

Proper TierStack® Handling

Your company has selected the TierStack® to improve bottle life, production efficiency, reduce truck damage and improve safety conditions for all employees.

We are providing this video to help you and your company get the maximum useful life and safe handling of the TierStack® through optimum handling techniques.

With your help, the TierStack® Modular Rack System can provide optimum bottle protection, durability and safe and stable handling in the warehouse and on the routes - which translates into lower costs and increased profits.

I. Forklift Blade Specifications

- A. Optional Bottom Deck
PSI offers an optional snap-on bottom deck for the TierStack® to improve stability and increase durability. It also enables the rack to travel smoothly over roller and chain conveyors. Our optional bottom deck improves the efficiencies in the production process and promotes safer handling.
- B. Forkblade Length
To prevent unnecessary damage, the fork blades should never exceed the shortest width of the rack. If the fork blade length is longer, the blade will extend beyond the first rack and enter into the second rack and possibly breaking it when lifting.
- C. Dull Points
The forklade ends should also be ground blunt or ordered with dull points to reduce the likelihood of punctures.
- D. Blade Spacing
To increase stability when lifting the TierStack®, we suggest 5" wide fork blades and the blade spacing should be set to fit the width of the layer or bottom deck pocket openings. We also encourage keeping full bottles in the bottom layers and empties on top layers to eliminate top-heavy racks.

II. TierStack® Handling

- A. Approaching the Rack
Forklift drivers should never drive directly into the rack. They should pull up to the rack and always stop in front of the racks, make sure the blades are lined up and then proceed to enter the layer or bottom deck. Drivers should not use the rack as a stop to tell them when they are all the way into the rack.
- B. Grounding Forkblades
Forklift drivers should never attempt to enter a bottom deck with the fork blades touching the ground. The forks must be at least 2" off the ground upon entry or they will damage the bottom deck.
- C. Rack Positioning
Fork blade tips should never be used to push the rack or turn it for positioning. Always move the lift into a better position, not the rack.
- D. Do Not Push Racks
TierStack® racks should never be pushed along the warehouse floor. Raised imperfections in the floor such as cracks or on rough surfaces can easily cause damage.

- E. Moving Racks
Only one rack should be moved at a time. Moving two racks stacked on top of one another may create an unstable load and an unsafe work environment.
- F. Separating Layers
Forklift drivers should never drive directly into the fork openings between layers. Always stop in front of the racks making sure the forkblades are lined up with the fork openings before slowly entering.
- Layers should not be removed unless there is a balanced load within the layer. All tunnels must be empty, filled with empty bottles or filled with full bottles. Any other combination will create an unbalanced load during handling possibly resulting in the load tipping off of the forks.
- G. Layer/Bottom Deck Damage
(Tell Someone!)
In the event of a damaged layer or bottom deck, please inform your supervisor immediately. Removal of the damaged layer at the time of the incident will save valuable production time and money. The damaged layer should be marked so it can be evaluated to determine its future use.

III. Storage

- A. Stacking
The TierStack® Rack System is designed to stack (3) 40-bottle racks high or (15) layers high with full product on itself only. The TierStack® is not designed for edge racking in fixed warehouse racks and should never be used in edge racking systems.
- Forklift operators should always line up the forklift and rack right to left before lifting the TierStack® up to be stacked upon another rack. The racks must be held at least 2" above the lower rack to avoid interference with the self-centering feature. The driver should line up the self-centering v-shaped opening with the center tower in the lower rack. Once the rack is located the driver can lower the rack. If it does not interlock completely it means it is too far back or forward. If this happens the rack should be slid forward or backward until it fully interlocks. The TierStacks® should never be set down off center on top of the bottles.
- When lifting the racks, the operator must enter the TierStack® fork blade pockets carefully, lift the rack up at least 2" and then back the forklift away from the stack. After pulling back to clear the lower rack, the operator must fully lower the rack before turning or moving the rack to its next position.
- B. Truck Loading
When loading the TierStack® racks into the rear bay of the route trucks, forklift drivers should be sure to load the rack toward the front side of the bay, which is toward the cab. This will minimize movement of the racks in the rear bay.
- C. Retainer Bars
In some cases where route trucks travel on rougher roads retainer bars are added to the floor of the truck bay to prevent the racks from shifting towards the bay door. The TierStack® rack should be completely placed inside the truck bay clearing the retainer bar before lowering the rack into position. Never rest or push the TierStack® rack on the retainer bar as it can cause damage to the bottom layer or deck.

IV. Unloading bottles

A. Unloading Racks

For optimal bottle performance it is recommended that you unload bottles from your TierStack® racks from the top down.

Our racks offer a unique reach through feature that assists in removing the higher layer bottles from the back position. Once the bottle is pulled forward to the front position, support the bottle from the bottom of the neck with palms facing up. Slightly lift up on the neck and pull out.

V. Be Safe

A. Do Not Speed

The last recommendation but not the least important is forklift safety. A major contributor to damage is unsafe driving speed. The faster the forks impact the pallet the more severe the damage. Governors on forklifts have led to greatly reduced pallet damage, reduced forklift maintenance costs, extension of battery life and a much safer work environment. Never drive forklifts with the racks higher than a few inches off the floor.

Review and Recommendations

I. Forklift Blade Specifications

Fork blade width, length and position specifications should be followed for all facilities using the TierStack®

II. Handling

Fork blade tips should never be used to push the rack or turn it for positioning. Always move the forklift into a better position, not the rack. TierStack® racks should never be pushed along the warehouse floor. Modules should not be removed unless there is a balanced load within the layer.

III. Storage

Forklift operators should always line up the forklift and rack right to left before lifting the TierStack® up to be stacked upon another rack. The TierStack® should interlock completely.

IV. Unloading bottles

Support the bottle from the bottom of the neck with palms facing up. Slightly lift up on the neck and pull out.

V. Safety

Never drive forklifts with the racks a few inches off the floor. Only one rack should be moved at a time. Drive carefully and do not speed.