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Improve Workplace Efficiency

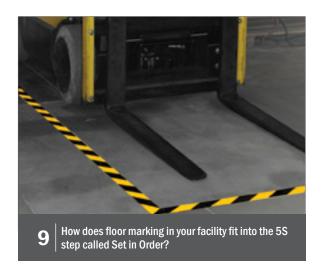
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5S SYSTEM







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Sustain - Reference Form 5

5S OVERVIEW

The 5S System is one of a number of Lean Manufacturing tools designed to help improve workplace efficiency through facility organization. Its early beginnings can be traced to management methods developed and applied during the American Industrial Revolution. Many early methods were later improved upon in Japan during post-WWII reconstruction. Each now plays a role in helping managers and workers throughout the world systematically achieve greater organization, standardization, and efficiency.

Japanese Innovation

Since Japanese factories first began implementing an early form of 5S decades ago, they experienced unprecedented levels of efficiency, safety, and growth. 5S is even credited with helping Japanese factories eclipse American industrial output and product quality. By the mid-1980s, managers at America's largest factories were taking serious notice of Japan's success and began rapidly applying similar systems and methods. One of these systems is known globally today as 5S. Once U.S. factories began implementing 5S, managers saw many of the same dramatic gains in efficiency and reductions in cost—previously seen only in Japan.

The term 5S originates from five Japanese words starting with the letter S. They are Seiri, Seiton, Seiso, Seiketsu and Shitsuke. Literally translated, Seiri means tidiness, Seiton means orderliness, Seiso means cleanliness, Seiketsu means standardization, and Shitsuke means discipline. To simplify the system further, five English terms starting with the letter S were substituted to describe each element.

They are Sort, Set in Order, Shine, Standardize, and Sustain. Not all facilities use these exact words in their own implementation and may substitute terms better suited for their own specific applications.

American Roots

The 5S System is designed for flexibility and integration with many other popular workplace efficiency systems and programs. This is because so many share similar goals and may actually originate from the same American or Japanese system. One of the most widely used is Lean or Lean Manufacturing. A derivative of Japan's Just-In-Time Production (JIT), Lean is popularly used around the world today to improve overall industrial workflow efficiencies.

Just as Lean has taken many ideas from popular Japanese systems, JIT and others like it have their roots in early- to mid-20th century American industrial inventions. Ford Motor Company's assembly line and business-applied statistics both played leading roles in Japan's post-WWII industrial revolution.



Factory workers in Japan led the world in production efficiency by first applying a number of early efficiency systems developed in America. In recent decades, Japanese managers and workers improved these systems with many new efficiency innovations.

5S TERMS TRANSLATED

JAPANESE TERMS	ENGLISH TRANSLATIONS	5S TERMS	DEFINITIONS
Seiri	Tidiness	SORT	Throw away rubbish and unrelated materials.
Seiton	Orderliness	SET IN ORDER	Set things in proper place for quick retrieval and storage.
Seiso	Cleanliness	SHINE	Clean the workplace. Everyone should be a janitor.
Seiketsu	Standardization	STANDARDIZE	Standardize the way of maintaining cleanliness.
Shitsuke	Discipline	SUSTAIN	Make it a way of life. This means commitment.

Implementation

Industrial facilities throughout the world are transforming to Lean and other popular efficiency-improving techniques by implementing 5S first. Managers are finding they can use 5S to identify and correct workplace inefficiencies before taking on the more complex and universally-applied Lean systems. Some 5S steps may even duplicate those used in Lean. However, 5S can lay a solid foundation so Lean yields better results.

A CYCLE OF EFFICIENCY

5S is comprised of five easy-to-remember steps, as described in the flowchart below. Each step plays an integral role in helping facilities successfully implement and sustain the system. Once each step has been implemented, 5S should function indefinitely. To achieve this level of sustained success, managers and workers must embrace the system. They do so by integrating 5S methods and techniques into their daily work routines.

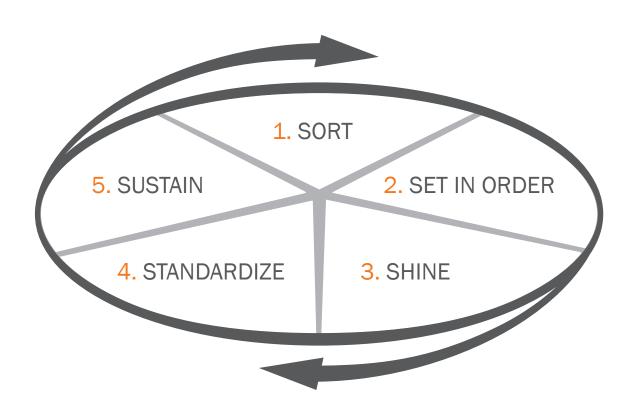
Keep in mind, reaching the system's final step only concludes implementation. 5S should continue to cycle through previous steps, as appropriate, so a facility remains organized for maximum efficiency. Before moving forward on

any facility reorganization, seek the consent of all potentially affected managers (maintenance, safety, production, etc). Staff involvement greatly helps facilitate the transition to 5S and may even provide new and more effective ideas for implementation.

TEAM BUILDING

Implementation of 5S begins with the creation of an internal committee of 5S team leaders. This group is assigned to actively manage and support the system from Sort through Sustain. Depending on a facility's size, a team may be as small as a single individual or include a broad cross section of managers and workers with diverse facility roles. Individuals with strong leadership skills should be considered as top candidates for this team.

