

LEAN 5S

Learn the principles of the 5S/6S philosophy and how to successfully implement it in any facility

About this Guide

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What is 5S?

If your company is like most organizations today, you're searching for a competitive edge. Something that will reduce costs, increase sales and make you more agile in a changing business environment.

Well you've found it.

Simply put, 5S is a systematic approach to workplace organization. But it's also much more than that. 5S is about efficiency, competitiveness and survival. It is a deceptively simple system that creates an organized and productive workplace.

But it's not just about cleaning up and eliminating toolboxes. 5S creates a workplace environment that can adapt and succeed in these turbulent times.

Chaos and unproductively are your enemies; organization and efficiency are your allies.

If implemented correctly and followed diligently, 5S will lead to:

- ✓ Lower costs
- ✓ Better quality
- ✓ Improved safety
- ✓ Increased productivity
- ✓ Higher employee satisfaction

From the offices of upper management to the workstations in the factory, the power of this system will quickly reveal itself in your bottom line.

Originally developed by Hiroyuki Hirano for manufacturing companies in Japan, the principles of 5S translate well to the laboratory, the repair facility, and even the corporate office. Almost any workplace environment will benefit from the structure and efficiency that this model provides.

5S is sometimes called the five pillars because just like the physical pillars that hold up a structure, 5S has five elements that support the effectiveness of the system.

And just like the pillars of a building, if one was to weaken or fail, the entire structure would fall.

The five steps/pillars of 5S are:

Sort

Set in Order

Shine

Standardize

Sustain



Sort

Sort is the process of removing all the items that are not needed for current production from the workspace.

Original Japanese word : Seiri

整理



Sort

Clutter is the enemy

The first step of 5S begins with the **Sort** step. Sort is the cornerstone of 5S and will help to get rid of problems such as:

- Tools and materials impeding workflow
- Wasted time looking for parts, tools and products
- Stockpiling unnecessary and expensive inventory
- Safety hazards resulting from clutter

The goal of Sort is to eliminate all of the unneeded tools and materials and to create a space that is free of clutter. This allows for a workflow free from distraction.

A good rule of thumb is: “If you do not use it on a daily basis – throw it out.” Leave only the things that you absolutely need to get your job done. This includes tools, materials and machinery.

When executing the Sort step, you must be vigilant and ruthless. Doing this first step correctly will lay the groundwork and ensure a successful implementation of the 5S model.

Identifying unneeded parts and tools is not always an easy task. Employees and managers get so used to the chaos that they don't even see it anymore.

5S has an effective tool that will help you with your sort process – it's called the **RED TAG STRATEGY**.

Image, Top: A cluttered central storage/dumping area before the 5S process.

Red Tag Strategy

The **RED TAG STRATEGY** is a great way to identify all of the objects that need to be removed from the workplace.

When you see something that you think may need to be removed, you literally put a “red tag” on it. This is a flag that lets everyone know that this item needs to be evaluated.

There are a few actions that can be taken at this point:

1. Leave the item where it is
2. Relocate the item
3. Dispose of the item
4. Place in “**RED TAG HOLDING AREA**”



The image shows two red Red Tag forms. The left form is partially obscured by the right one. Both forms have a hole punch at the top. The right form is fully visible and contains the following sections:

- RED TAG**
- Date: _____ Tagged by: _____
- Item Name: _____
- Location: _____
- ACTION TO TAKE -**
 - Return to _____
 - Discard
 - Move to Red Tag Holding Area
 - Move to _____
 - Shred
 - Recycle
 - Other _____
- ADDITIONAL COMMENTS -**

- CATEGORY -**
 - Equipment
 - Tools & Jigs
 - Finished Goods
 - Instruments
 - Consumables
 - Other _____
 - Machine Parts
 - Raw Materials
 - Work-in-Progress
 - Stationary, Etc.
 - Misc.
- REASON -**
 - Scrap
 - Not Needed
 - Defect
 - Other _____
 - Old/Obsolete
 - Extra
- Additional information on reverse →



The *Red Tag Holding Area* is a central location where you can put items that you aren't fully sure about disposing yet.

