



■ Critical Issues

■ We'd like to use all of our resources to the limit of their capacity.

As the business environment becomes more severe, we need to thoroughly eliminate all waste to survive.

We urgently wish to utilize all of our resources (equipment, people and materials) to the limits of their capacity.

■ We need to activate our organization and change our employees' way of thinking.

As competition grows, we need to increase our business performance as a whole company by motivating all employees for the change.

■ We want to thoroughly eliminate all losses relating to equipment, and innovate our production system.

- Need flexible manufacturing system and JIT production
- Severe requirements for wide variety and small-lot production, JIT, and cost reduction
- Frequent equipment problems, long die changes, many small stoppages of machinery by jamming, continuous defects, etc.

■ JMAC Concept

■ What is TPM?

TPM stands for Total Productive Maintenance, meaning the maintaining of production with the participation of all employees in an aim to realize comprehensive efficiency.

Through the small group activities, efficient equipment, productivity improvement, and cost reductions can be realized. Further, the workers' way of thinking can be changed.

TPM activities aim for corporate culture change.

■ TPM 8+1 core activities

The 8+1 core activities of TPM are:

- 1) Individual improvements to make equipment more efficient
- 2) Independent maintenance system establishment
- 3) Planned maintenance system establishment
- 4) Quality maintenance system enhancement
- 5) Product and equipment development management
- 6) Education and training organization development
- 7) Office and indirect division TPM (J-TPM)
- 8) Health & safety and environment management systems
- 9) Equaled & Synchronized Production Control Technique (ESCORT) establishment

TPM (Total Productive Maintenance)

Corporate culture improvement to realize corporate innovation

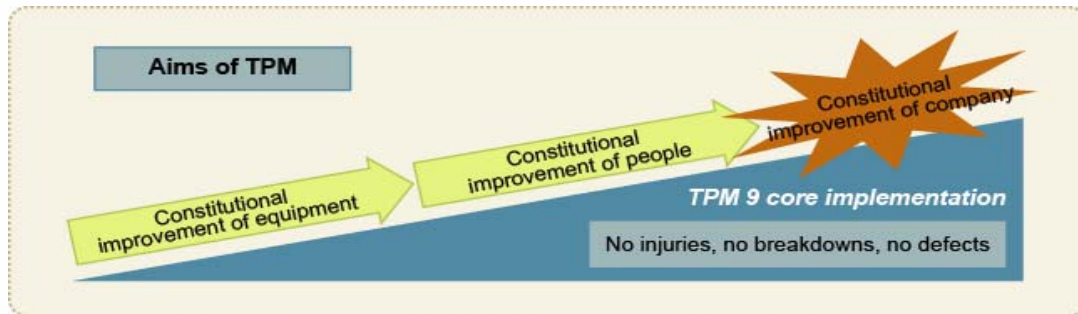
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JMAC Features

JMAC TPM aims to change corporate culture through equipment efficiency and human behavior improvement.

- ◆ Promotion of activities to gain top class evaluation in the TPM Excellence Award
- ◆ Kind and considerate guidance using a dialog system
- ◆ Training and a full lineup of educational materials that match various situations
- ◆ Implementation that matches the size of company and manufacturing characteristics



Results

Results of Implementing TPM

1) Productivity

Equipment productivity: 1.5 to 2 times increase or more

Labor productivity: 1.5 to 2 times increase or more

Equipment overall efficiency: 85% or more (Assembly industry related), 90% or more (Process industry related)

Sudden breakdown occurrences: 1/5 to 1/100 or less

Process internal defect rate: 1/5 to 1/10 or less

Cost reduction: 20-30% or more

2) Service level

Customer claims: 1/2 to 1/5 or less

On-time delivery rate: 99% or more

3) Inventories

Finished product inventory and work in process: 1/2 or less

4) Health and safety

Labor accidents: Zero

5) Morale

Number of KAIZEN proposals: 5 proposals per person per month

6) Result on investment: 5 times or greater

TPM intangible results

- 1) Quantitative targets such as no breakdowns and no defects were achieved, and through receiving the TPM Excellence Award each person gained the confidence they needed to tackle their work.
- 2) Various troubles were resolved, and routine work flowed smoothly.
- 3) Problem-solving abilities and improvement methods were enhanced in a wide range of personnel levels, and these people became capable of implementing improvements themselves.
- 4) The barriers inside the organization (sectionalism) disappeared, and communications inside the organization improved.