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5S SYSTEM

Contents of the Best Practice Guide to 5S, A Lean Manufacturing Tool by Graphic Products, Inc.

pg 9 How does floor marking in your facility fit into the 5S step called Set in Order?

pg 14 Can such a simple task as sweeping the floor yield positive results under 5S?

Please feel free to share this with someone else who could use it.

Thank you!

5S Overview

INTRODUCTION

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. The literal translation of: Seiri is tidiness, Seiton is orderliness, Seiso is cleanliness, Seiketsu is standardization and Shitsuke is 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 popularly used 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 a popular Japanese system, 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 popularly used 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 spectacular results.

A Cycle of Efficiency

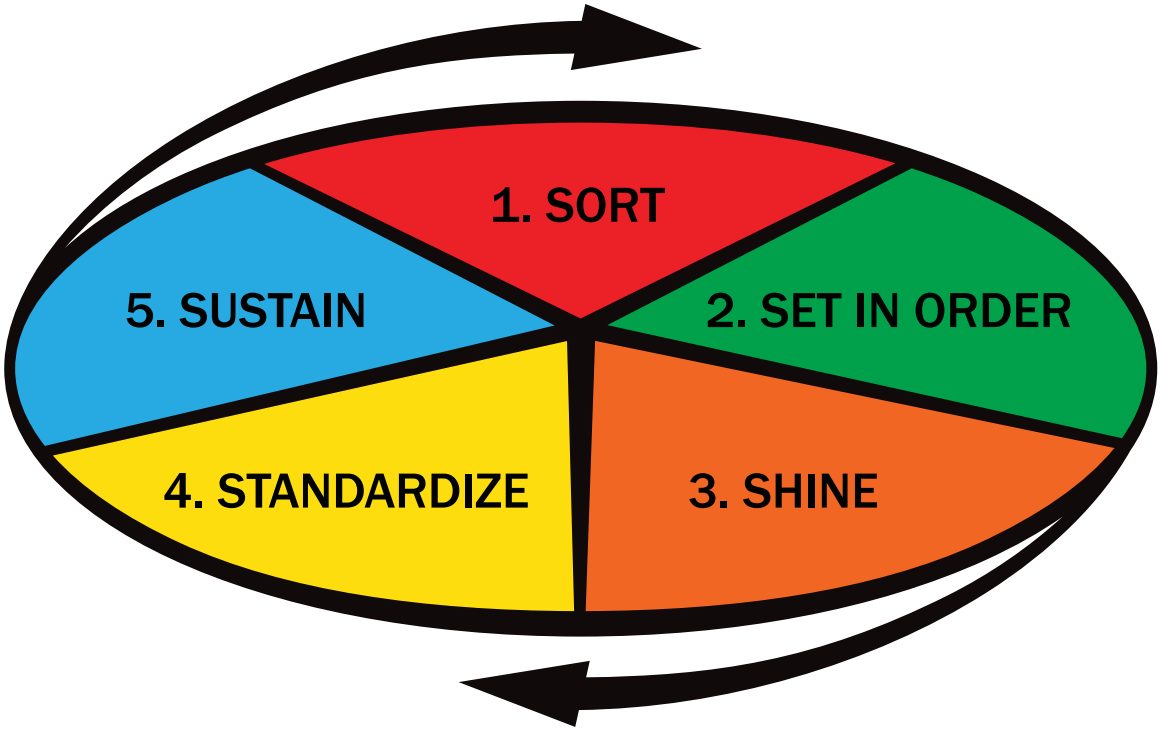
5S is comprised of five easy-to-remember steps, as described in the flowchart below. Each step plays an integral role in helping facilities successfully implement and sustain the system. Once each step has been implemented, 5S should function indefinitely. To achieve this level of sustained success, 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). Involving affected managers 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 participation in 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 flowchart

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, 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.

Keeping detailed records of work area routines is critical to achieving 5S success.

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% - bringing it well below the industry average. The drop also resulted in a 50% 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 5S BENEFITS

Increases

- Safety and morale
- Product quality
- Extended 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

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 2005 online survey conducted by America Online®, Salary.com® and a 2008 survey by Microsoft® found workers waste an average of over 2 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.

