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

GB/T 31013-2014

Acoustics -- Acoustic insulation for pipes, valves and flanges

声学 管道、阀门和法兰的隔声

(English Translation)

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Table of Contents

Preface
1 Scope
2 Normative references
3 Terms and definitions
4 Noise Level
5 5 Guide pipe noise reduction
6 Structure typical insulation systems
7 Installation
8 Combined thermal and sound insulation of
9 To meet the grade requirements of sound insulation structure
10 Acoustic measurement system performance
Appendix A (informative) used to calculate the noise level required minimum insertion loss DW, min is calculated
Annex B (informative) General insulation structure
Annex C (informative) Typical structural details of example
References

Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules.

This standard uses the translation method identical with the international standard ISO 15665:2003 "Acoustics pipes, valves and flanges sound insulation." Correspondence between the consistency of the standards of international documents and normative references of the following documents.

--- Determination of sound power levels of noise sources reflecting plane free field engineering method GB/T 3767-1996 Acoustics sound pressure (Eqv ISO 3744:1994)

--- GB/T 20247-2006 acoustic reverberation chamber sound absorption measurements (ISO 354:2003, IDT) this standard was proposed by the Chinese Academy of Sciences.

This standard by the National Standardization Technical Committee of Acoustics (SAC/TC17) centralized.

This standard was drafted. Institute of Acoustics, environmental protection long Shaao Bang Industrial Co., Ltd., Hefei University of Technology, Armacell insulation Materials

(Guangzhou) Co., Ltd.

1 Scope

This standard specifies the pipe insulation three grades (Grade A, Grade B and Grade C) acoustic performance requirements; describes the line with these three kinds of sound Structure properties of grade requirements; provides a measure of each form of structural acoustic performance standard testing methods. Existing and new partition Sound structure can refer to these three grades to grading.

This standard applies to circular duct insulation and ancillary fittings for diameter less than 300mm, the minimum wall thickness of 4.2mm and pipes Diameter greater than or equal to 300mm, the minimum wall thickness of 6.3mm pipes, diameter up to 1m. Not available in rectangular pipes, vessels and equipment Sound insulation.

This standard covers the design and installation of sound insulation, noise control engineering and technical personnel need to determine the level and scope of sound insulation in specific applications Wai provide guidance and assistance; also provide examples of typical insulation structure as a reference.

This standard focuses on acoustic insulation and not for the design and construction personnel guidance noise control engineering; the details are not adiabatic Within the scope of this standard.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 6881.1-2002 sound pressure Determination of sound power levels of noise sources - Precision methods for reverberation rooms (idt ISO 3741:1999) ISO 354 Acoustic reverberation chamber sound absorption measuring
(Acoustics-Measurement of sound absorption in a reverberation room) Determination of sound power levels of noise sources and sound energy levels reflecting plane free field engineering method ISO 3744 sound pressure
(Acoustics-Determination of sound power levels and sound energy levels of noise sources using sound pressure-Engineering methods for an essentially free field over a reflecting plane)

3 Terms and Definitions

The following terms and definitions apply to this document.

Piping

Circular pipe and fittings, such as valves, flanges, and other soft contact and support.

Insulation layer acoustic insulation; acoustic lagging the outer wall to prevent noise radiated outward wrapping layers.

NOTE: Typical acoustic insulation layer made of wrapped on the outside wall and/or elastic material (porous material) and impermeable outer protective layer.

Air flow resistivity Unit steady airflow velocity pressure loss through the thickness of the porous material unit, the unit is the Newton seconds per four meters ($N \cdot s/m^4$) or Pa Second per square meter ($Pa \cdot s/m^2$).

Note 1: The rate of air flow resistance equal to the pressure loss divided by the product of the flow velocity and material thickness.

Note 2: The method of measuring air flow resistivity may refer to GB/T 25077.