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

GB/T 23369-2009

**Standard test method for determination of magnetic saturation
(MS) of cemented carbides**

**硬质合金磁饱和（MS）测定的标准试验方法
(English Translation)**

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Foreword

This revised standard adopts ASTM B886-2003 "Standard Test Method for Carbide magnetic saturation (MS) assay." This standard has the following differences compared with ASTM B886-2003.

--- Increasing the normative references;

--- Made some modifications and textual format.

The standard proposed by China Nonferrous Metals Industry Association.

This standard Nonferrous Metals by the National Standardization Technical Committee.

This standard by Zhuzhou Cemented Carbide Group Co., Ltd. is responsible for drafting.

1 Scope

This standard applies to magnetic saturation induction meter measuring magnetic saturation carbide powder material and sintering products.

This standard does not raise safety issues related to users prior to use shall establish appropriate safety and health practices and determine the Adaptation range.

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/T 3500 PM term (GB/T 3500-2008, IDTISO 3252.1999) ASTM A340 Symbols and definitions of terms related to the magnetic measurements ASTM E1316 Terminology for nondestructive testing

3 Terms and Definitions

GB/T 3500, ASTM A340, terms and definitions established ASTM E1316 apply to this standard.

Principle 4

Stable test sample placed in a magnetic field, the magnetic field by the permanent magnet or DC coils. Sample in a magnetic field reaches saturation magnetization State and converted into the total amount of the binder phase sample magnetizable induction current is generated in the induction coil measuring device. The induced currents and is proportional to the percentage of the total amount of the binder phase in the test sample magnetizable, can be calculated by measuring the current induced magnetic saturation of the sample.

5 Uses

5.1

standard is applicable to sintered carbide NDT magnetization binder phase can also be used to indirectly measure the carbon content in the sample.

5.2

standard can measure the relative content of the magnetic sample binder phase of cobalt, nickel, iron, etc. by magnetic saturation measurement to determine the products an amount ranging from cobalt, nickel, iron and other magnetic substances.

5.3

Determination of magnetic saturation can be used to determine the quality of the powder material.

6 Factors

6.1

and can not be directly measured absolute magnetic saturation of the sample, measuring the magnetic saturation of standard reference material from relatively.

6.2

magnetic saturation measurement is a non-destructive measurement of the whole, it is the measured results of the entire test sample average, it can not be used to infer the magnetic Availability substance corresponding distribution.

6.3

magnetic saturation measuring the size and shape of the specimen by the impact, especially on form factor.

6.4

small specimens or magnetic binder phase concentration is relatively low sample may not measure its magnetic saturation, which is due to the low concentration so that the magnetic binder phase Was instrumental induction coil area can not be detected induced current.

7 Device

7.1

equipment to make the sample in a magnetic field to reach saturation magnetization and the induced magnetic field.