Once the team has been organized, they can move forward by developing a formal 5S plan. All facility employees are encouraged to actively participate in 5S. This requires proper training and education so employees understand how implementation will improve the workplace. Eventually, each employee's role in 5S will be well-defined so it seamlessly integrates with normal work routines.



5S OVERVIEW

Benefits

For facility managers, one of the main benefits of implementing 5S is the resulting data team leaders will collect and refer to. Data collection is an integral part of 5S and can be used to track and correct many workplace inefficiencies. Management can use this data to make appropriate changes so goals are achieved and all-around facility efficiency is improved. Of course, collecting good data requires good record keeping. Each work area should be documented with "before-and-after" photographs. Individual duty task-times, among other record keeping, should be recorded to ensure accuracy.

KEEP DETAILED RECORDS

Data collection should focus on routine work area duties. As collection progresses, inefficiencies will become more apparent so corrections in work routines are accurately made. 5S team leaders will use this documentation to promote 5S and even advocate increased application once implementation is complete. Make sure to share before-and-after data and photographs with workers so they see the fruits of their labor.

Over the life of 5S, both short-term and long-term goals can be achieved. Along the way, many unforeseen benefits are likely to appear. Some may not be immediately apparent, but over a period of months or even years they become evident. For example, workplace injuries are often reduced over time. This, in turn, may positively influence other elements of a facility. Safer work routines may lower health care costs. This,

Keeping detailed records of work area routines is critical to achieving

in-turn, will increase production by reducing sick-leave. The list of long-term benefits can be quite extensive, but also unique to individual facilities.

UNFORESEEN BENEFITS

A national truck trailer manufacturer credits 5S for reducing workplace accidents and related sick leave. The manufacturer said in a 2003 article by Rick Weber of *Trailer-BodyBuilders.com* that 5S helped reduce the OSHA recordable incident rate by 44 percent—bringing it well below the industry average. The drop also resulted in a 50 percent reduction in the manufacturer's days-away-from-work.

Statistics like these may seem unachievable at your facility. Nonetheless, facilities around the world are experiencing dramatic results from a properly implemented and sustained 5S system.

TYPICAL 55 BENEFITS

Increases

- Safety and morale
- · Product quality
- Equipment life

Decreases

- Injuries
- Production costs
- Downtime
- Defects
- Supplier mistakes
- Underutilized workers
- Inefficient transportation
- Training/orientation time
- Tools/inventory searches
- Inventory storage costs
- Inefficient work routines
- Underutilized floor space

5S success.

Visual Communication

Visual communication is one of the most effective ways to improve a facility's organization and efficiency. In 5S, it's used to bring organization to the system and help guide workers through the various steps. Everything from procedural labels to wayfinding arrows can be displayed at strategic facility locations to help workers independently follow the 5S system.

EFFECTIVE SIGNAGE

Facilities use visual communication (signs, labels, and other devices) to give workers clear and accurate identification of locations, procedures, hazards, inventories, equipment, and tools. Ultimately, this results in greater efficiency and lower costs.

Visual communication is the key to 5S success and plays a leading role in helping turn a traditional manufacturing system into a Lean one. This technique will be introduced in the second step of the system, or Set in Order.

Labels and signs are known to be especially effective efficiency tools and are ideal for helping to correct many common process issues. Inefficiencies in the workplace

appear to be a significant problem. A 2008 survey by Microsoft® found workers waste an average of more than two hours per-day.

Why is this phenomenon occurring and what can be done to change it? Often, reasons can be traced back to a lack of proper visual communication. In many facilities, workers are unable to complete simple tasks because necessary information is unavailable. When this occurs, work completion is unpredictable and production suffers. In most cases, workers have varying levels of knowledge about a facility and rely on written directions to complete tasks. Visually communicating the contents of inventory and tool storage is especially beneficial in reducing delays in work.

CONSISTENT VISUAL STYLE

Developing a workplace where inventories, materials, tools, and equipment are all clearly and consistently identified effectively reduces wasted time. The impact of proper visual communication can often be far-reaching and is known to boost productivity, quality levels, customer satisfaction, while reducing workplace injuries.





In 5S, Sort is the first step in implementation. The goal is to evaluate all facility inventories and tools so needless items, redundancies and hazards can be sorted from the work area. Workers will need to be trained for red-tagging. Sort's value to the workplace and entire facility must be explained so Sort becomes an integral part of work routines.

Red-Tagging

An item's frequency of use provides excellent criteria for determining its value to a work area. By recording usage dates, each item's true value can be established. As one would expect, regularly used items are kept, while items rarely used receive greater consideration for removal.

Items found to meet the criteria for removal are marked using a visual communication method known as red-tagging. Nonessential items are identified with a preprinted red tag. Items marked for removal must then be logged into a record book. Red tags should provide space to briefly describe proper sorting actions, document an item's removal date, and log a number for tracking. Actions are generally displayed on red tags as a checklist and describe whether an item should be returned, moved, or discarded.

Store red tagged items in red-tag zones near work areas. Ensure each zone is visually identified. This allows work area personnel to easily locate and identify work area red-tag zones and understand their purpose.

Reduce Workplace Clutter

A build-up of unnecessary items is a serious issue in any facility. Clutter impairs productivity, creates hazards and frustrates workers by limiting job performance.

