



7 Principles of Lean Supplies

Simple changes make a big impact

White paper by Kimberly-Clark Professional*

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Introduction

Lean supplies: a hidden opportunity

Lean has transformed manufacturing and continues to make a major impact on safety, quality, productivity, and cost.

And while many leading manufacturers have been practicing lean for years, there are still gains to be made – especially in overlooked areas like industrial supplies and personal protective equipment (PPE).

To us, that's a missed opportunity.

As a manufacturer who practices lean ourselves, we know that lean professionals tend to focus on the big problems—things like process flow, equipment upgrades, and organizational design. These problems often cost lots of money, resources, and time to solve. Easy changes you can make in the way you manage industrial supplies are often overlooked. But since these products touch everyone in your facility every day, solving basic supply

problems can make a surprisingly big impact. This approach can improve safety, quality, and productivity while reducing operational expenses.

This discussion summarizes our approach to continuous improvement, helping you uncover hidden opportunities that can make a big difference in your operation.

This approach is based on our experience helping hundreds of manufacturers improve their facilities in measurable ways. We call our approach The Efficient Workplace, an innovative program that combines proven lean manufacturing principles with industry best practices and customized product solutions. This program is helping manufacturers around the world look at their supplies and PPE in a new way.

We hope you find it useful.

What is Lean?

Lean is a production practice that considers the expenditure of resources for any goal other than the creation of value for the end customer to be wasteful, and thus a target for elimination.

Practicing what we preach.

Kimberly-Clark Professional* is a major global manufacturer ourselves. As part of our own continuous improvement journey, we eliminated 1.4 million hours of waste and delivered \$2.2 billion in value across our own facilities.

The Seven + 1 Wastes

Lean identifies 7+1 wastes that compromise safety, productivity, quality, and cost in the workplace. Industrial supplies and PPE play a role in all of them:

1

Conveyance

Unnecessary movement of material, product, or information. Moving of supplies from one location to another.

5

Over-processing

Unnecessary or overperforming processes, tasks, or operations. Use of lower quality, inefficient supplies to perform a job.

2

Inventory

Tying up capital without producing income. Storing excessive amounts of industrial supplies.

6

Over-production

Producing more product than is required. Production of defective product due to damage from low quality supplies.

3

Motion

Non-value added movement of machines or people. Walking away from the work area to get supplies.

7

Correction

Rework, defects, scrap, or inspection. Defects in production due to contamination from low quality supplies.

4

Waiting

Downtime when no value-added work is being done. Stopping activity while workers are searching for supplies.

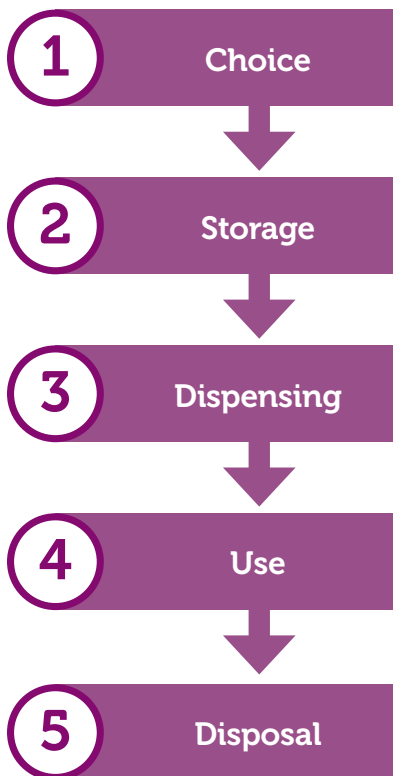
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Knowledge or Untapped Skill

Failing to take advantage of everyone's skills and talents. Inadequate knowledge about which supplies to use for a given task.

Principle 1

Go and see the industrial supplies life cycle.



You can't discover waste from behind a desk.

A core principle of lean manufacturing is "go and see" – getting out onto the factory floor and experiencing how your people do their jobs every day.

