This standard is about applying condition monitoring techniques to an engineering component or asset.

You will need to be able to monitor components and assets to determine their condition. You are then expected, if necessary, to take appropriate actions whilst adhering to health and safety legislation, regulations and safe working practices.

In the context of this standard, your responsibility is to interpret and work within given specifications, selecting techniques and making variations to achieve the best possible result. In some cases, you may still be expected to refer to others for final authorisation, even though you remain responsible for identifying and implementing decisions.

Who this standard is for

This standard is for condition monitoring practitioners.
Perform asset condition monitoring

**Performance criteria**

*You must be able to:*

P1 work safely at all times, complying with health and safety and other relevant legislation, regulations, guidelines and local rules or procedures

P2 ensure that the work environment, material, tools and equipment are suitably prepared for the work activities to be undertaken

P3 correctly set up the equipment and check for calibration

P4 obtain and adhere to the relevant specifications including method statements

P5 carry out the condition monitoring activity

P6 ensure that the collected sample or measurement is representative, sufficient and not spurious

P7 adjust the monitoring instrumentation to assist in diagnosis

P8 record and review the samples or measurements and take appropriate actions

P9 remove and retain any faulty components for further investigation, where appropriate

P10 report immediately any findings that indicate the asset is in a dangerous condition

P11 reinstate the work area

P12 deal promptly and effectively with problems within your control and report those that cannot be solved
Knowledge and understanding

You need to know and understand:

K1 relevant legislative, regulatory and local requirements or procedures and safe working practices
K2 preparation and reinstatement requirements in respect of the work area, material, and equipment, and the possible consequences of incorrect actions in these areas
K3 information that is required for the condition monitoring activity including
  K3.1 safe access arrangements
  K3.2 engineering drawings and specifications
K4 what constitutes normal performance and condition standards of specific assets and abnormal performance and fault types
K5 the different condition monitoring techniques and monitoring activities that can be used for monitoring assets
K6 monitoring equipment settings, operation and care
K7 sample collection or measurement points
K8 sampling intervals and what influences the periods
K9 the types of disruption which can occur during monitoring and how to minimise different types of disruption
K10 understand how taking data from non-standard collection points impacts on the outcomes
K11 authorised procedures relating to checking the calibration of equipment in accordance with required codes or standards
K12 quality control systems and documentation procedures
K13 your responsibilities for ensuring care and security of tools and equipment used
K14 your responsibilities with regard to reporting lines and procedures in your working environment
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**Scope/range**

**Work environment**

Typical work environments could include:

1. buildings and facilities
2. hazardous and sterile environments
3. manufacturing and process plant
4. power generation facilities
5. working at height and/or on access structures (scaffold)
6. working inside plant and systems
7. working submerged

Condition monitoring

Typical condition monitoring techniques could include:

8. acoustic emissions
9. motor current signature analysis
10. oil analysis
11. performance monitoring
12. thermography
13. ultrasonic
14. vibration

Reinstate the work area

This term could include:

15. returning the work area to a safe condition
16. correctly disposing of waste materials
17. storage of re-usable materials, consumables and equipment in accordance with appropriate procedures
18. completion of all necessary documentation

Engineering drawings and specifications

Engineering drawings could include:

19. assembly
20. detail
21. exploded views
22. general arrangements
23. isometrics
24. sections

Specifications could include:

25. codes and standards
26. manufacturer’s instructions
27. materials’ list and specifications
28. method statement
29. product data sheets

Monitoring activities

Typical activities could include:
Perform asset condition monitoring

30 attending alarm alerts
31 calibration checks
32 checking
32.1 conformance to specifications
32.2 flame picture
32.3 flue gases and exhausts
32.4 levels 32.5 pressures
32.6 temperatures
33 electrical checks
34 end product analysis
35 integrity checks
36 investigating surges and spikes
37 lubrication checks
38 supporting commissioning
39 thermal imaging surveys
40 vibration checks
41 visual serviceability checks
42 wall thickness checks Sample or measurement points This could include:
43 bearing casings
44 exhausts
45 infrared inspection windows
46 instrumentation
47 orifice plates
48 plugs
49 pockets
50 sensors and transducers
51 sockets
52 sumps and pots
53 tank
54 terminals
55 valves
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<th>CITB</th>
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<td>Relevant Occupations</td>
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