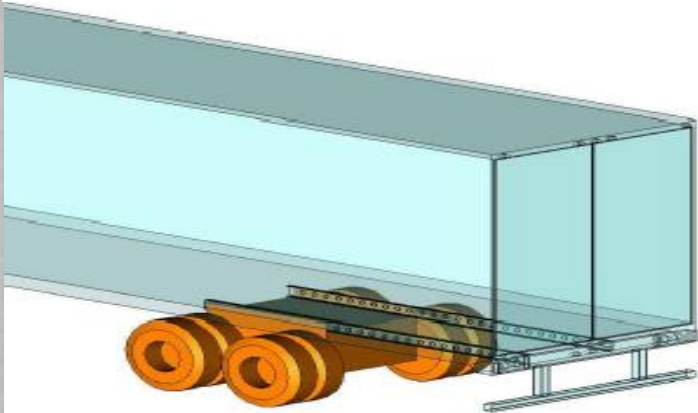
Inspect when using vehicle restraint devices to secure the trailer to the dock!

TRAILER HAZARD:

Identify Damage During Inspections

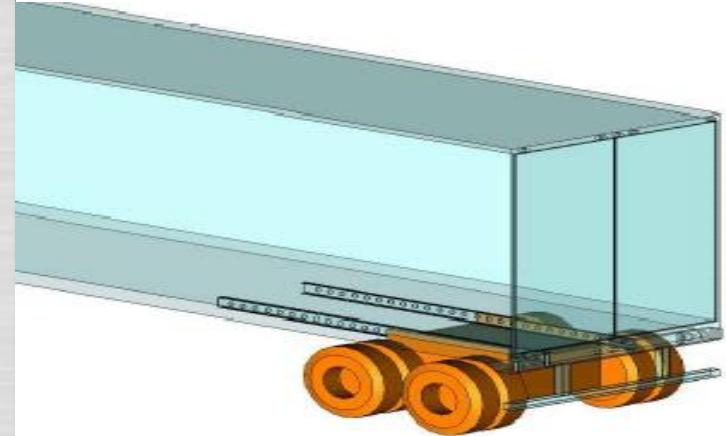
- Which is considered a “Best Practice” when loading & unloading ?
- Know your trailer design

Tandem Wheels Forward



VS.

Tandem Wheels Back



Preferred location of Tandem Wheels

TRAILER HAZARD:

Identify Damage During Inspections

- Air-ride suspensions can lead to vertical and horizontal trailer movement as the forklift enters and exits the trailer
- Vertical trailer movement can cause uneven transition
- Horizontal trailer movement can lead to trailer separation from the dock



Trailer Creep



RH_AirRide.mpg



Movie Clip



Trailer separation from Loading Dock

TRAILER HAZARD:

Identify Damage During Inspections

SECTION REVIEW

“Prevention of Catastrophic Failures”

- Establish checklist and train employees for Exterior/Interior Inspections
- Perform Inspection of cross members, roof structures, floor boards & top/bottom rails
- Don't “ASSUME” someone else has inspected your trailer!



PROBLEM:

Catastrophic Trailer Separation Accidents



#1. Premature Departure

A truck driver mistakenly drives away while a lift truck is entering, leaving, or inside the trailer.



RH_EarlyDepartureAccident.mpg

PROBLEM:

Catastrophic Trailer Separation Accidents

#2. Trailer Creep

A trailer can move substantially under the weight of a forklift entering and exiting a trailer. Fast driving & air-ride suspensions exacerbate the issue.



PROBLEM:

Catastrophic Trailer Separation Accidents

#3. Landing Gear Collapse

Weak or damaged landing gear gives way and the trailer pitches forward or falls to the side.



PROBLEM:

Catastrophic Trailer Separation Accidents

#4. Trailer Pop-Up / Up-Ending



RH_TrailerPopUp.mpg

Pop-Up: the weight of a forklift sends the rear of the trailer forward and down, causing the nose to rise. **Up-Ending:** the weight of a lift truck sends the trailer's nose down, causing the rear end to move up and away from the building. Remember, positioning of the rear tandems is important.



Trailer Pop-Up



Trailer Up-Ending

PROBLEM:

Catastrophic Trailer Separation Accidents



1910.178 OSHA guide

(7) Brakes shall be set and wheel blocks shall be in place to prevent movement of trucks, trailers, or railroad cars while loading or unloading.

