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

YB/T 5126-2003

Replacing YB/T 5126-1993

Steel bars for reinforcement of concrete. Bend and rebend tests

钢筋混凝土用钢筋 弯曲和反向弯曲试验方法

(English Translation)

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Foreword

This standard is modified to adopt ISO 10065:1990 "Test Method for Bending and Reverse Bending of Reinforced Concrete" (English version).

This standard was redrafted in accordance with ISO 10065:1990. The standard chapter number and ISO 10065:1990 are listed in Appendix A.

The bar number comparison list.

Taking into account China's national conditions and basic technical principles, when adopting ISO 10065:1990, this standard has been modified, and the technical skills are poor.

Differences have been incorporated into the text and are identified by vertical single lines in the margins of the terms they refer to. These techniques are given in Appendix B.

A list of sexual differences and their causes for reference.

For ease of use, the following editorial changes have been made to this standard for ISO 10065:1990.

- a) the words "this International Standard" are replaced by the words "this standard";
- b) delete the preface to ISO 10065:1990;
- c) Standardize the use of legal units and symbols in China.

This standard replaces YB/T 5126-1993 "Reinforcement Plane Reverse Bending Test Method".

This standard has greatly modified and supplemented the technical content of YB/T 5126-1993 mainly in the following aspects.

- Add Chapter 2 normative references, Chapter 8 test report;
- Add an explanation of the principle of the test;
- Added and modified some symbols and definitions;
- Remove the relevant content of the original standard on the bending force arm formula;
- Add a flap bending device that can accurately measure and control the bending and reverse bending angles in the test equipment, and delete the original correlation content;
- Adjusted the maximum speed of bending and reverse bending;
- Increase the requirements for aging heat treatment temperature, holding time and equipment;
- Delete the original Appendix A, cancel the division of the five categories of test results, only the "qualified" and "unqualified" assessment;
- Increase the informative Appendix A, informative Appendix B;
- Add Figure 1, Figure 2, Figure 3.

Appendix A and Appendix B of this standard are informative annexes.

This standard was proposed by the China Iron and Steel Association.

This standard is under the jurisdiction of the National Steel Standardization Technical Committee.

This standard was drafted. Chongqing Iron and Steel Research Institute, Iron and Steel Research Institute, Jinan Test Group Co., Ltd.

1 Scope

This standard applies to the bending and reverse bending test of steel bars for reinforced concrete. The purpose of the reverse bending test is to determine the reinforcement Bending plastic deformation and reverse bending deformation properties after aging.

2 Normative references

The terms in the following documents constitute provisions of this standard by reference to this standard. Any dated reference document, followed by Some amendments (not including errata content) or revisions do not apply to this standard, however, parties to agreements based on this standard are encouraged to study is it possible to use the latest version of these files? For undated references, the latest edition applies to this standard.

GB/T 2975 Steel and steel products, mechanical properties test sampling position and sample preparation (GB/T 2975-1998, eqv ISO 377:1997) GB/T 232 metal material bending test method (GB/T 232-1999, eqv ISO 7438:1985)

3 Principle

The bending test is to force the two arms or one arm of the sample to make the sample a bending moment on the curved arc surface (curved center) of the specified diameter.

The test produces a plastic deformation around the arc surface to a specific angle.

The aging performance is tested by the reverse bending test, including the bending test and the aging heat treatment, and then the sample is reversely bent and reduced to a certain extent.

angle.

4 Symbols and definitions

The symbols and definitions used in this standard are shown in Table 1.

Table 1 Symbols and definitions

Symbol	definition	unit
G	Groove width of the trough-shaped flap slider	mm
D	curved arc surface (curved center) diameter	mm
D ₀	work roll diameter	mm
α	bending angle	(°)
Δ	reverse bending angle	(°)

5.1 Bending device

Figure 1 shows an example of a bending device. One roller is fixed, and the other roller bends the sample around a curved arc surface (curved center).

The two rolls are fixed, and the curved arc surface (curved center) is moved to the middle of the two rolls, so that the two arms of the sample are bent around the curved arc surface (curved center). Bending test it can also be carried out according to GB/T 232 using a bending device equipped with an angle indicator on a universal testing machine.

5.2 Reverse bending device

Figure 2 shows an example of a reverse bending device in which the reverse bending angle can be indicated on the angle indicator. Bending and anti-bending