

ICS 73.080

CCS D 52



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

GB/T 3286.3-2012

Replacing GB/T 3286.3-1998

**Methods for chemical analysis of limestone and dolomite -- Part 3: The
determination of aluminium oxide content -- The chrome azurol S
spectrophotometric method and the complexometric titration method**

石灰石及白云石化学分析方法 第3部分：氧化铝含量的测定 铬天青S分光光度法
和络合滴定法

(English Translation)

Issued on: January 1, 1970

Implemented on: January 1, 1970

Issued by: Standardization Administration of China

Table of Contents

Foreword

1 Scope

2 Normative references

3 Chromium Azure S Spectrophotometry

3.1 Principle

3.2 Reagents

Foreword

GB/T 3286 "Methods for chemical analysis of limestone and dolomite" is divided into nine sections.

--- Part 1. calcium oxide and magnesium oxide content complexometric titration and flame atomic absorption spectrometry;

--- Part 2. Determination of silica content of silicon molybdenum blue spectrophotometric method and perchloric acid dehydration gravimetric method;

--- Part 3. Determination of alumina content of chromium azure S spectrophotometric and complexometric titration;

--- Part 4. Determination of iron oxide content of phenanthroline spectrophotometric method and the flame atomic absorption spectrometry;

--- Part 5. Determination of manganese oxide content;

--- Part 6. Determination of phosphorus content;

--- Part 7. Determination of sulfur content;

--- Part 8. Determination of loss on ignition;

--- Part 9. Determination of the amount of carbon dioxide.

This is Part 3 GB/T 3286's.

Rules in this section in accordance with GB/T 1.1-2009 given draft.

This Part replaces GB/T 3286.3-1998 "limestone, dolomite chemical analysis of aluminum oxide content determination." this section compared with the GB/T 3286.3-1998, mainly for the following changes.

--- This part of the standard name to "Methods for chemical analysis of limestone and

dolomite - Part 3. Determination of aluminum oxide content of chromium Azure S spectrophotometric and complexometric titration ";

--- Normative references canceled the reference standard reign, and adds some reference standards;

--- Carried out jointly between laboratory precision test statistics obtained by the repeatability limit (r) and reproducibility limit R instead of "allowable difference";

--- Change the part of the text expression.

This part is proposed by the China Iron and Steel Association.

This part of the National Steel Standardization Technical Committee (SAC/TC183) centralized.

This section is drafted. Wuhan Iron and Steel (Group) Corporation, Wuhan University of Science and Technology, Metallurgical Industry Information Standards Institute.

1 Scope

This section GB/T 3286 requirements using Chromium Azure S Spectrophotometry and complex titration alumina content.

This section applies to limestone and dolomite - The determination of aluminum oxide content, is also applicable to the determination of the metallurgical alumina content of lime. CHROME Green S spectrophotometric measurement range. alumina content (mass fraction) from 0.01% to 0.75%; complexometric titration, measurement range. Alumina Content (mass fraction) is greater than 0.5%.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated edition applies to this article Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 2007.2 bulk minerals sampling and sample preparation General manual sample preparation method GB/Part 1 T3286.1 limestone and dolomite Chemical analysis methods. Determination of calcium oxide and magnesium oxide content of the complex drops Titration and flame atomic absorption spectrometry GB/T 3286.2 limestone and dolomite chemical analysis - Part 2. Determination of silicon dioxide content of silicon-molybdenum blue spectrophotometric Degree method and perchloric acid dehydration gravimetric method GB/T 3286.4 limestone and dolomite Chemical analysis methods - Part 4. Determination of iron oxide content of phenanthroline spectrophotometric Method and the flame atomic absorption spectrometry GB/T 6379.2 measurement methods and results of Accuracy (trueness and precision) - Part 2. Determine the standard measurement method

to repeat of the basic methods of reproduction Laboratory use specifications and test methods GB/T 6682 Analysis GB/T 8170 represents rounding off rules and limit values judgment

3.1 Principle

Sample with sodium carbonate - boric acid flux melt, dilute hydrochloric acid leaching aliquot of the test solution, zinc -EDTA masking iron and manganese ions to.

Hexamethylenetetramine buffer solution at pH 5.7, aluminum and chrome azure S generated purple complex wavelength spectrophotometer Absorbance was measured at 545nm. Interference titanium can be added to eliminate the hydrogen peroxide solution.

3.2 Reagents

Analysis Unless otherwise stated, use only reagents of recognized analytical grade and in line with GB/T 6682 provisions for more than three or pure distilled water Considerable degree water.

3.2.1

mixed flux. Take two anhydrous sodium carbonate and a boric acid grind, and mix.

3.2.2

hydrochloric acid (15).