International Organization for Standardization 4871:1996

ISO 4871:1996 Acoustics Standard: Declaration and Verification of Noise Emission Values

Instruction Manual

1. Introduction to ISO 4871:1996

This document, ISO 4871:1996, provides essential information regarding the declaration of noise emission values for machinery and equipment. It outlines the acoustical data required for technical documentation and specifies a standardized method for verifying these declared noise emission values. This standard serves as a replacement for its first edition, ensuring updated guidelines for acoustic measurements and reporting.

2. Scope and Application

ISO 4871:1996 is applicable to a wide range of machinery and equipment where noise emission values need to be declared and verified. Its primary purpose is to ensure consistency and reliability in noise declarations, facilitating fair comparison between different products and aiding in environmental noise control. This standard is crucial for manufacturers, regulatory bodies, and consumers concerned with acoustic performance.

3. Key Concepts and Definitions

Understanding the terminology within this standard is vital for its correct application. Key concepts include:

- **Noise Emission Values:** Quantified levels of sound emitted by machinery or equipment under specified operating conditions.
- **Declaration:** The formal statement by a manufacturer or supplier regarding the noise emission values of their product.
- **Verification:** The process of confirming the accuracy and validity of the declared noise emission values through independent measurement or assessment.
- **Machinery and Equipment:** Refers to any device or apparatus that generates noise during its operation.

4. Declaration of Noise Emission Values

Manufacturers are required to declare noise emission values in a clear and unambiguous manner. This section details the parameters to be included in such declarations, typically involving sound power levels and, where appropriate, emission sound pressure levels at specified operator positions or other defined points. The declaration must be based on measurements conducted according to relevant ISO noise test codes.

5. Verification of Noise Emission Values

The standard specifies a method for verifying the declared noise emission values. This involves conducting independent measurements and comparing the results with the manufacturer's declaration. The verification process ensures that the declared values are accurate and that the product complies with relevant noise limits or specifications. Details on measurement conditions, instrumentation, and evaluation criteria are provided.

6. Technical Documentation Requirements

Acoustical information presented in technical documents must adhere to the guidelines set forth in ISO 4871:1996. This includes specifying the noise test code used, the measurement conditions, the declared noise emission values, and any uncertainties associated with these values. Comprehensive documentation is essential for transparency and for enabling effective verification.

7. Using the Standard Effectively

To effectively utilize ISO 4871:1996, users should:

- Familiarize themselves with the entire document, paying close attention to definitions and procedural requirements.
- Ensure that all noise measurements are performed by qualified personnel using calibrated equipment.
- Cross-reference with other relevant ISO standards for specific noise test codes applicable to the machinery or equipment in question.
- Maintain detailed records of all measurements, calculations, and declarations for audit and verification purposes.

8. Maintaining Compliance and Updates

As a technical standard, ISO 4871:1996 may undergo periodic review and revision. Users are advised to regularly check with the International Organization for Standardization (ISO) or their national standards body for the latest edition or any amendments. Adhering to the most current version ensures continued compliance with international best practices in noise emission declaration and verification.

9. Troubleshooting Common Issues

Challenges in applying ISO 4871:1996 often arise from:

- **Ambiguity in Measurement Conditions:** Ensure that the operating conditions for noise measurement precisely match those specified in the relevant noise test code. Deviations can lead to inaccurate declarations.
- **Discrepancies in Verification:** If verification results differ significantly from declared values, re-examine both the declaration methodology and the verification process. Check for calibration errors, environmental factors, or incorrect application of the standard.
- **Incomplete Documentation:** Ensure all required acoustical information, including uncertainties, is clearly presented in technical documents. Missing information can lead to non-compliance.

10. Standard Specifications

ASIN: B000Y2T398

Publisher: Multiple. Distributed through American National Standards Institute (ANSI)

Publication Date: August 23, 2007

Language: English

Print Length: 24 pages

Item Weight: 3.84 ounces

Dimensions: 8.25 x 0.06 x 10.5 inches