



WHITE PAPER

Kitting Can Optimize Inventory Management and Performance

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Applied Industrial Technologies is one of North America's largest industrial distributors and a leader in supply chain management systems, resulting in more productive and efficient operations for many Fortune 500 companies and government agencies. This White Paper addresses the advantages of using Kitting for reduced inventory management costs, improved inventory performance, and increased productivity in manufacturing and maintenance-repair-overhaul operations.



Introduction

Government sector operations are driving change in the supply chain as they demand new levels of cost reduction while improving operational uptime and productivity. New, innovative solutions and advanced technologies are enabling supply chain management practices that use “Kitting” as a cost-effective means of inventory management. Kitting is the bundling of components, tools and supplies into a package to support production or maintenance activities.

Applied Industrial Technologies is an industrial distributor that embraces kitting operations to provide government operations with customized assortments of replacement parts to ensure that parts are always available when needed, with routine scheduled re-stocking programs to minimize total inventory quantities and associated costs.

Kitting provides the following benefits:

- Fewer purchase orders
- Less stocked items
- Lower inventory carrying costs
- Reduced space costs (maintenance, utilities, taxes, insurance)
- Custom kits for high-usage components
- Repair kits with complete rebuild
- Critical parts availability

Applied® has taken a lead role in advancing the technology and efficiency of kitting operations to the point it provides a very competitive and cost-efficient method of ensuring parts availability based on custom utilization. Kitting is one form of supply chain management that offers time savings, improved availability and cost improvements. Once material usage is forecast and uploaded into the system, Applied is responsible for managing inventory replenishment and delivering parts within 24 hours or other agreed upon timeframe.

Kitting Can Reduce Inventory Costs and Improve Parts Availability

Kitting programs come in many different forms and can be as simple as a well-organized bin management system with custom replenishment options, or it can be as complex as customized parts replacement kits for rebuilding specific motors, drives or fluid power systems. Applied has the experience to know which parts need to be replaced and can custom-design manufacturing kits, repair kits and tool kits that are unique for your operation. Preventative maintenance programs often include their own custom kits to ensure parts availability as needed. Kitting is an effective inventory management system to maintain the proper level of components used in manufacturing, as well as in maintenance repair operations.





When setting up a bin management kitting system, Applied can use its vast industry experience to recommend a selection of components and supplies that are the most commonly used repair items in similar operations. These custom kits optimize total inventory by reducing low-usage components and increasing high-volume components so that inventories closely match actual usage.

Applied Industrial Technologies has the expertise to know which parts need replaced or are most likely to wear, so they can build custom kits that are unique for your individual operation. Applied will help design custom repair kits, maintenance kits, and spare parts kits that ensure all the key parts will be in stock for almost any repair or scheduled maintenance.

Leveraging the experience and resources of a large industrial distributor means you can benefit from their core competencies without incurring high costs associated with creating your own in-house inventory management program. Replenishment programs can be set up to review and restock all critical components on a weekly or monthly basis, as needed. Applied will use its large buying power from serving thousands of accounts to help reduce the purchase price for its individual customers.

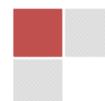
Kitting Can Increase Productivity

Ordering, handling, packaging and storing service parts can be very time consuming and expensive. Applied's comprehensive kitting services reduce your handling costs at the point of use, minimize storage space and inventory carrying costs, while providing a cost-effective solution that ensures all needed parts are available in stock or are provided within 24 hours of when they are needed.

Easier Procurement – With kitting, one purchase order takes the place of several purchase orders and there are far less SKUs to manage. Ordering kits with a single part number instead of many individual items makes your purchasing and accounts payable departments more efficient.

Greater Control of Inventory – Kits reduce the amount of stock numbers to manage and improve the productivity of your stockroom personnel - all with fewer parts to pull for any given repair or manufacturing order.

Improved Organization & Space Reduction – Kits make it much easier and more efficient to organize components. Instead of pulling individual parts from multiple racks, shelves or locations, all necessary components can be organized in a single location, often with a printed guide showing what is in each bin. Some kits even have an outline of the part or foam to hold the parts in place. These are just some of the features Applied offers.





Saving Time – Items in a kit are typically labeled and organized in sequence based on the size of component or in the sequence needed to perform the work. Shipping and receiving time is reduced because parts come in one kit versus multiple items that would otherwise have to be stocked individually. Bin replenishment is faster too, and proper labeling and organization makes it easy to evaluate component usage volumes.

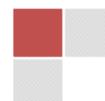
Fewer Mistakes – When components are delivered as a kit, it lessens the risk of pulling incorrect components (largely because there are less items to pull), thereby increasing productivity. Similar benefits are realized when receiving orders because there are fewer items to handle.

Less Labor – Pre-sorted kits save time and labor by ensuring all necessary components are available at the point of assembly or repair. If parts are not in a kit form there are many more steps involved to search through inventory, pull parts and log usage. Plus, individually-managed parts can be difficult to locate, which triggers extra man-hours and delays in production.

Greater Efficiencies – Having all necessary parts readily available when needed makes your operation more efficient; it allows the customer to focus on what it does best (manufacturing, maintenance or repair) and allows the industrial distributor to do what they do best (supply chain management).



