

Box Latches™ in Inventory Management & Quality Assurance

TYRI Americas/DMK (Head & Tail Light MFR, Stevens Point, WI)

Imperial Tool and Plastics, Greendale, WI

Inventory Storage and Management

One of the most untapped locations for massive use of Box Latches™ is in the inventory management and storage market. Tony DeVoy, Plant Manager at the Swedish owned, TYRI Americas/DMK head, tail and LED light manufacturer in Stevens Point, WI began using our latches in April, 2018.



Like so many other businesses, TYRI stores several thousand boxes that need to be opened and closed as they remove them to fill orders, assemble kits or manufacture products. In TYRI's case they assemble head, tail and other lights for Jeep, John Deere and other vehicle manufacturers. They expect to manufacture 1 million lights in 2018. A persistent problem has been receiving massive numbers of parts, placing them on racks in the warehouse and sending staff out with knife cutters to open boxes and retrieve parts from various boxes.



Figure 1



Figure 2

Once opened, staff either had to fold the corners, tape the tops shut or leave them open. When left open, it drastically reduced storage space on their shelves and allowed dust to collect on the box contents. Now, whenever a box is opened to retrieve parts, staff place a neon green Box Latch™ Large on that box. No tape, no box destruction from folded flaps, no contamination, no knife cutters, no damage to contents and instant recognition of the box from which the parts should be picked. The company purchased 200 units every few months as they expanded their use to include all newly opened boxes in the warehouse.

Notice that simply stacking boxes on their sides eliminates partially open flaps that would allow for contamination by dust or debris. Depending on the size of the warehouse and operation, the use of colors can provide fast efficient ways to store and locate boxes without the need for bar coding labels. The staff at TYRI are considering this as they continue to use our latches in their QA and warehouse inventory management.

Avoiding Damage to Parts Received in Boxes When Moved From Warehouse to Assembly Cells



Figure 3



Figure 4



Figure 5

**Notice the Wire Parts That Occasionally Are Damaged by Box Cutters When Boxes Are Opened
No Knives = No Damage Now**

Opening Boxes To Do Quality Assurance Check on Parts Received From Vendors

Workers at TYRI have now been through some Lean Manufacturing study and training. Armed with that education, one of the workers recently asked if the latches came in different colors. The reason for the question was because whenever boxes were opened for testing or other purposes in the Quality Assurance (QA) department, it was a pain to have to find tape to close them. Moreover, when placed back on the racks, it wasn't easy to tell which boxes had been to QA and returned to the warehouse.

They wanted to use one or more colors to help identify what was determined during that QA testing. The same was true of finished products going through one last testing cycle before being shipped to a customer. The use of various colors will help them decide whether to a) yellow - set the box aside for further testing, b)

red - return the parts to the vendor because of unsatisfactory test results, c) green - return the box to the warehouse for storage or d) black or blue - any other course of action that could be simplified by merely observing the color of the latch.

Closing Flaps to Minimize “Tenting” of Them

Sliding vs. pushing latches on flaps leads to some modest but different results. Most often the difference between the flattening power of Box Latches™ inserted via Option A vs. Option B depends on box wall thickness, virgin vs. recycled materials and corrugate memory. Unless there is a reason to use the “label side” of the Box Latch™, most users prefer Option B. Not only does it provide greater flattening power, it is also faster and easier to insert the latches using this method. Figures 6 and 7 illustrate this below.

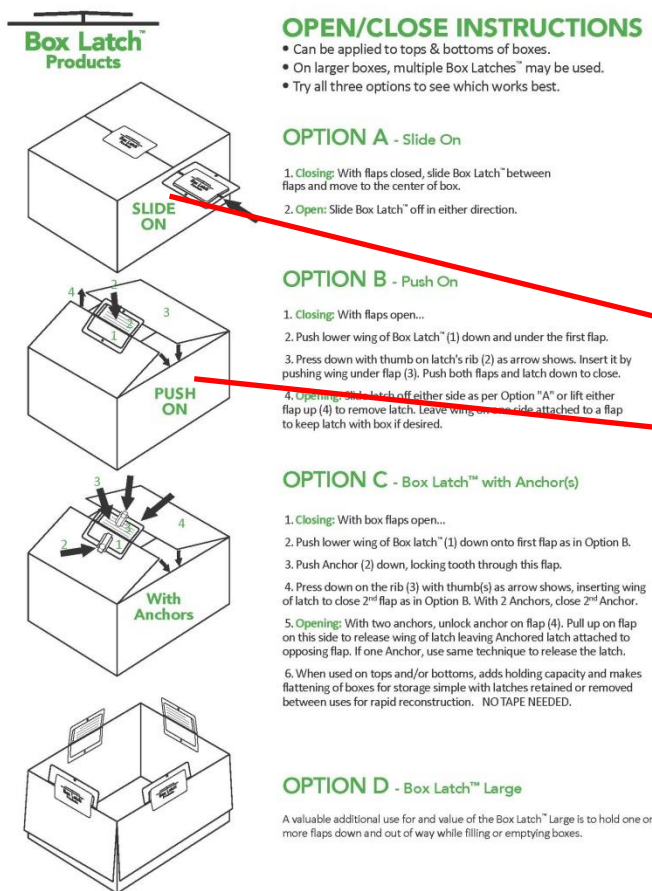


Figure 6



Figure 7

The photo in Fig 7 at Imperial Tool and Plastics is in the warehouse of our injection molder, Imperial Tool and Plastics, Greendale, Wisconsin. It illustrates that the flaps lie flatter using Option B. This makes it easier to stack and place them on shelves, in racks or on pallets with low height tolerances.

Box Latch™ Products Made by Eco Latch Systems, LLC www.boxlatch.com