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Draft Indian Standard
**CHEMICAL ANALYSIS OF LIMESTONE,
DOLOMITE AND ALLIED MATERIALS**
PART 1 DETERMINATION OF LOSS ON IGNITION
(Second Revision)

ICS 73.080

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

Methods of Chemical Analysis of Metals Sectional Committee, MTD 34

FOREWORD

This draft Indian Standard (Part 1) (Second Revision) subject to its finalization, is to be adopted by the Bureau of Indian Standards on recommendation of the Methods of Chemical Analysis of Metals Sectional Committee and approval of the Metallurgical Engineering Division Council.

This standard was first published in 1962 and it covers the determination of different elements in various grades of minerals like limestone, dolomite, calcite and magnesite. It also covers the methods for magnesite refractories. Subsequently, the first revision was issued to bifurcate this standard into different parts covering determination of each element in separate parts. This revision has been brought out to bring the standard in the latest style and format of the Indian Standards. This part covers determination of loss on ignition and has been updated on the basis of experience gained during the past. Other parts in the series are as follows:

Part 2 Determination of silica

Part 3 Determination of iron oxide, alumina, calcium oxide and magnesia

Part 4 Determination of carbon dioxide

Part 5 Determination of chlorides

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 'Rules for rounding off numerical values (*second revision*)'. The number of significant places retained in the rounded off value should be same as that of the specified value in this standard.

*Draft Indian Standard***CHEMICAL ANALYSIS OF LIMESTONE,
DOLOMITE AND ALLIED MATERIALS****PART 1 DETERMINATION OF LOSS ON IGNITION
(Second Revision)****1 SCOPE**

This standard (Part 1) describes the method for determination of loss on ignition in the range from 40 to 50 percent in limestone, dolomite and allied materials.

2 REFERENCE

The following Indian Standards contain provisions, which through reference in this text, constitute provision of this standard. At the time of the publication, the editions indicated below were valid. All the standards are subject to revision, and parties to agreement based on this standard are encouraged to investigate the possibility of applying the most recent editions of these standards indicated below.

<i>IS No</i>	<i>Title</i>
2109: 1982	‘Methods of sampling dolomite, limestone and other allied materials’

3 SAMPLING

3.1 The sample shall be drawn and prepared in accordance with IS 2109.

3.2 Grind 5 to 10 g of the prepared sample drawn under **3.1** so that it passes through IS sieve 15 (100 mesh). Dry to constant mass at $105 \pm 2^{\circ}\text{C}$ and use it for the purpose of chemical analysis.

4 DETERMINATION OF LOSS ON IGNITION**4.1 Outline of the Method**

The sample is ignited at 1000°C in a muffle furnace and the loss in weight is determined.

4.2 Procedure

4.2.1 Weigh 1000 g of the test sample into a previously weighed platinum crucible. Heat gently at first, and then at a gradually increasing temperature. Finally ignite at 900 to 950°C for half an hour and raise the temperature to 1000°C . Keep for about 10 minutes, cool and weigh. Repeat heating, cooling and weighing till constant mass is obtained. Difference in mass represents loss on ignition.

4.3 Calculation

$$\text{Loss on ignition, percent by mass} = \frac{m_1 - m_2}{M} \times 100$$

where

m_1 = mass in g, of the crucible with sample,

m_2 = mass in g, of the crucible with the residue after ignition, and

M = mass in g, of the sample taken.