Eliminating clutter can go a long way in reducing many inefficiencies and other workplace issues. Carry out Sort by establishing criteria for item removal. Start by prioritizing items already known to be useless or a needless hazard. Items which cannot be completely eliminated may require off-site storage.

Each item's purpose, uniqueness, and importance to job function should be evaluated and documented as criteria for removal. Unnecessary items will then become more obvious, including duplications, allowing sorting to be accomplished with greater efficiency.

Once work area red-tag zones are created, divide them into two sections. Dedicate one section to unused items and the other to infrequently used items. This helps organize red-tagged items by value. Hazardous materials may require a separate zone so they can be safely stored.

Limit item storage time to no longer than five days in work area red-tag zones. This allows items to be retrieved, should they be found to be essential. After the time period expires, items should be moved to a central red-tag zone. Work area personnel may still retrieve items from this final stop, but again, for only a limited time.



Printed red tags make it easy to identify unnecessary items for removal, tracking, and to provide additional information.

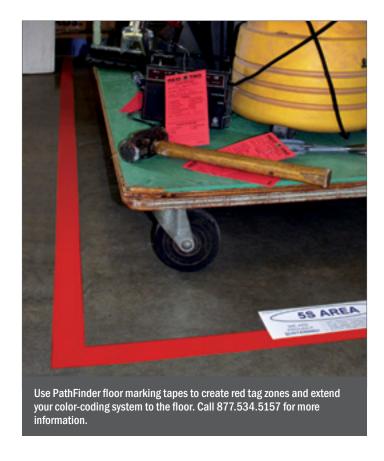
Dispose of Unused Items

Finally, a facility should dispose of all items remaining in central red-tag zones through donation, recycling, disposal, or resale. To make Sort as efficient as possible, visually communicate directions wherever helpful. Red-tag storage locations and directions can be printed onto a label or sign for clear indication and easy accessibility.

Finally, create a Sort checklist for workers to follow so tasks are completed independently and as part of daily work routines.

Put Sort into Action:

- Record work area duty task times and photograph work areas prior to 5S implementation.
- 2. Establish criteria for sorting.
- 3. Dedicate space to a work area red-tag storage zone.
- 4. Red tag, document, and move items to these zones.
- 5. Relocate items to a central red-tag zone once established time has expired.





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SORT - REFERENCE FORM 1

Goal: Eliminate nonessential workplace items

	Work Area			Date	Initials
SORT CHECKLIST		Qι	JICK REFERENCE	STEPS	
Workplace photographed prior to 5S implementation Red-tagging supervisor selected Duty task-times recorded prior to implementation Logbook created for red-tagging records Criteria established and time allotted for sorting Red-tag zones designated near work areas Work-area red-tag zones well marked Nonessential items red-tagged for removal Nonessential items in work area red-tag zones Logbook updated			1 RED-TAGGING PREPARATION A. Identify items known to be unnecessary B. Consider tagging items rarely used C. Identify items unnecessarily duplicated D. Identify items found to have no function 2 BEGIN IMPLEMENTATION A. Designate items and fill out red tags B. Securely attach red tags to items		
Central red-tag zone estal Red-tag zone storage time Duty task-times recorded		C. Safely move red-tag items to work area zone D. Allow personnel to review and retrieve items			
A. Dedicate a space for work a B. Ensure space is adequate a C. Clearly mark with signs and D. Set storage expirations, so i E. Divide into "infrequently" an	rea red-tag zone nd easily accessible floor tape to eliminate confusion tems rotate out regularly d "unused" sections	A. Dedicate a space for central red-tag zone B. Ensure space is adequate and easily accessible C. Clearly mark with signs and floor tape D. Set storage expirations, so items rotate out regularly E. Divide work area red-tag zones by type			larly
Name	Duty	,		Time (Mir	n:Sec)

STEP TWO: SET IN ORDER

Once Sort is complete, 5S team leaders can begin to move forward on a more comprehensive system of organization. Known as Set in Order, this step is dedicated to helping a facility find permanent storage locations for every item and visually identifying their locations.

A Place for Everything

From hammers to forklifts, every necessary item inside and around a facility requires a dedicated place for storage. This way workers easily find items and wasteful searching is eliminated. Items stored at unreasonable distances from work areas should be relocated to closer proximities. Having close access to tools and supplies decreases wasted time and reduces workplace injuries. In some cases, installing modular shelving and cabinets provides a solution. Well organized storage makes it easy to identify, find and move contents.

Tackling this step requires active participation by all 5S team leaders. Ensure regularly scheduled team meetings are being held. Leaders can use this time to discuss progress and share ideas for improvements. Keep in mind, nonessential items will continue to be discovered and require red-tagging. This means returning to Sort when necessary.

Review Storage

In this step, team leaders must evaluate existing facility visual communication to ensure new storage locations are properly labeled and accurately display their contents. If in-house label and sign standards do not already exist, team leaders should establish them. The goal is to provide uniformity and proper visibility so workers immediately find what they're looking for. Make sure to research existing ANSI and OSHA design standards before developing in-house standards. Knowing national safety sign design standards in advance will help eliminate conflicts. Common design standards are described in OSHA's 29 CFR §1910.145 and ANSI Z535. Standards for new and very different designs can then be created for all non-hazard facility labels and signs. Present sample colors, and designs to workers so they may test legibility and provide feedback. Sign size, graphics, colors and text should all be standardized by useful categories to ensure uniformity. Each standard can then be tailored to meet a facility's individual needs.