But you've probably walked your facility a thousand times. The challenge is to take the same walk with a fresh pair of eyes.

In this case, you'll be walking the floor looking specifically for the way your people are managing industrial supplies and PPE.

Take a look at the entire life cycle of the products you use.

Choice

Are you using lower quality products that are causing you to use excessive amounts?

Are the supplies you are using causing defects in your products?

Are you using older technologies that can be replaced to improve efficiency or quality?

Storage

Are you storing excessive amounts of supplies?

Are your supply areas poorly organized without clear visual indicators of where supplies should be stored?

Do your workers have to wait in line for supplies to be given to them at a tool crib?

Dispensing

Are supplies dispensed in a central location that workers must leave their jobs to travel to?

Are dispensing locations often empty causing work to stop or inadequate products to be substituted?

Are line workers leaving their jobs to refill dispensers?

Use

Are workers unsure which products should be used for their jobs?

Are workers following standard techniques for product use?

Are work areas well organized with supplies ergonomically located according to use?

Disposal

Are you adequately separating hazardous and non-hazardous waste?

Are you generating excessive amounts of waste due to overuse of low quality products?

Are you disposing of products before the end of their useful life?

Principal 2

Small improvements can have a big impact.

In applying lean principles to industrial supplies management, aggregating small improvements can add up to big wins.

If you look at your industrial supplies management with lean eyes you're likely to find hundreds of these opportunities. Simple changes can affect things like the amount of supplies you use, the time it takes for people to perform a task, and even the quality of the product that you manufacture.

They can also improve the safety of your workplace by preventing accidents and exposures to unnecessary hazards.

In short, small things can make a big difference.

A rag is a flag.

Rags made from recycled clothing are still widely used in manufacturing. But a rag is almost always a sign of a process that could be improved.

One Example:

Switching from recycled rags to manufactured wipes can reduce the cost of storage and disposal and improve worker productivity.

Heavy duty manufactured wipes...

- Require one fifth the storage space
- Create over 70% less waste, by weight
- Absorb twice as much water per pound

(Based on switching from mixed recycled rags to WypAll X80 Wipers, Jumbo Roll format)*

Principle 3

Dispensing and disposal are as important as the supplies themselves.

Production professionals are often extremely careful about the supplies they specify for use but ignore the way those supplies are dispensed and disposed of at the end of their useful life.

Line workers who are adding value to your products often have to stop what they are doing to deal with the dispensing and disposal of supplies. This problem is typically caused by the location and condition of dispensers and trash receptacles.

Product dispensers and trash receptacles should be located as close to the work as possible to minimize motion and waiting waste. And both should be easily accessible so the worker does not have to reach excessively or wade through clutter to get to them.

It's also important to consider who fills the dispensers and who removes the trash. If it's the worker who is adding value to your product then this is causing unnecessary waiting waste. One best practice is to delegate these tasks to materials managers instead of line workers.

Case in point

One easy way to improve productivity is to implement portable dispensing systems for supplies instead of requiring workers to access them from a central location.

Principle 4

Think about standards.

Industrial supplies can be an afterthought

Because industrial supplies can be an afterthought for manufacturing, not much thinking goes into how they are managed.

Manufacturers may provide the supplies their workers need. But how they are stored, dispensed, used, and discarded is often left for individual workers to figure out on their own.

This approach can lead to significant waste and even safety hazards, especially if you have a flexible workforce where people are often stepping into unfamiliar tasks. One way of addressing this is to create standard work, accompanied by visual tools, to guide people in the management of supplies.

Here are some examples of some standards that you might create to help eliminate waste associated with industrial supplies management.

- Replenishment of supplies at the point of use
- Proper techniques for using supplies
- Specifying specific supplies and PPE for specific tasks
- Maintaining order in supply storage locations
- Separation of hazardous, non-hazardous, and recyclable waste
- Supply locations during planned shutdowns

Case in point

Thirty percent of workers experiencing hand injuries were wearing the wrong glove – and the cost per injured worker can average \$16,000, which includes medical costs.

