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

GB/T 7897.1-1987

Replacing GB/T 7897-2008

**Test methods of properties of mortar for ferrocement
(English Translation)**

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document supersedes GB/T 7897-2008 "Test Methods for Mechanical Properties of Cement Mortar with Steel Wire Mesh" and is consistent with GB/T 7897-2008.

Compared to previous versions, aside from structural adjustments and editorial changes, the main technical changes are as follows.

- a) The experimental conditions were increased (see Chapter 4);
- b) Specimen preparation has been modified (see Chapter 5, Chapter 3 of the 2008 edition);
- c) The test equipment has been removed (see Chapter 4 of the 2008 edition);
- d) The test report content has been deleted (see Chapter 5 of the 2008 edition);
- e) The flexural strength test procedure has been modified (see 6.3.1, 2008 version of 6.3.1);
- f) The formula for calculating flexural strength has been deleted [see formula (2) in the 2008 edition];
- g) The compressive strength test procedure has been modified (see 7.3.2, 7.3.2 and 7.3.3 in the 2008 edition);
- h) A water absorption test method has been added (see Chapter 13);
- i) A test method for impermeability has been added (see Chapter 14);
- j) A shrinkage performance test method has been added (see Chapter 15);
- k) An early crack resistance test method has been added (see Chapter 16).

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the China Building Materials Federation.

This document is under the jurisdiction of the National Technical Committee on Standardization of Cement Products (SAC/TC197).

1 Scope

This document describes the test conditions and specimen preparation for the performance testing of wire mesh cement mortar, as well as the flexural strength, compressive strength, and splitting tensile strength.

Tensile strength, axial compressive strength, static compressive modulus of elasticity, Poisson's ratio, bond strength, water absorption, impermeability, shrinkage properties, and early resistance Crack performance test method.

This document applies to the performance testing of steel wire mesh cement mortar.

4 Test conditions

4.1

The ambient temperature during laboratory molding should be maintained at $(20\pm5)^{\circ}\text{C}$, and the relative humidity should not be less than 50%.

4.2

The ambient temperature for mortar mechanical property testing should be maintained at $(20\pm2)^{\circ}\text{C}$, and the relative humidity should not be less than 50%; mortar shrinkage and early crack resistance...

The ambient temperature of the shrink chamber for performance testing should be maintained at $(20\pm2)^{\circ}\text{C}$ and the relative humidity should be maintained at $(60\pm5)\%$.

5.1 Specimen Molding

5.1.1

When preparing mortar samples in the laboratory, the materials used should be allowed to stand for at least 24 hours under the test conditions in 4.1.

5.1.2

When mixing mortar in the laboratory, the material quantities should be measured by mass, with the weighing accuracy of cement, water, and admixtures being $\pm 0.5\%$; the weighing accuracy of sand should also be $\pm 0.5\%$.

It is $\pm 1\%$.

5.1.3

Mechanical mixing should be used when mixing mortar in the laboratory. The mixer should conform to the requirements of JG/T 3033, and the mixing volume per batch should be the capacity of the mixer.

The mortar should be mixed evenly, with a mixing time of 30% to 70%, and the mixing time

should be 120 to 180 seconds.

5.1.4

All specimens were prepared immediately after sampling and completed within 30 minutes.

5.1.5

When molding the specimen, use a mold conforming to JC/T 726 and apply a release agent conforming to JC/T 949 to its inner wall.

5.1.6

Fill the mold with the mixed mortar all at once. The molding method depends on the consistency. The mortar consistency test method shall conform to JGJ/T 70.

The regulations stipulate that mortar with a consistency of 30mm~70mm should be compacted using a vibrating table for 30s~45s. The vibrating table should conform to the requirements of JC/T 682 or higher.

In accordance with JC/T 723, mortar with a consistency greater than 70 mm and less than 120 mm should be manually compacted using a tamping rod. During manual compaction, use a tamping rod with a diameter of...

The 16mm steel rod was inserted and tamped in two layers, with each layer being tamped 12 times.

5.2 Specimen Curing

5.2.1

Standard curing shall be used when determining the strength grade. After molding, specimens cured under standard curing conditions shall be covered with plastic film and cured in a curing chamber or...

Cured in the curing room for 24 hours, then demolded and cured in water until the strength test.

5.2.2

The curing requirements for specimens shall be in accordance with the provisions of GB/T 17671. The specimens shall be cured for 28 days (starting from the time of molding) before testing.

6.1 Specimens

Prepare specimens according to the provisions of Chapter 5, using specimens of 40mmx40mmx160mm, with 3 specimens per group.