In-House Standards

Once in-house visual communication standards are established, ensure existing signs and labels comply. In some cases, this will mean removing and replacing existing labels and signs to create facility-wide compliance. At some

locations a combination of signage and auditory devices may be beneficial. Auditory devices are especially useful when storage locations contain hazards.

Throughout Set in Order, be sure to track storage locations with a logbook. Keeping a written record prevents lost or misplaced storage. Educate workers to recognize locations where labels and signs would be beneficial. When found, workers should be encouraged to notify 5S team leaders. Respond to workers' requests as soon as possible to foster continued 5S participation.

Workflow

- Indicate workflow directions with signage.
- · Place facility maps at strategic locations.
- Provide signage with legends to simplify instruction.

Procedures/Inspections

- Label electrical equipment for fast recognition.
- Describe equipment operation with signage.
- Keep labels consistent across your facility.
- Consider electronic visual and auditory alerts, where beneficial.

Inventory & Material

- Adhere HazCom 2012 labels onto hazardous storage containers.
- Install modular shelving/cabinets to improve organization and visibility.
- Use flexible storage so changes are easy.
- Mark warehouse floors to show storage boundaries.
- Clearly identify contents of pipes, valves, tanks and storage cylinders.
- Identify new storage locations for tools and inventory.
- Tag utilities and related gauges with proper identification and procedures.
- Ensure safety issues and hazards are properly marked.
- Label safety stations with instructions.











- Small to Large: print labels and signs using 4"-10" tape widths
- Multi-color: enhance organization with color-coded labels for 5S applications
- Fast output: custom, on-demand signs/labels for immediate use
- Little to no training: easy-to-use 9" touchscreen interface
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Goal: Dedicate storage areas for all workplace items

SET IN ORDER - REFERENCE FORM 2

Work Area	Date	Initials

UICK	REFERENCE STEPS	LOG OF ITEMS RELOC	ATED
0	OCUMENT HAZARDS, TOOLS, AND INVENTORY	Item	New Location
V	ioritize regularly used items for labeling/signage valuate effectiveness of current labeling/signage evelop uniformity in all labeling/signage ocus on providing easily identifiable labeling/signage	Ttelli	(use landmark)
	ENSURE PIPES AND UTILITIES ARE CLEARLY IDENTIFIED	-	
v Si	ark pipes so regulations and standards are met ark with appropriately sized labels/signs ockout/Tagout appropriate utilities with identifiable labeling/ gnage roperly identify pipes or utilities containing hazards		
3	PROPERLY IDENTIFY SAFETY HAZARDS		
B. E C. R	eview governing codes and standards for labels and signs nsure hazard labels/signs meet regulations and standards eview workplace features to identify hazardous areas ocument worker identified hazards and mark appropriately		
4	PRIORITIZE REGULARLY USED ITEMS FOR LABELING		
B. Lo C. Pi	ocument regularly used items with dates to determine necessity ocate higher value items and store in close proximity to work area operly label tools and inventory storage areas entify wall stored tools with "Shadow Labeling"		
5	LABEL UTILITY AND EQUIPMENT GAUGES		
в. с с. м	nsure utility labels/signs meet regulations and standards neck for appropriate utility label/sign size ark utilities with easily identifiable labeling/signage nsure utilities containing hazards are properly identified		
6	INSPECT PERSONAL PROTECTION EQUIPMENT		
3. E	nsure OSHA standards are met valuate PPE reliability and condition ocument and correct issues found		

STEP THREE: SHINE

This step refers to the critical cleaning and basic maintenance duties workers incorporate into their daily routines. Once in place, Shine becomes an invaluable organizational step integrated into daily work routines.

Clean It Up

A poorly kept workplace is a clear sign of inefficiency. Workers and machines operating in dirty environments don't function at peak performance, and issues like leaks, squeaks, and vibrations often go overlooked. Ultimately, the result is losses in production and money. The ripple effect from these inefficiencies can be far reaching and negatively influence an entire facility. By eliminating these issues, workers are more productive and remain safer on the job.

True facility cleaning requires more than just simple sweeping and dusting. All debris or contaminants that do not belong in the workplace must be eliminated. Dust, dirt, and fluids all fall into this category and require containment or removal.

Workers must have access to the right cleaning supplies to put Shine into action. These are supplies for use in specific work areas and on specific equipment. Workers will need a detailed cleaning checklist describing Shine duties. Post this list within each work area. Desks, equipment, tools, inventories, storage areas, floors, and lighting are all common work area items requiring regular cleaning as part of Shine.

Help workers embrace Shine by providing well-defined cleaning periods with published schedules. Make Shine a routine so workers quickly grow to accept these duties and are regularly reminded of their importance.

Where possible, assign cleaning responsibilities to workers in each work area. When charged with maintaining the tools and equipment they use, workers will have greater pride in their work and surroundings. Workers should be held accountable for issues arising in their work areas. Encourage them to continually monitor the cleanliness of their work areas as well as neighboring spaces. This aids in identifying even the tiniest abnormalities and pre-failure conditions sooner.

Beyond Clean

Maintaining Shine in the workplace goes well beyond basic cleaning. Workers should participate in making basic repairs to all visible surfaces during scheduled cleaning times. This may include repainting equipment, walls, floors, or any other visible work area surfaces.

The benefits of Shine may not be immediately apparent. Its impact on a facility, however, will often ripple well beyond work areas. Shine is known to positively influence entire facilities. Non-manufacturing departments such as sales or IT, can experience real benefits from Shine.

