Distribution Strategies

Organizing For Success - Part 1

This article discusses basic concepts for organizing the storage of inventory in the warehouse in order to improve operating efficiency and space utilization. Most distributors assign specific bins to each item when they are just starting out. This makes a lot of sense; the number of items is relatively small and it is easier for people working with a sales order to find inventory when it is organized in a manner that is easy to remember.

Although assigning each item a separate bin is workable to start, it becomes a very expensive way to locate inventory as a distributor grows. The distributor is constantly reorganizing the warehouse to insert new items and remove dead items (when that actually happens). Bin sizes are often too big or too small, and what do you do when you purchase more inventory than fits in the assigned bin? Now you have overstock that must be tracked separately. The two biggest issues with fixed bin assignments are (1) picking is inefficient and (2) fixed bins waste a lot of space. Consider that each bin is only half full on average, which means the best you can do is use half the available warehouse space.

Moving to random storage allows a growing distributor to gain better space utilization and picking productivity. The first thing to note is that using random storage does not mean the inventory is stored randomly. It simply means that items are not assigned to a permanent bin. A suitable bin is selected in which to place the inventory for an item each time inventory is received depending on storage rules for the item. An item could be stored in a different bin each time it is purchased. An item could be stored in multiple bins at the same time. When the bins are sized properly this can significantly improve space utilization.

Using random storage can contribute to improving worker efficiency during picking by eliminating travel time and unnecessary movement. This is accomplished by storing the items that are picked most frequently closer to the shipping dock, storing items that are picked less frequently further back in the warehouse, and storing dead stock up high in the back of the warehouse. Each item is assigned a code of A, B, C, or D depending on how often it is picked (velocity). Each storage bin is also assigned a code of A, B, C, or D depending on how close it is to the shipping dock and how easy it is for an operator to reach while standing on the floor. This is where the storage rules mentioned earlier come into play.

The rules used for selecting storage bins are called putaway rules. The goal is to store the inventory for an item in a bin that is the right size, in the right part of the warehouse, and where the bin velocity code matches the velocity code for the item and package size. Package size is an important consideration when selecting a storage bin. Items in boxes, cartons, and pallets, for example, may be stored in different parts of the warehouse due to shelving requirements. Please note that the velocity codes are based on picking

frequency, so putaway rules are meant to store inventory in such a manner as to make picking more efficient, not to make it easier or quicker to put away inventory.

When storing inventory by velocity items of different categories and different vendors are stored in the same area in order to gain operating efficiency. This requires the assistance of computer software that tracks inventory by item at the bin level, provides a way to assign velocity codes to items and bins, and has velocity based putaway rules for assigning inventory to bins. The software also needs the ability to use this information to make the picking process efficient, but that is a different topic.

In reality, a well run warehouse often has inventory stored in random bins and bins assigned to a single item. The bins assigned to a single item are referred to as forward pick bins, or primary bins, which is a different use from that mentioned at the start of this article. When to assign items a forward pick bin is also another topic. The bottom line is that you can increase warehouse storage capacity by as much as 50% while reducing picking labor considerably by making the effort to use random bins effectively. There are many factors involved in picking that impact level of effort so it is hard to state a simple rule for what the improvement could be for any given warehouse. Reductions in picking effort of 35 – 50% are not unrealistic by improving inventory storage and making some minor process improvements.

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