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

GB/T 2976-2020

Replacing GB/T 2976-2004

Metallic materials. Wire. Wrapping test

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Foreword

This document is in accordance with the provisions of GB/T 1:1-2020 Standardization Guidelines Part 1: Structure and Drafting Rules of Standardization Documents

Drafting:

This document replaces GB/T 2976-2004 "Metal Material Wire Winding Test Method", compared with GB/T 2976-2004, the main

The main technical changes are as follows:

---Modified the description of the scope (see Chapter 1, Chapter 1 of the:2004 edition);

---Modified the test principle statement (see Chapter 4, Chapter 2 of the:2004 edition);

---Added the requirements of the test equipment rotation speed, rotation mode, tensioning device, etc: (see 5:2, 5:3, 5:4);

---Added requirements for sample interception, straightening and effectiveness (see Chapter 6);

---The rotation speed, core rod diameter, and number of winding requirements for the coating adhesion performance test have been increased (see 7:2, 7:4);

--- Increased the observation requirements for the coating adhesion test results: Clarified the observation method and view of the coating adhesion test results

Inspection content (see 8:2);

---The test method requirements are added to the test report (see Chapter 9):

This document uses the redrafting method to modify and adopt ISO 7802:2013 "Metallic Material Wire Winding Test Method":

Compared with ISO 7802:2013, this document has added Chapter 2, Chapter 3, Chapter 6, Chapter 8, and Appendix A in structure:

Compared with ISO 7802:2013, there are technical differences between this document, and the clauses related to these differences have been passed in the outer margins:

The vertical single line (?) of the setting is marked: The specific technical differences and the reasons are as follows:

---According to the requirements of relevant product standards in my country, the scope of application has been supplemented and improved, and coated metal wire samples and their surface coatings have been added

Adhesion performance test (see Chapter 1);

---Added the requirements for the rotation speed, rotation mode, and tensioning device of the test equipment to increase the operability and test

The accuracy of the results (see 5:2, 5:3, 5:4);

---Added the requirements of interception, straightening and validity of the sample to adapt to my country's national conditions (see Chapter 6);

---The requirements for the rotation speed of the coating adhesion performance test and the reference for selecting the diameter of the mandrel and the number of winding turns have been added to suit my country's national

Love (see 7:2, 7:4);

---Added the observation requirements for the coating adhesion test results, and clarified the observation method and view of the coating adhesion test results

Check the content to suit my country's national conditions (see 8:2);

--- The test method requirements are newly added to the test report, which is unified with the test procedure (see Chapter 9):

This document has made the following editorial changes:

---Added an informative appendix "The number of winding turns and the diameter of the mandrel for measuring the adhesion of the wire coating" (see Appendix A):

Please note that certain contents of this document may involve patents: The issuing agency of this document is not responsible for identifying patents:

This document was proposed by the China Iron and Steel Association:

This document is under the jurisdiction of the National Steel Standardization Technical Committee (SAC/TC183):

Drafting organizations of this document: National Metal Products Quality Supervision and

Inspection Center, National Wire Rope Product Quality Supervision and Inspection Center,
Metallurgical Industry

Information Standards Institute:

1 Scope

This document specifies the principles, test equipment, specimens, test procedures, test results and test reports of metal material wire winding test methods

And other content:

This document is suitable for measuring the metal wire with a diameter or characteristic size of 0.1mm~10mm to withstand plastic deformation during the winding test:

The shape ability is also suitable for measuring the adhesion performance of the coating on the surface of the coated metal wire: After consultation with related parties, other specifications of metal wire

The winding test can also be performed with reference to this document:

2 Normative references

There are no normative references in this document:

3 Terms and definitions

There are no terms and definitions that need to be defined in this document:

4 Principle

The winding test is to tightly wind the wire sample on the core rod of the specified diameter at a certain rotation speed to the specified number of spiral turns, or the sample

fracture:

This test can also include special procedures for winding, unwinding, or rewinding (specified sequence):

5 Test equipment

5:1 It should be able to meet the requirements of winding the wire around the core rod, and make the adjacent coils closely arranged to form a spiral coil:

5:2 The rotation speed can be adjusted to meet the regulations:

5:3 The rotation mode can be two-way to meet the requirements of unwinding or rewinding:

5:4 There should be a device for applying tension to the free end of the sample:

5:5 The diameter of the mandrel should meet the requirements of the relevant product standards, and the mandrel should have sufficient hardness: The wire used for the test, as long as the diameter is

It can also be used as a core rod if it meets the requirements and has sufficient hardness:

6 Sample

6:1 It shall be cut from the wire that has passed the visual inspection: The cut position, length and quantity shall comply with the relevant product standards:

6:2 If necessary, straighten the sample: When the sample cannot be straightened by hand, a wooden or rubber hammer should be used on the table with a hardness lower than that of the sample:

Straighten the specimen: There should be no damage on the surface of the sample during straightening:

6:3 Specimens with local hard bends within the effective length shall not be used for testing: