



Create a Visual Workplace

5S Plus Guide

BEST PRACTICES FOR A LEANER AND SAFER WORKPLACE.

• TABLE OF CONTENTS •

3

CHAPTER 1

What is Visual Workplace & Why Do You Need It?

Get up-to-speed on how you can reduce waste, improve productivity & increase employee knowledge.

12

CHAPTER 2

Meet 5S Plus Safety

It's the foundation you need to create and sustain a clean, orderly and safe workplace.

16

CHAPTER 3

“5S Plus” in Action!

See examples of just what you can do with the power of 5S Plus.

29

CHAPTER 4

Faceoff: DIY vs. Pre-Made Signs & Labels

Now that you know workplace visuals are important - how do you implement them?



• CHAPTER 1 •

What is a Visual Workplace & Why Do You Need It?

Let's begin with the basics of just what it means to have a visual workplace and why it's important.



It All Starts with Visual Workplace

Visual workplace is a lean concept that's all about putting important information right where employees need to see it. This concept plays a critical role in some of the most popular lean tools, including 5S. That's because it creates a sustaining base for lean improvements to remain clearly visible, readily understood and consistently adhered to.

To sum it up, using labels for safety information, procedures, facility identification and a variety of other applications is a great way to help reduce waste, enhance knowledge and improve productivity for the long haul.

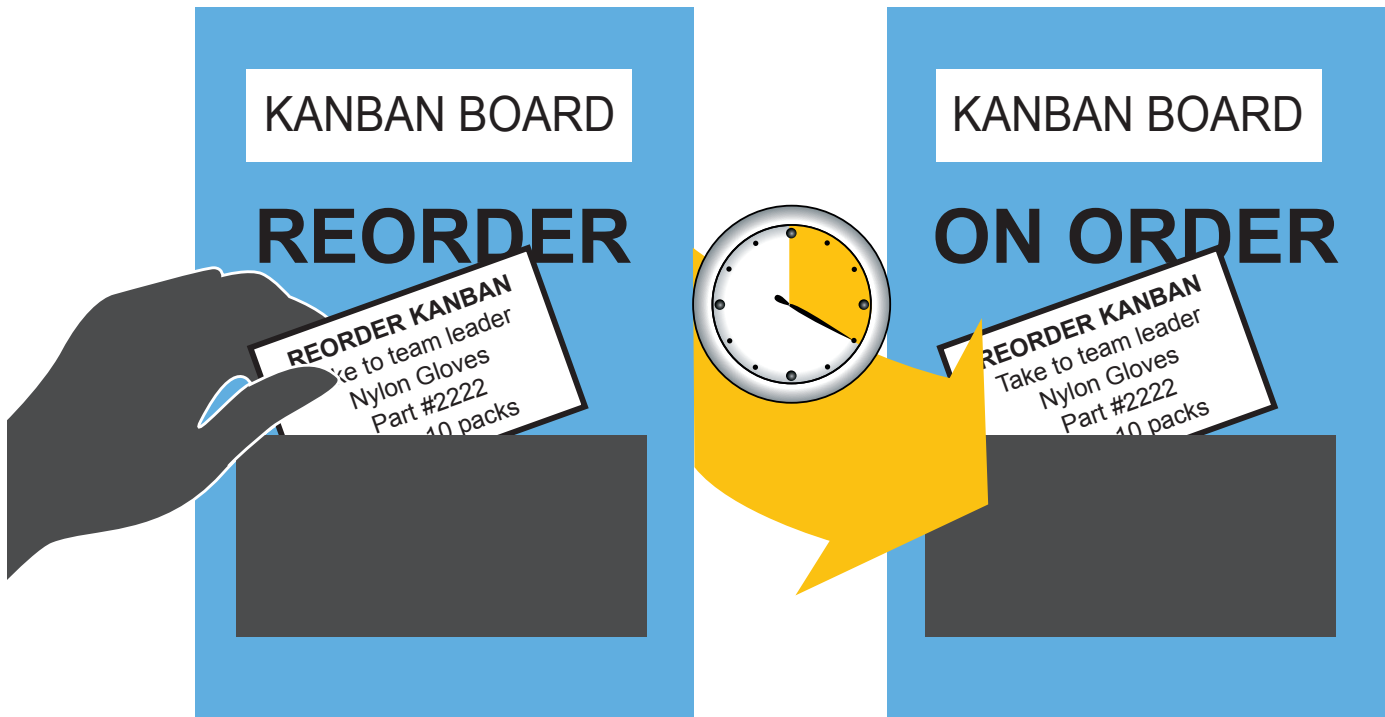


Did you know?

Waste accounts for

95% of all costs

in non-lean manufacturing environments.¹



What if a label...

Reduced waste by giving employees the information they need to complete a task efficiently?

Let's explain how visual workplace helps you

Reduce Waste

You might be surprised to learn that only a fraction of your activities actually add value for your customers. In fact, Taiichi Ohno, co-developer of the Toyota Production System, suggests that wastes account for up to **95% of all costs** in non-lean manufacturing environments.

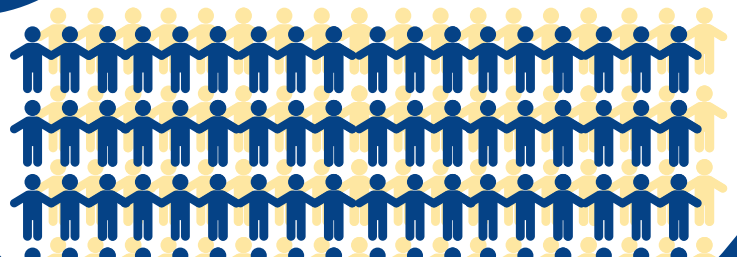
This waste is typically caused by information gaps – employees simply not knowing the best way to get the job done. Instead, time is wasted searching, waiting, retrieving and doing rework.

