



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

GB/T 239.2-2023

Metallic materials - Wire - Part 2: Reverse torsion test

Issued on: March 17, 2023

Implemented on: July 1, 2023

Issued by: SAMR; SAC

Table of Contents

Foreword...	3
Introduction...	5
1 Scope...	6
2 Normative References...	6
3 Terms and Definitions...	6
4 Symbols and Designations...	6
5 Principle...	7
6 Testing Equipment...	7
7 Specimen...	7
8 Test Conditions...	8
9 Procedure...	8
10 Test Report...	9
Bibliography...	10

Foreword

This Document was drafted as per the rules specified in GB/T 1.1-2020 Directives for Standardization - Part 1: Rules for the Structure and Drafting of Standardizing Documents.

This Document was Part 2 of GB/T 239 Metallic Materials - Wire. GB/T 239 has published the

following parts:

--- Part 1: Simple Torsion Test;

--- Part 2: Reverse Torsion Test.

This Document replaced GB/T 239.2-2012 Metallic Materials - Wire - Part 2: Reverse Torsion

Test. Compared with GB/T 239.2-2012, the major technical changes of this Document are as

follows besides the structural adjustments and editorial modifications:

--- Increase the hardness value requirements of the clamp of the testing machine (see 6.1 of

this Edition);

- Delete the specific straightening method (see 6.2 of the 2012 Edition);
- Increase visual inspection content (see 9.2 of this Edition);
- Increase the retest when the test fails (see 9.3 of this Edition);
- Delete the instructions on the compliance of the reverse torsion test after the forward torsion (see 7.4 of the 2012 Edition);
- Add "g) Visual inspection results of the free length of the specimen" (see Clause 10 of this Edition).

This Document modifies and adopts ISO 9649:2016 Metallic Materials - Wire - Reverse Torsion Test.

This Document adds the Clauses of "Normative References" and "Terms and Definitions".

The technical differences and causes between this Document and ISO 9649:2016 are as follows:

- In order to improve the accuracy of test result judgment, the content of visual inspection has been added (see 9.2 of this Document);
- Add the requirement of retesting when the test fails (see 9.3 of this Document), so as to facilitate the operation;
- Add "visual inspection results of the free length of the specimen" in the test report, corresponding to the content of 9.2 (see Clause 10 of this Document).

This Document made the following editorial modifications:

- In order to coordinate with the existing standards, the name of the standard is changed to

Metallic Materials - Wire - Part 2: Reverse Torsion Test;

- Add "NOTES" in Clause 5, and 9.1; and change the NOTE of 9.3 into "GB/T 18983-2017 gives the reverse torsion test case".

Please note some contents of this Document may involve patents. The issuing agency of this

Document shall not assume the responsibility to identify these patents.

This Document was proposed by China Iron and Steel Association.

This Document shall be under the jurisdiction of National Technical Committee on Steel of Standardization Administration of China (SAC/TC 183).

Drafting organizations of this Document: Guangzhou Customs District Technology Center; China Metallurgical Information and Standardization Institute; Zhejiang Changxing Heliang Intelligent Equipment Co., Ltd.; Center of Excellence for Advanced Materials; Fuzhou University; Shanghai Shenli Testing Machine Company; and Guangzhou Shipyard International Company Limited.

Chief drafting staffs of this Document: Zhou Qi, Dong Li, Li Liangyou, Li Rongfeng, Wei Rongshan, Ye Yanfeng, Huang Jiajian, Li Hao, Hou Huining, Zhang Liang, Chen Changkui, Chen Guifeng, and Wu Weicheng.

The historical editions replaced by this Document are as follows:

--- GB/T 239-1963 Metallic Materials Wire Torsion Test was first-time published in 1963; first-time revised in 1982; second-time revised in 1984; and third-time revised in 1999;

--- It is divided into parts to be published during the fourth-time revision in 2012; this Document corresponds to GB/T 239.2-2012 Metallic Materials - Wire - Part 2: Reverse Torsion Test.

--- It is the fifth-time revised hereby.

Metallic Materials - Wire - Part 2: Reverse Torsion Test

1 Scope

This Document specifies a method for determining the ability of metallic wire of diameter dimension from 0.3 mm to 10.0 mm inclusive to undergo plastic deformation during reverse torsion.

This Document is applied to detect surface defects, as well as to assess ductility.

2 Normative References

There are no normative references in this Document.

3 Terms and Definitions

For the purposes of this Document, there are no terms and definitions apply.

4 Symbols and Designations

The symbols and designations used in the reverse torsion test of wires are shown in Figure 1

and specified in Table 1.

.....

chinastandards.org · PREVIEW