Bin Kitting Management





Proactive Inventory Management

Imagine the frustration of rebuilding a hydraulic system to learn that someone overlooked a simple O-ring that should have been replaced as part of the total repair. This \$1.00 part could cost thousands of dollars in downtime. A comprehensive kitting program can pre-determine the necessary parts for every rebuild or preventative maintenance operation and coordinate inventory with scheduled maintenance, while stocking critical parts for unforeseen failures. A forecast-driven kitting operation can provide highly-optimized inventory with the flexibility to meet dynamic needs.

With an effective kitting program, Applied can help your operation reduce overall inventory costs and significantly improve parts availability. Kitting solutions are customized based on a combination of production forecasts, experience records, and actual usage data.

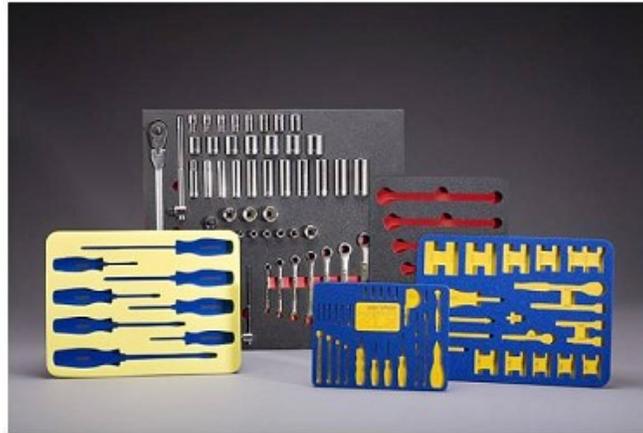
Having the exact number of parts required to complete a manufacturing or repair operation makes it obvious if a component is left over after the process is finished and therefore could prevent a problem. Kitting also makes it easier to train associates using combinations of parts (i.e., kits) that are organized for properly-sequenced assembly, thus reducing the time required to pull parts and sort through them during assembly.

Applied can manage its customers' inventory with a fully integrated bar code scanning system that includes all part number usage history, pricing and order information for each individual customer location. This helps to minimize storage space and holds much of the kitting components at the distribution center until needed at the manufacturing operation.

In manufacturing operations, kits can be customized to support assembly line manufacturing. Workers are more efficient in their jobs when the parts are readily available at the time and location they are needed. Working in a well-organized environment improves worker productivity and morale, which directly relates to improved profitability.

Applied Industrial Technologies will work with customers on an individual basis to determine if kitting will increase productivity and lower costs. Applied has the experience and resources to develop custom kits to meet very specific needs.





Tool Kit with Foam Inserts

Conclusion

A successful kitting operation requires broad fulfillment capabilities and world-class inventory management systems. Fewer part numbers to manage and less time needed for pulling parts makes kitting a viable option for many manufacturing and maintenance repair operations.

Applied Industrial Technologies has been providing value-added services in the supply chain for 88 years and continuously reviews their customer needs to help make them more profitable. Applied is committed to continuous improvement throughout the enterprise and will deliver industry best practices, such as kitting, to streamline operations and reduce costs with measurable results.

Case Study – National Guard:

Applied assisted the National Guard in developing a kit for the clean-up of Hurricane Katrina. When the Guard arrived with fuel, they needed a way to get the fuel from the large tankers to vehicles so the roads could be cleared and traffic could flow. A kit was developed that included an adapter that went from four inches in diameter down to a standard gasoline pump hose and nozzle. This kit also included gloves, glasses, spill cleanup materials, and safety items in case there was a small spill during the operation.





Case Study – Field Installation Kits:

Applied is providing kitting solutions for a manufacturer of large generators that get assembled in the field at remote locations around the world. When these units ship to a site for final assembly, there are hardware, gasketing and electrical parts kits included. Applied provides real-time delivery of these kits and has reduced labor costs for the company, as well as virtually eliminated error rates that can cause late shipments and expedite costs.

Applied was selected for this kitting operation because of its quality processes to verify the right product and the right quantity, with reliable on-time delivery. Applied's kitting and verification system has replaced traditional parts-picking procedures and reduced the company's contact with these parts.

Consistent with Applied's culture of continuous improvement, they interviewed key personnel at the manufacturer to get their input for how these kits should be assembled to save time at the point of use. Applied then developed a customer-centric process that put parts in a specific order, some with labels and unique identifiers, which makes the installation and assembly process much more efficient.

Applied's kitting operation is in close proximity to the company's manufacturing operation, so any updates or change orders are dealt with in minutes, rather than days or weeks. A database-driven system of cross-checks verifies an updated BOM with every purchase order to ensure the products in the kit are the latest revision and specification.

Applied researches, evaluates and sources the material content for each kit; many of the parts are non-stock items. Applied counts the pieces, bags them, then boxes and labels the complete kit for final delivery where it is direct shipped to the customer. Kits are rarely stored for more than one week, significantly reducing warehousing and handling costs.

Applied meets regularly with its customer to discuss forecasts and then makes deliveries of these kits to meet production schedules. There is no room for error in this process because most generators are shipped to remote locations. A delay in installation because of missing components could cost many thousands of dollars.

Applied worked with its customer's Purchasing and Quality managers to document a comprehensive quality manual for this process, consistent with best practices for Perfect Order Fulfillment (POF). Applied is completely accountable for the quality, quantity and on-time delivery of every kit. The company's nearly flawless performance has earned trust and respect for ongoing business opportunities.