PROBLEM:

Wheel Chocks May Not Prevent Trailer Separation

- False sense of security
- Driver can easily pull over chocks
- Even less effective on snow, ice and wet pavements
- Time consuming
- Often misplaced, lost or stolen



SOLUTION:

Automatic Vehicle Restraints

Vehicle Restraints help prevent all types of trailer separation



SOLUTION:

Automatic Vehicle Restraints

Choosing the Right Vehicle Restraint is Critical

- Part-Time Safety:
 - Vertical barrier vehicle restraints & dropped trailers with RIG bumpers
- All Manufacturers' Vertical Barrier Vehicle Restraints:
 - Won't secure rear of trailer during landing gear collapse or trailer tip over!
- Vertical Barrier Vehicle Restraints Only Address 2 of the 4 Types of Accidents!



PROBLEM:

Some Trailers Don't Have ICC Bars or RIGs



Slide rail liftgate trailer



Tuck under liftgate trailer

SOLUTION:

Wheel Based Vehicle Restraints



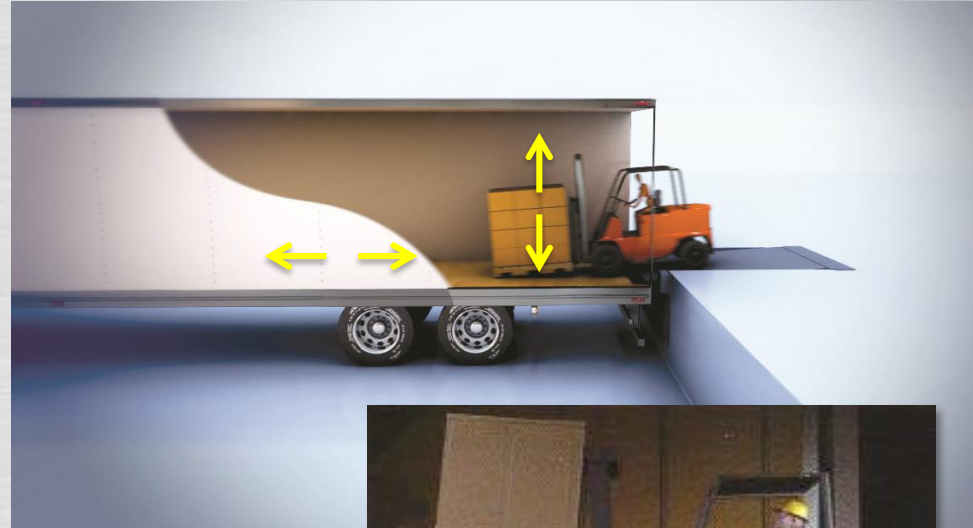
PROBLEM:

Trailer Drop

Unstabilized trailers can drop up to 8" with the weight of a forklift.

Trailer drop problems:

- Back and neck injuries
- Product and equipment damage
- Trailer separation accidents



RH_SmoothTransitionDokSystem.mpg



SOLUTION:

Stabilizing Vehicle Restraint

- Hydraulic cylinders stabilize air-ride suspension trailers to help address horizontal and vertical movement during loading and unloading.
- Smooth transition design minimizes jolts to forklift operators reducing the occurrence of back related injuries.
- Minimizes product damage and wear and tear on other dock equipment components.



SOLUTION:

Automatic Vehicle Restraints



OSHA Instruction STD 1-11.7

August 5, 1981

Office of Compliance Programming

Subject: 29 CFR 1910.178(k)(1) and (m)(7): Mechanical Means to Secure Trucks or Trailers to a Loading Dock - Special Addendum

- A. Purpose. This instruction allows the use of a mechanical means which secures trucks or trailers to a loading dock in situations in which they provide the equivalent protection of wheel chocks.
 - 1. A positive mechanical means to secure trucks or trailers to a loading dock is allowed provided the system is installed and used in a manner that effectively prevents movement of trucks and trailers during loading, unloading and boarding by hand trucks and powered industrial trucks.**
 - 2. All of the mechanical equipment shall be installed, maintained and used as recommended by the manufacturer.
 - 3. Any damaged mechanical equipment will be removed from service immediately.

PROBLEM:

Landing Gears Fail



Landing Gear Collapse

PROBLEM:

Landing Gears Fail



OSHA guide 1910.178 (k)(3)

Fixed jacks may be necessary to support a semi-trailer and prevent upending during the loading or unloading when the trailer is not coupled to a tractor.

Landing Gears Fail



Some lighter duty trailer stand units may require two per trailer for greater stability

SOLUTION:

Trailer Stands for Added Measure of Safety



Look for :

- ERGONOMIC HANDLES
- 16" Solid Rubber Tires
- 30" X 16" Top Plate
- 16" X 30" Base Plate
- 100,000 lb. Static Load Capacity

PROBLEM:

Falls From Dock Platforms & Vacant Loading Docks

January 17, 2017, OSHA Updated Standards Related to “Slips, Trips and Falls” From Elevated Surfaces

Specifically Looking for One of Three Types of Protection in These Areas:

- Steel Gate
- Netting Product
- Harness for the Pedestrian

PROBLEM:

Falls From Dock Platforms & Vacant Loading Docks

How do we address the challenge of the open dock door?



