

ICS 19.100
CCS J 04



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

GB/T 47761-2026

**Non-destructive testing - Acoustic emission testing - Detection
of corrosion at atmospheric and low-pressure metallic storage
tank floors**

无损检测 声发射检测 常压和低压金属储罐底板腐蚀的检测

(English Translation)

Issued on: July 2, 2026

Implemented on: February 1, 2027

Issued by: State Administration for Market Regulation

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Foreword

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

Drafting.

This document is equivalent to ISO 24489:2024 "Nondestructive testing - Acoustic emission testing - Detection of corrosion on the bottom plate of metal tanks under normal and low pressure".

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed and is under the jurisdiction of the National Technical Committee on Standardization of Nondestructive Testing (SAC/TC56).

Introduction

With the significant advancements in acoustic emission testing technology, the industrial application of acoustic emission testing for atmospheric pressure metal storage tanks is

becoming increasingly widespread. Any acoustic emission...

This document aims to provide requirements for testing equipment, testing procedures, and a classification system for acoustic emission testing of corrosion on the bottom plates of atmospheric pressure metal storage tanks.

Non-destructive testing. acoustic emission testing of metals at normal and low pressure.

Detection of corrosion on tank bottom plate

1 Scope

This document describes the acoustic emission (AE) testing method for the bottom plates of metal storage tanks under normal and low pressure (top pressure less than or equal to 50 kPa).

The method, and the grading system used for evaluating test results.

This document applies to acoustic emission testing of the severity of corrosion on the bottom plate of atmospheric pressure metal storage tanks.

This document applies to acoustic emission testing of structural steel storage tank bottom plates during active corrosion processes, and is only applicable when corrosion is the primary damage mechanism.

Under the condition that the corrosion conditions remain unchanged, good results can be obtained.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

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

This document.

ISO 12716 Non-destructive testing - Acoustic emission testing terminology Note. GB/T 12604.4-2005 Nondestructive testing terminology - Acoustic emission testing (ISO 12716:2001, IDT) EN13477-2 Non-destructive testing - Acoustic emission testing equipment characteristics - Part 2: Verification of operational characteristics acteristic)

3 Terms and Definitions

The terms and definitions defined in ISO 12716 and the following terms and definitions apply to this document.

A detection method that uses acoustic emission instruments to detect the object under test and analyze the acoustic emission source during controlled excitation.

[Source. EN1330-9:2017, 2.5.1] 3.2 Hsu-NielsensourceHsu-Nielsensource A device that uses appropriate components to simulate acoustic emission events by causing the fracture of a brittle graphite lead core.

Note: The Hsu-Nielsen source is shown in Figure 1.