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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 23718.7-2022

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

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foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for Standardization Work Part 1. Structure and Drafting Rules of Standardization Documents"

drafted.

This document is part 7 of GB/T 23718 "Requirements for Personnel Qualification and Personnel Evaluation for Condition Monitoring and Diagnosis of Machines".

GB/T 23718 has released the following parts.

- Part 1. Requirements for certification bodies and certification processes;
- Part 2. Vibration condition monitoring and diagnosis;
- Part 3. Requirements for training institutions and training processes;
- Part 4. On-site lubricant analysis;
- Part 6. Acoustic emission;
- Part 7. Thermal imaging.

This document is equivalent to ISO 18436-7:2014 "Requirements for the qualification and evaluation of personnel for the condition monitoring and diagnosis of machines" Part 7

Sub. Thermal Imaging.

The following editorial changes have been made to this document.

- Correct ISO 13379 in Table A.2 and Table B.1 to ISO 13379-1.

Please note that some content of this document may be patented. The issuing agency of this document assumes no responsibility for identifying patents.

Introduction

Monitoring machine status and diagnosing faults using non-intrusive techniques is a key

measure for predictive maintenance in most industrial sectors. use

Non-invasive techniques, including vibration analysis, acoustic emission, lubricant analysis, thermal imaging technology, ultrasound, motor current analysis, etc., are machine state

Analytical tools complement each other. Extensive and consistent use of these technologies in the manufacturing industry has yielded far greater returns on investment than expected. However, these techniques

The effectiveness of the data depends on the ability of the person implementing the measurement and performing the data analysis.

Practitioners need to have corresponding theoretical and practical knowledge in machine monitoring and diagnosis.

procedures for the competency of professionals.

GB/T 23718 aims to specify the requirements for the qualification and evaluation of personnel for machine condition monitoring and diagnosis, and is intended to be composed of the following parts.

--- Part 1.Requirements for certification bodies and certification processes. The purpose is to define technical methods for monitoring, diagnosing and repairing machine condition.

Facing the requirements of the certification body, including the general requirements for the personnel of the certification body.

--- Part 2.Vibration condition monitoring and diagnosis. The purpose is to specify the requirements for vibration analysts who perform machine condition monitoring and diagnosis.

general requirements.

--- Part 3.Requirements for training institutions and training processes. The purpose is to provide for non-intrusive machine condition monitoring, diagnosis and repair

In the complex technology, the requirements for training institutions, including the general requirements for the personnel of training institutions.

--- Part 4.Field lubricant analysis. The purpose is to specify machine condition monitoring and diagnosis personnel engaged in on-site lubricant analysis

Qualifications and assessment requirements.

--- Part 5.Lubricants laboratory technicians/analysts. The purpose is to provide for condition monitoring of machines engaged in laboratory lubrication analysis

Qualifications and assessment requirements with diagnostic staff.

--- Part 6.Acoustic emission. The purpose is to specify the qualification and evaluation of

personnel for machine condition monitoring and diagnosis using acoustic emission technology.

Require.

--- Part 7. Thermal imaging. The purpose is to specify the qualification and evaluation of personnel for machine condition monitoring and diagnosis using infrared thermal imaging technology.

estimated requirements.

--- Part 8. Ultrasound. The purpose is to specify the requirements for the qualification and evaluation of personnel using ultrasound technology for machine condition monitoring and diagnosis.

Machine Condition Monitoring and Diagnostics

Requirements for Personnel Qualification and Personnel Assessment

Part 7. Thermal Imaging

1 Scope

This document specifies the requirements for the qualification and evaluation of personnel using thermal imaging cameras for machine condition monitoring and diagnosis.

A certificate or declaration of compliance with this document provides for the use of portable thermal imaging equipment for machine condition monitoring, thermal imaging measurements and analysts.

qualifications and abilities. This document does not apply to special equipment or other special cases.

This document defines three levels of qualifications for practitioners in the field of thermal imaging technology.

2 Normative references

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, dated citations

documents, only the version corresponding to that date applies to this document; for undated references, the latest edition (including all amendments) applies to

this document.

Cabulary)

Note. GB/T 20921-2007 Machine Condition Monitoring and Diagnosis Vocabulary (ISO 13372:2004, IDT)

Note. GB/T 25742 (all parts) Machine condition monitoring and diagnostic data processing, communication and representation [ISO 13374 (all parts)]

ISO 13379-1 Machine Condition Monitoring and Diagnostic Data Interpretation and Diagnostic Technology Part 1.General
eralguidelines)

Note. GB/T 22394.1-2015 Machine Condition Monitoring and Diagnosis Data Interpretation and Diagnosis Technology Part 1.General Provisions (ISO 13379-1.2012, IDT)

nosticsofmachines-Prognostics-Part 1.Generalguidelines)

Note. GB/T 23713.1-2009 Machine Condition Monitoring and Diagnostic Prediction Part 1.General Guidelines (ISO 13381-1.2004, IDT)

machines-General guidelines)

Note. GB/T 22393-2015 General Guidelines for Condition Monitoring and Diagnosis of Machines (ISO 17359.2011, IDT)

nosticsofmachines-Thermography-Part 1.Generalprocedures)

Note. GB/T 30831.1-2014 Machine Condition Monitoring and Diagnostic Thermal Imaging Part 1.General (ISO 18434-1.2008, IDT)

ISO 18436-1.2012 Requirements for the training and certification of machinery condition monitoring and diagnosis personnel - Part 1.Requirements for certification bodies and certification