

## Why your warehouse needs a Pallet Shuttle??

30th December, 2018

One of the fundamental questions that concern a warehouse manager is efficient usage of space. Conventionally, pallets have been stored through various storage methods like floor space stacking, over time newer methods like selective racking, drive-in racking, drive-through racking. Etc. have been put to use - Each of these methods have evolved as improvement over the earlier ones. However, they failed to provide the benefits that a **dense racking system with pallet shuttle** can provide, in terms of space utilization, material handling safety, speed & ease of operation.



We will now delve into various reasons on why a warehouse needs a pallet shuttle:



**1. Your Business is expanding – Growth is the new mantra of survival :** Today's businesses have to be agile in identifying the newer opportunities not only in existing business segments but also to fight battles in newer business segments & product categories. So, the entire supply chain needs to be responsive to accommodate these growing aspirations. With real estate prices surging up, warehousing is a major cost element today. Businesses opt either a leasing model or to build new warehousing capacity. Both options require detailed evaluation, as within a period of 5 years, the rental costs have increased from Rs 10 per sqft to Rs 18 Sqft & the cost of warehouse construction is at Rs 1500 per sqft from an earlier figure of Rs 800 sqft. So, every penny saved on a sqft is a penny earned on it. This underscores why optimizing the existing space is the most sought-after operational objective and **dense racking with pallet shuttle is the perfect fit solution as it gives 2 to 3 times storage efficiency in the same space by utilizing height of the warehouse.**

**2. Bulk of the inventory lies in a few SKUs:** Storage of the inventory must ensure the smooth and quick functioning of last leg of warehouse activities i.e picking, packing & shipping. Carefully designed warehouse slotting can be a key to achieve this by ensuring inventories of similar characteristics stay at one location. As an example, in a paints industry, where bulk of the inventory lies in approx. 200 SKUs out of the existing 1000s of SKUs, it is important to store the bulk of SKUs at one place for easy accessibility. This also applies to other **industries where the SKU count can be up to 4000-6000 and, about 80% of the inventory lies in a few selective SKUs.**

The very structure of dense racking with pallet shuttle, allows to place one single SKU in a row for quick access using FIFO/LIFO. **Vertical utilization of height enables the bulk inventory to fit in 50% or less space than it consumes otherwise.** So, **the bulk inventory SKUs can be accommodated using dense racking & all other SKUs can be stored through selective racking. The same logic can be applied to industries/businesses where there are limited number of SKUs,** like Beverages, Textiles or when the businesses are medium to large scale. Pallet Shuttle would be an ideal candidate that helps to leverage its features to archive significant enhancement of storage capacity without any additional investments in warehouse real estate.

**3. Absolute FIFO/LIFO is required:** When inventory needs to be shipped based on its in warding order, like First in First Out or Last in First Out in an absolute manner, **dense racking with pallet shuttle** will aptly fit the bill. By giving access to both sides of the dense racking structure, a FIFO system can be implemented; where in one Forklift & Shuttle can be deployed for another forklift & shuttle at the other end can be used for retrieving the pallets. **In storage and retrieval operations of products like Food, and Medicines- where the expiry of the product is of utmost importance, shipping must happen in FIFO fashion.** In case of LIFO picking system, only one end of the dense racking system will be available for access. The same shuttle can be used for both fetching & storing the pallets. **So dense racking system can provide extremely organized & accurate inventory storage unlike all the other pallet strong methods.**

**4. While storing seasonal inventory:** Businesses that operate in seasonal produce earn the lion's share of their revenues during on-season and will be typically serving demand requirements up to 3 or 4 times



of their off-season demand. However, increasing disposable incomes of people due to developing economies are turning new nations into higher consumption economies, In such a scenario it is, quite common that the demand surges can be 7 to 8 times of the original demand forecast.

So, **to accommodate this higher inventory surges, dense racking system with pallet shuttle can be adopted.** In the same available off-season storage space, even on-season stock storing can be achieved through maximised height utilization.

- 5. For improved warehouse ergonomics:** Ensuring high levels of safety for operating staff, material and equipment like racking structure, forklift. etc is of prime importance. **By reducing the number of touch points, one can achieve this while handling the material.** In case of drive in or drive through pallet racking, the operator's safety is at great risk as they need to be extremely cautious while driving into the racks to access the pallets. In case of floor stacking method, material is susceptible to great amount of damage as often the light weight items suffer damage by buckling under the weight of other heavier pallets.

In a dense racking structure with pallet shuttle, **the number of pallet positions can go as deep as 40 & shuttle can be deployed to access them without any trouble. This ensures reduced footprint while increasing the number of pallet positions.** The safety bumper and sensors provided on the shuttle prevents collision inside the racks with any person/machine/another shuttle.

- 6. To increase the Speed of operations:** In case of floor stacking/drive-in storage system, the speed is very low as they must remove the pallets below or on top before picking the designated pallet. In case of drive-in racks only 5- to 10-pallet load spaces are accessible like in double-deep racking. All this results in an extremely slow operation. Similarly, **in case of extreme temperatures like cold storage areas, the average lift trucks operating in a cooler or freezer loses up to 50% of battery charge and life cycle due to extreme temperatures.**

Pallet shuttle can be a best fit for use as it offers a carrying speed of up to 1.5 meter/sec. Besides this pallet shuttle operates effectively in a wider temperature band. Along with this the simplicity of operation through remote control & the safety features through bumpers, and sensors provide a smooth and safe operation.

So, all in all the never-ending quest of companies for operational efficiencies, aggressive business targets, and increasing regulations for safety demand flexible & safe warehousing space.

Having Pallet Shuttle in your material handling armour would drastically improve warehouse functioning either in a semi-automatic mode through forklift or in advanced applications like mother child shuttle/complete AS/RS system.

Watch this space to know more insights on why your warehouse needs a pallet shuttle or how it helps in achieving your business targets!!