Research completed by the Wisconsin Manufacturing Extension Partnership (WMEP) found visual communication was an effective tool in helping improve efficiencies at a local metal fabrication plant. Data collected showed the plant increased inventory turns 67%, reduced inventory by 35% and increased on-time shipping to 99%.

In similar research conducted at a window manufacturing facility, WMEP found 5S helped increase productivity by 35% and decrease overtime by 45%. These statistics offer a glimpse of what is possible for facilities willing to move forward on their own 5S implementations.

> *"You may not have realized it before now, but you won't get lean – **until you get visual**…The foundation of these tools used to implement Lean is visual systems. That's because the waste we're trying to eliminate comes directly from a lack of information. Specifically – from hundreds – even thousands – of information deficits in our workplaces."*
>
> – Rhonda Kovera
> Toyota® Production System (15 years)
> *"You Won't Get Lean Until You Get Visual!"*
> measureupforsuccess.com

STEP ONE: SORT

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 their 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 items meeting criteria for removal, 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.

Red floor markings help workers visualize red tag storage zones at central facility locations and near work areas.

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

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 5 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.

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:

1. 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

Identifying unnecessary items with red tags helps workers distinguish what will be eliminated from the workplace.

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Greg,
Michelin

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REFERENCE FORM 1

Goal: Eliminate nonessential workplace items

Work Area	Date	Initials

SORT IMPLEMENTATION CHECKLIST

___ 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
___ Central red-tag zone established and marked
___ Red-tag zone storage times established
___ Duty task-times recorded

QUICK REFERENCE STEPS

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
C. Safely move red-tag items to work area zone
D. Allow personnel to review and retrieve items

3 "WORK AREA" RED-TAG ZONES

A. Dedicate a space for work area red-tag zone
B. Ensure space is adequate and easily accessible
C. Clearly mark with signs and floor tape to eliminate confusion
D. Set storage expirations, so items rotate out regularly
E. Divide into "infrequently" and "unused" sections

4 "CENTRAL" RED-TAG ZONE

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

REGULAR WORK DUTY TASK TIMES

Name	Duty	Time (Min: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.

Floor marking is an excellent way to visually communicate permanent storage locations for large items or equipment.

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 critically 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 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 log book. Keeping a written record prevents lost or misplaced storage. Educate workers to recognize locations where labels and sign 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.

Pipe markers help describe pipe contents and direction-of-flow.

Floor marking identifies locations where people travel and equipment is stored.

Tagging provides a flat surface to display critical operation information.

With proper visual communication, a facility works safer and is much more efficient. Safety equipment, inventory and tools are more likely to stay in order because storage locations are well identified.

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
- Stick to in-house labeling standards facility-wide
- Consider electronic visual and auditory alerts where beneficial

Locations where PPE is required should always be identified by a label or sign. This informs workers how best to protect themselves from hazards and aids facilities in national standard and state code compliance.

OSHA RTK standards require employers to label hazardous chemicals stored in the workplace. The labels used must clearly describe a chemical's hazard level. DuraLabel RTK Color Bar Labels come in standardized designs to help your facility comply with OSHA RTK laws.

Inventory & Material

- Adhere "Right-to-Know" (RTK) 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
- Place facility maps at strategic locations
- Label safety stations with instructions

Ensure labels and signs are easy to read and include all of the critical information necessary to visually communicate. Clear and explanative labels give workers the right information so they respond safely and efficiently. DuraLabel labels and signs supplies, designed for use in the industrial workplace, provide the maximum service to help your facility operate more efficiently.

