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

GB/T 11259-2015

Replacing GB/T 11259-2008

**Non-destructive testing - Practice for fabrication and control of
steel reference blocks used in ultrasonic testing**

无损检测 超声检测用钢参考试块的制作和控制方法

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Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules. This standard replaces GB/T 11259-2008 "NDT ultrasonic testing of steel production parameters and test methods test block." This standard 11259-2008 major changes compared to GB/T as follows:

- Modify the standard name;
- Modify the scope (see Chapter 1; Chapter 1 of the 2008 edition);
- Modify the production process (see Chapter 6; Chapter 6 of the 2008 edition);
- Modify the physical characteristics of the test (see Chapter 7; Chapter 7 of the 2008 edition);
- Identify and modify the test piece surface condition (see Chapter 9; Chapter 9 of the 2008 edition);
- Increased normative appendix "artificial defect cover-die production process" (see Appendix A). The standard non-destructive testing by the National Standardization Technical Committee (SAC/TC56) and focal points. This standard was drafted. Nanjing Di Weier high-end manufacturing Co., Ltd., Shandong Ruixiang Mould Co., Ltd. (Shandong Jining mold factory), Haitai Division Inspection Technologies Co., Shanghai Research Institute of Materials, Guangdong Special Equipment Inspection and Research Institute. The main drafters of this standard. Vincent Chan, Zhang Li, Weizhong Rui, Ma Jianmin, Zhang YIMING, Jinyu Fei, LI Xu Feng. This standard replaces the standards previously issued as follows:
 - GB/T 11259-1989, GB/T 11259-1999, GB/T 11259-2008. NDT Ultrasonic testing of steel reference blocks Production and control methods

1 Scope

GB/T 11259-2015 is the Chinese national standard on non-destructive testing - practice for fabrication and control of steel reference blocks used in ultrasonic testing, in the field of testing. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 9 October 2015 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 June 2016. Classification: ICS 19.100, CCS J04. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This standard specifies the reference ultrasonic testing of steel production and control procedures for the examination block, a flat-screen sound wave test block, a cylinder shape, Contained within the flat bottom hole (FBH), ultrasound can be used for performance testing instruments and probes, as well as calibration and control alloy products ultrasonic testing. The Said reference blocks both for direct contact method is also applicable to the liquid immersion pulse-echo method. Although this standard is basically discusses the production and testing of carbon steel and alloy steel test block, and the detection of these materials, but its production and inspection Test specimen preparation method is also applicable to other materials, such as nickel-based alloys, such as aluminum in some. When produced in addition to carbon and alloy material The reference test block, may need some additional procedures and tests. In certain applications, this standard does not necessarily rule out some normative and think To some additional additional requirements. Other shapes steel production parameters and test control block, may refer to this standard use.

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 12604.1 Terminology for nondestructive testing Ultrasonic testing

GB/T 20737 Non-destructive testing - General terms and definitions

3 Terms and Definitions

Terms and definitions GB/T 12604.1 and GB/T 20737 apply to this document defined.

4 Overview

This standard is described in detail with the subject material commensurate carbon and alloy steel reference blocks of basic production and control procedures, and clearly should meet Minimum requirements. When making use of the standard reference test block other types of materials or larger diameter, you may need to add additional requirements. Physical properties of the hole can be confirmed by evaluating the plastic replicas. It should be appreciated that the use of replicas to evaluate pore size limitations.

5 Material Selection

5.1 is used as reference block material should be seized materials have similar acoustic attenuation properties. Match acoustic response should consider the following variables. Crystal Size, heat treatment, physical and chemical composition, surface roughness and manufacturing processes (rolling, forging, etc.).

5.2 Overall assessment procedure that should be introduced into the longitudinal beam pulse echo test block on either side of the beam axis is determined using a metallic sound away. Use clean water as a coupling agent in the liquid immersion method or by using a suitable coupling agent (oil, glycerine, etc.) are available for direct contact. Making reference blocks Evaluation of the raw materials testing equipment, frequency and the probe should be used for detection of the product material fairly.