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BUILDING MATERIALS INDUSTRY STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

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Geosynthetic cementitious composite mat

土工合成水泥毯

(English Translation)

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Foreword

This document has been drafted in accordance with the rules given in GB/T 1.1-2020 Directives for standardization - Part 1: Rules for the structure and drafting of standardizing documents.

Attention is drawn to the possibility that some of the content of this document may be the subject of patent rights. The issuing body of this document shall not be held responsible 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 Cement Products of Standardization Administration of China (SAC/TC 197).

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1 Scope

This document specifies the classification and marking, raw materials, requirements, test methods, inspection rules, as well as packaging, marking, transportation and storage of geosynthetic cementitious composite mats.

This document is applicable to geosynthetic cementitious composite mats used in engineering works such as mountain slope protection, tunnels, ditches and channels, roofs, reservoirs and ponds.

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2 Normative references

the version corresponding to that date is applicable to this document; for undated references, the latest version (including all amendments) is applicable to this document.

GB/T 13761.1 Geosynthetics Determination of thickness at specified pressures Part 1:

3 Terms and definitions

The following terms and definitions apply to this document.

after laying, is able to harden and set through water-spraying curing.

cementitious composite mat per unit width.

4.1 Classification 4.1.1

Geosynthetic cementitious composite mats (code GCCM) are classified, according to the structural type of the geotextile fabric, into mesh-structure cementitious mats (code GCCM-N) and needle-punched stitched-structure cementitious mats (code GCCM-S).

According to waterproofing performance, they are classified into ordinary type (code C) and waterproof type (code W).

4.2 Specification dimensions 4.2.1

The commonly used thickness dimensions are 10 mm, 12 mm and 15 mm. The commonly used width dimensions are 2 m, 2.5 m, 3 m and 4 m.

5.1 Geotextile

The geotextile shall comply with the provisions of GB/T 17638, GB/T 17639, GB/T 17640,

5.2 Cement-based dry mixture

The cement-based dry mixture is made by uniformly mixing cement, fine aggregate, admixtures and other auxiliary materials.

6.1.1 Appearance quality

The front face and the back face of the geosynthetic cementitious composite mat shall be flat, free of damage, free of shedding or delamination phenomena, and free of unfilled areas.

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6.1.2 Permissible dimensional deviations

shall comply with the requirements of Table 1.

Length The dimensional deviation shall be not less than ?2 % of the nominal value Width The dimensional deviation shall not exceed ±3 % of the nominal value Thickness Not less than 10 mm and not less than the nominal value

6.2 Properties after hardening

The properties of the geosynthetic cementitious composite mat after hardening shall comply with the requirements of Table 3.

7.1 Test conditions

The preparation of geosynthetic cementitious composite mat specimens shall be carried out in an environment at a temperature of (20±5) °C. The standard curing environment for specimens shall be a temperature of (20±2) °C and a relative humidity of not less than 95 %.

7.2 Specimen preparation

Specimens before hardening shall be prepared in the dimensions and quantities specified in Table 4. The cutting of the specimens used for mass per unit area shall ensure that the cement-based dry mix at the cut location is not lost. For the preparation of specimens after hardening, a geosynthetic cementitious composite mat with an area of not less than 1 m2 shall be cut, laid flat on a smooth and level surface and placed in a suitable container;

water shall cover the front face of the cementitious mat, and after immersion for (8±0.5) h the water shall be drained until no free water remains in the pool; the surface shall be kept moist-cured until 3 d±2 h; after the specimens are cut, they shall be placed in a standard curing room and cured until 28 d±8 h. The dimensions and quantities of the hardened specimens shall comply with the provisions of Table 4.

7.3 Appearance quality

Unfold the sample completely, lay it on a level surface and inspect the appearance visually.

7.4 Permissible dimensional deviation

The length and width shall be determined in accordance with the provisions of GB/T 4666, dimensional deviation is the difference between the measured value and the nominal value.

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7.5 Mass per unit area

steel tape, and take the average of the 3 measured values as the length and the width of the specimen respectively, accurate to 1 mm.

7.10 Abrasion resistance

Carry out the test in accordance with the provisions of JC/T 985.

8.1.1 Factory inspection

The items of factory inspection include: appearance quality, permissible deviations of dimensions, mass per unit area, peel strength and flexural strength.

8.1.2 Type inspection

The items of type inspection include all the requirements of Clause 6 of this document.

Type inspection shall be carried out in any one of the following cases:

those of the last type inspection.

8.2 Batching

Products of the same type and the same specification shall be counted as one batch per 5 000 m2; a quantity less than 5 000 m2 shall also be counted as one batch.

9.2 Marking

The product packaging shall be marked with: product name, designation, manufacturing enterprise, batch number, date of manufacture and shelf life.

9.3 Transportation and storage

During transportation and storage, the geosynthetic cementitious composite mat shall not be exposed to moisture or contaminated with foreign matter, and products of different types shall not be stored together. Calculated from the date of manufacture, the storage period shall be 90 d under packaging, transportation and storage conditions conforming to the standard; after expiry, inspection of all items shall be carried out again.

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