SOLUTION:

Safe-T-Lip Levelers



7" HIGH BARRIER



5" HIGH BARRIER

- Automatic roll off protection at the edge of the dock
- Look for: unobstructed “end loading” capability!

SOLUTION:

Safe-T-Gate Barrier Protection



PROBLEM:

DOCK SHOCK!



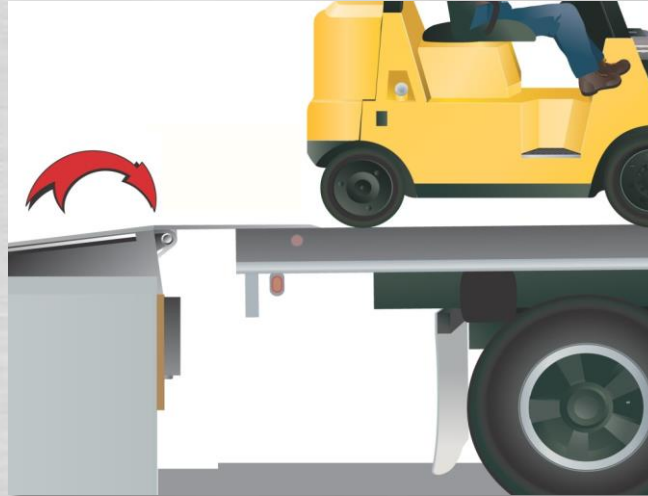
Rumble strip effect



Rear hinge can create bumps and gaps that cause jolts to forklift operators, jostle product and damage loading dock equipment.

PROBLEM:

DOCK SHOCK!



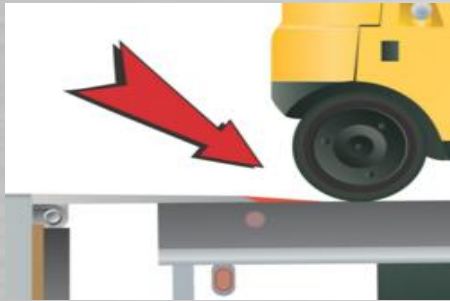
Speedbump effect

Front hinge creates bumps that cause jolts to forklift operators, jostle products, and damage loading dock equipment

SOLUTION:

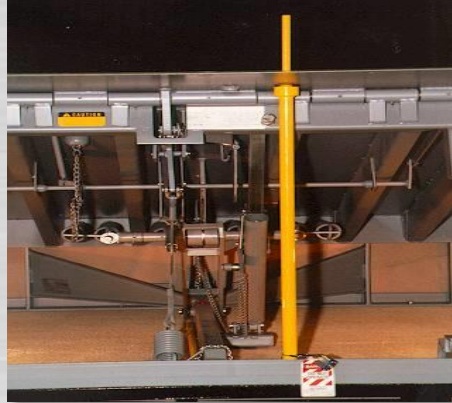
Smooth Transition Dock Levelers

- New front and rear hinge design provides *smoothest transition* from the warehouse floor to the trailer bed
- Reduces Whole-Body Vibration up to 76% percent



BEST PRACTICES:

Dock Leveler Maintenance



Make certain dock leveling equipment is braced & secured

- Does your company have a written Lock Out Procedure for dock equipment?
- Ensure your personnel's safety with the Safe-T-Strut!
 - Helps comply with OSHA 1910.147

PROBLEM:

Hot Trailer Marker Lights Can Cause Fires



1999 NHTSA ENFORCEMENT
OF TRAILER MARKER LIGHTS
REQUIREMENT



COMPRESSED INTO FOAM SEAL, LIGHTS
CAN REACH 900 DEGREES F IN AS LITTLE
AS 20-30 MINUTES.