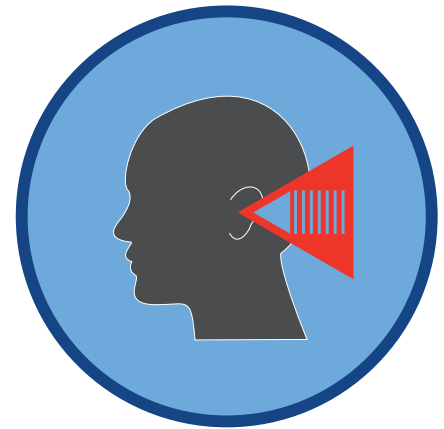
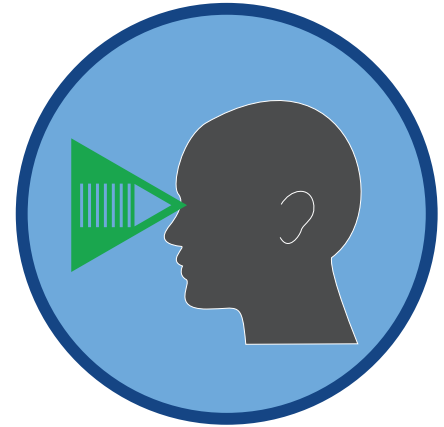
With a visual workplace, employees have the information they need to effectively do their jobs. And when employees know how to tackle their jobs well, your facility benefits from significant improvements. For example, when your storeroom shelves are well labeled, employees don't have to waste time searching for something or accidentally grabbing the wrong thing. **You improve efficiency by helping them find what they need at a glance.**



Did you know?
78 million

baby boomers are expected to retire over the next 10-15 years?² Visuals help less experienced employees learn the job quickly and effectively.





Did you know?

75% of knowledge is gained through visuals

13% through hearing and 12% through smell, touch and taste.³

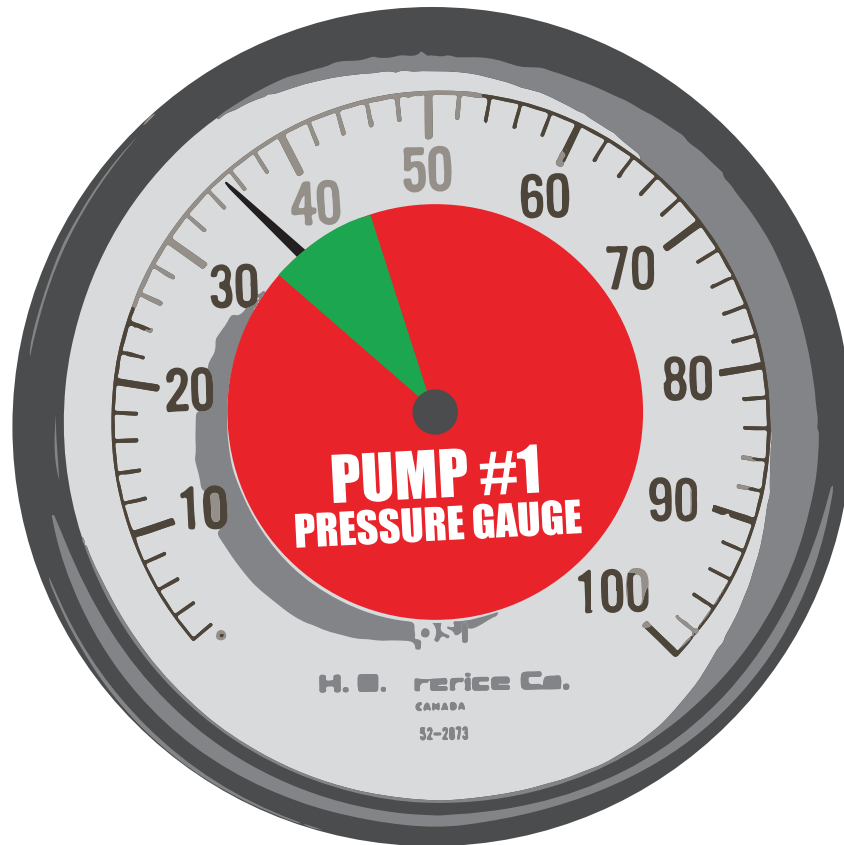
Enhance Knowledge

We have another statistic for you. **Did you know that people gain 75% of their knowledge from visuals?** That's why employees need effective workplace signs and labels that enhance training and make doing their jobs easier. A good visual tells an employee exactly what procedural and safety information they need to know, and when and where they need to know it.

Knowledge-based visuals can include:

- **Procedure labels** – Get procedures out of binders and onto the shop floor where employees can see them and use them daily.
- **Bilingual signs** – With a growing workforce speaking different languages, it's important to have the right languages on your signs and labels to keep everyone in the know.
- **Pipe markers** – Quickly and easily give employees and contractors the knowledge of what's in a pipe and which direction it flows.
- **Safety signs** – Tell employees what is dangerous, why it is dangerous and the correct precautions to take to stay safe.
- **Electrical disconnect labels** – Right on your equipment, tell employees where to find the disconnect switch in order to avoid accidents and save lives.

With workplace visuals like these, employees have the knowledge they need to eliminate non-value-added waste, improve safety and compliance, and enhance workplace organization.



What if a label...

Saved time and ensured equipment performance by indicating proper working conditions at a glance?