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REFERENCE FORM 2

Goal: Dedicated storage areas for all workplace items

Work Area	Date	Initials

QUICK REFERENCE STEPS

1 DOCUMENT HAZARDS, TOOLS AND INVENTORY

A. Prioritize regularly used items for labeling/signage
B. Evaluate effectiveness of current labeling/signage
C. Develop uniformity in all labeling/signage
D. Focus on providing easily identifiable labeling/signage

2 ENSURE PIPES & UTILITIES ARE CLEARLY IDENTIFIED

A. Mark pipes so regulations and standards are met
B. Mark with appropriately sized labels/signs
C. Lockout/Tagout appropriate utilities with identifiable labeling/ signage
D. Properly identify pipes or utilities containing hazards

3 PROPERLY IDENTIFY SAFETY HAZARDS

A. Review governing codes and standards for labels and signs
B. Ensure hazard labels/signs meet regulations and standards
C. Review workplace features to identify hazardous areas
D. Document worker identified hazards and mark appropriately

4 PRIORITIZE REGULARLY USED ITEMS FOR LABELING

A. Document regularly used items with dates to determine necessity
B. Locate higher value items and store in close proximity to work area
C. Properly label tools and inventory storage areas
D. Identify wall stored tools with “Shadow Labeling”

5 LABEL UTILITY & EQUIPMENT GAUGES

A. Ensure utility labels/signs meet regulations and standards
B. Check for appropriate utility label/sign size
C. Mark utilities with easily identifiable labeling/signage
D. Ensure utilities containing hazards are properly identified

6 INSPECT PERSONAL PROTECTION EQUIPMENT

A. Ensure OSHA standards are met
B. Evaluate PPE reliability and condition
C. Document and correct issues found
D. Train all workers on proper use

LOG OF ITEMS RELOCATED

Item	New Location *(use landmark)*

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 to be 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 removal.

Workers must have access to the right cleaning supplies to put Shine into action. These are supplies designed 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 its importance.

Reducing clutter and debris around equipment improves workplace safety and worker efficiency.

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. It's impact on a facility, however, will often ripple well beyond work areas. Shine is known to positively influence entire facilities. Even seemingly unrelated departments, such as sales, can experience real benefits from Shine.

Cleaner work environments improve morale, safety and motivate workers to maintain clean work areas. However, 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.

Maintaining a clean facility can have many unforeseen benefits.

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.

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

Even simple tasks such as sweeping provide significant benefits.

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REFERENCE FORM 3

Goal: Maintain a clean & safe work environment

Work Area	Date	Initials

SHINE IMPLEMENTATION 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, continue to seek input from workers
___ Act on worker suggestions once manager-approved
___ Record duty task-times and photograph workplace

QUICK REFERENCE STEPS

1 SHINE PREPARATION

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

2 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 & 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

REGULAR WORK DUTY TASK TIMES

Name	Duty	Time (Min:Sec)

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.

5S duties are best standardized with a work area duty-list. Within this list, workers' names should be associated with a new duty each day so each worker feels they are doing their fair share. 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.

Uniform facility labels and signs breed efficiency. Workers recognize what they are communicating quicker and more clearly.

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. Associate a color with each item category so they are recognized instantly and from a distance. For this to function properly, workers must have a way to reference color associations. 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.

A 5S Standard Color Code Guide, like the one above, is available free from Graphic Products.

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:

