



## Total Productive Maintenance Standards

### Introduction

These open source standards represent the minimum required standards for credentialing the above-named process improvement methodology. To comply with *Process Improvement Credentialing Standards*, organizations must conduct testing which covers all body of knowledge elements below. Organizations must also comply with *Process Improvement Credentialing Standards* 15-point organization standard v 0.1.115 or higher. Elements do not necessarily need to be presented in the order shown below. Trainers and organizations are encouraged to teach additional information above and beyond these standards at each level.

### Body of Knowledge

1. Definition of TPM
  - 1.1. What is TPM
  - 1.2. why is it used
2. TPM Breakdown
  - 2.1. All-inclusive approach to equipment maintenance
3. Why Total Productive Maintenance
  - 3.1. Introduce TPM in the workplace
  - 3.2. Understand the initial situations that lead to the implementation
4. Benefits of TPM
  - 4.1. Understand direct & indirect benefits

5. 8 Pillars of TPM
  - 5.1. Understanding Continuous Improvement
  - 5.2. Autonomous Maintenance
  - 5.3. Preventative Maintenance
  - 5.4. Training & Education
  - 5.5. Start-up Monitoring
  - 5.6. Quality Management
  - 5.7. TPM in Administration
  - 5.8. Safety & Health
  
6. Effective organization
  - 6.1. Understand the concept of 5S
  
7. Kaizen
  - 7.1. Incremental but continual improvement
  - 7.2. Non-value added activities
  
8. Key Figures of TPM
  - 8.1. Understand Productivity
  - 8.2. Quality
  - 8.3. Costs
  - 8.4. Delivery
  - 8.5. Safety
  - 8.6. Multitask
  
9. Losses in Production
  - 9.1. The search for losses and waste
  - 9.2. Zero defects
  - 9.3. Minor defects
  
10. Overall Equipment Effectiveness (OEE)
  - 10.1.  $\text{Performance} \times \text{Availability} \times \text{Quality} = \text{OEE}$

## 11. Six Major Losses

- 11.1. Breakdowns & unplanned stops
- 11.2. Setup and adjustments
- 11.3. Small stops
- 11.4. Reduced speed
- 11.5. Production defects
- 11.6. Reduced yield

## 12. Implementation of TPM

- 12.1. 12 steps to implementation

## 13. Roles within a TPM Process

- 13.1. Individual roles

## 14. Sustainment

- 14.1. Need to sustain the TPM gains