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

GB/T 25889-2010

**Condition monitoring and diagnostics of machines -- Acoustic
emission**

机器状态监测与诊断 声发射

(English Translation)

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Foreword

This standard is identical with ISO 22096:2007 "machine condition monitoring and diagnosis of acoustic emission" (in English).

This standard is equivalent to translate ISO 22096:2007.

This standard and ISO 22096:2007 compared to editorial changes as follows.

--- The "this International Standard" by "this standard";

--- Remove the foreword international standards; international standards with the introduction of the method of language expression;

--- Of ISO 22096:2007 and other international standards cited, as have been tantamount to the adoption of a standard with our standard instead of the corresponding International standards, not by direct reference to international standards for our standards.

This standard by the national mechanical vibration, shock and condition monitoring Standardization Technical Committee (SAC/TC53) and focal points.

This standard drafting of the main unit. Wuhan University of Technology, Chinese Academy of special test equipment, measuring and testing Guangzhou Institute of Technology, Zhengzhou Machinery Research Institute.

Introduction

Acoustic emission (AE) technology can be used as an independent state monitoring technology, it can also be used as other state monitoring technology (vibration, infrared, etc.

Etc.) supplement for machine condition analysis and diagnosis/prediction. Due to the nature AE technology, and there is no need to master the machine operation to be monitored Line mechanism, but it can be understood from the results to maximize access to the data in the AE phenomenon. Diagnostic tool as a machine condition monitoring with, according to the

security level of the machine, AE can be fixed, semi-fixed or portable systems. A typical AE system comprising. Biography Sensors, amplifiers, filters, and data acquisition systems. Depending on the particular application, a series of AE characteristic can be pumped from the acquisition of the AE Taken out to indicate the status of the machine.

Machine condition monitoring and diagnostics of acoustic emission

1 Scope

This standard specifies the state and the environment under certain general principles of acoustic emission application machine condition monitoring and diagnostics followed.

This standard applies to all machinery and related components, but only relates to the measurement of the structure.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB/T 20921 machine condition monitoring and diagnostics vocabulary (GB/T 20921-2007, ISO 13372:2004, IDT) GB/T 2298 Mechanical vibration, shock and condition monitoring of vocabulary (GB/T 2298-2010, ISO 2041:2009, IDT) ISO 12718 NDT eddy current inspection vocabulary ISO 18436-6 machine condition monitoring and diagnostics training and certification Part 6. Acoustic emission

3 Terms and Definitions

GB/T 2298, ISO 12718, the GB/T 20921 and established the following terms and definitions apply to this standard.

Acoustic emission interior materials and/or surface by the rapid release of energy causes localized source wave propagation in structure and fluid (liquid, gas) in when the resulting series of phenomena.

Note 1: This release may be such as crack propagation, friction, impact and cause leakage process.

Note 2: The definition of this standard acoustic emission covers its wide application in machine monitoring.

Acoustic emission monitoring show sound machine operation to detect and transmit data and information collection.

Note: The definition of this standard acoustic emission monitoring and application of the relevant

machine monitoring.

Acoustic emission sensors/receiver acoustic emissions sensor/receiver for the elastic wave motion into an electrical signal transmitter element.

AE signals acoustic emissions signal Electrical signal output from the sound emission sensor caused by the acoustic emission.

Acoustic emission characteristics Used to describe a collection of machines and acoustic emission sources related to specific characteristics of acoustic emission.

Note: Features may burst, that AE events in time is interrupted; or continuous, that is, the acoustic emission in time uninterrupted.