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Ecocement

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Contents

	Page
Introduction.....	1
1 Scope.....	1
2 Normative references	1
3 Terms and definitions	1
4 Types, composition and application	2
4.1 Types and composition.....	2
4.2 Application.....	2
5 Quality	2
5.1 General matters	2
5.2 Calculation of amount of total alkali	3
6 Constituents	3
6.1 Clinker	3
6.2 Gypsum	4
6.3 Sodium sulphate	4
6.4 Limestone	4
6.5 Grinding aids	4
7 Test method.....	4
7.1 Density, specific surface area, setting, soundness and compressive strength.....	4
7.2 Chemical composition	5
8 Determination of chloride ion residual ratio.....	5
9 Inspection	5
10 Packaging	5
11 Package marking	5
12 Report.....	5
Annex A (normative) Determination of chloride ion residual ratio of Ecocement	8
Annex B (informative) Comparison table between the present and previous editions of this Standard on technically significant revisions	9
Annex C (informative) Information on patent rights etc.	12

Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee as the result of proposal for revision of Japanese Industrial Standard submitted by Japan Cement Association (JCA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law applicable to the case of revision by the provision of Article 14. Consequently **JIS R 5214:2003** has been replaced with this Standard.

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Ecocement

Introduction

This Japanese Industrial Standard was established in 2002 and has gone through 2 revisions to this day. The last revision was made in 2003. This Standard specifies Ecocement, one type of resource recycling cement manufactured from Ecocement clinker, which is mainly composed of ash resulting from incineration of municipal solid waste constituting a large part of the waste generated in the urban areas, and also composed of, where required, sewage sludge as subsidiary material.

Ecocement is a coinage associated with Ecology and Cement.

Further, no International Standard corresponding to this Standard has been established at this point.

1 Scope

This Standard specifies Ecocement.

Matters revised from the previous edition that are of technical significance are explained in Annex B in the form of a table of comparison between this edition and the previous edition.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this Standard. The most recent editions of the standards (including amendments) indicated below shall be applied.

JIS A 1144 *Methods of test for chloride concentration in water of fresh concrete*

JIS A 1203 *Test method for water content of soils*

JIS K 0557 *Water used for industrial water and wastewater analysis*

JIS K 1434 *Sodium sulphate, anhydrous and 10 hydrate*

JIS M 8850 *Methods for chemical analysis of limestone*

JIS R 5201 *Physical testing methods for cement*

JIS R 5202 *Methods for chemical analysis of cements*

JIS R 5204 *Chemical analysis method of cement by x-ray fluorescence*

JIS R 9151 *Gypsum for portland cement retarder*

JIS Z 1505 *Kraft paper sacks—For cement*

3 Terms and definitions

For the purpose of this Standard, the following terms and definitions apply.

3.1 Ecocement

cement manufactured from Ecocement clinker, which is mainly composed of ash resulting from incineration of municipal solid waste constituting a large part of the waste

generated in the urban areas, and also composed of, where required, sewage sludge as subsidiary material

A mass of 500 kg or over of the above-mentioned waste is used per 1 t of the product in dry base as defined in **JIS A 1203**. Ecocement is divided into ordinary Ecocement and rapid hardening Ecocement, according to the respective characteristics.

3.2 ordinary Ecocement

Ecocement dechlorinated in the manufacturing process, which contains chloride ion of not more than 0.1 % of the cement mass

This cement has the properties similar to those of ordinary portland cement.

3.3 rapid hardening Ecocement

Ecocement containing chloride ion of 0.5 % or over up to and including 1.5 % of the cement mass

This cement has rapid hardening property, in which the chlorine component is fixed as a clinker mineral.

4 Types, composition and application

4.1 Types and composition

There are the following two types of Ecocement, and the respective compositions are as shown in table 1. The amount of grinding aide used shall be less than 1 %, in mass, of the Ecocement.

- a) Ordinary Ecocement
- b) Rapid hardening Ecocement

Table 1 Composition of Ecocement

Unit: mass %

Type	Total amount of clinker and gypsum	Total amount of clinker, gypsum and sodium sulfate	Limestone
Ordinary Ecocement	95 or over to and incl. 100	—	0 or over to and incl. 5
Rapid hardening Ecocement	—	100	0

4.2 Application

The rapid hardening Ecocement shall be used for unreinforced concrete.

5 Quality

5.1 General matters

The quality of Ecocement shall be tested according to clause 7 and the result shall conform to the requirements in table 2.