Perhaps you're not sure of the quantity that you need at the workstation. Or maybe you don't know how often you need it, or if you need it at all.



Set in Order

Set in Order is the process of putting everything in a place that is easy to get to and easy to put away.

All items should be clearly marked so that anyone could easily find its proper home.

Original Japanese word : Seiton

整頓



Set in Order

Everything in its place

You begin the **SET IN ORDER** phase of 5S only when the Sort phase is complete. This phase will be useless if there is unnecessary clutter in the workspace.

The goal of Set in Order is to create a standardized and consistent way to store and retrieve tools and materials. The key here is standardization. The user must develop this system based on how often the tools and materials are accessed, and the process by which they are used.

Some guidelines to consider:

- If items are used together, store them together.
- Put the frequently used items closest to the user.
- If possible, devise a let-go system in which tools are attached to a retractable cord and automatically go back to stored position.

- Place items so that the user's twisting and bending is kept at a minimum when accessing them.
- Arrange tools and materials in order of use.



Anyone that has ever shared a workbench, a laboratory or an office space with other people knows that losing (and searching for) tools, files, and other items can be a big problem...

Image, Top: A well-organized and labeled supply and equipment storage area.

The Set in Order step utilizes several different strategies to accomplish its goals, including (but not limited to):

Label & Sign Strategy

Uses labels and signs to indicate where workplace items are to be stored, which items are to be stored there, and exactly how many items belong there.

Paint & Tape Strategy

Used to clearly mark walkways from working areas. Separating operational areas from walking areas allows for a safer & smoother flow of goods in the facility.

Tool Outline Strategy

Creates a visual home for your tools. Each tool has an outline drawn of the tool so that you know exactly where it goes, and so that you also know when a tool is missing.

Label & Sign Strategy

A key component to any organization program, **LABELING** is the easiest way to quickly & visually identify proper placement of items, tools, and equipment.

This makes it easy for even people unfamiliar with your system to locate items, and return them to the right place. It also helps with sustaining organization processes, because once everything is properly labeled, it's easier for employees to keep 5S in focus on a daily basis.

In addition, larger signs, banners, or posters can be used to boldly convey messages of organization or safety, including reminders of the 5S process.

Together, these create a great backbone for any visual organization or safety program.



Image, Top Right: Tool drawer with labels

Image, Center Right: Medical item bins, labeled

Image, Bottom Right: Chemical waste storage area with large format banner reminding employees to keep area clean



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Paint & Tape Strategy

Painted or taped lines are often associated with Safety (pedestrian paths, forklift and equipment paths, etc) but they are also very useful for marking work areas, as well as locations for pallets, raw materials, finished goods, shipping areas, hazardous areas and other static locations.

Industrial Floor Tapes are preferred to painted lines as they are more resistant to foot and forklift traffic and don't require long dry times which can cause costly downtimes. They are also easier to clean and require less upkeep.

Often times companies with 5S organization programs will also use thinner vinyl tapes (0.25" to 2" width) of different colors to mark workbenches and work cells to create visual cues for employees, or to mark the locations of tools or equipment that shouldn't move. This helps keep work areas clear of clutter and keeps these static items in their optimal positions.

This work cell organization system can be used for work cells of any kind- in both office and industrial settings. This will improve workflow and result in better productivity and time management. Additionally misplaced items and equipment are easy to spot.



Image, Top Left: Auto shop lifts outlined with floor tape (SafetyTac) to display safety area warnings

Image, Center Left: Safe walking path displayed with floor tape (SafetyTac)

Image, Bottom Left: Roll of SafetyTac tape



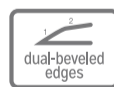
SAFETYTAC

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Tool Outline Strategy

Tool outlining simply means that you create a visual outline of your tool to be able to quickly return it to its proper home.