Improve Productivity

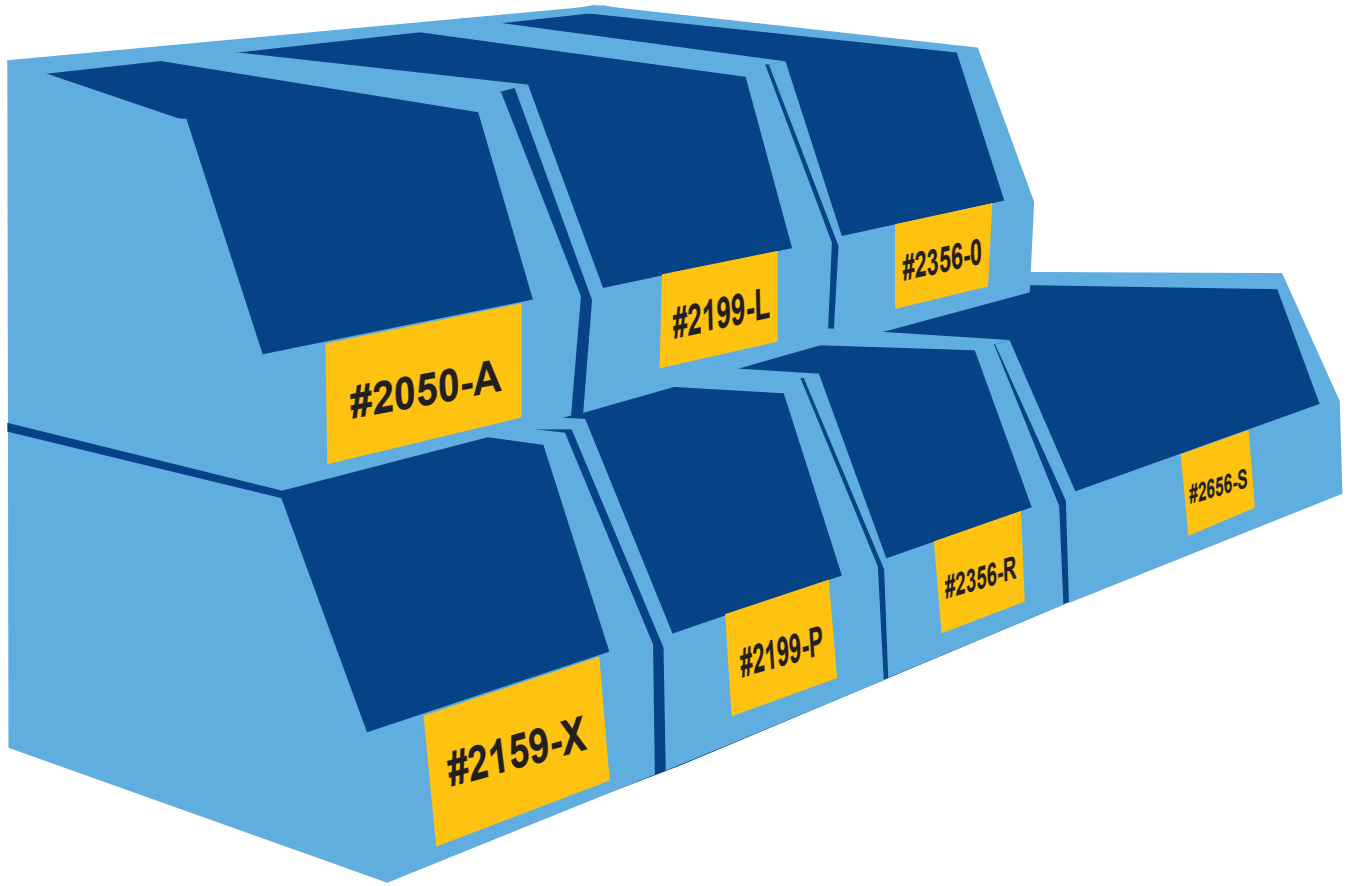
We all know productivity is a big concern for any company. And you're in luck, because creating an effective 5S visual workplace goes a long way in improving productivity. But don't just take our word for it. Dr. Brian Harston, lean leader with a Master of Science degree in manufacturing management with an emphasis in lean implementation and a Doctorate of Business Administration in Project Management, shares his own experiences:

Tool Labeling Saves \$1 Million/Day

A manufacturing company was experiencing an exorbitant amount of tools being checked out of the tool crib every day. Through a 5S rapid improvement event, it was identified that the core problem was tool mis-identification, leading to workers wasting an average of **45 minutes per shift searching for tools**.

The corporation decided to label each tool according to work-cell and operator and create a new mobile work cart with shadowboards to store tools. With this system in place, workers no longer needed to check out or purchase additional tools and the corporation increased production capacity of its large mining trucks that average \$8 million price per unit. This led to an additional **\$1 million per day* in revenue** and saved an average of **\$60,000 monthly in tool costs**.

* Large scale of savings was so due to the fact that the high-end, defense technology industry has annual revenue exceeding \$65 billion.



Did you know?

Lean manufacturing can lead up-to a


**40% increase
in productivity.⁴**



• CHAPTER 2 •

Meet 5S Plus Safety

If you haven't implemented 5S, we'll walk you through it. But let's first start with what "5S Plus" is all about.



Meet 5S Plus Safety

While 5S is one of the most widely adopted techniques from the lean manufacturing toolbox, “5S Plus” goes a step further to emphasize a critical aspect of any workplace: Safety. That way you benefit from a workplace that is both efficient and safe.

Now, let’s explain more about the famous 5S’s. These are essential elements in establishing the operational stability you need to both make and sustain continuous improvement. The point is to create a clean, orderly and safe environment – where there is a place for everything and everything is in its place. And once you have that, 5S helps you reduce unnecessary waste and establish the framework and discipline needed to maintain and continually improve your workplace.

