

ICS 91.100.10
CCS Q 12

JG

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

JG/T 223-2017

**Polycarboxylates high performance water-reducing admixture
(English Translation)**

Issued on: May 27, 2017

Implemented on: December 1, 2017

Issued by: Ministry of Housing and Urban Rural Development of PRC

Table of Contents

Foreword...	3
1 Scope...	5
2 Normative references...	5
3 Terms and definitions...	6
4 Classification and marking...	6
5 Requirements...	7
6 Test methods...	11
7 Inspection rules...	12
8 Product specification and certificate, packaging...	14
9 Exit-factory, transportation and storage...	15

Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard replaces JG/T 223-2007 "Polycarboxylates high performance water-reducing admixture". As compared to JG/T 223-2007, the main technical changes are as follows.

- ADJUST the code of polycarboxylates high performance water-reducing admixture;
- MODIFY the type of Polycarboxylates high performance water-reducing admixture; DELETE the "non-retarded type" and "classified by product grade"; ADD the early-strength type, slow-release type, reduced type and antifreeze type, GIVE the technical indicator requirements for various type products;
- ADD the ammonia release index; ADJUST such indicators as formaldehyde content and chloride ion content, and so on;
- ADD the tested concrete index of the newly added type of water-reducing admixture; ADJUST the tested concrete index of some original products;
- MODIFY the requirements for test items and the number of test pieces.

This standard was proposed by the Standard Rating Institute of the Ministry of Housing and Urban-Rural Development.

This standard shall be under the jurisdiction of the Standardization Technical Committee for Building Products and Components of the Ministry of Housing and Urban-Rural Development.

Drafting organizations of this standard. China Academy of Building Research, China Building Materials Science Research Institute, Jiangsu Subote New Materials Co., Ltd., Guangdong Red Wall New Materials Co., Ltd., Jiangsu Zhongtie OLET New Materials Co., Ltd., Shanghai Building Science Research Institute (Group) Co., Ltd., Shenzhen Weihai Building Materials Co., Ltd., Kezhijie New Materials Group Co., Ltd., BASF Chemical Building Materials (China) Co., Ltd., Beijing University of Technology, Liaoning Cologne Fine Chemical Co., Ltd., Tianjin Feilong Concrete Admixture Co., Ltd., Tongji University, Zhejiang Wulong New Material Co., Ltd., Shandong Huawei Yinkai Building Materials Technology Co., Ltd., China Metallurgical Construction Research Institute Co., Ltd., Beijing Construction Engineering Quality First Testing Institute Co., Ltd., Guangdong Rui'an Technology Industrial Co., Ltd., Shenzhen Maidi Concrete Admixture Co., Ltd.

Polycarboxylates high performance
water-reducing admixture

1 Scope

This standard specifies the terms and definitions, classification and marking, requirements, test methods, inspection rules, product specifications and certificates, packaging, exit-factory, transportation and storage of polycarboxylates high performance water-reducing admixture which is used in concrete.

This standard applies to polycarboxylates high performance water-reducing admixture for cement concrete.

2 Normative references

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) are applicable to this standard.

GB 8076 Concrete admixture

GB/T 8077 Methods for testing uniformity of concrete admixture

GB 18588 Limit of ammonia emitted from the concrete admixtures

GB 31040 Limit of residual formaldehyde from the concrete admixtures

GB/T 50080 Standard for test method of performance on ordinary fresh concrete

JGJ 52 Standard for gravel and stone quality and test methods for ordinary concrete

JGJ 55 Test method for the crawler crane structures

JG/T 377 Anti-freezing and pumping admixtures for concrete

3 Terms and definitions

The following terms and definitions apply to this document.

3.1

Polycarboxylates high performance water-reducing admixture

The water-reducing admixture which uses the polymer, that is synthesized from a carboxyl-unsaturated monomer and other monomers, as a parent.

3.2

Reference concrete

Concrete which is prepared without adding water-reducing agent and subjected to standard curing.

3.3

Tested concrete

Concrete which is added with polycarboxylates high performance water-

reducing admixture and is cured under specified temperature and humidity conditions.

3.4

Tested concrete curing in standard condition

Concrete which is prepared as specified, added with polycarboxylates high performance water-reducing admixture, cured under specified temperature conditions.

3.5

Tested concrete curing at negative temperature

Concrete which is prepared as specified, added with the tested antifreeze polycarboxylates high performance water-reducing admixture, cured under specified temperature conditions.

4.1.1 The classification by product type is as shown in Table 1.

reducing admixture to be tested.

5.1.2 Mix ratio

In accordance with JGJ 55, perform the mix ratio design for the reference concrete. The ratio of cement, gravel, and aggregate for the tested concrete and the reference concrete is same. The design of mix ratio shall comply with the following provisions.

- Cement consumption. 360 kg/m³;
- Gravel ratio. 43% ~ 47%;
- Dosage of polycarboxylates high performance water-reducing admixture.

Use the dosage as specified by the manufacturer of polycarboxylates high performance water-reducing admixture;

- Water consumption. The initial slump of the tested concrete which is added with slow-release admixture shall be controlled at (120 ± 10) mm; the initial slump of the tested concrete which is added with other types of products shall be controlled at (210 ± 10) mm; the initial slump of the reference