Cleaner work environments improve morale and safety, and also motivate workers to maintain work areas. Shine is a never-ending step and 5S team leaders must work diligently to continuously monitor work areas for issues. Like the domino effect, overlooking the tiniest amount of dirt leads to growing problems. When Shine is properly implemented, dirt and debris are removed daily so previously unforeseen issues are more evident. Issues can then be fixed sooner and lost time reduced.

When issues do occur, the most comprehensive solution is absolute elimination of all sources of contamination. Although complete elimination is rarely possible in the industrial workplace, integrating additional efficiency improving methods into Shine may help wherever cleanliness goals are not being achieved.



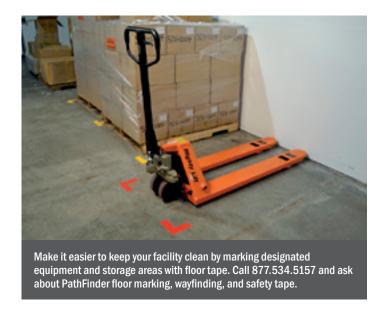
Poka-Yoke

There are a number of mistake-proofing methods managers can use to trace and resolve reoccurring issues. These methods are useful tools in 5S. Two of the more popular methods include *poka-yoke* (Mistake-Proofing) and Root-Cause-Analysis (RCA). Poka-yoke is a well-known Japanese method, designed to permanently eliminate reoccurring errors from the workplace. Like 5S, leaders follow simple steps to achieve desired goals. Poka-yoke, however, is usually implemented as the result of an individual error and not proactively applied facility wide.

In brief, poka-yoke is implemented once an error occurs. Leaders research the error and associated operations. All possible reasons for its occurrence are analyzed and documented. This information is then used to identify losses in terms of time and money, and to design and implement a fix for the problem.

Root-Cause-Analysis (RCA) is another method 5S team members can use to trace errors to the "what," "how," and "why." What caused an error and how it occurred are believed to be easily identifiable in RCA. Discovering why an error occurred often requires more effort, but yields the majority of necessary information for correction. A general belief that "errors do not just happen" is strongly advocated in RCA. Leaders embrace this belief and use it as motivation to trace errors to a well-defined cause.

Once a worker is linked to an error they are asked to describe each step they took that may have led to an error. The worker is then asked to explain what led them to make incorrect choices. Eventually, an error's root cause becomes evident and 5S Team Leaders can use this information to revise procedures and eliminate reoccurrences. Poka-yoke, RCA, or both, may be used during any step in a 5S implementation.



Put Shine into Action:

- 1. Photograph workplace before implementing Shine.
- 2. Explain Shine to workers and set goals.
- 3. Develop a uniform test to evaluate cleanliness.
- 4. Stock appropriate cleaning supplies for work areas.
- 5. Post a calendar of Shine days and times in work areas.
- 6. Post a calendar of Shine inspections.
- 7. Assign cleaning and self-monitoring duties.
- 8. Implement by cleaning and eliminating small imperfections.
- 9. Post duty task-times.
- 10. Finish by photographing work areas.



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COMPLETE

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EASY

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DURABLE

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COMPRESSED AID

Label pipes, wires, equipment, assets, and more.













SHINE - REFERENCE FORM 3

Goal: Maintain a clean and safe work environment

Work Area			Date	Initials
CHECKLIST QU			STEPS	
 SHINE CHECKLIST Photograph workplace prior to Shine implementation Develop a uniform inspection method to track progress Explain Shine to workers as a group and establish goals Seek worker input on criteria used to evaluate work areas Begin by cleaning and eliminating small imperfections Review work area with personnel to establish complete Shine duty list Seek Shine list input and approval from managers Develop a cleaning duty inspection checklist Stock appropriate cleaning supplies for work area Assign cleaning and self-monitoring responsibilities Rotate Shine duties amongst all work-area personnel Post calendar of Shine dates and times in work area Assign 5S team leaders to monitor first Shine period Be available to answer questions and resolve cleaning issues Focus on implementing more general Shine duties first Expand Shine cleaning duties over time Consider incorporating small repairs and painting into Shine duties During inspections, seek input from workers 		A. Eliminate obvious unclean areas B. Remove garbage regularly C. Create list of contaminants for removal D. Create a list of locations to be checked daily SHINE IMPLEMENTATION A. Provide proper non-damaging solvents B. Stock appropriate amount of cleaning supplies C. Assign individual to maintain supplies D. Ensure cleaning supplies will be accessible 3 SHINE CALENDAR A. Create calendar with dates and times marked B. Rotate dates and times to eliminate conflicts C. Educate workers on proper procedures D. Develop cleaning checklist for work area		
d photograph workplace	E. F	ost calendar in work are	ea for reference	
TY TASK TIMES				
Duty			Time (Min:	Sec)
	or to Shine implementation ion method to track progress as a group and establish goals ria used to evaluate work areas ninating small imperfections sonnel to establish complete Shine approval from managers aspection checklist g supplies for work area nonitoring responsibilities get all work-area personnel tes and times in work area monitor first Shine period estions and resolve cleaning issues ore general Shine duties first ties over time hall repairs and painting into Shine input from workers once manager-approved d photograph workplace TY TASK TIMES	or to Shine implementation ion method to track progress as a group and establish goals ria used to evaluate work areas prinating small imperfections assonnel to establish complete Shine approval from managers and times in work area are monitoring responsibilities get all work-area personnel tes and times in work area are monitor first Shine period estions and resolve cleaning issues for general Shine duties first ties over time all repairs and painting into Shine and painting into Shine and photograph workplace are to Shine and photograph workplace are to Shine and photograph workplace.	QUICK REFERENCE To to Shine implementation also method to track progress as a group and establish goals aria used to evaluate work areas also annel to establish complete Shine approval from managers aspection checklist as supplies for work area anonitoring responsibilities agst all work-area personnel ates and times in work area a monitor first Shine period astions and resolve cleaning issues are general Shine duties first all repairs and painting into Shine approved ad photograph workplace TY TASK TIMES A. Eliminate obvious unclea B. Remove garbage regular C. Create list of contaminar D. Create a list of locations A. Provide proper non-dama B. Stock appropriate amoun C. Assign individual to main D. Ensure cleaning supplies A. Create calendar with dat B. Rotate dates and times t C. Educate workers on prop D. Develop cleaning checkl E. Post calendar in work are	QUICK REFERENCE STEPS To to Shine implementation ion method to track progress is a group and establish goals ria used to evaluate work areas innating small imperfections sonnel to establish complete Shine approval from managers is spection checklist group guipplies for work area innoitoring responsibilities gest all work-area personnel ites and times in work area immonitor first Shine period estions and resolve cleaning issues ore general Shine duties first ities over time all repairs and painting into Shine input from workers once manager-approved diphotograph workplace TY TASK TIMES A. Eliminate obvious unclean areas B. Remove garbage regularly C. Create a list of locations to be checked daily A. Eliminate obvious unclean areas B. Remove garbage regularly C. Create a list of locations to be checked daily A. Provide proper non-damaging solvents B. Stock appropriate amount of cleaning supplies C. Assign individual to maintain supplies D. Ensure cleaning supplies will be accessible A. Create calendar with dates and times marked B. Rotate dates and times to eliminate conflicts C. Educate workers on proper procedures D. Develop cleaning checklist for work area E. Post calendar in work area for reference

