

Overview

This unit covers the competencies required to carry out Autonomous Maintenance (front line asset care) principles on equipment and processes and aims to prevent equipment problems by identifying potential causes and not waiting for the problem to occur. It involves using information gained from the measurement of the six classic hidden losses, assessment of potential and priorities for loss reduction. It covers the application of Autonomous Maintenance principles and processes to resources such as plant and equipment, machines, office equipment, service equipment and utilities. It also concerns assessment of the equipment/process condition and the steps required to restore the equipment/process to good working order.

You will be required to carry out the appropriate Autonomous Maintenance techniques and use the data gathered on the resource to refine the working practices through the application of front line asset care. Working practice improvement will include cleaning and checking, early problem detection and process monitoring routine servicing. This will involve close working with both production and maintenance staff, and include cross shift implementation (if applicable to your organisation).

Your responsibilities will require you to comply with organisational policy and procedures for the activities undertaken and to report any problems that you cannot solve, or are outside your responsibility, to the relevant authority. You will also be responsible for ensuring that all tools and equipment used during the maintenance activities are correctly accounted for and that all necessary job/task documentation is completed accurately and legibly. You will be expected to take responsibility for your own actions within the activity and for the quality and accuracy of the work you carry out.

Your underpinning knowledge will provide a good understanding of your work, and provide an informed approach to the Autonomous Maintenance techniques and procedures used. You will need to understand the principles and procedures of Autonomous Maintenance and its application, in adequate depth to provide a sound basis for carrying out the activities to the required criteria.

Applying safe working practices will be a key issue throughout.

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Carrying out Autonomous Maintenance

Performance criteria

- You must be able to:*
- P1 work safely at all times, complying with health and safety and other relevant regulations and guidelines
 - P2 seek approval for use of the appropriate asset on which to carry out the Autonomous Maintenance activity
 - P3 use the given information to carry out the activity
 - P4 carry out the Autonomous Maintenance activity by applying the appropriate techniques
 - P5 use the Overall Equipment Effectiveness (OEE) measure and information to determine which elements of the OEE and their associated losses need improvement
 - P6 use an action plan that which will reduce/eliminate the losses and hence improve the Overall Equipment Effectiveness
 - P7 implement improvements to working practices through Autonomous Maintenance

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Carrying out Autonomous Maintenance

Knowledge and understanding

You need to know and understand:

- K1 the health and safety requirements of the area in which you are carrying out the Autonomous Maintenance activities
- K2 the principles of Autonomous Maintenance (front line asset care) as a part of Total Productive Maintenance, and how they can be applied in administration procedures, safety improvement and quality maintenance
- K3 how to select an asset on which to carry out the activity (assets could be plant and equipment, machines, office equipment, service equipment, utilities)
- K4 the systematic and structured approach to carrying out Autonomous Maintenance
- K5 the difference between a chronic and sporadic loss
- K6 why is it necessary to calculate overall equipment effectiveness (OEE)
- K7 the benefits of having an Autonomous Maintenance system
- K8 the importance of taking ownership of the Autonomous Maintenance system
- K9 the six major losses
- K10 the use of standard operating procedures, single point lessons and machine/process start-up and shutdown procedures
- K11 an awareness of the improvement activities that will drive the implementation of the Autonomous Maintenance activities (Kaizen and team working)
- K12 critical processes and early problem detection steps
- K13 loss areas and opportunities for improvement
- K14 standards of wear
- K15 the techniques of visual management used to communicate the information and results obtained by this process (including Autonomous Maintenance activity boards and checklists)
- K16 the integration with workplace organisation and improving OEE
- K17 contaminants and sources of contaminants
- K18 the extent of your own authority, and to whom you should report in the event of problems that you cannot resolve

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Additional Information

Scope/range related to performance criteria

You must be able to:

1. carry out the Autonomous Maintenance process on at least **one** asset from the following:
 - 1.1. plant and equipment
 - 1.2. machines
 - 1.3. office equipment
 - 1.4. service equipment
 - 1.5. utilities
2. carry out the Autonomous Maintenance process and show how **one** of the following is undertaken:
 - 2.1. assess criticality of equipment/process condition and identify refurbishment needs
 - 2.2. identify an integrated asset care plan for both operator and maintenance staff
3. use information relating to **all** of the following:
 - 3.1. load or demand
 - 3.2. capacity
 - 3.3. Takt time or bottleneck analysis
4. show improvements to working practices through **two** of the following:
 - 4.1. initial cleaning
 - 4.2. countermeasures for cause and effect of dust and dirt
 - 4.3. cleaning and lubrication standards
 - 4.4. general inspection
 - 4.5. autonomous inspection
 - 4.6. workplace organisation
 - 4.7. full-circle implementation of autonomous maintenance

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