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

GB/T 4957-2003

**Non-conductive coatings on non-magnetic basis metals --
Measurement of coating thickness -- Eddy current
(English Translation)**

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Foreword

This Standard identically adopts ISO 2360:1982 "Non-conductive coating on non-magnetic basis metals - Measurement of coating thickness - Eddy current method" (English edition).

This Standard replaces GB/T 4957-1985 "Non-conductive coatings on non-magnetic metal substrates - Measurement of coating thickness - Eddy current method".

Based on ISO 2360:1982, this Standard made the following editorial modifications:

- a) used "this Standard" to replace "this International standard";
- b) deleted the foreword of ISO 2360:1982;
- c) used national standards that adopt international standards as references;
- d) added normative references.

This Standard was proposed by China Machinery Industry Federation.

This Standard shall be under the jurisdiction of National Technical Committee on Metal and Non-metal Coatings of Standardization Administration of China.

Main drafting organization of this Standard: Wuhan Institute of Material Protection.

The drafting organization of this Standard: Zhejiang Yueqing Xinfeng Enterprise Co., Ltd.

Main drafters of this Standard: Yu Hui, Zhong Lichang, Feng Yongchun, Jia Jianxin, Zheng Xiulin.

Version of standard substituted by this Standard is:

- GB/T 4957-1985.

Non-conductive coatings on non-magnetic basis
metals - Measurement of coating thickness - Eddy
current

1 Scope

This Standard describes a method for non-destructive measurements of the thickness of nonconductive coatings on non-magnetic, electrically conductive (generally metallic) basis materials, using amplitude-sensitive eddy current instruments.

The method is particularly applicable to measurements of the thickness of most oxide coatings produced by anodizing, but is not applicable to all conversion coatings, some of which are too thin to be measured by this method (see Clause 7).

Although theoretically, the method can be used for measurements of the thickness of coatings on magnetic basis materials, its use for this application is not recommended. In such cases, the magnetic method specified in GB/T 4956 should be used.

2 Normative references

The provisions in following documents become the provisions of this Standard through reference in this Standard. For dated references, the subsequent amendments (excluding corrigendum) or revisions do not apply to this Standard, however, parties who reach an agreement based on this Standard are encouraged to study if the latest versions of these documents are applicable.

For undated references, the latest edition of the referenced document applies.

GB/T 4956, Non-magnetic coatings on magnetic substrates - Measurement of coating thickness - Magnetic method (ISO2178:1982, IDT)

3 Principle

An eddy current probe (or integrated probe/instrument) is placed on the surface of the coating(s) to be measured, and the thickness is read from the instrument's readout.

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