

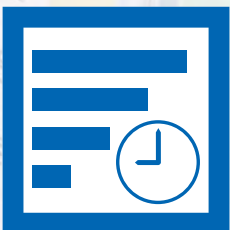
WEIGANG

Motivation through Organisation



TPM Master Plan
Krones AG Nittenau Plant

Reference





Krones AG

At a trade fair, Fritz Lanzl, TPM coordinator at the Krones AG Nittenau plant, informed himself about the planning board PLANO of the company **WEIGANG**. He immediately recognised that this board is ideal for the structured and precise illustration of the TPM master plan and the process progress. The auditing for the bronze TPM Award is held in December. Until then, projects of the planned and autonomous maintenance have to be carried out, and, in addition, guidelines for the registration of losses and the training of employees. “We can very flexibly work with the planning board. Schedule deviations are visible at a glance and postponed deadlines can be implemented straight away”, Fritz Lanzl explains. In this way, there is always a current planning basis available at the regular meetings of production managers, coordinators and plant managers. Although data are also available in electronic format, their transferring onto the planning board is worth the effort according to Lanzl: “With the board, we know at a glance at what stage we are”. Before the planning board was introduced, a new large-format printout was made for every change of date. Now, the planning can be changed by simply changing the position of a cardboard strip, and an overview on the next six months is guaranteed.

Continuous Improvement with TPM

Krones AG with headquarters in Neutraubling was founded in 1951. The company plans, develops, produces and installs machines and complete facilities for the sectors process, filling and packaging technology as well as for intralogistics. The Nittenau plant produces complete assemblies for new machines. For more than 10 years, Krones AG has been walking the path of Continuous Improvement with TPM (Total Productive Management). As a milestone, the Nittenau plant is striving for the bronze CETPM Award for Operational Excellence.



Reference Model for Operational Excellence

The Award by the CETPM (Centre of Excellence for TPM) requires that a company fulfils certain criteria. These criteria follow the reference model for Operational Excellence (c.f. diagram). The model aims at customer satisfaction and is based on eight pillars. For every pillar, different Lean Management methods are available. These are applied individually – according to the situation and needs of a company. In order to prepare for an auditing by the CETPM, it is recommendable to have a master plan for a target-oriented approach.

The Planning Board Type Planning System “PLANO”...

is excellently suited as a basis for the TPM master plan. It has a continuous frame and is expandable as needed. A utensil tray which is hooked in at the lower frame profile serves as storage place for pre-labelled data cards. The board in the Krones AG Nittenau plant has a width of 2.560 mm and a height of 960 mm.

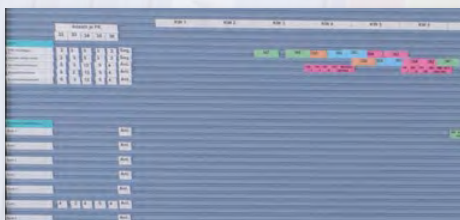
It offers enough space to illustrate planned and completed activities and measures. The projects are listed very clearly structured in 76 rows. The board is divided into 20-mm columns which are marked by black vertical lines. The TPM master plan is configured as follows:

On the left side, the eight TPM pillars are shown as well as the production units to be audited. Here, the digit 32 represents the labelling technology, 33 the large-part production area, 34 the plastics technology, 35 the filling technology and 36 the sawmill and the tool manufacturing.

Practical Example – Planning Board PLANO

The 8 Pillars ...

... of the reference model for Operational Excellence are labelled and contrasted with the help of blue data strips made of cardboard. The first pillar "CIP" is in turn divided into TPM basics, recognising losses, listing of losses, stop sign process and shop floor management. Under Pillar 2 "Autonomous Maintenance" and pillar 3 "Planned Maintenance" the levels planned as well as the audits are listed. The levels achieved by the production units are illustrated under the item "audit".



The Abbreviations ...

... mach. and seg. stand for machines and segment. Segment means that trainings are held here and that several staff members are trained at the same time. The abbreviation mach. stands for an individual machine as for example a lathe and/or milling machine at which an operator-oriented training is held.

A Time Axis ...

... which extends to the right above the 8 pillars allows a planning horizon of half a year. These six months are divided into weeks; one week is represented by 4 columns with a width of 20 mm each. For the measures to be planned, coloured data strips are at hand, establishing a relation to the production units: orange for PU 32 = labelling technology, green for PU 33 = large-part production area, red for PU 34 = plastics technology, blue for PU 35 = filling technology and yellow for PU 36 = tool manufacturing/sawmill.

On the Cardboard Data Strips ...

... the segment designations, the machine designations as well as the machine numbers are listed. With 40 mm, the length of the cards is suitable for the representation of two measures per week. If needed, the cards can be placed one above the other. In this way, it is possible to visually represent several measures in one week.

A Training Plan for the Employees ...

... as well as the results of internal audits are also represented by simply inserting data strips into the planning board. Thus, progress is visible at any time. A moveable vertical rail ensures that reference to the rows is not lost during planning. Analogous to the left side of the planning board, the rail contains the eight pillars with the sub-items.



On the board, it can be recognised which measure is carried out at which machine and/or in which segment in which week, for example TPM basics in the CIP pillar.

One Reason for the Acquisition ...

... of the PLANO Planning Board was that Krones AG wanted to represent the progress in the target achievement visible for everyone. The status of the machines, i.e. at which level they are, is represented visually. The TPM Award for Operational Excellence is a corporate objective which requires that approximately 30 % of the machines reach level 3 of the Autonomous Maintenance. How long this way still is can be seen on the master plan of the PLANO board at any time.



In addition to the PLANO board, there are machine boards at the machines, showing the key figures relevant for the worker. At this visualisation board, data are hand-written into a chart form. Therefore, everybody – from the worker at the machine to the management – is acting in concert in order to achieve the goal, the TPM Award.



WEIGANG

Organisational Solutions

Your **WEIGANG** sales partner

WEIGANG-Vertriebs-GmbH

Bahnhofstraße 27
D-96106 Ebern

Phone: +49 (0) 9531 61-222

Fax: +49 (0) 9531 61-221

Mail: wvg@weigung.de

Web: www.weigung.de