For pegboards and other hanging tool systems, this is done using painted or vinyl cutouts of your tools, which are then placed behind the tools. Vinyl “tool outlines” are preferred since they are easier to apply and require no maintenance. This method is called shadow boarding.

For tool drawers, you can use customizable foam to create a tool organization system to not only see where the proper homes are for your individual tools and see when they are missing, but also to help protect your toolbox and tools from damage.



Image, Top Right: Cutting outline of tool from vinyl

Image, Center Right: Example of tool wall with shadow board technique applied

Image, Bottom Right: Tool drawer organized with custom tool foam

Shine

Shine literally means to remove all the dirt and the grime and to keep it that way on daily basis.

You want to get it clean and keep it clean.

Original Japanese word : Seiso

清潔

Shine

Get it clean, and keep it clean

You eliminated clutter with Sort and you organized with Set in Order, now it's time to sanitize with **SHINE**.

When you implement this step, two things will happen. First, your employees will love coming to work in such a clean and bright environment. And second, because you are keeping the equipment and your surroundings in such great shape, you will have fewer injuries and fewer equipment breakdowns. And that means greater productivity and fewer costs.

With the 5S system, cleaning is everyone's responsibility. Although you may still use a janitorial staff to tackle the daily large-scale jobs, the detailed cleaning will be done by your employees. You must train your staff to view dirt and chaos as an intolerable situation.

It must be a culture that is followed from the CEO down to the apprentice.

Standardize your cleaning program for best results. Train your employees how to do it correctly. Make sure that they know what they are responsible for and give them the tools to do the job. Utilize checklists and diagrams for consistency.



Image, Top: Mop and bucket

Image, Above: Employee sweeps warehouse floor as part of the daily Shine process



Inspection & Maintenance

Cleaning is not the only facet of Shine. The daily Shine ritual should also include inspection and routine maintenance.

As your employees are doing their daily cleaning routine, they should be inspecting the tools and machinery for damage or defects as well. Include it in the daily checklist to make sure it gets done.

Periodic routine maintenance should also be done at this time. Some examples would be to check the oil level in the machinery, tighten up belts, hoses, nuts and bolts, or to check if tools need sharpening.

The goal for Shine is to keep everything in great working order to ensure that it doesn't break down and that it lasts for as long as possible.

Clean and properly maintained tools and machines also greatly increase the safety level in the workplace. Less injuries and less down time equate to higher morale and higher productivity.

What if an employee sees a pool of oil that wasn't there before, or notices a safety hazard?

If it's a quick fix, put a maintenance tag on it and notify your supervisor. If it is something that needs further evaluation, there should be a maintenance log that you can fill out that will ensure further action.

And don't forget your computers and other office equipment! They need to be defragmented (PC's) and air-dusted periodically to keep them in prime running order.

Everything is coming together. The groundwork has been set for a successful 5S implementation. Now we move on to the pillar that will be the glue that keeps it all together: **STANDARDIZE**.

Image, Top Left: Employee inspecting welding equipment during the ongoing Shine process

Standardize

Standardize creates a system of tasks and procedures that will ensure that the principles of 5S are performed on a daily basis.

Original Japanese word : Seiketsu

清掃



Standardize

Consistency is key

We all have our own way of doing things. This kind of individuality is great in our personal lives because it makes life much more interesting and fun.

But non-conformity can be unproductive in the workplace. If your employees started doing things their own way, then things will start to get missed and conditions will slowly start to deteriorate.

The **STANDARDIZE** pillar seeks to utilize a set of schedules and checklists that can be easily followed so that each step is performed exactly the same way every day.

This way, each employee knows what he needs to do, when he needs to do it, and exactly how to do it.

There is no room for uncertainty.

