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NATIONAL STANDARD

OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 19250-2013

Replacing GB/T 19250-2003

Polyurethane waterproofing coating

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Foreword

This Standard was prepared according to the rules specified in GB/T 1.1-2009.

This Standard replaces GB/T 19250-2003 Polyurethane waterproofing coating. Compared with GB/T 19250-2003, in additoin to edition changes, main changes of this Standard are as follows:

- MODIFY the product classification. COMBINE the Category I and Category II in previous version into Type I. ADD new Type II and Type III. Type II products refer to the requirements of waterproofer cable duct of high-speed railway bridges. Type III prodcts refer to the requirements of high strength type in JIS A6021 (see Clause 3 and Clause 3 in 2003 edition);
- MODIFY the technical requirements. DIVIDE the performances into basic performances and optional performances. For basic performance, CANCEL the adhesion strength items of humid base level in previous version. ADD inspection items such as levelling performance, adhesion strength, water absorption, and combustion performance, changed technical indicators (see table 1 and table 2, table 1 and table 2 in 2003);
- MODIFY the time of artificial weathering aging time. EXTEND the 720h in previous version to 1000h (see Table 1 in this Standard, and Table 1 in 2003);
- ADD the harmful substance limits (see 5.3);
- MODIFY and ADD test methods (see clause 6 and clause 6 in 2003);
- ADD the informative annex releated to the application fields of products (see Annex A).

This Standard was proposed by China Building Materials Federation.

This Standard shall be under the jurisdiction of Building Waterproof Material Subcommittee of National Technical Committee 195 on Constructional Materials and Decorative Materials of Standardization Administration of China (SAC/TC 195/SC 1).

The responsible drafting organizations: China Building Material Academy Suzhou Waterproof Research Institute, Building Material Industrial Technical Supervision and Research Centre, Beijing Dongfang yuhong Waterproof Technical Co., Ltd, Guangdong Kexun Chemical Co., Ltd, Shenzhen Zhuobao Technology Co., Ltd, and Jiangsu Kailun Building Material Co., Ltd.

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This Standard replaces the following historical edition:

— GB/T 19250-2003.

Polyurethane waterproofing coating

1 Scope

This Standard specifies the classification, general requirements, technical requirements, test methods, inspection rules, marks, packaging, transportation and storage for polyurethane waterproof coating (hereinafter referred to as PU waterproof coating).

This Standard is applicable to polyurethane waterproof coating used for engineering waterproof.

2 Normative references

The articles contained in the following documents have become part of this Standard when they are quoted herein. For the dated documents so quoted, all the modifications (including all corrections) or revisions made thereafter shall be applicable to this Standard.

GB/T 528 Rubber, vulcanized or thermoplastic - Determination of tensile stress-strain performances

GB/T 529-2008 Rubber vulcanized or thermoplastic - Determination of tear strength (Trouser, angle and crescent test pieces)

GB/T 531.1-2008 Rubber vulcanized or thermoplastic - Determination of indentation hardness - Part 1: Duromerer method (Shore hardness)

GB/T 1768-2006 Method of test for abrasion resistance of paint films

GB/T 8626-2007 Test method of flammability for building materials

GB/T 16777-2008 Test methods for building waterproofing coatings

GB/T 18244-2000 Test methods for resistance to weathering pf building water proofing materials

GB 18582 Indoor decorating and refurbishing materials - Limit of harmful substances of interior architectural coatings

GB/T 20624.2-2006 Paints and varnishes - Rapid-deformation (impact resistance) tests - Part 2: Falling-weight test small-area indenter

JC/T 975-2005 Waterproofing coating for concrete bridge and road surface

3 Classification

3.1 Classification

3.1.1 The products can be divided into 2 classifications according to the components, namely, single-component (S) and multi-component (M).

3.1.2 The products can be divided into type I, type II, and type III according to their basic performances (see Annex A).

3.1.3 The products can be divided into exposed (E) and non-exposed (N) according to whether they are used in exposure.

3.1.4 The products can be divided into class A and class B according to harmful substance limits.

3.2 Marking

Marking shall be made in sequence of the product name, composition, basic performance, whether it is exposed, harmful substance limits, and standard number.

Examples:

Class A, type II, exposed, single-component polyurethane waterproof coating is marked as: PU waterproof coating S III E A GB/T 19250-2013.

