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

GB/T 37421-2019

**Thermal spraying - Characterization and testing of thermally
sprayed coatings**

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Standardization Administration**

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Foreword

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

This standard uses the redrafting method to modify the use of ISO 14923.2003 "characterization and testing of thermal spray coatings."

The technical differences between this standard and ISO 14923.2003 and their reasons are as follows.

--- For ease of use, the normative reference documents have been technically adjusted to suit the technical conditions of China, and the set of adjustments

Reflected in Chapter 2, "Regulatory Citations," Appendix A gives specific adjustments to normative references.

According to the table.

This standard was proposed by the China Machinery Industry Federation.

This standard is under the jurisdiction of the National Technical Committee for Standardization of Metal and Non-Metallic Coatings (SAC/TC57).

This standard was drafted. Wuhan Material Protection Research Institute Co., Ltd., Jiangsu Zhongzheng Dazheng Surface Engineering Technology Co., Ltd., Foshan Advanced

Surface Technology Co., Ltd., Jiangxi Hengda High-tech Co., Ltd., Tongxiang Tiesheng Line Equipment Co., Ltd., Wuhan Xinhua Feng Machinery Manufacturing Co., Ltd.

Limited Liability Company, Aerospace Materials and Technology Research Institute, Maanshan Shuntai Rare Earth New Materials Co., Ltd., Dongguan Yi'an Technology Co., Ltd.

the company.

1 Scope

This standard provides guidance on the characterization and testing of thermal spray coatings. Since all fusible materials can be used for thermal spraying, there are many

The same thermal spray process, there are a large number of different types of coatings, so it is impossible to specify all the coatings in this standard.

This standard lists the general test methods and test specifications for thermal spraying. This standard does not address only certain situations or experiments.

Test method carried out under room conditions.

Note. This standard does not cover all methods.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article.

Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 230.1 Rockwell hardness test for metallic materials - Part 1. Test methods (GB/T 230.1-2018, ISO 6508-1.

2016, MOD)

GB/T 351 metal material resistivity measurement method (GB/T 351-1995, eqvIEC 60468. 1974)

GB/T 1410 solid insulation material volume resistivity and surface resistivity test method (GB/T 1410-2006, IEC 60093.

1980, IDT)

GB/T 3505 Product Geometry Specification (GPS) Surface structure profiling terms, definitions and surface structure parameters

(GB/T 3505-2009, ISO 4287.1997, IDT)

GB/T 4340.1 Metallic materials - Vickers hardness test - Part 1. Test methods (GB/T 4340.1-2009, ISO 6507-1.

2005, MOD)

GB/T 4340.2 Vickers hardness test for metallic materials - Part 2. Examination and calibration of hardness testers (GB/T 4340.2-2012,

ISO 6507-2.2005, MOD)

GB/T 4340.3 Vickers hardness test for metallic materials - Part 3. Calibration of standard hardness blocks (GB/T 4340.3-2012,

ISO 6507-3.2005, MOD)

GB/T 4956 magnetic non-magnetic covering layer coating thickness measurement magnetic method (GB/T 4956-2003,

ISO 2178.1982, IDT)

GB/T 4957 Non-conductive coating on non-magnetic base metal, thickness measurement of eddy current method (GB/T 4957-2003,

ISO 2360.1982, IDT)

GB/T 5210 Paint and varnish pull-off adhesion test (GB/T 5210-2006, ISO 4624.2002, IDT)

GB/T 5990 Refractory thermal conductivity test method (hot line method) (GB/T 5990-2006, ISO 8894-1. 1986,

MOD)

GB/T 6062 Product Geometrical Specification (GPS) Surface structure profile method Contact (stylus) type instrument nominal characteristics

(GB/T 6062-2009, ISO 3274.1996, IDT)

GB/T 6462 metal and oxide coating thickness measurement microscopy (GB/T 6462-2005, ISO 1463.2003,

IDT)

GB/T 6463 Review of metal and other inorganic coating thickness measurement methods (GB/T 6463-2005, ISO 3882.2003,

IDT)