



**Condition monitoring and diagnostics of
machines—Requirements for
qualification and assessment of
personnel**

Part 7: Thermography

STANDARDS
Australia



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 - Australasian Railway Association (RISSB)
 - Australasian Thermographers Association
 - Australian Chamber of Commerce and Industry
 - Australian Industry Group
 - Australian Institute for Non-Destructive Testing
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 - National Electrical and Communications Association
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 - The Crane Industry Council of Australia
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Australian Standard[®]

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PREFACE

This Standard was prepared by the Standards Australia Committee ME-087, Machine Condition Monitoring.

The objective of this Standard is to specify the requirements for qualification and assessment of personnel who perform machinery condition monitoring and diagnostics using infrared thermography.

This Standard is identical with, and has been reproduced from, ISO 18436-7:2014, *Condition monitoring and diagnostics of machines—Requirements for qualification and assessment of personnel, Part 7: Thermography*.

As this Standard is reproduced from an International Standard, the following applies:

- (a) In the source text ‘this part of ISO 18436’ should read ‘this Australian Standard’
- (b) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

<i>Reference to International Standard</i>	<i>Australian Standard</i>
ISO	AS ISO
13381 Condition monitoring and diagnostics of machines—Prognostics	13381 Condition monitoring and diagnostics of machines—Prognostics
13381-1 Part 1: General guidelines	13381.1 Part 1: General guidelines
17359 Condition monitoring and diagnostics of machines—General guidelines	17359 Condition monitoring and diagnostics of machines—General guidelines
18434 Condition monitoring and diagnostics of machines—Thermography	18434 Condition monitoring and diagnostics of machines—Thermography
18434-1 Part 1: General procedures	18434.1 Part 1: General procedures

Only normative references that have been adopted as Australian or Australian/New Zealand Standard have been listed.

The term ‘normative’ has been used in this Standard to define the application of the annex to which it applies. A ‘normative’ annex is an integral part of a Standard.

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INTRODUCTION

Using thermography to monitor condition and diagnose faults in machinery is a key activity in predictive maintenance programmes for most industries. Other non-intrusive technologies including vibration analysis, acoustic emission, lubricant analysis, and motor current analysis are used as complementary condition analysis tools. Those in the manufacturing industry who have diligently and consistently applied these techniques have experienced a return on investment far exceeding their expectations. However, the effectiveness of these programmes depends on the capabilities of individuals who perform the measurements and analyse the data.

A programme, administered by an assessment body, has been developed to train and assess the competence of personnel whose duties require the appropriate theoretical and practical knowledge of machinery monitoring and diagnostics.

This part of ISO 18436 defines the requirements against which personnel in the non-intrusive machinery condition monitoring and diagnostics technologies associated with infrared thermography for machinery condition monitoring are to be qualified and the methods of assessing such personnel.

AUSTRALIAN STANDARD

Condition monitoring and diagnostics of machines—Requirements for qualification and assessment of personnel**Part 7:
Thermography****1 Scope**

This part of ISO 18436 specifies the requirements for qualification and assessment of personnel who perform machinery condition monitoring and diagnostics using infrared thermography.

A certificate or declaration of conformity to this part of ISO 18436 will provide recognition of the qualifications and competence of individuals to perform thermal measurements and analysis for machinery condition monitoring using portable thermal imaging equipment. This procedure might not apply to specialized equipment or other specific situations.

This part of ISO 18436 specifies a three-category classification programme that is based on the technical areas delineated herein.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 13372, *Condition monitoring and diagnostics of machines — Vocabulary*

ISO 13374 (all parts), *Condition monitoring and diagnostics of machines — Data processing, communication and presentation*

ISO 13379-1, *Condition monitoring and diagnostics of machines — Data interpretation and diagnostics techniques — Part 1: General guidelines*

ISO 13381-1, *Condition monitoring and diagnostics of machines — Prognostics — Part 1: General guidelines*

ISO 17359, *Condition monitoring and diagnostics of machines — General guidelines*

ISO 18434-1, *Condition monitoring and diagnostics of machines — Thermography — Part 1: General procedures*

ISO 18436-1:2012, *Condition monitoring and diagnostics of machines — Requirements for qualification and assessment of personnel — Part 1: Requirements for assessment bodies and the assessment process*

ISO 18436-3, *Condition monitoring and diagnostics of machines — Requirements for qualification and assessment of personnel — Part 3: Requirements for training bodies and the training process*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 13372 apply.