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

GB/T 23718.5-2024

**Condition monitoring and diagnostics of machines -
Requirements for qualification and assessment of personnel -
Part 5: Lubricant laboratory technician/analyst
(English Translation)**

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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 for standardization documents" Drafting is required.

This document is part 5 of GB/T 23718 "Requirements for the qualifications and assessment of personnel for machine condition monitoring and diagnostics".

The following parts have been published.

- Part 1: Requirements for certification bodies and certification processes;
- Part 2: Vibration condition monitoring and diagnosis;
- Part 3: Requirements for training organizations and training processes;
- Part 4: On-site lubricant analysis;
- Part 5: Lubricant laboratory technicians/analysts;
- Part 6: Acoustic emission;
- Part 7: Thermal imaging.

This document is equivalent to ISO 18436-5:2012 "Requirements for qualifications and personnel assessment of machine condition monitoring and diagnostics Part 5 Division. Lubricant Laboratory Technician/Analyst.

Introduction

Using non-intrusive technology to monitor machine status and diagnose faults is a key measure for predictive maintenance in most industrial fields.

Non-invasive techniques, including vibration analysis, acoustic emission, lubricant analysis, thermal imaging, ultrasound, motor current analysis, etc., are all machine status the extensive and sustained use of these technologies in the manufacturing industry has resulted in a return on investment far exceeding expectations.

The effectiveness of a measurement depends on the skills of the people who carry out the measurement and the analysis of the data.

Practitioners need to have corresponding theoretical and practical knowledge in machine monitoring and diagnosis. The assessment agency has developed training and assessment procedures for practitioners.

Personnel competence procedures.

GB/T 23718 aims to specify the requirements for machine condition monitoring and diagnostic certification bodies, training processes and personnel assessment.

Partial composition.

--Part 1: Requirements for certification bodies and certification processes. The purpose is to specify the requirements for machine condition monitoring, diagnosis and repair technology.

Requirements for certification bodies in various aspects, including general requirements for certification body personnel.

-- Part 2: Vibration Condition Monitoring and Diagnosis. The purpose is to specify the

requirements for vibration analysts who implement machine condition monitoring and diagnosis.

General requirements.

-- Part 3: Requirements for training organizations and training processes. The purpose is to specify the requirements for non-intrusive machine condition monitoring, diagnosis and Requirements for training institutions in restoration technology, including general requirements for personnel in training institutions.

--Part 4: On-site lubricant analysis. The purpose is to specify the machine condition monitoring and diagnostic personnel engaged in on-site lubricant analysis Qualification and assessment requirements.

-- Part 5: Lubricant laboratory technicians/analysts. The purpose is to specify the equipment used for laboratory lubricant analysis.

Requirements for the qualifications and assessment of condition monitoring and diagnostics personnel.

-- Part 6: Acoustic Emission. The purpose is to specify the qualifications and assessment of personnel for machine condition monitoring and diagnosis using acoustic emission technology.

Require.

-- Part 7: Thermal imaging. The purpose is to specify the qualifications 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 qualifications and assessment of personnel for machine condition monitoring and diagnosis using ultrasonic technology.

Require.

Machine Condition Monitoring and Diagnosis Requirements for personnel qualifications and personnel assessment Part 5: Lubricant laboratory technicians/Analyst

1 Scope

This document specifies the requirements for the qualification and assessment of personnel engaged in laboratory lubricant analysis for machinery condition monitoring and diagnostics.

The certificate or declaration of conformity in this document will provide personal competence and Proof of qualification, but not for certain specialist equipment or other specific situations.

This document specifies three levels of personnel qualifications divided by technical scope.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to this document.

Table A.3 gives information on the degree of equivalence between national/international standards and ASTM standards for the same subject matter.

ISO 1523 Determination of flash point - Closed cup equilibrium method

Note 1: Technically equivalent to ASTM D3828.

Note 2: GB/T 21775-2008 Determination of flash point - Closed cup equilibrium method (ISO 1523:2002, IDT) ISO 2592 Determination of flash and fire points - Cleveland open cup method (Cleveland open cup method)

NOTE 1: Technically equivalent to ASTM D92.

Note 2: GB/T 3536-2008 Determination of flash point and fire point of petroleum products - Cleveland open cup method (ISO 2592:2000, MOD) ISO 2719 Determination of flash point-Pensky-Martens closed cup method closed cup method)

Note 1: Technically equivalent to ASTM D93.

Note 2: GB/T 261-2021 Determination of flash point Pensky-Martin closed cup method (ISO 2719:2016, MOD) ISO 2909 Petroleum products - Calculation of viscosity index using kinematic viscosity index from kinematic viscosity)

Note 1: Technically equivalent to ASTM D2270.

Note 2: GB/T 1995-1998 Calculation method for viscosity index of petroleum products (ASTM D2270-93, EQV) ISO 3104 Petroleum products - Determination of kinematic viscosity and calculation of dynamic viscosity of transparent and opaque liquids-Transparent and opaque liquids-Determination of kinematic viscosity and calculation of dynamic viscosity)

Note 1: Technically equivalent to ASTM D445.

Note 2: GB/T 11137-1989 Determination of kinematic viscosity of dark petroleum products (countercurrent method) and calculation method of dynamic viscosity (refer to ASTM D445-86) ISO 3679 Determination of flash point - Rapid equilibrium closed cup method cup method