Standardize uses three steps to make sure that the 5S pillars are getting done consistently and correctly:

1) Make sure that each employee knows his responsibilities.

If they don't know exactly what is expected of them, then how can they do it?

They should have a clear understanding of their daily and weekly Sort, Set to Order and Shine tasks. Their responsibilities should be clearly written out on a checklist or a chart so that it can be easily accessed throughout the day.

Image, Top: Safety and Lean committee meeting to discuss 5S tasks and responsibilities

2) Make it a part of their daily routine.

If you train your employees correctly, they will be executing the steps of 5S without even thinking about it.

‘That wrench is out of place- its home is here.’ -or- ‘I know the next tool I need is the screwdriver because my tools are stored in the order that I use them.’

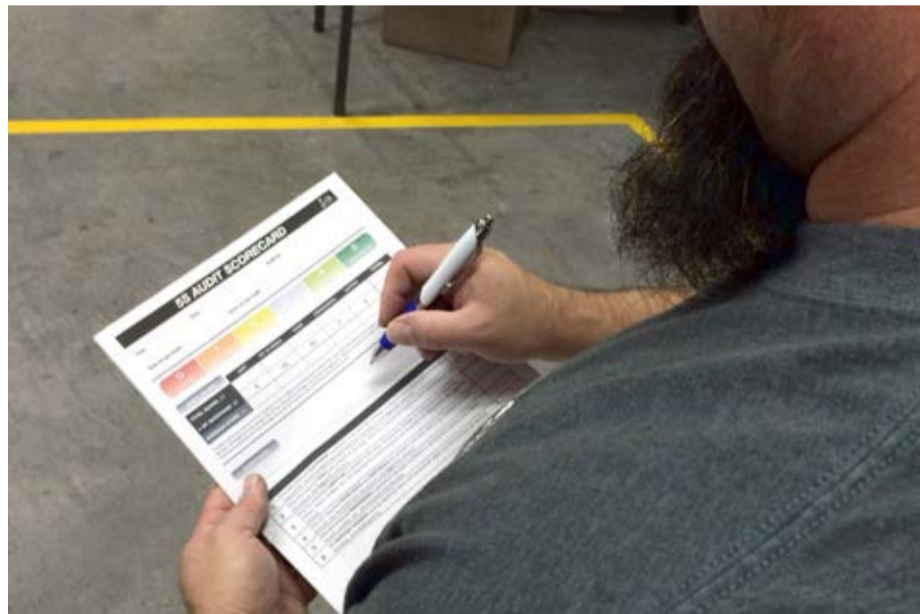
No extra thought is needed; they flow through their daily routine because they can see that it makes sense.

3) Periodic evaluation.

Once the steps are in place, you can evaluate the performance at regular intervals.

You can either form a committee made up of employees of different departments, or assign it to department supervisors. Either way, you will need a system to ensure that tasks are consistently getting done.

Standardize is essential to the success of your 5S implementation. If your staff has procedures to follow to complete the steps, you will ensure long-term success and reap all of the rewards of 5S.