Principle 5

A lean workplace is a safe workplace.

Everyone knows that continuous improvement of workplace safety is critically important in preventing accidents, injuries and illnesses.

Of course the human cost is most important. But workplace safety problems are also an efficiency issue, often leading to equipment downtime, lost time for workers, and even lost expertise.

Safe workplaces are uncluttered, well-maintained, clean, standardized and predictable. Applying lean principles to the way you manage industrial supplies can go a long way toward achieving that vision.

We've already talked about how nonstandard industrial supplies management can lead to waste. But it can also lead to safety hazards.

Take a look at your supplies management through a safety lens.

- Are supplies stored and dispensed considering proper ergonomics?
- Is access to supply locations impeded by trip hazards?
- Are supply locations cluttered and poorly maintained?
- Are hazardous materials properly labelled, used, stored, dispensed, and discarded?
- Is PPE easily accessible and are there clear visual standards in place for PPE usage?

Case in point

One aerospace OEM was able to reduce worker exposure to acetone vapor by over 45% in the painting area by switching from open buckets and rags to a closed saturated wipe system.

Principle 6

Learn from "quick and dirty" solutions.

Workarounds could be masking problems

We've all seen examples of great ingenuity from line workers in manufacturing. Building ad hoc solutions with duct tape and cardboard is a standard practice in many facilities.

People tend to find ways to make their jobs easier using the supplies they've been given. That's okay but workarounds could be masking problems that merit a more sophisticated approach.

Take a walk through the facility and look for ad hoc solutions. Then dig a little deeper. Determine why the workarounds exist and if there is a better alternative to consider.

Here are some examples of workarounds commonly seen in manufacturing facilities:

- Mounting wipes or rags on poles to access unreachable areas.
- Using costly consumer-packaged cleaning chemicals instead of bulk-packaged options for industrial use.
- Piecing together rags or wipes to cover large surfaces.
- Creating ad hoc dispensers to store supplies at the point of use.
- Using homemade PPE to protect against hazards
- Hoarding supplies in personal lockers to ensure they are available when needed

Principle 7

Listen to the experts: your workers.

Your people drive your success.

Their knowledge and skills, effort and energy make the difference between an average manufacturing facility and an exceptional one.

The continuous improvement approach is really all about empowering them to make their jobs easier and safer.

Nobody knows their work better than they do. Enlist their help in your industrial supplies management initiatives. Ask questions. Learn from them. Get them on board and involved.

- Ask workers to identify problems to solve
- Include them in problem solving sessions
- Get their feedback on proposed changes
- Ask them to help explain proposed changes to their colleagues
- Review the impact of changes with them regularly and keep improving

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Remember...

Using a team's skills and knowledge ineffectively is just as wasteful as using the wrong tools or supplies.

Conclusion

Take a lean look at your supplies.

If this discussion accomplished one thing, we hope it convinced you that taking a lean approach to industrial supplies management can make a significant contribution to your operations.

Continuous improvement teams typically focus on the big problems that cost lots of money, resources, and time to solve. But the quick wins are right there, waiting for you to find them with simple, easy changes in the way you manage industrial supplies. And remember—since these products touch everyone in your facility every day, solving basic supply problems can make a surprisingly big impact.

About Kimberly-Clark Professional*

Kimberly-Clark Professional* provides essential solutions for a healthier, safer, and more productive workplace.

Want help uncovering hidden opportunities? Get started with The Efficient Workplace program.

The Efficient Workplace from Kimberly-Clark Professional* is an innovative program that combines proven lean manufacturing principles with industry best practices and customized product solutions. It's designed to help you uncover the hidden opportunities that can make a big difference in safety and efficiency. It helps you see industrial supplies through a different lens. So you can turn your attention to places you may never think to look.

For additional information on The Efficient Workplace, visit www.kcprofessional.com/efficientworkplace.