

ICS 25.120.30

CCS J 61



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

GB/T 25371-2010

**Foundry machinery - Method for measuring the sound pressure
level**

铸造机械 噪声声压级测量方法

Issued on: November 10, 2010

Implemented on: March 1, 2011

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine;
Standardization Administration of the PRC**

Table of Contents

- 1 Scope
- 2 Normative references
- 5.1 Test environment requirements and environmental correction

Foreword

Appendix A of this standard is a normative appendix, Appendix B, Appendix C are informative appendices. The standard proposed by China Machinery Industry Federation. This standard by the National Foundry Machinery Standardization Technical Committee (SAC/TC186) centralized. This standard was drafted. Jinan Foundry and Metalforming Machinery Research Institute Co., Ltd., Jinan Foundry and Metalforming Machinery Research Institute, Qingdao casting machinery set Group Company, Qingdao Green Environmental Protection Equipment Co., Ltd., Qingdao Zhongzhida Environmental Protection Equipment Co., smelting, Qingdao Double Star Foundry Machinery Co., Ltd. The main drafters of this standard. Wang Zhi, Lu Jun, SUN Gui-ping, Wu Zhengtao, benevolence first, gold segment very, Dingren phase. Casting machinery noise level measurement method

1 Scope

China's national method for measuring the sound pressure level of foundry machinery. It specifies the instruments, the conditions, the measurement positions and the reporting for determining the noise emitted by foundry machines. A foundry is among the noisiest industrial environments there is, and the noise is not incidental to the processes - it is produced by them. Moulding machines squeeze and jolt, which is percussive by design. Shakeout separates the casting from the sand by vibrating it violently. Shot blasting throws steel at metal inside a steel cabinet. Grinding and cutting are continuous. And the material handled is heavy and hard, so every transfer is an impact. The result is a workplace in which noise-induced hearing loss is the characteristic occupational disease, and machine noise emission is therefore a specified property that a buyer compares and a regulator limits. Measuring it correctly is harder than it appears, because the number depends as much on where and how it is measured as on the machine. A foundry building is reverberant, other machines are running, and a machine's noise varies through its cycle - a moulding machine is quiet for most of its cycle and very loud for a fraction of a second. So the standard fixes what makes the figure comparable: the instrument and its calibration, the acoustic environment and the correction for it, the operating condition of the machine during measurement, the measurement surface and the positions on it, whether the operator

position or the emission surface is being characterised, the treatment of a cyclic or impulsive source, and the reporting. Issued on 10 November 2010 and in force since 1 March 2011.

This standard specifies the standard radiation stationary noise, A sound level bolometer non-stationary noise and radiated noise periodically varying casting machine Setting Method. Band sound pressure level can also be measured by this method. This standard applies to all types of noise measurement foundry machinery.

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 3102.7 Quantities and units of acoustics

GB/T 3241 octave and fractional octave filters

GB/T 3785-1983 electric sound level meter, acoustic performance and test methods

GB/T 3947 Acoustics Terminology JJG176 acoustic calibrator verification procedures

JJG188 sound level meter verification procedures 3 acoustic terms, quantities and units

Acoustic terminology used in this standard, designation of quantities and units shall comply with GB/T 3947 and GB 3102.7 of.

4 measurement item

4.1 Determination of standard project A level or equivalent continuous A sound level.

4.2 as needed to select one or several measuring points measured

63,125,250,500,1000,2000,4000 eight and 8000Hz octave band SPL, the measuring point is generally considered meaningful analysis of the noise source measuring point.

Environmental testing and correction value 5

5.1 Test environment requirements and environmental correction

5.1.1 meet the requirements of this standard to have a reflective surface (surface) of the following environments. Outdoor flat

a) with a hard reflective surface of open space; A variety of large room, workshop or laboratory

b) comply with the provisions of

5.1.2 $S/S_v \leq 0.03$ (Environmental correction value $K_2 \leq 2.0\text{dB}$) conditions.

5.1.2 When the indoor measurement, taking into account the impact of reflected sound test environment, the environment correction value subtracted from the measurement results K_2 , K_2 , According to formula (1) to determine. $K_2 = 10 \lg (1.2 S / S_v)$ (1) Where. The K_2

--- environmental correction value decibels [dB (A)]; S

--- terminated at the reflecting surface of the total area of the side surface and a top surface of a parallelepiped, each face of the parallelepiped (bottom Except face) measured from the casting machine as close as 1m (see Figure 1), in square meters (m^2); The total surface area S_v

--- test room (ceiling, walls and floor), in square meters (m^2). K_2 also be graph