"It took three fire extinguishers to
put it out! We're lucky the whole
building didn't catch fire."
- Shipping Manager, CWC Textron

SOLUTION:

FireFighter Technology



- Available on Rite-Hite Head Pads, Head Curtains and Side Pads
- Multi-layer foil, heat dissipation system
- Can prevent burning from trailer marker lights

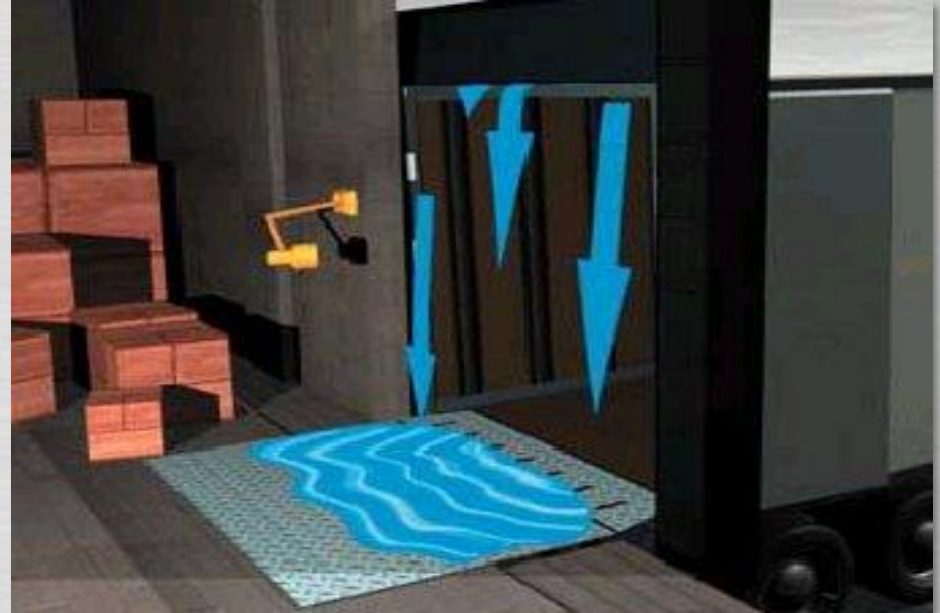


PROBLEM:

Is Water Creating Safety Concerns at Your Loading Dock?



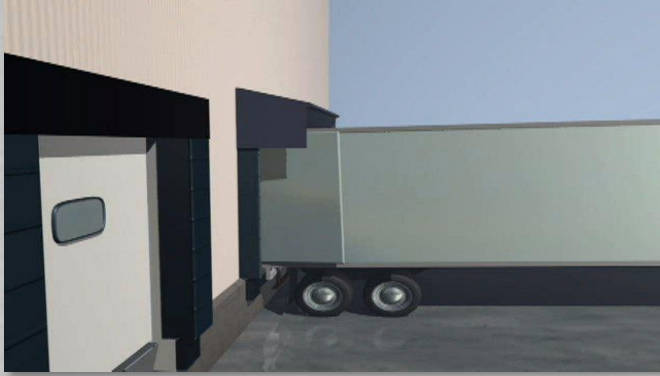
- Water damage to products
- Wet, slippery, icy dock levelers



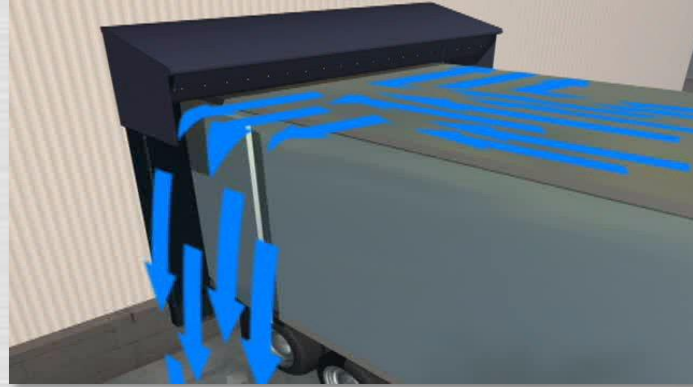
Even with a good dock seal, water can infiltrate dock from top of trailer

SOLUTION:

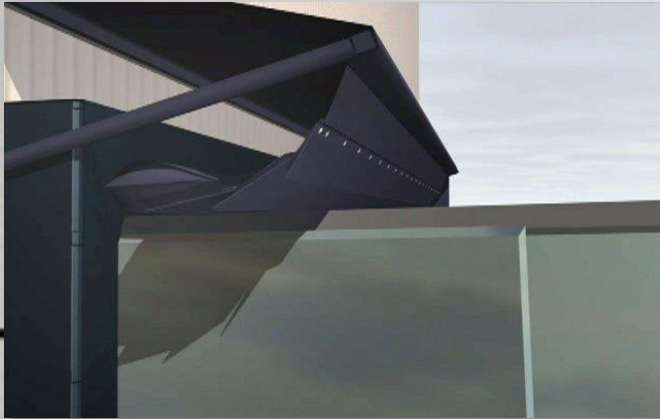
RainGuard Header Seal



Auto- Positioning



Tight seal across top of trailer



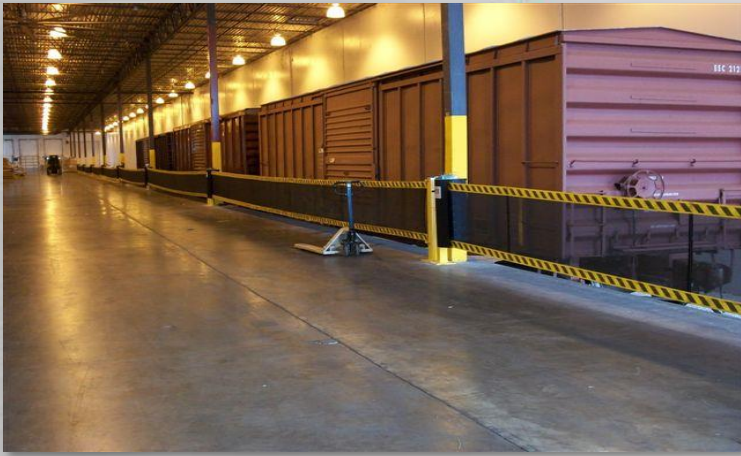
PROBLEM:

Area Protection and Pedestrian Safety



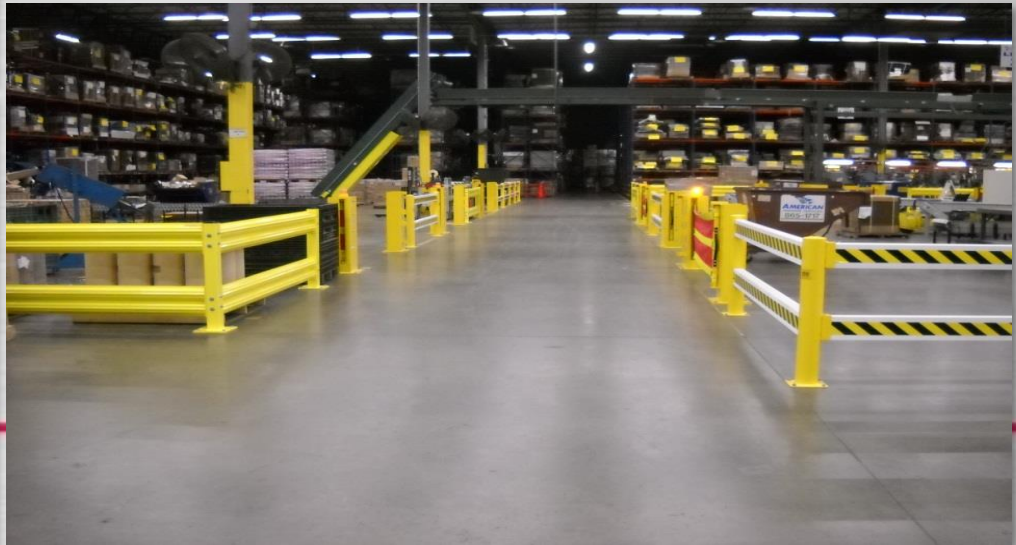
SOLUTION:

Barrier Systems Protective Railing



Separates & Defines

- Interior loading docks
- Long walkways
- Large areas



SOLUTION:

Barrier Systems Protective Railing

Modular Design

- Rails can be removable
- Easy to measure, layout and install



Pedestrian Safety Outside the Building



Pedestrian Safety Inside the Building



We Can Help Make Your Dock Safe



Loading Dock Safety Assessments

Loading Dock Safety Presentations

On-Site Training and Support

Fly-In Program



THANKS TO...

Supporting materials for this seminar were provided by the following groups:

- Pulp & Paper Safety Association
- Automotive Industry Action Group (refer to M-6)



Automotive Industry Action Group



BRINGING THE INDUSTRY HOME SAFE

www.ppsa.org/orderform.htm

Contact Us

30 plus years of Material Handling Industry experience. Available to speak to Plants, Distribution Centers, Trade Associations or Conventions on any of the topics listed above.

Experience working as a liaison between Rite-Hite, our representative enterprise and World Wide customer base of Fortune 1000 Companies.

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PROBLEM:

No Visual Cue for Forklift Operator

In many cases it is easy for control boxes and lighting systems to be blocked by:

- Loads
- Fork Trucks
- People
- Other Physical Obstruction



SOLUTION:

Visual Communication - The First Step to Safety



- Corner-Vu and Leveler-Vu confirm Dok-Lok® engagement status to forklift drivers as they enter and exit the trailer.
- Full-time communication in the M.T. Z. helps keep personnel safe and increases productivity.