STEP FOUR: STANDARDIZE

The backbone of the 5S System is "Standardize." This step helps facilities program previous steps into routine tasks. Standardizing steps also helps create uniformity in the workplace so 5S duties are seamlessly integrated into daily, weekly, and monthly work schedules.

Formulate Standards

Regular 5S team leader meetings should be used to formulate facility-wide 5S standards. Managers should consult workers for input during Standardize. Unnecessary or obsolete duties can then be pared from the list.

Once a formal duty list is developed, seek management approval for a standardized implementation. All potentially affected managers (maintenance, safety, production, etc.) should have an opportunity to review duty lists prior to implementation.

Once management has approved a list, work area maintenance standards can be uniformly applied throughout a facility. These new duty assignments and related checklists should be shared with workers and implemented immediately. Ensure assigned duties are strategically posted within work areas so they are clearly displayed and easy to reference. Duties can then be completed autonomously, decreasing management requirements and clarifying worker responsibilities.

Many other elements of the 5S System also require standardization. Document these standards and post them at strategic facility locations. As an example, in-house visual communication standards now should be documented. Minimum and maximum fonts and pictogram sizes should be described, along with a standardized system of color-coding.

Color-Coding

Colors help rapidly convey information to workers and others. Create a standardized color scheme in which colors are associated with hazard or safety categories, then communicate this scheme to employees so that all visual communication follows these standards. Post a printed legend for 5S visual communication at strategic facility locations. Make sure to follow all governing codes and standards. Reserve colors already established by OSHA/ANSI for their respective safety issues. This will reduce confusion and help increase recognition.

Workers must be encouraged to familiarize themselves with these new 5S label and sign standards. Adhere to them whenever new labels and signs are printed. Foster facility-wide acceptance by rarely changing color standards.



Continual Application

All steps in the 5S System should be continually applied to achieve total Standardization. Even though work environments will change over the life of a facility, each step must continue to function and be adapted to change. 5S team leaders should help the system evolve by involving workers in 5S meetings and seeking ideas to continually improve 5S standards. The net result is a system that remains relevant and is always helping a facility be the most efficient and safest workplace possible.

5S Standard Color Code



Safety

Green

Safety equipment, first aid, safety posters, recycle containers, exits, OSHA compliance



Equipment & Inventory

Blue

Machines, inventory lines & signs, inspection points, notices. OSHA compliance



Standards

Yellow or Orange

Machine guards, aisle walkways, operation standards, handrails & guardrails, cautions, warnings, OSHA compliance



Defects & Fire

Red

Scrap containers, firefighting equipment locations, sprinkler piping, tags for unused items



Total Process Management

White

Repair tools, total process management materials, cleanliness



Racks & Storage

Gray

Racks, warehouse, mold skids

This is a suggested color scheme for color-coding your facility. Other colors may be used. It is not a substitute for review of applicable standards.

