

About the 5S methodology - Anna Avraham



SASMA - [Anna Avraham](#)

The 5S practices is an abbreviation originating from five Japanese words: **SERI - SEITON - SEISO - SEIKETSU - SHITSUKE** [1÷2].

They are as follows: **TIDINESS - ORDERLINESS - CLEANLINESS - STANDARDIZATION - DISCIPLINE.**

The general meaning of those words is:

TAKING CARE OF TIDYNESS AND THRIFTY MANAGEMENT at all times, everywhere, with regard to you and your surroundings.

The interpretation of 5S is as follows:

TIDINESS- is the sorting and selection of unnecessary and not used things, getting rid of them or disposing them from a given place.

ORDERLINESS - is the sorting of needful/useful things in a systematic and organized way; the more often a thing is used the more easily accessible it should be, within hand reach, or it should be in a visible and clearly labeled or demarcated place.

CLEANLINESS - is a thorough cleaning, vacuuming, tidying, renovation (re-decoration) and organizing of your work place and its surrounding.

STANDARDIZATION- is the constant keeping of your working place, whereabouts, its surrounding and of course yourself in order, cleanness and neatness.

DISCIPLINE- is the application and maintaining of discipline especially in relation to yourself but also to your associates; it is encouraging your associates to joint participation in maintaining 5S, teaching and training- giving a good example, taking care of the environment and health and safety in your working place.

If we thing about the good image and reputation of the company, we cannot carry out a single S separately and in isolation from other S'es or actions. This has tremendous influence on market economy, where competitiveness regulates the success of an enterprise or the social

acceptation of the institution or organization. Therefore, the 5S practices are implemented stressing the fact that they should be introduced and applied together, fully and effectively. [1]

Implementing 5S practices in practice.

The implementation of 5S practices is done with the help of an external company. An implementing team is appointed the composition of which comprises the company's director, representatives of the managerial personnel and specialists. The implementation of the 5S program comprised several stages: training for the managerial personnel from the scope of the 5S rules, drawing up of the plant's lay-out with the appointment of leaders for particular sectors, training for the sector leaders from 5S rules, conducting instructional lessons.

Each step of the 5S practices functions according to the following schema: training, thematic lesson, carrying out of works planned for a particular stage, certificating audit of this particular stage, initiation of the next step's implementation, patrols of the previous stage, consultation, improvement actions.

Depending on the production specification in each plant, a different number of sectors is applied for each plant. In plants where there is the biggest diversity of produced goods, the biggest number of works carried out and biggest number of employees, the biggest number of sectors is applied, i.e. usually more than 30 sectors. Therefore the implementation of the 5S program in such plants is a major challenge for the implementing team.

STAGE 1- selection

The aim of the first stage of the 5S program is to clearly differentiate the objects which are useful and needful from those which are redundant and to eliminate those which are not useful. A thematic lesson on this subject is carried out. These rules govern those lessons: **ONLY** those things should be left which are useful and needful, as much as is needed, only when they are needed.

The main principle is: **IF YOU HAVE ANY DOUBTS- THROW IT AWAY!**

The tool which is used in the 1st stage of the 5S program are "red cards" (Fig. 1).



Fig. 1. "Red card" - a tool used in the first stage of the 5S program.

With the use of red cards employees of particular sectors mark places where a problem concerning proper order of working place occurred or places which require intervention from other departments or decisions of superiors (picture 1÷4). For each red card a schedule of further actions is drawn up by sector leaders in cases when the indicated object, machine or device could not have been removed immediately. In the schedule the removal date and person responsible for it is specified. At the same time during the red card action as well as in a later stage, a problem list of each plant's sector is drawn up. The problems are written down on corrective actions lists and handed over to persons who are responsible for their carrying out.

Below are visualization examples:



Fot. 1. Regał na sortowni



Fot. 2. Puszka elektryczna na wydziale pras



Fot. 3. Magazyn techniczny



Fot. 4. Warsztat mechaniczny

Picture 1÷4. Examples of red cards usage in different sectors of a plant.

Leaders and employees of different sectors have to fulfill the regulations and principles of the first stage of the 5S program. The implementation of the first stage is closed with a certification audit carried out together with a consulting company. In order to receive the certificate, a sector has to get at least 85 out of 100 points in the 5S SASMA form. All sectors of a company have to get the certification of the first stage.

After the 1st stage is finished a patrol schedule and patrol form is drawn up. These documents are placed as forms for the integrated management systems procedure- Internal audits.

STAGE 2- systematics

The aim of the second stage of the 5S program is to determine the proper way and place in which all things useful and needful for a unit (tools, means of transport, materials, raw materials, half-finished products) will be stored and to introduce established marking standards. Moreover, we design and manufacture for example Shadow-Style Store-Boards for cleaning corners and Shadow Boards for tool boxes. We also systemize waste management by means of established vertical labeling/signs as well as color labeling.

The vertical and horizontal labeling/signs placed as appendixes for the integrated management systems procedure- for example Identification and traceability of materials and products. Horizontal signs standards are shown on pictures 5÷8, and vertical signs standards on pictures 9÷10.



Fot. 5. Ciągi komunikacyjne



Fot. 6. Lokalizacja mebli



Fot. 7. Lokalizacja palety



Fot. 8. Oznaczenie schodów

Fot. 5÷8. Standardy oznakowania poziomego



Fot. 9. Magazyn kartonów



Fot. 10. Regały z ekranami drukarek

Fot. 9÷10. Standardy oznakowania pionowego

Picture 5÷10. Horizontal & vertical signs standards

In picture 11 we can see waste sign standards, segregated in bags: blue- partially used, red- plastics, green- glass, black- commercial wastes. In picture 12 we can see segregated waste sign standards in containers: for partly clean waste, partly used waste, plastics, scrap metal.



Fot. 11. Odpady w workach



Fot. 12. Odpady w pojemnikach

Picture 11÷12. Waste sign standards

In picture 13÷14 we can see Shadow Boards for cleaning corners and Shadow Boards for tool cupboards/lockers.



Fot. 13. Kącik czystości



Fot. 14. Szafka narzędziowa

STAGE 3- cleaning

The aim of the third stage of the 5S program- Cleaning is:

- Incorporating cleaning to the normal production activity.
- Determining: where to clean, who should clean, how to clean, what tools to use while cleaning.
- A radical change of behavior.

Each cleaning is at the same time AN INSPECTION!!!

We develop and introduce cleaning schedules for each sector of a plant, which determine the basic rules and principles of the third stage, that is who should clean, where to clean and how to clean. Additionally a list of waste sources should be drawn up as well as activity lists, which should be done within the scope of this stage. In the pictures an incorrect state (anomaly) and a correct state (desired) in a given are was shown.

Summary

Implementation of the first stage of the 5S program allows to sort and arrange work place and entire sectors/departments: elimination of all items, tools and materials which are redundant or useless. A range of solutions following the KAIZEN methodology and philosophy were introduced (visualization of the shelves content, file labeling in the technical department).

Implementation of practices from the second stage results in the standardization of material, half-finished products and all tools and devices storage places labeling/signing. Shadow Boards which sort and order the way in which tools are stored were introduced. Moreover they regulate their access. Additionally Shadow Boards enable to control the technical state of those tools. The transport routes which were determined improve work safety of all means of transport which move around the plant as well as of all pedestrians. A series of patrols, which help maintain the achieved state after implementation of the first stage of 5S program is carried out.

Actions undertaken in the third stage of the 5 practice clearly determine how work places/areas should look like and how to maintain their proper state. At the same time works on implementing the fourth stage of the program are carried out. that is standardization of rules and behavior, specification of mess and untidiness sources and eyesight management.

Within the scope of the 5S program we develop a system of improvement conclusions. An employee in the improvement suggestions from presents his improvement suggestions, specific solutions, which are examined by an appropriate commission. After approval the suggested improvement is introduced and the employee receives an adequate award pursuant to the current award regulations, which is an indispensable part of the entire system.

It should be noted, that the implementation of the 5S system is not an easy task and requires an implementing team, sector leaders and enormous effort and involvement in the process. Changing stereotypes, employees habits and building new employee mentality is an utmost difficult task. While implementing a given stage of the 5S system at a given time we should systematically "renew" all actions introduced in the first stages by means of regular patrols.

The implementation of the 5S practices is now a more and more common practice. Actions connected with this philosophy of work organization and improvement allow constant development of an organization. This is not an easy task. It requires considerable effort but the benefits are notable and the company can become a model for other organizations to follow.

Bibliography:

[1] Pawlak W. R., Praktyki 5S w przedsiębiorstwach i instytucjach, czyli dbałość o porządek i skrzętne gospodarowanie, Wydawnictwo Informacji Zawodowej Weka Sp. z o.o., Warszawa 2000 r.

[2] Gwiazda P., Praktyki „5S” - pierwsze kroki na drodze do sukcesu, ABC Jakości. Akredytacja. Certyfikacja. Quality Review, Nr 3 (31) 2002 r.

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