Maintaining Docks For Safety And Efficiency

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An impactable dock door is designed for minimal maintenance, as it can withstand forklift impacts.

A plant can make significant investments in work cell technology, conveyors and the latest in inspection equipment. It can tighten everything up with Lean/Six Sigma, but unless the shipping/receiving dock is given the proper attention, breakdowns in this area can choke off productivity throughout the system.

Good dock equipment maintenance starts with selecting and installing equipment that is up to the demands of busy facilities. Poor decisions can result in disrupted trucking schedules and product flow, a dagger in the heart of just-in-time. Any failure in the dock equipment can also lead to employee safety incidents, bringing material handling to a standstill.

The mission is to deploy equipment that offers the lowest lifetime cost of ownership, implying more than just the initial equipment investment. These up-front decisions can cut down on the other associated costs— downtime, maintenance time and expense, equipment replacement, and fines from late trucking schedules.

Proper Application

The dock leveler is the bridge from the warehouse floor to the trailer. It needs to not only be stable, but it must operate consistently and efficiently while providing the most level interface possible between the warehouse and the trailer to

maximize its own lifespan, as well as keep product and personnel moving efficiently and safely. Choosing a dock leveler with the proper activation and structural strength for your application is the first step towards ensuring the lowest lifetime cost of ownership.

The leveler must be level with the floor to be sure the unit lasts its expected ten year lifespan. An improperly applied or supported dock leveler can lead to structural fatigue and or failure, resulting in expensive repairs and potential safety concerns.

Traditional concrete pit-dock leveler installations require an installer to place and weld small pieces of steel, or “shim,” under the leveler’s rear frame to level the device and provide long-term support. While this has been the standard installation method for the industry for decades, working in this cramped space can lead to errors. Installers may not use the correct size shim, they might not weld the shim properly, or they forget to shim altogether.

The latest “shimless” dock levelers provide greater structural strength and durability, while incorporating a self-leveling design that includes four heavy-duty vertical uprights at the rear of the leveler, each with an adjustable pad on the pit floor. The pads can be adjusted independently to compensate for even the worst pit conditions. Once the leveler is placed in the pit, the installer can adjust the height of the unit using a leveling bolt located at the top rear of the dock leveler at floor level. This unique design eliminates the need to crawl into the pit and thus ensures that each dock leveler is shimmed or leveled properly.

Stamping Out Stump-Out

Master control panels are another option for dock efficiency. This approach allows the user to combine all controls in one panel, reducing wiring costs.

With over 60 percent of all new vehicles on the road today equipped with air-ride suspensions, stump-out has become an increasing issue on the dock. Stump-out occurs when the mechanical safety legs or stops on a mechanical or power-assisted dock leveler engage and restrict the leveler's vertical movement during loading/unloading.

If the leveler stumps out and the trailer continues to lower (air-ride) below the dock, the lip of the leveler is placed at an extreme angle. The fork truck operator can unknowingly drive into the lip while coming out of the trailer, risking damage to the lip, the forklift and product. Dock levelers with anti stump-out systems compensate by using a roller design that provides unrestricted motion, or "free float," while also providing a measure of free-fall protection in the event of premature trailer separation.

Forklifts Knocking On The Door

Most likely, if you operate a loading dock, you have had overhead dock door and track damage. Damage can range from a head-on assault that shatters the panel or knocks the door out of alignment, to a forklift maneuvering in a confined dock space and brushing up against the door track. These accidents can make the door tough to open, tempting the dock workers to leave the doorway exposed between loads.

One option is to replace traditional overhead doors with impactable dock doors. While impactable panels and partially impactable systems are available, fully impactable dock doors are designed with spring-loaded plungers on each door panel that retract when hit, releasing from the guide tracks rather than resisting the force and causing damage. These doors are designed with an impactable track which, unlike conventional steel tracks, can take a direct forklift impact without suffering any damage.

Keeping Trucks In Place

Vehicle restraints are crucial components for dock safety. These devices secure trailers to keep them from departing or separating from the dock during loading/unloading. However, certain designs and applications create operational and maintenance headaches.

Impact style restraints rely on the force of the trailer to push them down position. Most of these types of restraints move vertically on spring-loaded rollers or pins. If not maintained and lubricated regularly, the restraint can seize while engaged to the vehicle, leading to severe damage to the restraint or the trailer's Rear Impact Guard (RIG). Non-impact, low profile restraints allow the lowest trailers to drive over them so as not to damage the RIG. Some vehicle restraints are equipped with an internal/external light communication package to enhance safety for the dock attendant and truck drivers.

They've Got You Covered

Selecting the proper dock seal or shelter can improve the safety and efficiency of

the operation. Dock seals have fabric-covered foam pads that provide a tight seal once compressed by backing trailers. Dock shelters consist of fabric attached to side/head frames and for a perimeter seal for the trailer side and top.

Steel backing offers many advantages over wood backing. Wood backing has a solid mass (1-1/2” thick) which does not yield when the seal is compressed, causing damage to the building. On steel backing, the solid mass is replaced with compressible foam on a steel frame. Steel backing also offers superior durability as it does not rot, split, crack or warp. A steel backing uses plated screws with load spreading washers in the steel to provide a stronger, more durable hold on the fabric.

With the innovations taking place inside the plant, it makes sense to pay attention to the docks, where the process begins and ends. Keeping the dock up-to-date means avoiding the maintenance problems that could prevent other investments within the plant from producing to management’s level of expectations.

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