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STEP FOUR: STANDARDIZE

Standardize Duty Lists

In the following sample duty lists, SHINE duties are organized on a spreadsheet and printed onto a label for posting within individual work areas:

5S SHINE DUTIES (MONDAY SWING-SHIFT)

JOB	DESCRIPTION	PERSONNEL	START TIME
STORE	Ensure all work-area items are in proper storage locations	NICK	11:15pm
SWEEP	Sweep and dust workplace from top to bottom	JEFF	11:30pm
WASH	Clean contaminants (dust, dirt or other debris)	JANET	11:45pm
EMPTY GARBAGE	Properly dispose of work-area garbage collected in cans	ROBIN	11:45pm
RESTOCK	Ready inventory, tools, and equipment for next shift	PHIL	11:50pm

Post weekly duty lists in 5S Team Leader work areas:

5S WEEKLY TEAM LEADER SHINE DUTIES (SWING-SHIFT)

MANAGE	DESCRIPTION	TEAM LEADER	DAY/TIME (30 min)
MEET	Team Leaders and workers resolve issues and share successes	LINDA	Mon/4pm
INSPECT	Review work-area conditions and document issues	LINDA	Tue/12pm
REPAIR	Direct workers in painting visible surfaces where necessary	ROBERT	Wed/5pm
REVIEW	Worker daily duty schedule, adjusted where necessary	LYNN	Thur/4pm
REFILL	Ensure workers have proper cleaning supplies for work areas	ROBERT	Fri/4pm

Post monthly duty lists in 5S Team Leader work areas:

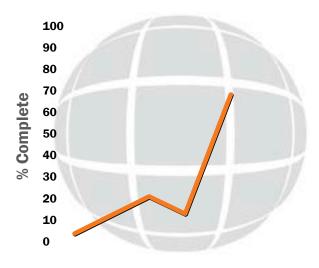
5S MONTHLY TEAM LEADER SHINE MEETINGS (SWING-SHIFT)

MANAGE	DESCRIPTION	TEAM LEADER	DAY/TIME (30 min)
SCHEDULE	Organize and manage 5S Committee Meeting	ROBERT	2nd Tue/4pm
REVIEW	Hold progress evaluation to discuss and resolve issues	LYNN	3rd Tue/4pm
FORMULATE	Look to improve current processes	ALL LEADERS	3rd Thur/4pm
SHARE	Inform workers of new implementations and seek feedback	LINDA	3rd Thur/11pm
IMPLEMENT	Seek management approval on changes and implement	LINDA	3rd Fri/4pm

Put STANDARDIZE into Action:

- 1. Managers meet regularly with workers to review the 5S System.
- 2. Implement employee-provided ideas once management approves.
- 3. Allow flexibility in 5S by providing room for continual adjustments.
- 4. Involve internal system leaders, such as ISO managers, in 5S to reduce system redundancies and improve support.
- 5. Update documentation to reflect system changes. Ensure 5S labels and signs describe new processes and methods.

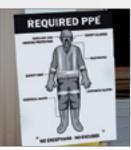
5S SHINE Swing-Shift Progress





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STANDARDIZE - REFERENCE FORM 4

Goal: Establish a formal 5S System policy

	Work Area			Date	Initials
STANDARDIZE CHECK	KLIST	QUICK REFERENCE STEPS			
Review current visual co	ommunication standards	1	STANDARDIZE PRE	PARATION	
Set visual communication	on standards for conformance and	A. A	• Assign tasks and formali	ze as policy	
Document new visual co	ommunication standards	B. 5	5S System reviews are h	eld regularly	
Post new standards at a are made	all locations where labels and signs	C. A	Allow for continual adjus	tments	
	nters are available to produce proper	D. I	nvolve other internal sys	stem leaders	
Meet with employees re	gularly to review 5S	2	DEVELOP COMMUN	IICATION	
Implement manager-ap	proved ideas immediately		-		
Continual adjustments	made, allowing 5S to evolve	A. S	Share employee feedbac	k with managers	
Involve other facility sys managers)	tem leaders (such as "ISO"	В. [Document worker feedba	ack	
	for suitable long-term use	C. F	Rapidly implement mana	agement approved ideas	
	ly implemented standards	D. F	Point out issues found fo	or immediate correction	
Managers notified of all					
All standards properly p coverage	osted near areas of use and	3	BEGIN IMPLEMENT	ATION	
Input continually sought	from workers	A. Share worker feedback with managers			
New worker training for	mally incorporates 5S education	B. Seek management approval			
Record duty task times		C. Rapidly implement management approved ideas			
Photograph current wor	k area conditions	D. Continue to seek feedback from employees			
4 HELP 5S TO GROW		5 KEEP EVERYONE INVOLVED			
A. Assure all managers are pa	rticipating	A. Encourage open dialog in all discussions			
B. Develop list of processes/s		B. Assure employees feel involved in the system			
C. Involve other process/syste			isten to ideas and take	•	
D. Integrate 5S into other existing activities			Continue to allow for adj		
D. Integrate 33 into other exis	ting activities	J. (
REGULAR WORK DUT	Y TASK TIMES				
Name	Duty			Time (Min:S	Sec)
	<u> </u>				



Sustaining 5S is the final step in implementation and helps maintain the system for the life of the facility. Previous steps should now be embedded into daily operations. Sustaining them keeps 5S functioning efficiently and providing maximum facility organization and efficiency.

Dedicate to Sustain

Workers should now be expected to routinely complete assigned 5S duties with little supervision. 5S duty schedules and posted procedures must be maintained to help promote continued self-management and reduce confusion. Integrate 5S education into existing new worker training programs. Workers will be expected to understand 5S from their first day on the job. Although 5S now functions autonomously, team leaders should never let their guard down and assertively monitor the system for issues. 5S leaders must work to set examples by following through on scheduled work-area inspections. Team leaders and other facility managers should have access to 5S calendars, listing meeting dates and times. A dedication to sustaining the system will become a catalyst for continued 5S success and inspire workers to embrace the 5S System.

