Materials and its Characterization
Vol: 2(3), 2023
REST Publisher; ISBN: 978-81-948459-0-4
Website: https://restpublisher.com/book-series/mc/

Implementation of 5s Practices In the Company

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Abstract.5S is one of the tools of Lean Management enabling them to organize work in an effective way. It could be implemented in all spheres of the company. The article provides the theoretical description of Lean Management and 5S and also shows a case study based on gained experience. The author also describes the problems that occurred during the implementation of the 5S.

1. INTRODUCTION

5S is a workplace organization method that uses a list of five Japanese words: seiri ,seiton , seisō, seiketsu, and shitsuke. These have been translated as "sort", "set in order", "shine", "standardize", and "sustain".[1] The list describes how to organize a work space for efficiency and effectiveness by identifying and storing the items used, maintaining the area and items, and sustaining the new organizational system. The decision-making process usually comes from a dialogue about standardization, which builds understanding among employees of how they should do the work.5S is a five-step methodology for creating a more organized and productive workspace: Sort, Set in order, Shine, Standardize, and Sustain. 5S serves as a foundation for deploying more advanced lean production tools and processes.Many manufacturing facilities have opted to follow the path towards a 5S lean manufacturing system as part of a continuous improvement program or lean manufacturing process. The 5S system is part of Toyota's Lean Manufacturing methodology designed to reduce waste within your facility.The 5S methodology1 is typically the first step towards in eliminating waste from manufacturing processes and eventually leads to improving bottom-line results. There are five pillars in 5S, which stand for: Sort, Set in Order, Shine, Standardize, and Sustain. The goal of a 5S program is to get products closer to operations and workers, organized and labeled to eliminate wasted time and materials.The 5S philosophy is "a place for everything and everything in its place," is a mantra of UNEX. We help you find the right space optimization solution that eliminates wasted time, underutilized space, and lost inventory. The result of a 5S lean manufacturing implementation is a significant reduction in space needed for existing operations. Workers improve their workspaces by cleaning and organizing them.Tools and materials are labeled and stored in organized storage locations. Shelving and racks optimize the storage of items in a smaller footprint, helping to improve the order picking process by eliminating the need to search for things.

1S:-SortSort through materials, keeping only the essential items needed to complete tasks. (This action involves going through all the contents of a workspace to determine which are needed and which can be removed. Everything that is not used to complete a work process should leave the work area.)Seiri is sorting through all items in a location and removing all unnecessary items from the location.

Goals:

1. Reduce time loss looking for an item by reducing the number of unnecessary items.
2. Reduce the chance of distraction by unnecessary items.
3. Simplify inspection.
4. Increase the amount of available, useful space.
5. Increase safety by eliminating obstacles.

Implementation:

1. Check all items in a location and evaluate whether or not their presence at the location is useful or necessary.
2. Remove unnecessary items as soon as possible. Place those that cannot be removed immediately in a 'red tag area' so that they are easy to remove later on.
3. Keep the working floor clear of materials except for those that are in use for production.

2S: - Set in OrderEnsure that all items are organized and each item has a designated place. Organize all the items left in the workplace in a logical way so they make tasks easier for workers to complete. This often involves placing items in ergonomic locations where people will not need to bend or make extra movements to reach them.Seiton is putting all necessary items in the optimal place for fulfilling their function in the workplace.

Goal:

1. Make the workflow smooth and easy

Implementation:

1. Arrange work stations in such a way that all tooling / equipment is in close proximity, in an easy to reach spot and in a logical order adapted to the work performed. Place components according to their uses, with the frequently used components being nearest to the workplace.
2. Arrange all necessary items so that they can be easily selected for use. Make it easy to find and pick up necessary items.
3. Assign fixed locations for items. Use clear labels, marks or hints so that items are easy to return to the correct location and so that it is easy to spot missing items.

3S:- ShineProactive efforts to keep workplace areas clean and orderly to ensure purpose-driven work. This means cleaning and maintaining the newly organized workspace. It can involve routine tasks such as mopping, dusting, etc. or performing maintenance on machinery, tools, and other equipment.Seiso is sweeping or cleaning and inspecting the workplace, tools and machinery on a regular basis.

Goals:

1. Improves the production process efficiency and safety, reduces waste, prevents errors and defects.
2. Keep the workplace safe and easy to work in.
3. Keep the workplace clean and pleasing to work in.
4. When in place, anyone not familiar to the environment must be able to detect any problems within 15 metres (50 ft) in 5 seconds.

Implementation

1. Clean the workplace and equipment on a daily basis, or at another appropriate (high frequency) cleaning interval.
2. Inspect the workplace and equipment while cleaning.

4S:- StandardizeCreate a set of standards for both organization and processes. In essence, this is where you take the first three S's and make rules for how and when these tasks will be performed. These standards can involve schedules, charts, lists, etc.Seiketsu is to standardize the processes used to sort, order and clean the workplace. Goal:

5S: - SustainSustain new practices and conduct audits to maintain discipline. This means the previous four S's must be continued over time. This is achieved by developing a sense of self-discipline in employees who will participate in 5S.

2. GROWTH OF COMPANY WITH USE 5S SYSTEM

Initially gaining popularity through its usage in improving manufacturing processes, companies outside of the manufacturing industry discovered that the 5S methodology was versatile enough to be used for other types of business operations. Below are some of the top industries that benefit from the 5S methodology.

3. OBJECTIVE OF THE STUDY

To know the implementation of useful tools for creating an effective work environment without bothersome and useless influences to observe proper practices in and also study the employee welfare facility through 5s practices.

4. DATA ANALYSIS AND INTERPRETATION

1. PPE Non-compliance register are available in the plant.
2. First aid box is available
3. Scarp yard is available in the plant
4. Settling tank are available
5. Daily chipping and cleaning activity followed regularly
6. Viability of LOTOTO system
7. Fastrack incident reporting

Safety Aspect of Plant

1. Plant
2. Site
3. Vehicle

5. CONCLUSION

Due to implementation of 5S, there was improvement in space utilization, reduce unnecessary movement, creating integrated maintenance system, reduce time to find the tools and material, increase safety of the employees, decrease scope of error, increase productivity, and improved inventory system, also increasing of machines' efficiency, maintain the cleanness of tools and material, maintain the workstation cleanness, easy to check, quick informing about damages (potential sources of damages) and improve working environment.The result of implementation of 5S is 400m square space saving in the plant department, much movement of men, material is reduced. Awareness of the 5S concept indirectly improved the morale of employees with better working environment. Periodically 5S scorecards should be checked and 5S auditing should be carried out for long term benefits to the organization.Repair and maintenance of heavy equipment activities are performed in less time and with a considerable decrease in the cost, with an increase in available space dedicated to the equipment. After that, it also decreases the preparation time, maintenance costs, the anomalies identification time and the accident rate.

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