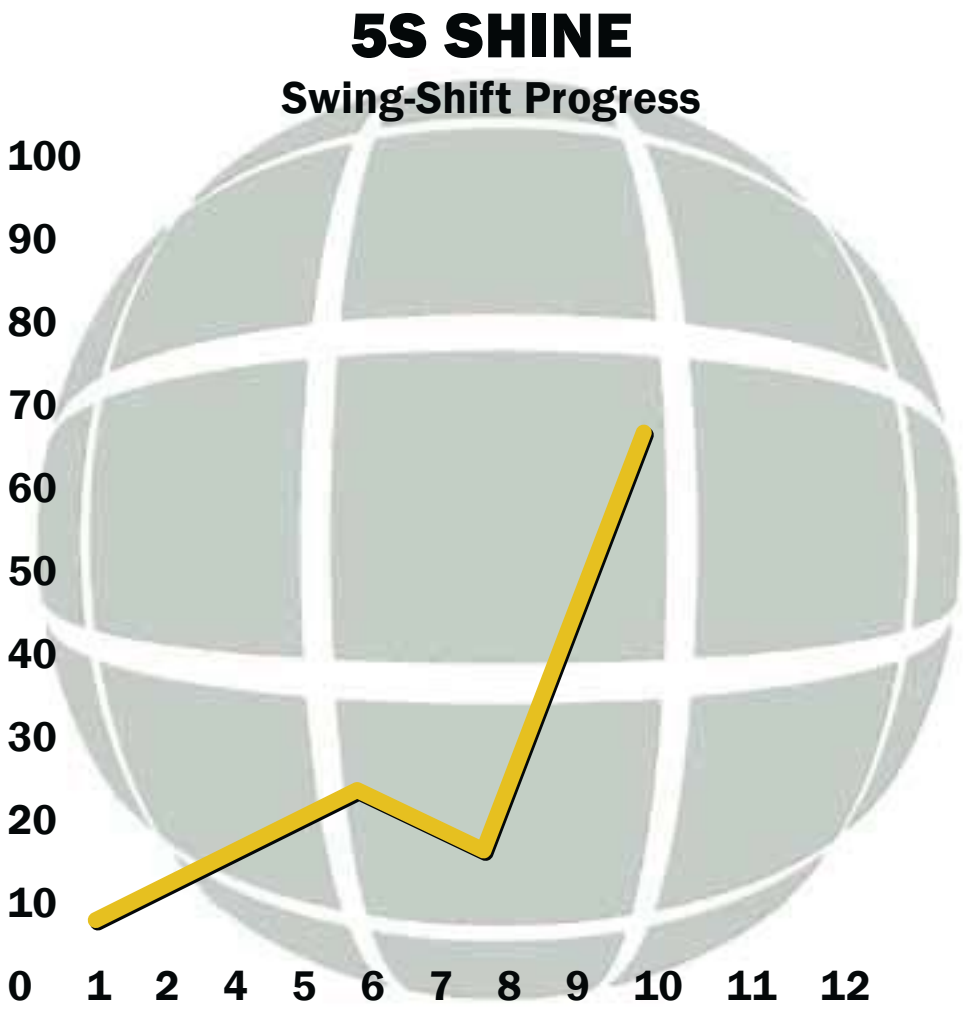
5S WEEKLY TEAM LEADER SHINE DUTIES (SWING-SHIFT)			
MANAGE	**DESCRIPTION**	**TEAM LEADER**	**DAY/TIME** *(30 min)*
MEET	Team Leaders and workers resolve issues and share successes	LINDA	Mon/4pm
INSPECT	Review work-area conditions and document issues	LINDA	Tue/12pm
REPAIR	Direct workers in painting visible 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



Progress charts should be displayed as banners and posted at a central location. Successes and failures should be clearly visible in these charts. Workers can then track their achievement and managers can set facility goals. Progress charts are generally based on a standardized point system developed by 5S team leaders.

REFERENCE FORM 4

Goal: Establish a formal 5S System policy

Work Area	Date	Initials

SORT IMPLEMENTATION CHECKLIST

___ Review current visual communication standards
___ Set visual communication standards for conformance and uniformity
___ Document new visual communication standards
___ Post new standards at all locations where labels and signs are made
___ Assure supplies and printers are available to produce proper labels
___ Meet with employees regularly to review 5S
___ Implement manager-approved ideas immediately
___ Continual adjustments made, allowing 5S to evolve
___ Involve other facility system leaders (such as "ISO" managers)
___ Duty calendar updated for suitable long-term use
___ Workers notified of newly implemented standards
___ Managers notified of all standards
___ All standards properly posted near areas of use and coverage
___ Input continually sought from workers
___ New worker training formally incorporates 5S education
___ Record duty task times
___ Photograph current work area conditions

QUICK REFERENCE STEPS

1 STANDARDIZE PREPARATION

A. Assign tasks and formalize as policy
B. 5S System reviews are held regularly
C. Allow for continual adjustments
D. Involve other internal system leaders