Progress Evaluations

Monthly work-area progress evaluations are another important element of Sustain. These evaluations provide 5S team leaders and other managers an avenue to gauge successes. A custom rating system will help provide workers with the feedback they need to make improvements where necessary.

Progress evaluations are generally based on issues and successes documented during weekly work-area inspections. Awarding points for achieving goals will help accurately track work area progress. 5S team leaders may wish to award one point per duty when cleanliness standards are achieved and deduct two points when standards are not achieved.

Workers will eventually complete duties based on how points are awarded or deducted. Always explain why points were deducted so a worker knows where to improve.

Point System

Remember to be fair when awarding and deducting points. Workers will continue to support the 5S system so long as they feel scoring accurately reflects their performance. To eliminate doubt, workers should always see how co-workers are rated. This can be accomplished by posting scores within work areas after each inspection. Monthly totals and yearly goals can be included.

Revisit Steps

Now that the final step in implementation is nearing completion, go back and photograph the conditions of all work areas and re-record worker routine-task times. Make sure to collect current figures for production, profit, injury, and expenditures. Where possible, organize this data by work area and begin transferring ratings to spreadsheets. Use graphs and charts to provide workers and managers easy-to-understand visual progress reports.



Identifying 5S work areas helps workers recognize the areas they are responsible for.

5S MONTHLY PROGRESS EVALUATIONS (SWING-SHIFT)

REVIEW	DESCRIPTION	TEAM LEADER	DAY/TIME
STORAGE	Have items been returned to proper storage locations?		
SWEEPING	Is work area swept and dusted from top to bottom?		
WASHING	Are contaminants (dust, dirt or other debris) removed?	LINDA	Last day of month/11pm
GARBAGE	Has garbage been properly disposed of in work area?		
RESTOCKING	Are inventory, tools and equipment restocked for next shift?		

STEP FIVE: SUSTAIN

Visual Progress

Once a data collection system has been standardized, goals for individual work areas and entire facilities can be presented. Banners and signs, displaying 5S progress, should be placed at strategic locations to help workers visualize goals and feel they are achievable.

Maintaining an open dialog with workers is critical for 5S team leaders. Regular support and reassurance reinforces the system so each worker feels they are truly benefiting from its implementation.

Expanding the use of 5S beyond the work area is another excellent way to help sustain the system. When used in facility offices and other external departments, the importance of sustaining 5S is universally understood and receives even greater support. When goals are achieved, immediately communicate these successes to all workarea personnel. Internal publications, awards, signs, and even banners are all excellent devices to recognize achievements. Once workers feel good about their contributions, they will be motivated to sustain 5S and suggest improvements.

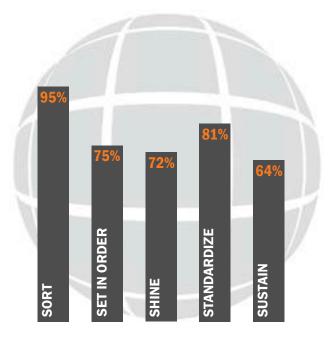
Progress tracking, as described in Standardize, can now be applied in each 5S step. When workers regularly see status reports and achievement goals, they're much more likely to achieve them. Start by posting results in work areas so 5S scores are seen daily.



5S ACHIEVEMENT

Facility Averages

August Average: 77.4%



A sample bar graph displays achievement scores for an individual month. These are used to recognize facility-wide achievement.

Put SUSTAIN into Action:

- 1. Provide workers formal calendars for work area inspections and meetings.
- 2. Hold scheduled work-area meetings and inspections.
- 3. Continue to document worker feedback and implement once management approved.
- 4. Communicate 5S successes using internal publications, signs, awards, and banners.
- Look to workers for 5S improvements and monitor success.
- Record duty task-times again and compare to earlier times.



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SUSTAIN - REFERENCE FORM 5

Goal: Formalize 5S System work area policy

	Work Area			Date	Initials
SUSTAIN CHECKLIST		QUICK REFERENCE STEPS			
Provide employees inspection and meeting calendar Hold scheduled work-area meetings and inspections Continue to document worker feedback Communicate successes with awards and banners Consider implementing an internal 5S publication Continue to regularly meet with other 5S team leaders Rotate facility-wide 5S team leader management duties		B. I C. <i>A</i>	SUSTAIN PREPARA Design calendars for each notice general tasks in Assure visual accessibility. Update as necessary	h work area calendar	
Record duty task times pe	eriodically	2	HOLD REGULAR MI	EETINGS	
— Photograph work-area conditions periodically — Store 5S records in a scrap book or electronic file — Include photographs in progress reports — Review facility progress — Periodically post results on facility-wide "Achievement Board" — Periodically review 5S team leader duties		A. Formalize work-area meetings B. Conclude meetings with inspections C. Address concerns during meetings D. Implement approved employee ideas			
3 LOOK TO WORK-AREA PERSONNEL FOR IDEAS			4 COMMUNICATE SUCCESSES		
A. Maintain an "open door policy" B. Involve employees in finding issue solutions C. Document employee suggestions D. Implement management-approved suggestions		A. Communicate successes immediately B. Utilize internal publications and awards C. Display successes with graphs D. Continuously look for 5S success			
REGULAR WORK DUT	Y TASK TIMES				
Name	Duty			Time (Mi	n:Sec)

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