5S PLUS

Let's Get to Know "5S Plus Safety"

- | | |
|---------------------|---|
| Sort | Eliminate non-essential items by going through all of the tools and materials in your facility and discarding unused items. |
| Shine | Get the workplace clean, maintain its appearance and use preventative measures to keep it clean. |
| Set in Order | Focus on organizing equipment, establishing safety measures, and creating procedures, product quality standards, and effective inventory and material handling. |
| Standardize | Create best practices to make the improved workplace a standard. |
| Sustain | Maintain momentum, ensure employees know the importance of workplace organization and strive to continuous improvement. |
| Plus Safety | Make the workplace safer by looking for any potential hazards and resolving them. |

Key benefits to having a “5S Plus” workplace






• CHAPTER 3 •

“5S Plus” in Action

To create and maintain an orderly, efficient and safe “5S Plus” workplace, you need a variety of durable labels, signs and tags. When it comes to these visuals, the key is to ensure the message is understood at a glance. That means avoiding putting too much information into one visual.





RED TAG

Tag #1003

Item Description:

RED TAG

Tag #1002

Item Description:

Location Found:

Found by:

Date Taged:

Disposition:

Date Dispositioned:

Dispositioned by:

Eye Care Company



What if a label...

Helped you sort through all of your equipment and supplies to determine what you need and what you don't – right at a glance?

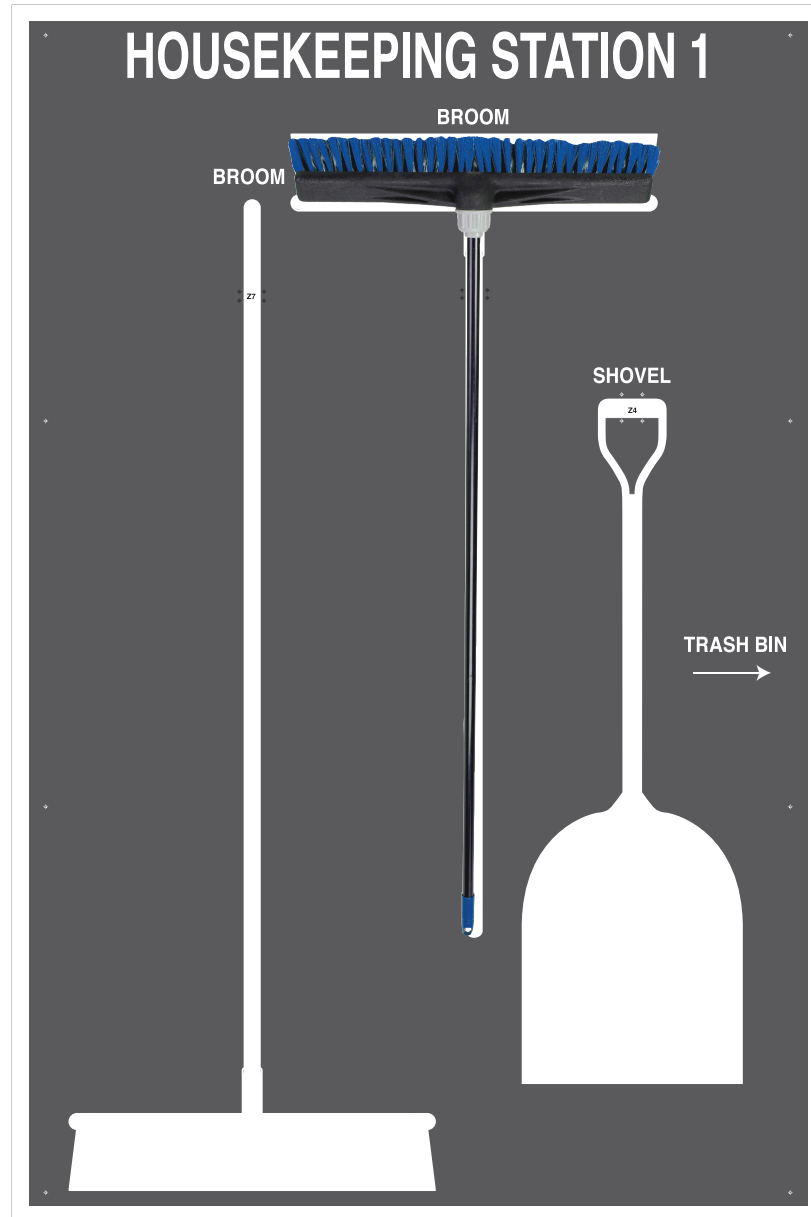
Sort

The very first step of 5S is deciding what to keep and what to get rid of. This is done by sorting through all of the tools and materials onsite and only keeping essential items. Everything else is discarded to keep your workplace free of clutter and hazards. You'll be amazed by how many materials sit around your facility going unused on a daily basis and taking up space.

You could use:

- **Tags** – To red-tag unused items and store them in a designated area for employees to sift through and grab anything that is still needed. Any items left at the end of five days are discarded.
- **Floor marking tape** – To signify the “red tag” section, where employees can find equipment that will be discarded if not claimed.
- **Red tag record forms** – To track supplies that are kept and discarded.
- **Camera** – To take before and after photos of the area.





What if a label...

Increased productivity by reducing time spent looking for the broom?