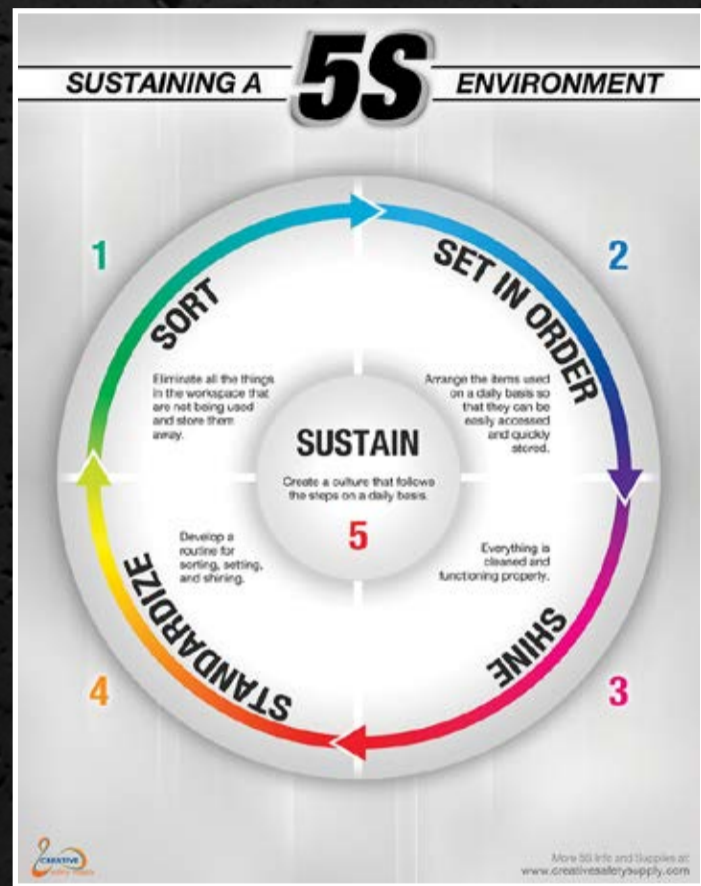
Image, Top Right: Manager coaches employee on the steps of their 5S routine

Image, Center Right: Warehouse manager using a “5S Audit Scorecard” to audit 5S results. (Available from creativesafetysupply.com)

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Sustain

Sustain is the final pillar of the 5S system and its chief objective is to give your staff the commitment and motivation to follow each step, day in and day out.

Original Japanese word : Shitsuke

躰



Sustain

Staying the course

Once you start the 5S model in your place of business, you will see the improvements very quickly. But the key to long term success is simple – diligence.

Have you ever gone on a diet to lose a few pounds? In the beginning, you really keep at it. You stay away from those French fries, eat more fruits and veggies, and may even go for a jog a couple of days a week. You lose six pounds in two weeks.

But inevitably, you start to slip. You're out with friends and you indulge in dessert. Or you hit your favorite fried chicken joint. It's only this one time, you say. Before you know it, you're back to your old bad habits and have gained all of your weight back.

That's just human nature. If there is nothing to keep you motivated, you will

start to cut corners and slip. The fifth pillar, **SUSTAIN**, is designed to keep your staff motivated and on track.

Image, Top: The steps of 5S will lead you and your team to increased productivity, reduced accidents, and record profits

Here are some great techniques to keep your staff motivated:

Assign the time to do it.

Give your staff the time to do the steps correctly. For example, designate the fifteen minutes before lunch and shift end as Shine time. During this time, their main focus is cleaning and organizing according to their checklists.

Start from the top.

Your whole organization must be on board if 5S is going to work in the long run. If your employees see that management is not following the steps, do you think that they will continue to do it?

Create a reward system.

Have friendly competitions between departments each month and reward the winner. Buy them lunch, let them go early one day, or give them priority parking. It doesn't have to break the bank; you just want to show them your appreciation for a job well done.

Get everyone involved.

Form a committee made up of employees and supervisors of different departments. Their job will be to oversee the implementation of 5S for a fixed period, maybe six months. Then you can rotate in new members.

Let them see it.

Posters, banners and newsletters can be a constant reminder of the importance of 5S.

Safety

Safety is an ongoing process that is supported by nearly all pillars of the 5S system, and is often considered a “6th S”.

Organizations which include this step then refer to the system as 6S.

the “6th S”



Safety

The “6th S”

Traditionally there are only 5 pillars or steps in the 5S system, but many companies and organizations opt for adding a sixth pillar: Safety. This system is then usually referred to, naturally, as “6S”.

Safety plays such a critical role in any company, and goes hand in hand with proper organization, so it makes a lot of sense to highlight it at the same time as 5S. In fact, implementing the 5S model is a huge first step in creating a safe environment for you and your staff.

