

Total Productive Maintenance

It can be considered as the medical science of machines. Total Productive Maintenance (TPM) is a maintenance program which involves a newly defined concept for maintaining plants and equipment. TPM seeks to maximize equipments effectiveness throughout the life time of that equipment. It strives to maintain optimum equipment conditions in order to prevent unexpected break downs, speed loses, and quality defects arising from process activities.

- ▶ **Total** = all encompassing by maintenance and production individuals working together.
- ▶ **Productive** = Production of goods and services that meet or exceed customer's expectations.
- ▶ **Maintenance** = Keeping equipments and plant in as good as or better than the original condition at all times

The goal of the TPM program is to markedly increase production while, at the same time, increasing employee morale and job satisfaction.

TPM brings maintenance into focus as a necessary and vitally important part of the business. It is no longer regarded as a nonprofit activity. Down time for maintenance is scheduled as a part of the manufacturing day and, in some cases, as an integral part of the manufacturing process.

The goal is to hold emergency and unscheduled maintenance to a minimum.

TPM / The objective of TPM:

TPM was introduced to achieve the following objectives:

- Avoid wastage in a quickly changing economic environment.
- Producing goods without reducing product quality.
- Reduce cost.
- Produce target quantity at the earliest possible time.
- Goods send to the customers must be non defective.

To fulfill those objectives and the goal TPM has dual targets: 1. Zero defects, zero accidents and zero loss; 2. Zero breakdown (100% equipment availability). It is true that when defects and breakdown are reduced the operating costs come down and hence productivity increases and the products are delivered to the customer at a reasonable cost and at the right time.

Six core principles of TPM:

1. Obtain Minimum 90% OEE (Overall Equipment Effectiveness) Run the machines even during lunch.
(Lunch is for operators and not for machines!)
2. Operate in a manner, so that there are no customer complaints.
3. Reduce the manufacturing cost by 30%.
4. Achieve 100% success in delivering the goods as required by the customer.
5. Maintain a accident free environment.
6. Increase the suggestions by 3 times. Develop Multiskilled and flexible workers.