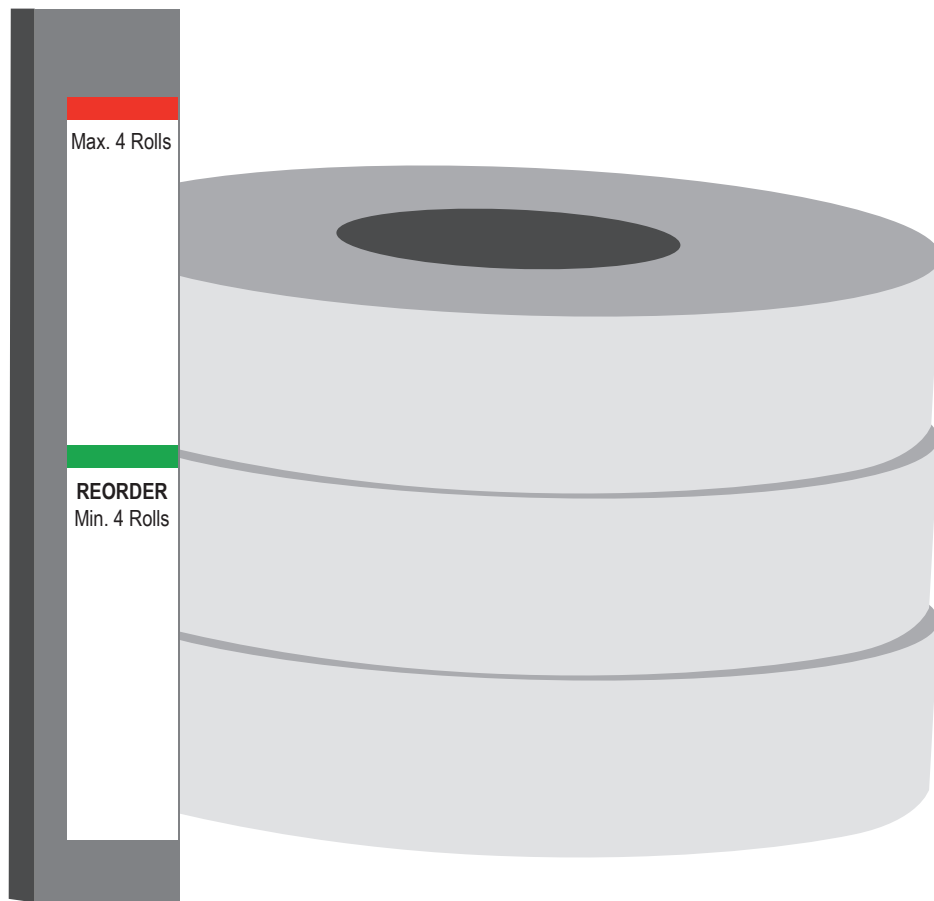
Shine

And by shine... we mean clean! By eliminating dirt, dust, sources of contamination and other debris, as well as inspecting equipment, you can improve the safety and productivity of your facility. Not to mention that your workplace will look like new, making your employees proud to come to work each day.

You could use:

- **Cleaning supplies (of course!)** – Including brooms, dust pans, rags, degreasers and floor cleaners.
- **Shadowboard** – To store cleaning equipment.
- **Personal Protective Equipment (PPE)** – Including gloves and safety glasses to keep employees safe from hazardous cleaning supplies and debris.
- **Lockout equipment** – To protect workers from the release of hazardous energy when performing equipment cleaning or maintenance.





What if a label...

Reduced waste by showing employees the stock levels of materials at a glance?

Set in Order

You've sorted. You've cleaned. Now it's time to look for ways to reduce the sources of waste and errors in your facility and make it more visually instructive. Easy? Not exactly. Worth it? Definitely!

You need to focus on:

Organizing Equipment

- **Sign and label printers, label materials and label-creation software** – To quickly and easily print your own facility and equipment identification.
- **Shadow boards** – To store tools and equipment at the point of need.

Establishing Safety Measures

- **Safety signs** – To inform employees of any workplace hazards.
- **Pipe markers** – To instantly tell you everything you need to know about pipe contents, directions of flow and level of safety.

Creating Procedures

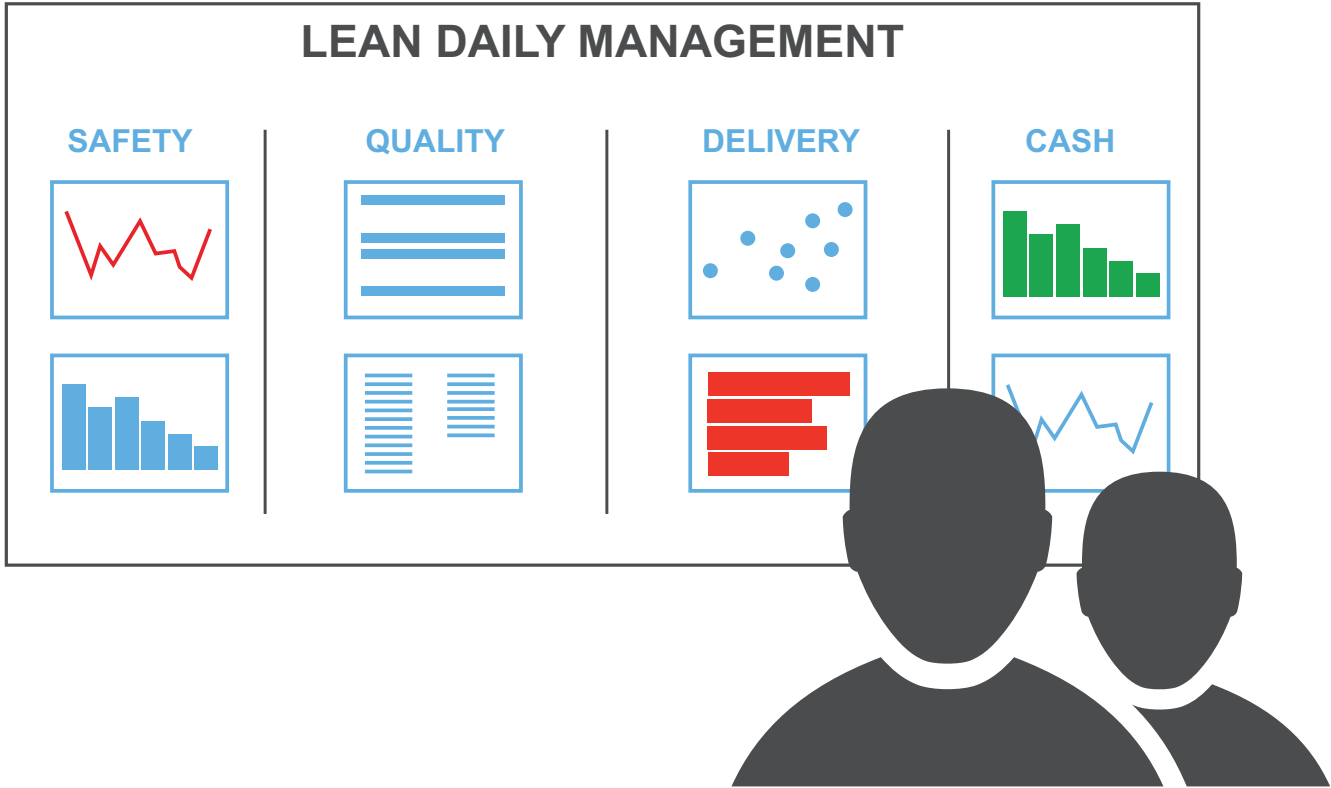
- **Procedure labels** – To get procedures out of binders and onto the shop floor so employees can see them and use them daily.
- **Training signs** – To put the necessary safety information right at the point of need, leading to less training and improved safety.