2 DEVELOP COMMUNICATION

A. Share employee feedback with managers
B. Document worker feedback
C. Rapidly implement management approved ideas
D. Point out issues found for immediate correction

3 BEGIN IMPLEMENTATION

A. Share worker feedback with managers
B. Seek management approval
C. Rapidly implement management approved ideas
D. Continue to seek feedback from employees

4 HELP 5S TO GROW

A. Assure all managers are participating
B. Develop list of processes/systems already in place
C. Involve other process/system leaders
D. Integrate 5S into other existing activities

5 KEEP EVERYONE INVOLVED

A. Encourage open dialog in all discussions
B. Assure employees feel involved in the system
C. Listen to ideas and take notes
D. Continue to allow for adjustments

REGULAR WORK DUTY TASK TIMES

Name	Duty	Time (Min:Sec)

STEP FIVE: SUSTAIN

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 helps 5S to keep functioning efficiently and providing maximum facility organization and efficiency.

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 coworkers are rated. This can be accomplished by posting scores within work areas after each inspection. Monthly totals and yearly goals should 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 also 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?	LINDA	Last day of month/11pm
SWEEPING	Is work area swept and dusted from top to bottom?		
WASHING	Are contaminants (dust, dirt or other debris) removed?		
GARBAGE	Has garbage been properly disposed of in work area?		
RESTOCKING	Are inventory, tools and equipment restocked for next shift?		

Posting achievements within facilities will promote continual improvement.

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 facility locations to help workers visualize goals and feel they are achievable.

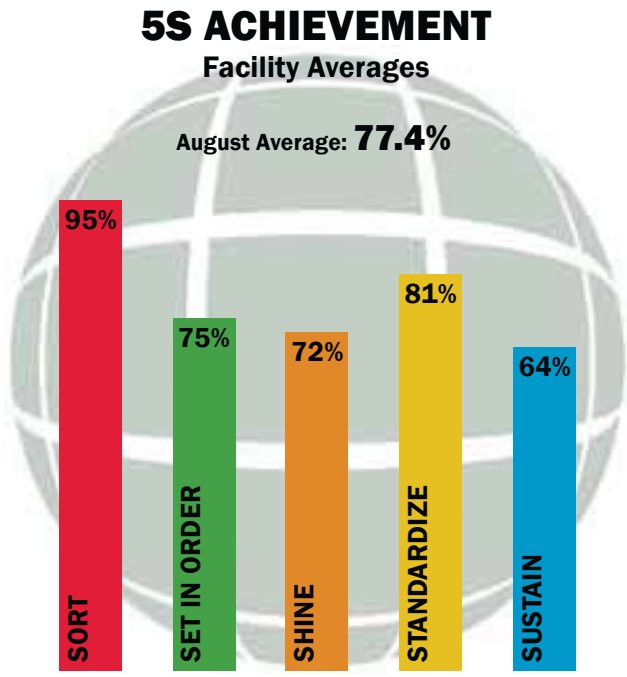
Maintaining an open dialog with workers is critical for 5S team leaders. Regular support and reassurance reinforces the system so each worker feels they are truly benefiting from its implementation.

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 work-area 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.

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
5. Look to worker for 5S improvements and monitor success
6. Record duty task-times again and compare to earlier times



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

REFERENCE FORM 5

Goal: Formalize 5S System work area policy

Work Area	Date	Initials

SUSTAIN CHECKLIST

___ 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
___ Record duty task times periodically
___ 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

QUICK REFERENCE STEPS

1 SUSTAIN PREPARATION

A. Design calendars for each work area
B. Include general tasks in calendar
C. Assure visual accessibility to calendar
D. Update as necessary

2 HOLD REGULAR MEETINGS

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

A. Maintain an "open door policy"
B. Involve employees in finding issue solutions
C. Document employee suggestions
D. Implement management-approved suggestions

4 COMMUNICATE SUCCESSES

A. Communicate successes immediately
B. Utilize internal publications and awards
C. Display successes with graphs
D. Continuously look for 5S success

REGULAR WORK DUTY TASK TIMES

Name	Duty	Time (Min:Sec)

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