



JAPANESE
INDUSTRIAL
STANDARD

Translated and Published by
Japanese Standards Association

JIS K 6224 : 2017
(JRMA/JSA)

**Rubber compounding ingredients—
Magnesium oxide—Methods of test**

ICS 83.040.20

Reference number : JIS K 6224 : 2017 (E)

Date of Establishment: 2017-11-20

Date of Public Notice in Official Gazette: 2017-11-20

Investigated by: Japanese Industrial Standards Committee

Standards Board for ISO area

Technical Committee on Chemical Products and
Analytical Methods

JIS K 6224:2017, First English edition published in 2018-06

Translated and published by: Japanese Standards Association
Mita MT Building, 3-13-12, Mita, Minato-ku, Tokyo, 108-0073 JAPAN

In the event of any doubts arising as to the contents,
the original JIS is to be the final authority.

© JSA 2018

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

Printed in Japan

KK/AT

Contents

	Page
Introduction	1
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Common requirements	2
4.1 General requirements	2
4.2 Sampling	2
4.3 Properties and test methods	2
5 Ignition loss	3
5.1 Outline	3
5.2 Instrument and apparatus	3
5.3 Test procedure	3
5.4 Calculation	4
5.5 Test report	4
6 Magnesium oxide content	4
6.1 Outline	4
6.2 Total sum of magnesium oxide and calcium oxide contents	5
6.3 Calculation of calcium oxide content	7
6.4 Calculation of magnesium oxide content	11
6.5 Test report	12
7 Loss on heating	13
7.1 Outline	13
7.2 Instrument and apparatus	13
7.3 Test procedure	13
7.4 Calculation	13
7.5 Test report	13
8 Specific surface area (single point nitrogen adsorption method)	14
8.1 Outline	14
8.2 Reagents	14
8.3 Instrument and apparatus	14
8.4 Test procedure	15
8.5 Calculation	16
8.6 Test report	16
9 Residue on sieve	16
9.1 Outline	16

9.2	Reagent	17
9.3	Instrument and apparatus	17
9.4	Test procedure	17
9.5	Calculation	17
9.6	Test report	18
10	Hydrochloric acid-insoluble matter	18
10.1	Outline	18
10.2	Reagents	18
10.3	Instrument and apparatus	18
10.4	Test procedure	18
10.5	Calculation	19
10.6	Test report	19
11	Water-soluble matter	19
11.1	Outline	19
11.2	Reagent	19
11.3	Instrument and apparatus	20
11.4	Test procedure	20
11.5	Calculation	20
11.6	Test report	21
12	Bulk density	21
12.1	Outline	21
12.2	Instrument and apparatus	21
12.3	Test procedure	21
12.4	Calculation	22
12.5	Test report	22
Annex A (informative)	Classification of magnesium oxide used as a rubber compounding ingredient according to their properties	23
Annex JA (informative)	Measurement of moisture, magnesium hydroxide and magnesium carbonate content	24
Annex JB (informative)	Measurement of chloride content	29
Annex JC (informative)	Measurement of sulfate content	31
Annex JD (informative)	Comparison table between JIS and corresponding International Standard	33

Foreword

This Japanese Industrial Standard has been established by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee according to the proposal for establishment of Japanese Industrial Standard submitted by The Japan Rubber Manufacturers Association (JRMA)/Japanese Standards Association (JSA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law.

This **JIS** document is protected by the Copyright Law.

Attention is drawn to the possibility that some parts of this Standard may conflict with patent rights, applications for a patent after opening to the public or utility model rights. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying any of such patent rights, applications for a patent after opening to the public or utility model rights.

Rubber compounding ingredients— Magnesium oxide—Methods of test

Introduction

This Japanese Industrial Standard has been prepared based on **ISO 21869:2006**, Edition 1, with some additions and modifications of the technical contents to appropriately evaluate the quality of magnesium oxide used as a rubber compounding ingredient.

The vertical lines on both sides and dotted underlines indicate changes from the corresponding International Standard. A list of modifications with the explanations is given in Annex JD.

1 Scope

This Standard specifies the test methods for physical and chemical properties of magnesium oxide used as a rubber compounding ingredient.

NOTE : The International Standard corresponding to this Standard and the symbol of degree of correspondence are as follows.

ISO 21869:2006 Rubber compounding ingredients—Magnesium oxide—Methods of test (MOD)

In addition, symbols which denote the degree of correspondence in the contents between the relevant International Standard and **JIS** are IDT (identical), MOD (modified), and NEQ (not equivalent) according to **ISO/IEC Guide 21-1**.

WARNING Persons using this Standard should be familiar with normal laboratory practice. This Standard does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user of this Standard to establish appropriate safety and health practices.

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 K 0050 General rules for chemical analysis

JIS K 0116 General rules for atomic emission spectrometry

JIS K 0121 General rules for atomic absorption spectrometry

JIS K 0211 Technical terms for analytical chemistry (General part)

JIS K 5600-1-2 Testing methods for paints—Part 1: General rules—Section 2: Sampling

NOTE : Corresponding International Standard: ISO 15528 *Paints varnishes and raw materials for paints and varnishes—Sampling* (IDT)