4 General requirements

The production and application of the products shall not bring harmful influence on human body, biology and the environment. And all safety and environmental requirements involved in or related to the use shall comply with the regulations of our relevant national standards and norms.

5 Technical requirements

5.1 Appearance

Products are uniformly viscous, without gel or agglomerate.

5.2 Physical and mechanical performances

5.2.1 Basic performances

accurate to 0.1%.

6.16 Elongation maintaining aging

TEST according to chapter 11 of GB/T 16777-2008.

6.17 Heat treatment

TEST according to 9.2.2 in GB/T 16777-2008, and the test result shall be processed according to 6.9.

6.18 Alkali treatment

TEST according to 9.2.3 in GB/T 16777-2008, and the test result shall be processed according to 6.9.

6.19 Acid treatment

TEST according to 9.2.4 in GB/T 16777-2008, and the test result shall be processed according to 6.9.

6.20 Artificial climate aging

TEST according to 9.2.6 in GB/T 16777-2008. The accumulated radiation energy shall be 2000 MJ/m^2 (exposure time is about 1 000 h). And the test result shall be processed according to 6.9 and 6.11.

6.21 Combustion performance

TEST according to GB/T 8626-2007, using the vertical burning test method.

6.22 Hardness (Shao AM)

PREPARE the coating specimen according to 6.3. TEST according to provisions of GB/T 531.1-2008. Shao AM rubber hardness tester is used to test. The maintaining time of the spring test force is 15 s.

6.23 Abrasion resistance

PREPARE the coating specimen according to 6.3. STICK it to the glass substrate fully. TEST according to provisions of GB/T 1768-2006. USE $100^{\#}$ quartz sand wheel to test.

6.24 Impact resistance

PREPARE the coating specimen according to 6.3. PLACE it on a 0.50 mm ± 0.05 mm tin plate. TEST according to provisions of GB/T 20624.2-2006. During the test, the diameter of the impacting spherical punch is 12.7 mm, with the tube length of 1 m - 1.2 m, and the hammer mass is 1 kg. Test results shall be expressed in kg • m.

7.3 Sampling

In each batch of products, randomly SELECT 2 groups of samples, with 1 group for inspection and the other for standby and storage. Each group is at least 5 kg (multi-component products shall be extracted according to the ratio). The product shall be stirred well before sampling. If spraying and coating method is adopted, the sample quantity of extraction shall be according to the needs.

7.4 Judgment rules

7.4.1 Single judgment

7.4.1.1 Appearance

When the sample appearance conforms to the standard, it is judged as qualified.

7.4.1.2 Physical and mechanical performances

If the average values of the solid content, tensile strength, breaking elongation, tearing strength, tensile strength retention after processing, breaking elongation after processing, heat expansion, adhesive strength, water absorption, abrasion resistance REACH the indexes specified by the standard, it is judged as qualified.

Hardness item is judged as qualified if its median value reaches the index specified by the standard.

Waterproofness, bending at low temperature and elongation maintaining aging items shall be judged as qualified if the 3 specimens all meet the indexes specified by the standard.

Leveling performance, surface drying time, hard drying time, combustion performance, impact resistance, and capability of seam dynamic deformation items shall be judged as qualified if they reach their standards.

If all product test results meet the requirements of the standard, then the batch of the products are judged as qualified. If there is one item not meeting the prescribed standard, USE the stand-by samples to conduct separate retest for the unqualified item. If it complies with the provisions of the standard, this batch of products shall be judged as qualified in performance, otherwise it is unqualified.

7.4.1.3 Harmful substance limits

JUDGE it according to the product marking, and class A or class B of Table 3. If it conforms to the corresponding categories, it shall be qualified.

Annex A

(Informative)

Application field of the product

In this Standard revision, the classification of the product has been changed significantly. For the convenience of selecting products for building, design, construction, production etc., the following proposal application fields are put forward. However, it does not mean that the application of the product is limited to the following areas:

— Type I products may be used in industrial and civil building engineering;

— Type II products may be used for indirect traffic areas such as bridges;

— Type III products may be used for exposed traffic areas such as bridges, car park, roofs accessible to people.

Indoors, tunnels and other confined spaces shall use products with class A products of harmful substance limits. During the construction and usage, ventilation shall be paid attention to.

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