Establishing Product Quality Standards

- **Floor marking tapes** – To mark traffic lanes, storage locations, products that need to be inspected for quality assurance and more.
- **Gauge labels** – To easily detect pressure or temperature abnormalities at a glance.

Creating Effective Inventory and Material Handling

- **Magnetic or repositionable material labels** – To label and organize workbenches, shelves, racks, bins, cabinets and totes.
- **Minimum and maximum level indicators** – To highlight overstock situations and points where stock should be re-ordered.



What if a label...

Helped employees take pride in their work?

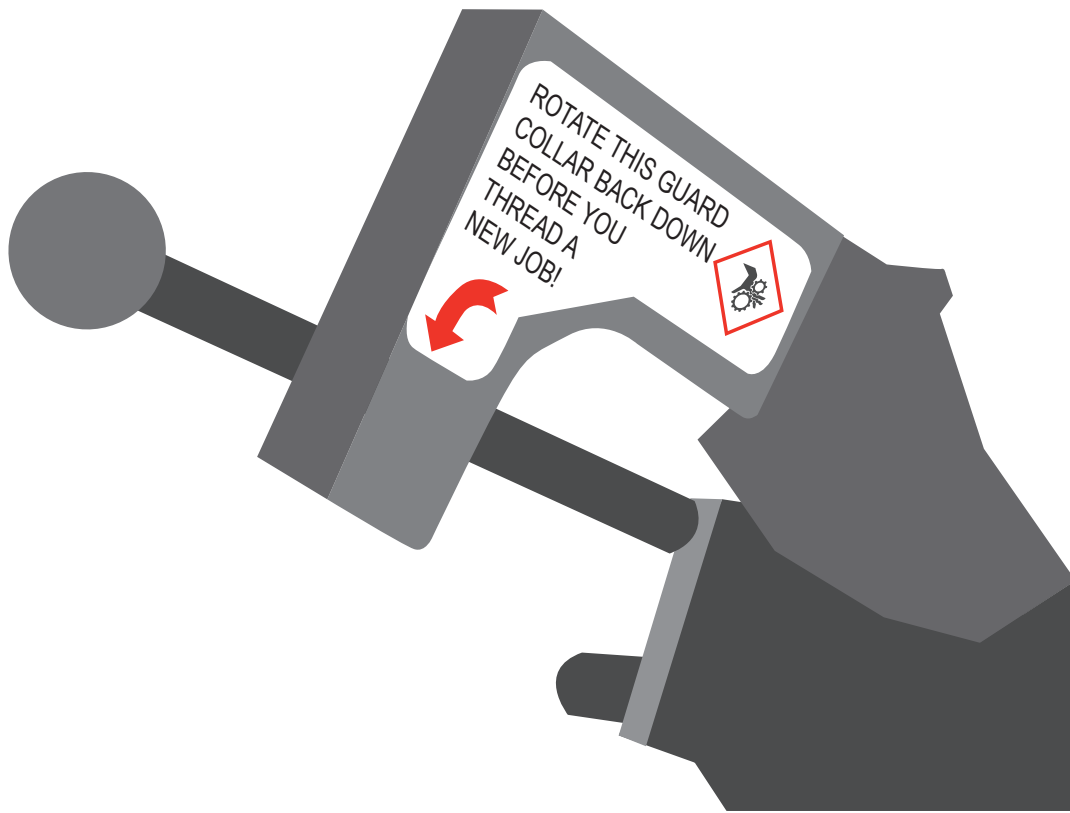
Standardize

You have a good start on making your workplace leaner. Now it's time to expand your efforts and create best practices to keep this a company standard. This is done with clear and consistent roles and responsibilities, and visual controls.

You could use:

- **Job scheduling board** – To visually sequence job orders and indicate work delays or missed deadlines.
- **Schedules and check sheets** – To show which employees should be performing certain tasks and when those tasks should be completed.
- **Supplies checkout board** – To control supply usage and ensure quick location.
- **Lean Daily Management (LDM) boards** – To track metrics and drive improvement.
- **Safe state visuals** – To indicate if valves or air pumps are typically opened or closed to help prevent accidents.





What if a label...

Reminded employees about that one critical step that always gets overlooked?

Sustain

Don't stop now! You've done the work – now you need to keep it up. Maintain momentum, ensure employees understand that workplace organization is a top priority and strive to continually improve the workplace.

You could use:

- **On-site printer, label materials and label creation software** – To create signs, labels and tags as needs arise.
- **Dance charts** – To help employees remember task sequences based on a standard flow diagram.
- **Preventative maintenance targets** – To keep preventative maintenance readings consistent by labeling vibration and ultrasound probe points.
- **Replacement part visuals** – To clearly identify correct replacement parts.
- **One-point lessons and labels** – To help employees remember a particularly forgettable or essential part of a procedure.

Did you know?

In 2014 alone, there were
5,161 OSHA
HazCom
violations⁵

Not only does effective safety signage help you maintain compliance with this standard, but it helps reduce workplace accidents across the board.



What if a label...

Prevented your employee from losing a finger?

Plus Safety

You've got efficiency - but don't forget about safety! Make your workplace safer by looking for any potential hazards and resolving them. With custom, on-demand signage you can easily prevent costly accidents before they occur. Most importantly, when you have the right signage in the right places, you can send employees home safely every day.

You could use:

- **GHS labels** - To identify primary and secondary chemical containers.
- **ANSI safety signs** - To clearly and effectively communicate potential hazards throughout the workplace and how to respond to them.
- **LOTO labels and tags** - To keep employees safe from unexpected equipment startups during cleaning and maintenance.
- **Arc flash labels** - To promote electrical safety and prevent electrical arc flash accidents.
- **Fire visuals** - To indicate the location of fire extinguishers and fire hose cabinets so they are readily accessible in case of an emergency.
- **First aid identification** - To identify where first aid supplies can be found.
- **Machine and equipment identification** - To alert employees of machine hazards and protect them from personal injury or equipment failure.




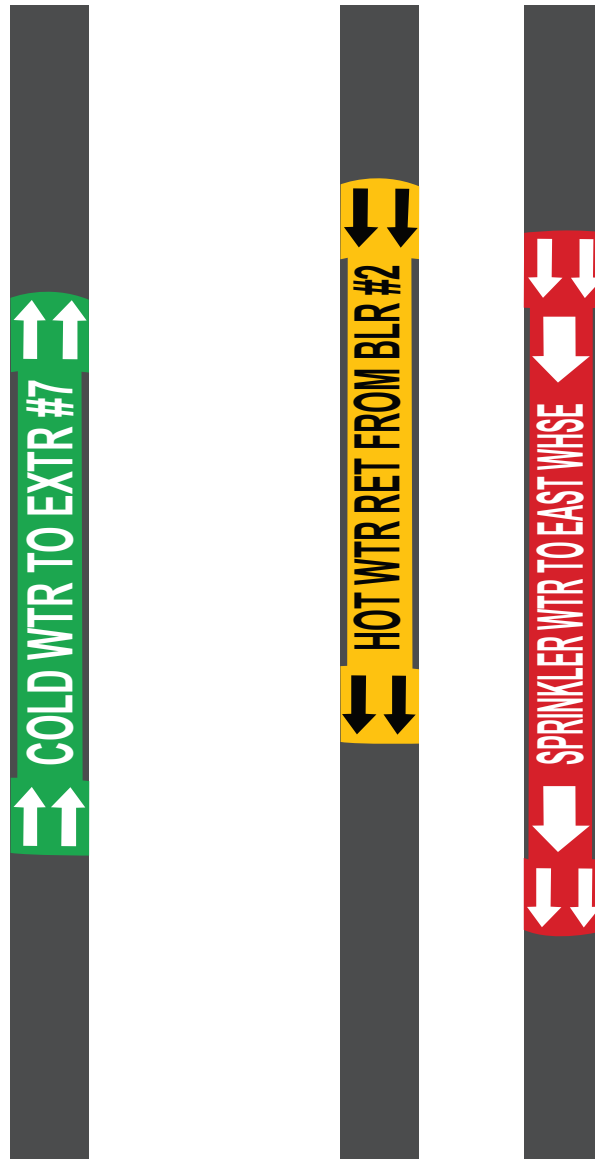


• CHAPTER 4 •

Faceoff: Do-It-Yourself vs. Pre-Made Labels and Signs

Now that you know what types of visuals you need to create a “5S Plus” visual workplace, it’s time to take action. You’ve got two options: do-it-yourself (DIY) printing or ordering pre-printed labels and signs.





What if a label...

Saved you \$7,500 annually in breakdown costs by helping contractors and employees locate the right line?

When compared to ordering pre-printed materials, choosing DIY is simple - It's more cost effective, more efficient and convenient, and you can create your own customized content.

Let us explain more:

It's more **COST Effective**

Can you believe printing your own labels and signs is cheaper than purchasing them pre-printed? That's because there is:

- **NO** purchase order charges for every order
- **NO** minimum order quantity
- **NO** inventory costs for stocking large quantities of signs and labels

With an onsite label printer, you can simply print what you want to print, whenever you want to print it, right at the point of need.

DIY

COST EFFECTIVE
EFFICIENT
CONVENIENT
CUSTOMIZED

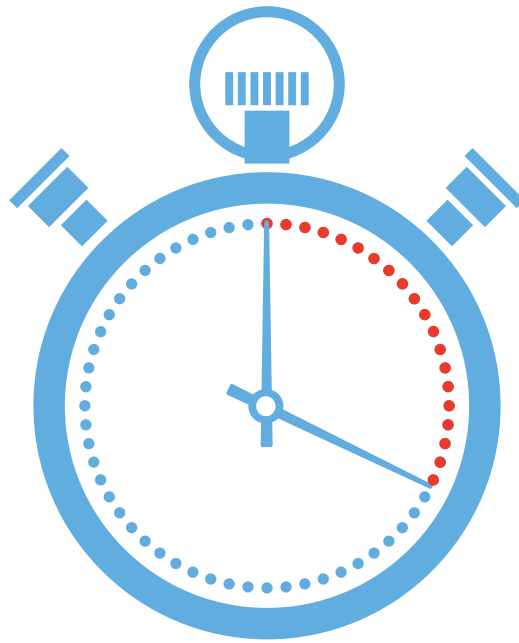


What if a label...

Reduced the severity of an accident because the safety equipment was clearly identified?

