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

GB/T 33365-2016

**Weld steel fabric for the reinforcement of concrete -- Test
methods**

钢筋混凝土用钢筋焊接网 试验方法

(English Translation)

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Table of Contents

Foreword...	3
1 Scope...	4
2 Normative references...	4
3 Symbols...	4
4 General requirements of sample...	5
5 Tensile test...	6
6 Bending test...	8
7 Determination of shearing resistance...	10
8 Measurement of geometric characteristics...	11
9 Measurement and calculation of weight deviation of weld fabric...	11
10 Test report...	12

1 Scope

This Standard specifies the symbols, general requirements of sample, tensile test, bending test, determination of shearing resistance, measurement of geometric characteristics, measurement and calculation of weight deviation, and test report of weld steel fabric for the reinforcement of concrete (hereinafter referred to as weld fabric).

This Standard applies to weld steel fabric for the reinforcement of concrete.

2 Normative references

The following documents are indispensable for the application of this document.

For the dated references, only the editions with the dates indicated are applicable to this document. For the undated references, the latest edition (including all the amendments) are applicable to this document.

GB/T 228.1 Metallic materials - Tensile testing - Part 1 : Method of test at room temperature

GB/T 12160 Calibration of extensometers used in uniaxial testing

GB/T 16825.1 Verification of static uniaxial testing machines - Part 1:

Tension/compression testing machines - Verification and calibration of the force-measuring system

3 Symbols

The symbols used in this Standard are shown in Table 1.

5.2 Test equipment and assistant devices

5.2.1

The testing machine shall be inspected in accordance with the provisions of GB/T 16825.1.

5.2.2

If an extensometer is used, its accuracy level shall meet the requirements of GB/T 12160.

5.2.3

It shall use a gage or measuring device with a resolution better than 0.1 mm to measure the final gauge length (l_u), accurate to ± 0.25 mm.

5.3 Test procedure

5.3.1

The test shall generally be carried out at a temperature ranging from 10 °C~35 °C.

5.3.2

For the clamping method, it shall use a suitable clamp for holding the reinforcement to clamp the sample; it shall ensure that the clamped sample is subjected to axial tension to minimize bending. At the same time, it shall ensure that the sample is relatively stable during the test.

5.3.3

The test rate can be selected by the method specified in GB/T 228.1.

5.3.4

The tensile strength and yield strength are measured in accordance with the requirements of GB/T 228.1. For reinforcement with apparently no yield strength, the yield strength characteristic value shall be the specified non-proportional elongation strength.

5.3.5

The percentage elongation after fracture shall be determined in accordance with the following requirements:

- a) The fractured parts of the sample shall be carefully mated together so that their axes are on the same straight line, and the fractured parts of the sample are in close contact before measuring.

b) It is only valid that the distance between the fracture and the closest gauge length mark is not less than one third of the original gauge length. If the fracture occurs at the clamping position and within 20 mm from the clamping portion, the test is judged as invalid. However, when the percentage elongation after fracture is greater than or equal to the specified value, regardless of where the fracture position is, the measurement is valid.

c) When using an extensometer to measure the fracture elongation, if the fracture occurs within the range of the extensometer, it is valid. However, when the percentage elongation after fracture is greater than or equal to

1 - Indenter;

2 - Sample reinforcement;

3 - Supporting roller.

Figure 3 -- Bending test devices

6.2.2 The distance between the supporting rollers (as shown in Figure 3) shall be determined according to formula (1). This distance, during the test, shall remain constant.

Where:

l - Distance between supporting rollers;

D - Bending center diameter;

d - Nominal diameter of reinforcement.

6.2.3 The bending indenter is equivalent to the bending center. The bending angle and the bending center diameter shall conform to the corresponding product standards. The commonly-used bending center diameter is shown in

Table 2.

Table 2 -- Bending center diameter requirements for commonly used weld fabric reinforcement

Reinforcement designation CRB550 HRB400 HRB500

Bending center diameter (D) $3d$ $4d$ $6d$

Note: d represents the nominal diameter of reinforcement.

6.3 Test procedure

6.3.1

The bending test shall be carried out at a temperature ranging from

$10\text{ }^{\circ}\text{C}$ ~ $35\text{ }^{\circ}\text{C}$.

6.3.2 The middle distance between the bent position and the cross solder joint

is greater than 25 mm.

6.3.3 During the bending test, it shall slowly apply the bending force.

6.4 Test result

After the bending test, the bent outer surface of the sample shall not have visible cracks.

7.3.2 The tensile force applied to the tensile reinforcement has a stress rate between 6 N/mm²~60 N/mm².

7.3.3 The arbitration test shall use the c-clamp in Appendix B.

7.3.4 The type of clamp used shall be noted in the test report.

8.1 Sample

The sample shall be a complete wire fabric product of the delivery state.

8.2 Test equipment

The length, width, and grid spacing of the weld fabric sample shall be measured using a gage with an accuracy of at least 1 mm.

8.3 Test procedure

According to the overall dimensions of a sample, MEASURE the length, width, grid spacing, and outcrop length.

9 Measurement and calculation of weight deviation of

weld fabric

9.1 Sample

The sample shall be taken from the finished weld fabric of the delivery state.

The sample length shall not be less than the length of the tensile sample. The sampling size shall not be less than 600 mmx600 mm. The intersection of the mesh is not less than 9. The end of the reinforcement on the sample shall be processed flush. The length deviation of the sample is ± 1 mm.

9.2 Test equipment

The measurement accuracy of the sample weight measuring instrument shall be at least $\pm 0.5\%$. The resolution of the length measuring instrument shall be at least 1 mm.