What are some other things you can do?

- Make sure that your employees have the correct equipment for their job. Hardhats, coveralls, gloves and steel toe shoes are some typical items required in the warehouse or manufacturing complex.
- Train your staff to use the equipment correctly. Heavy equipment, electronics, forklifts and power tools are all dangerous to those who use them incorrectly.
- Easy to understand labels, signs and space markings contribute a great deal to creating a safe, visual workplace.
- Train your staff on exactly what to do in an emergency. From the seemingly small incidents like cuts and bruises, to the larger ones like injuries and fire, each employee should know what they need to do or whom they need to notify.

Image, Top: Safety PPE (personal protective equipment)



Summary

5S is a system, a philosophy and a culture. The true power of 5S reveals itself when your whole organization embraces its ideals and your employees see that your business is transforming itself.

The 5S model for workplace efficiency and organization is both powerful and simple. It has the potential to transform your company into a safe and productive warehouse, manufacturing facility or office.

One of 5S's most powerful aspects is that it's a visual model. Each tool has an outlined home and each pathway is marked with lines. Vision is our dominant sense, and because 5S uses colors and lines and labels to organize, following the steps becomes second nature very easily.

Remove the clutter with **SORT**, organize with **SET TO ORDER**, clean with **SHINE**, set your routine with **STANDARDIZE** and motivate with **SUSTAIN**.

It's that easy.

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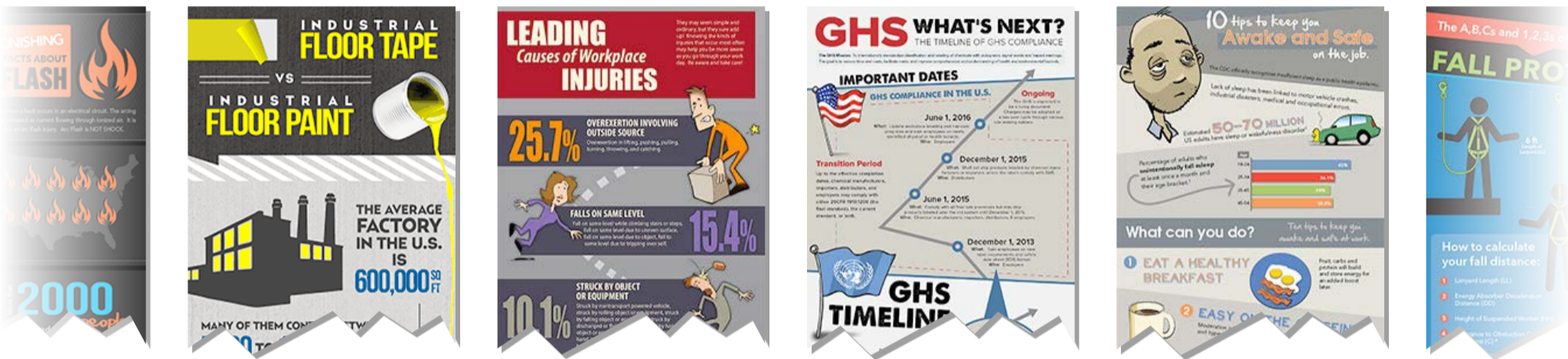
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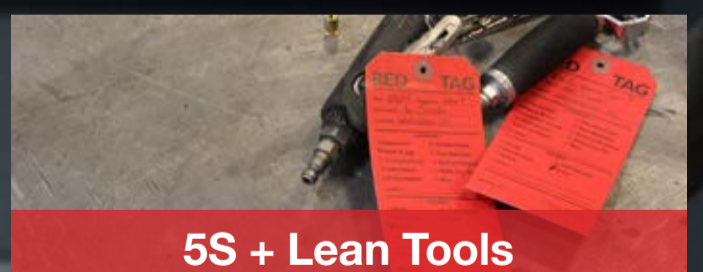
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