It's more **EFFICIENT**

There's no need to wait - You'll have your labels in seconds, not days. That means there's no time away from your current project because you don't have to wait around for your pre-made signs and labels to arrive. When you recognize the need for new visuals in your facility, you can walk up and print what you need - Just like that!



DIY

COST EFFECTIVE
EFFICIENT
CONVENIENT
CUSTOMIZED

Let's put this into perspective:

	Do-it-Yourself Labels	Pre-Printed Labels
Day 1	You have a need for a label.	You have a need for a label.
	<p>You walk up to your printer, choose a material, create the label on a simple user interface, print it and apply it. Then you print more, because you can and it would benefit your workplace.</p> <p>Your facility is just a little bit safer and more efficient thanks to your new labels.</p>	You do some research on where to order and what to order.
Day 2		<p>You either customize your label or choose a generic label to order.</p> <p>You decide to place the order, taking time to process the order and provide all of the necessary information.</p>
Day 3		The waiting begins.
Day 4		An accident almost occurs because the label you needed wasn't in place to inform employees of the hazard.
Day 5		You wait for the label to arrive.
Day 6		... Still waiting.
Day 7		The label arrives! You put it in place and realize you could really use a few more. Back to the drawing board!

LINK360 Lockout/Tagout Posted Procedure

ID#: BRDY-001-430105	Facility: Site 1 - Refrigeration	Location: Engine Room
Created: 9/11/2013	Description: Refrigeration Compressor #4	
Revised: 9/13/2013		

5 **Lockout Points**

Note: This is an example of Link360's "Long Form". The long form allows you to freely define the actions of each step, add photos for each step, and add further detail that is required for complex lockout procedures. For simple lockout procedures, see the "Short Form".

Purpose: This procedure establishes the minimum requirements for the lockout of energy isolating devices whenever maintenance or servicing is done on machines or equipment.

Scope: This procedure shall be used to ensure that the machine or equipment is stopped, isolated from all potentially hazardous energy sources and locked out before employees perform any servicing or maintenance where the unexpected energization or start-up of the machine or equipment or release of stored energy could cause injury.


Authorization: This procedure shall only be used by employees that have been trained as "Authorized" employees under OSHA 1910.147. Employees with the following job roles are authorized to use this procedure: <list job roles>

Enforcement: Failure to properly follow lockout-tagout procedure may result in corrective action.

Lockout Application Process

1. Notify affected personnel. 2. Properly shut down machine. 3. Isolate all energy sources. 4. Apply lockout devices, locks, & tags. 5. Verify total de-energization of all sources.

Lockout Steps

Step #	Action	Info
<div style="background-color: #e91e63; color: white; padding: 5px; border-radius: 3px;"> 1 Electrical E-1 480V </div>	<p>PROPER PPE REQUIRED: Arc flash shield, 8 cal/cm2, class E gloves, electrical rated hardhat.</p> <p>The E-1 Disconnect is located to the West of the machine. Turn Disconnect to the off position and lock out. Use a Lock and hasp device.</p>	
	<p>For the next step, you will need to obtain a universal lock and chain device from the Lockout/Tagout Station, located on the West wall of the Engine Room.</p>	<p>Upon re-energization, return universal lock and chain device to the Lockout/Tagout Station.</p>

Page 1 of 3



What if a label...

Used a Visual Lock Out Procedure (VLOP) to tell you the right way to lockout each unique piece of equipment, keeping employees safe during maintenance?

It's **CONVENIENT**

Everything that needs a label, gets a label!

When you have an easy-to-use printing tool ready and waiting right at your own facility, you can:

- **Create** labels using built-in label templates for common applications, such as lockout/tagout, GHS, signs, pipe markers, right to know and much more
- **Utilize** a wide offering of labeling materials to meet your application needs
- **Pace** your labeling projects, instead of doing it all at once in the case of ordering pre-made labels and signs
- **Complete** projects quickly by sharing the responsibility amongst multiple employees

DIY

COST EFFECTIVE
EFFICIENT
CONVENIENT
CUSTOMIZED



What if a label...

Warned workers of a potential hazard in multiple languages?

It's CUSTOMIZED

This isn't a one-size-fits-all approach. We know it's important to be able to customize workplace visuals to align with your unique safety, compliance and productivity goals. With on-demand printing, you can decide what to make, how it should look and how many you need.

By creating your own signs, labels and tags, you can ensure you have:

- **Multiple languages** to ensure warnings are understood by everyone.
- **Operating instructions at the point of need** to get new employees up to speed and ready to master critical tasks. As the experienced workforce ages and retires, effective instructions ensure that training is thorough and efficient for new employees.
- **Consistent messaging** to enforce safety and make tasks easier to understand with at-a-glance, identified signage. The plant also looks more professional, so employees can take pride in their workplace and make a positive impact on visitors.

DIY

COST EFFECTIVE
EFFICIENT
CONVENIENT
CUSTOMIZED



**Now that you know why your workplace needs
5S Plus Safety, let's get to work.**

YOUR SIGN AND LABEL SOLUTION

Brady has the innovative products, reliable label materials and dedicated experts to bring you the facility identification you need to stay lean, compliant and safe. Our printers offer reliable, on-demand labeling and a range of durable materials to meet your industrial printing and labeling needs.

To learn more, visit BradyID.com





Are you interested in chatting with
a professional about visual workplace
and 5S Plus? Call 888-311-0775 today!

¹ Kilpatrick, J. (2003). Lean Principles. Utah Manufacturing Extension Partnership.

² Moltz, D. (2011). Completion Agenda for Baby Boomers. Association for the Study of Higher Education.

³ Laird, D. (1985). Approaches to training and development . Addison-Wesley.

⁴ Kilpatrick, J. (2003). Lean Principles. Utah Manufacturing Extension Partnership.

⁵ Cable, J. (2014). NSC 2014: Fall Protection, Hazard Communication Repeat as OSHA's Most Frequently Cited Standards. EHS Today.