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First edition  
2013-03-01

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

## Part 8: Ultrasound

*Surveillance et diagnostic d'état des machines — Exigences relatives à  
la qualification et à l'évaluation du personnel —*

*Partie 8: Ultrasons*



Reference number  
ISO 18436-8:2013(E)

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Published in Switzerland

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## Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2, [www.iso.org/directives](http://www.iso.org/directives).

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The committee responsible for this document is ISO/TC 108, *Mechanical vibration, shock and condition monitoring*, Subcommittee SC 5, *Condition monitoring and diagnostics of machine systems*.

ISO 18436 consists of the following parts, under the general title *Condition monitoring and diagnostics of machines — Requirements for qualification and assessment of personnel*:

- *Part 1: Requirements for assessment bodies and the assessment process*
- *Part 2: Vibration condition monitoring and diagnostics*
- *Part 3: Requirements for training bodies and the training process*
- *Part 4: Field lubricant analysis*
- *Part 5: Lubricant laboratory technician/analyst*
- *Part 6: Acoustic emission*
- *Part 7: Thermography*
- *Part 8: Ultrasound*

## Introduction

The use of ultrasound technology in condition monitoring is one of the key activities in predictive maintenance programmes for most industries. Other non-intrusive technologies including acoustic emission, infrared thermography, vibration analysis, lubricant analysis, wear debris analysis, and motor current analysis are used as complementary condition analysis tools. Those in the manufacturing industry who have diligently and consistently applied these technologies 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. This part of ISO 18436 defines the requirements for personnel to become qualified to apply the non-intrusive machine condition monitoring and diagnostics technology of ultrasound.

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 condition 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 ultrasound for machinery condition monitoring are qualified and the methods of assessing such personnel.